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Past Papers

Faculty of maritime Science
Department of Navigation

Navigation Class III (Orals) 2015-2022

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Navigation Class III Orals
W. Daren Glen Fernando
Capt. S.M.S Bandara
08/07/2019

When studying for orals first start off with the COLREGs and the IALA buoyage. The examiner doesn't expect a by-heart version of the rules except for rule 03. But you need to be thorough with the rules 05, 06, 07, 08, 09, 10, 16, 17, 19 and all of the buoys.

Additionally focus more on the following,

For passage planning refer MSC. 893(21) then Manushikas' notes for passage planning on charts and Dha[illegible]aths' for planning on ECDIS
Know the Publications and their contents
Contents of the manuals, plans and booklets onboard the vessel.
Subject notes specially Bridge equipment, Meteorology and stability.
Watch keeping notes (How to do a navigational watch, Anchor watch, Cargo watch, navigating with the pilot and how to take over these watches).
Radar, ECDIS and GMDSS notes given at the simulators.
Ship handling notes and know what is transverse thrust, synchronized rolling, definitions of turning circle...etc.
Then go through your record book and think of the questions that the examiner might ask from the given tasks.
For situations, it is best to get hold of someone who has faced the examination recently and getting his advice.

<u>Questions are in no particular order.</u>

<u>From project</u>

It's best if you could say the same thing that is written down on your project as he expects you to do so. Keep this in mind when you are making the project.

1. How to carry out surface preparation
2. How to apply paint

<u>Record book</u>

1. What is ISM?
2. The purpose of it?
3. How do you know that your lifting appliances are working properly?
4. Contents of Chain registry?

5. What is Safe speed?

It is a controllable speed that I will maintain so I could take proper and effective action to avoid a collision or a close quarter situation and to be stopped within a distance appropriate to the prevailing circumstances and conditions.

6. Tell me rule 19?

When answering make sure not to mention the section numbers.
Without saying "Rules of Section I of this Part" say straight away "Rules for any condition of visibility applies here as well."

7. Then he drew a TSS and asked me how to navigate within it?

When he asks this question start off from part (a) of the rule.

8. What is a sailing vessel?

For lights and shapes follow this order: first the definition, then the lights, shapes and finally the sound signal.

Sailing vessel is a vessel under sail provided that propelling machinery if fitted, is not being used. She shall show her side lights and stern lights, as optional lights additionally she could show two all-round lights in a vertical line at or near the top of the mast where it can best be seen upper being red lower being green. Vessel less than 20m shall show a combined lantern at or near the top of the mast where it can best be seen. Vessel less than 7m in length and a vessel under oars shall carry an electric torch or a lighted lantern capable of giving a white light in sufficient time to avoid a collision.

In day time if she is under sail and also her propelling machinery is being used then she shall show a cone with its apex pointing downwards at the forward where it can best be seen.

In restricted visibility she shall sound 3 blasts in succession namely, a prolonged blast followed by 2 short blasts.

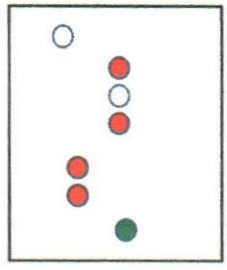
Prepare the answer for other vessels in this order.

9. What is a vessel not under command?
10. What is a mine clearance vessel
11. Then he drew (Shown below) a mine clearance vessel 12Nm off and asked me the action?

12. He showed me those lights from his monitor and asked me what type of a vessel is it?

Give the answer in this order,

- *It is a power driven vessel making way*
- *Less than 50m in length*
- *A vessel restricted in her ability to maneuver*
- *With an obstruction on her starboard side*
- *Looked at from the starboard open*



Note I mentioned that this could either be a dredger, or a vessel engaged in underwater operations but the examiner wasn't happy with that so mentioning it or leaving it out is up to you. Best to give the above answer if he expects more give this part as well

13. What is an isolated danger mark?
14. What is a special mark?

For buoys give the definition of it first then the locations where it is kept and then the description of the buoy.

15. He gave me the 2 situations (below) both at 12Nm and asked my actions?
16. Tell me the radar principle?
17. What are the radar maintenance?
18. Details about the chronometer? And the log book?
19. Difference between Radar and ARPA?
20. Selecting and ordering ENC?
21. Passage planning from A to B on ECDIS?
22. When will you not rely fully on the ECDIS?
23. Corrections on ECDIS?
24. How to carry out a manual correction?
25. Distance calculation on ECDIS?

26. ECDIS alarm management

Name the mandatory and optional alarms, then the color coding and then management of alarms in the planning stage, during voyage and what will you do once you receive an alarm (Mute the alarm then read and understand what the alarm is for, acknowledge and take the necessary actions).

27. Contents of routine charts?
28. Contents of routeing guide charts?

29. What is NTM?

Explain the weekly notices to mariners the sections in proper order and the contents of the Cumulative list and Annual summary of NTM.

30. Difference between temporary and preliminary corrections?
31. Contents of the stability booklet?

32. How do you receive the pilot safely?

Elaborate on the following points safety from the bridge to deck (obstructions and hazards), safety on the main deck (Oil and grease patches), radio check and LSA availability at the station and after giving all these points inform the bridge that you are ready to receive the pilot.

33. What are the exchanges between you and the pilot?

Do not say anything related to master pilot exchange.

34. What are your duties when navigating with pilot?

Start with the most important ones, i.e. Ensuring safety of navigation and monitoring the vessels progress along the route, carrying out frequent plotting of the vessels position, then all the other points.

35. What are the tests before sailing?
36. Why do you tap the barograph?
37. You receive a warning of a TRS what are your actions?

38. During your watch you take the barometer reading and finds out that there is a difference of about 10° with the reading of C/O, you are in clear weather, your actions?

What the examiner expects is comparing the readings logged down before the C/O and then compare that value with your own reading.

If he expects more say (He wasn't happy with these 2 answers use as a last resort) checking the readings by a secondary means such as the record of a barograph, synoptic chart or assume that the C/O has not applied the height error to his reading so apply it and then check the difference afterwards.

39. How do you take over a cargo watch?
40. How do you carry out a cargo watch?
41. You are receiving IMDG packages what are your actions?
42. What are the security levels maintained onboard?

43. What is meant by them?

Level 1 – Minimum security measures at all times
Level 2 – Additional measures for a period of time, heightened risk
Level 3 – Specific security measures are employed for a limited time, security incident has occurred or imminent threat

44. The security level onboard is being increased from level 1 to level 2 actions?

As an officer what you could do is inform SSO and change the MARSEC level display on the gangway.

These additional measures would be employed afterwards,

- *Additional patrolling*
- *Maintain one access point to the ship*
- *Increase search frequencies*
- *Escorting all visitors onboard*
- *Security briefing*
- *Full/Partial searches*
- *Request a list of stevedores boarding the vessel*

45. Gyro failure what are your actions?
46. Now steering failure your actions?
47. Why do you use the emergency steering control now?

48. Enclosed space entry during your watch what are your actions?

Know what the contents of the permit are use that knowledge to add additional info to the answer that you are giving.

49. Content of the muster list?
50. Contents of the SOLAS training manual
51. Contents of the stability booklet

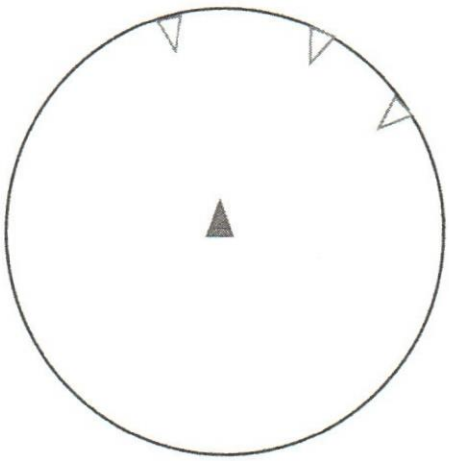
52. Distress alert received your actions?

Study the Flow diagram given on ALRS volume 5

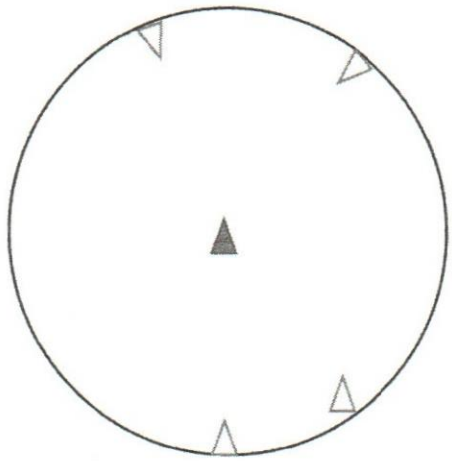
53. Distress vessel within a reachable range your actions?
54. What is transverse thrust?
55. Bosun reported having a chest pain your actions?

A key point to mention is the "Diagnosing" of the patient with the use International medical guide for ships.

56. Oil water separator how does it work?



Clear visibility all vessels 12Nm off



Restricted visibility all vessels 12Nm off

ORAL EXAMINATION

Name - W. N. I . Witharana
Examiner – Capt. Sunil Jayaweera
Time / Date - (11.30h - 15.15h) **12th of July 2019**

Project - *Pilot Ladder*

* rig and lit of Pilot Ladder
*equipments to be carried for pilot ladder
* Duties of officer in charge near the pilot ladder.

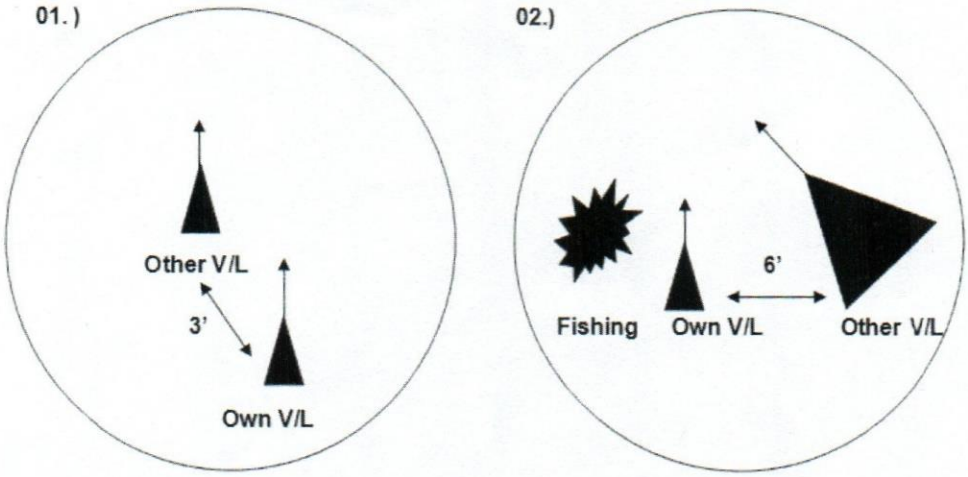
References for the Project - (SOLAS ch V / reg 23, merchant shipping notice, MSC A.1045 (27))

** these **questions are not in a sequence**, I have Collected most of questions as I remember which were asked, Most of them were asked from **Cadet Training Record Book**.

01. How you determine overtaking?? At day and night??
02. What is aspect of a vessel?
03. Situations. **(Please refer 01. & 02. Situations given below**)
04. Where it's given ships Alarms??
05. What is a vessel General Alarm and Fire Alarm?
06. Maintenances Of Life boat?
07. What is PMS?? Planned maintenance System.
08. What it is included?
09. What are the signs of anchor dragging?
10. In your watch, you find your vessel already inside of a firing zone, what is your action?
    (State this will need long timely process, it will not suddenly happen,
    As it has happened.....)
11. What is angle of LOLL, what will happen if you encounter it?
12. What is squat?
13. What is Negative GM?
14. How you find Official ENC?
15. Inputs in passage planning with ECDIS?
16. What is CATZOC?
17. What is anti-grounding Function means?
18. How to Form a TRS?
19. Difference between TRS & Tornado (TLD)?
    (State that chart in Capt. Subramanian book.)
20. What is a frontal depression? (Explain about front genesis and frontolysis.)
21. Tell me why we have fixed fire fighting system onboard?
22. State about CO2 fixed f/f sys. When you will use?
23. What you know about fresh water generator?
24. What are the types of fresh water generators?
    (State 2 types - vacuum & reverse osmosis)
25. What is the difference between "Heel" & "List"?
26. What is the Srilankan weather pattern? Explain about monsoons.
27. What is barometric tendency?
28. Safety Parameters in ECDIS, explain about safety contour.
29. What is LRIT? Principle & purpose behind it?
30. What is the principle of RADAR? And he asked errors of RADAR
    (But he stopped me in between.)
31. How do you carry-out RADAR Performance Monitoring?
32. Finding-out of ECDIS Anomalies?
    (Explain about DPPC Function < Display presentation performance check >, explain use of NP 231.)
33. What are the Display Modes in ECDIS? List Down features in each display modes
    (He stopped me while I'm telling base display mode features)

34. Why we cannot Use base display for Navigation and passage planning, Why Base display mode is given?

Situations:-



Clear Visibility **Restricted Visibility**

*please refer **Dhamnath's situational answering Order (Oral Question Book from Library)** to detect risk of collision. I went through following rules to answer these situations -

Rule 7
Rule 8
Rule 6 (he specially asked about safe speed)
Rule 19 (Better keeps it in by-hard, so incase if you want to point out, that would be very easy!!!)

* He asked, what is Stern light? As I got ended up telling about stern light's Arc of visibility, when I was answering about determination of overtaking situation!! Better go through **light definitions**.

**** As an Advice, you guys will be the one who is handling examiners question asking pattern. Not himself!! :-/ Make sure you don't let him to end up you in another close quarter situation :-D when you are answering. Good luck amigos!!!** □

Thank you.

Date: 01.07.2019

Capacity: Class II Navigation

Examiner: Capt. Upul Peris

Candidate: Lahiru Madhusanka Silva

Duration: 1 Hour

Result: Pass

- Few question about the assignment?
- National legislation? Due to my assignment?
- How to load Container DG cargo?
- What are the Document required?
- DG container Leaking what are the action as C/O?
- Content of IMDG supplement?
- How do you plan and carry out drills on board?
- Drill intervals?
- LSA FFA maintenance?
- How to implement ISM on board?
- Duties under ISPS?
- Load line survey?
- How to carry out maintenance of lifting gear?
- How do you manage garbage on board?
- Garbage mix with another category how the dispose?
- Garbage management plan.
- Entries to the garbage record book?
- What is risk assessment?
- How do u manage risk onboard? Full in details.
- Care of cargo at sea?
- Due diligence?
- What is Dynamical separation?
- How it happens?
- What are the danger of Dynamical separation?
- How it affect your stability?
- After collision what you must do? (Damage stability)

My sincere thanks to all the dedicated lecture panel, Cinec Library staff and all of my friends who help me in different ways.
All the best all of you.

NAVIGATION CLASS III ORALS

CANDIDATE: N.KASUN SAMEERA DE SILVA

EXAMINER: CAPT. S.M.S. BANDARA

DATE: 21/06/2019

RECORD BOOK

1. What is chronometer?
2. What is IMSBC ?

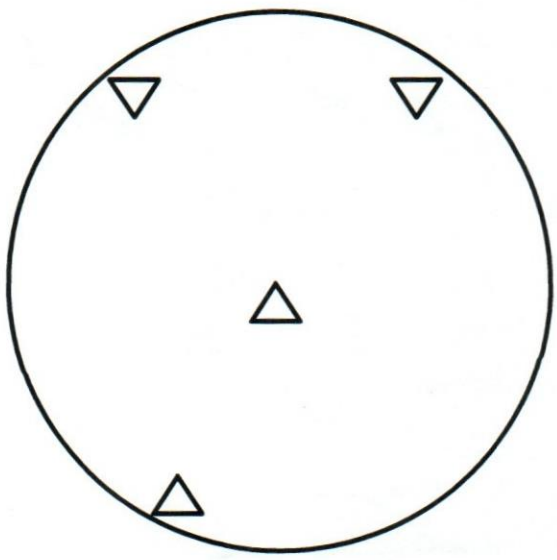
PROJECT

3. What is tackle?
4. What is rig to advantage?
5. Precautions when handling lifting appliances? (chain registry & cargo securing manual also)
6. Difference between radar and ARPA?
7. Radar maintenance?
8. Radar principle?
9. Responsibilities and practices when navigate with a pilot as a 3/O?
10. Master instructed you to pick up pilot, procedures to follow?
11. Noon checks? (PA, General alarm, whistle, steering(pump change over,manual,auto,NFU), noon report)
12. Steering gear check?
13. M/E test?
14. Test before departure?
15. Why are you tapping barometer?
16. How to do a cargo watch as a 3/O?
17. ECDIS backup requirements?
18. How to order ENC?
19. ENC correction (manual)?
20. What is a sailing vessel?
21. What is NUC?
22. Rule No.10?
23. Rule No.19?
24. What is a mine clearing vessel?
25. Possibilities

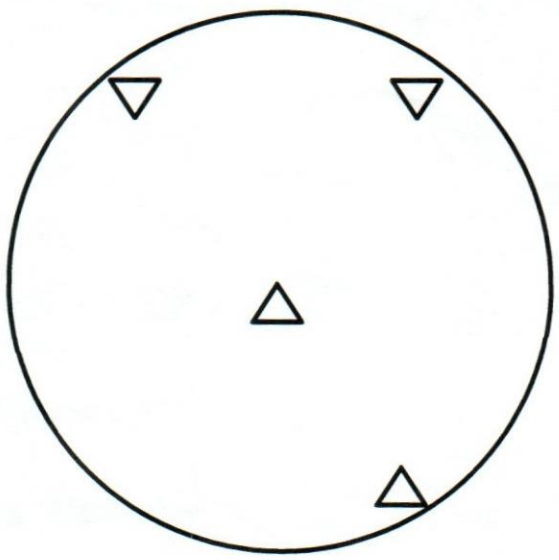
26. Isolated danger mark?
27. Safe water mark? (locations)
28. Distance calculation by ECDIS A to B?
29. Other methods (GPS)?
30. What is NTM?
31. What are the publications used for passage planning?

32. What is Ocean Passage of the World?
33. What is NP100?
34. Passage planning on ECDIS?(only planning stage)
35. LSA, FFA manuals?
36. When are you changing muster list?
37. Contents of muster list?
38. Enclosed space entry on poop deck, duties as OOW?
39. Contents of stability booklet?
40. Rolling synchronization?
41. How to take dew point?
42. Cold front? Warm front?
43. Crew member report about Man overboard?
44. M/E failure?
45. Now blackout?
46. You received a distress alert?(procedures)
47. You re 100 miles distance to distress vessel actions?
48. On scene coordinator instructed you to relieve from duties, what are the log entries to keep?(procedures)
49. New amendments for MARPOL annex V?
50. What is transvers trust?
51. What is turning circle?
52. Crew member report about a chest pain?
53. Operation of oil water separator?

SITUATIONS



Clear Visibility
12 Miles



Restricted Visibility
12/24/8 Miles

SPECIAL THANKS TO ALL MY LECTURES & FRIEND'S FROM CINEC

GOOD LUCK.

NAVIGATION CLASS III ORAL EXAMINATION

Candidate : U. Y. R. Fernando, 3rd attempt

Examiner : Capt. Upul Peiris

Date : 10/02/2020

1. What is the frequency of entry into enclosed space drill?
2. What is the importance of risk assessment?
3. What is bridge resource management and how do you apply?
4. Planning stage of passage plan by ECDIS?
5. Parameters of ECDIS?
6. What is safety contour?
7. When do you carry out steering gear testing and how?
8. What is barometric tendency?
9. Signs of TRS?
10. Content of a routeing chart?
11. Factors when determining safe speed?
12. How to take action to avoid collision?
13. What is the fog signal of a pilot v/l?
14. What are the actions you take when you hear a fog signal forward of your beam?
15. What are the actions you avoid when you detect another v/l in restricted visibility?
16. What is your action? Restricted visibility, 5nm, v/l to the left is the o/vessel

17. What is isolated danger mark?
18. What is SOLAS?
19. Checks to be done at a man overboard drill?
20. Where can you find the SOLAS training manual on board?
21. Checks to be done to the self contained breathing apparatus?
22. Documents which are needed to carry IMDG?
23. How do you prepare a windlass before anchoring? What are the things you check?
24. What is unstable equilibrium? Draw and explain
25. What is SOPEP?

26. What are the sections that need to be updated?
27. What is the ballast water management plan?
28. Who is on seen coordinator?
29. What are the responsibilities of on seen coordinator?
30. Tests of GMDSS equipment?
31. Content of GMDSS log book?
32. How to send a VHF distress alert?
33. When you see a casualty on deck, what is your action?
34. What is the boiler?

Best of luck with your exam!!!

Class 3 Orals

S.E.A Rodrigo
Cpt.Upul peiris
29.01.2020
1st & 2nd attempt

Project-IMDG

1.Solas content and convention
2. What is flammable limit
3. Radar limitations
4. How to find a false target
5. Ror convention
6. Nuc, ram(explain, not definition,) lights and shapes, what is the signal to get attention?(Rule 36), what is the doubt signal?
7. What is vdr, what is the back up arrangement, when to press it.
8. Tss situation same as damnath(Justify the answer when mentioning speed reduction as per rule 8 part 2 ,mention using manouvering signal)
9. Edcis limitations,
   what is enc?
   How to overcome overiliance.
   If ENC isnt available for a particular area, how are you going to navigate?
10. What is simulated launching? (to check the relase gear working properly)
11. DG cargo leaked. What is ur action?
12. What is EmS(how to check)
13. What are maintemance for fixed Co2 system.(Make sure visual inspection is carried out weekly)
14. What is brm, how do u implement it onboard?
15. What are all available means?? (i said radar, arpa if fitted, ais, then he asked from ais how do u determine risk of collision) i said when proceeding to narrow channel if there is an obstruction we can use ais to identify a target if the other vsl has ais. He was no satisfied with the answer! Dont say AIS)

2nd attempt

1. What are the all available means to determine risk of collision?
2. What is false target in Radar and how to overcome it?
3. What is Interference in detection of targets? (expecting the error)
4. What is DG decleration and DG manifest?
5. How to take the relative humidity of the cargo hold and why? What is the equipement and how to calculate? (whirling psycrometer)
6. What is marpol annex 6 and how are ships taking measures?(i told the purpose and the new ammendment which is sulphur cap, and i explain the equimpent called Scubber)
7. What is the certificate to carry DG cargo onboard(DOC)

8. What are the ISPS measures? (mention DOS and the events which DOS is given)
9. What do you log down in the cargo watch?
10.What are statutory certificates?
11. Medical chest and the certificate required?
12. What is FPD?
13. Angle of LOL, FSE?(draw and explain)
14. What is GM?
15. In the ship what GM do we calculate? And what is the factor to be considered (fluid GM and the factor is FSC)

He failed me first time since i didnt give the signal to attract attention and the manouvering signals. I gave all the answers in short form and he accepted it. I waited till he tick the oral sheet and as soon as he ticked it. I stop answering Immediately. He didnt say anything. He wants the correct term and he didnt ask any regulation. SAY IT TO THE POINT

LOOK STRAIGHT AT HIM AND ANSWER. SHOW THAT YOU ARE AFRAID OF HIM

(3)

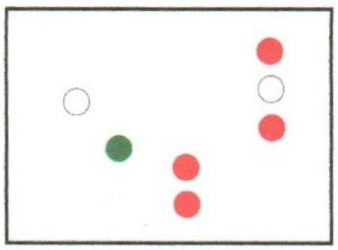
Navigation Class III Oral Examination

Examiner: Captain S M S Bandara

Candidate: Ashan Hettige
Date: 18/02/2019 (10:00 – 11:20)

From Project (ECDIS)
IMO, IHO standards for ECDIS?
Mandatory Alarms?
From Cadet training book
How do you carry out a cargo watch on a Tanker?
How do you use Star finder?

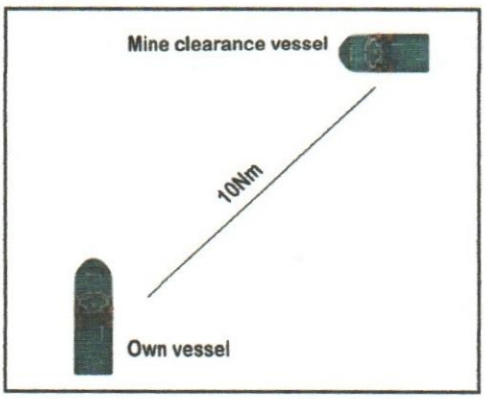
1. What is a NUC vessel?
2. What is a RAM vessel?
3. What is a Sailing vessel?
(Definition as per Rule No 3, Lights and shapes, Sound Signals)
4. What is safe speed? *(In your own words)*
5. Rule No 10
6. Rule No 19
7. What is this?



Power driven Vessel, 50m or more
Viewed from stbd** side & it's a **RAM vessel
*Engaged in **underwater operation or dredging,***
***Making way** through water,*
*has an **obstruction** on her **stbd side**.*

8. What is a Mine clearance vessel?
Vessel restricted in her ability to manoeuvre, only vessel which does not exhibit RAM lights.
In addition to the PDV underway lights or Anchor lights, explain mince clearance lights, day shapes for each end of the yard for 1000m clearance & RAM sound signal.

9. Your action?

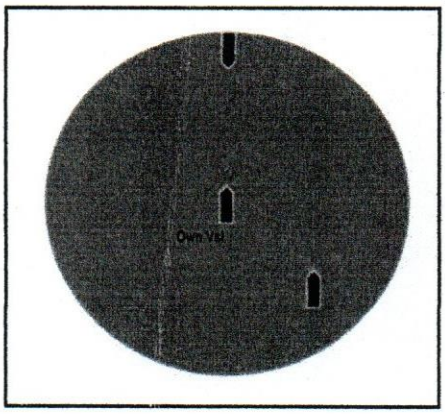


- Immediate stop vessel, Call master.
- Plotting of both vessel's positions.
- Check EGC, Navtex messages to find details about this operation.
- Recheck and make sure that VHF channel maintained is Ch 16.
- If nothing found, contact mine clearance vessel, get the coordinates of mine clearance ground.
- Plot those coordinates on the chart.
- Check where safe water lies with master's permission amend the passage plan & confirm passage is 100%, maintain the master's CPA from the mine clearance area if it more than 1000m.

10. When you received the coordinates you found that your vessel is already in the mine clearance area. Your action?

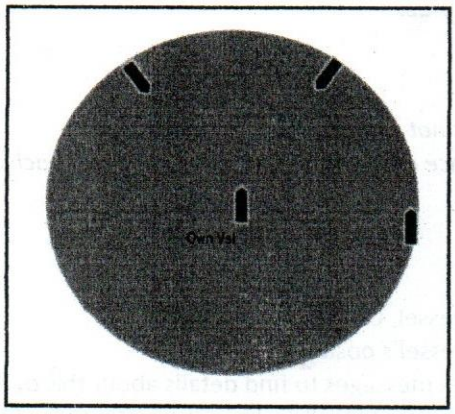
- Stop my vessel immediately and call the master and the engine room.
- Engage stern propulsion and move astern by correcting the transverse thrust using the bow thrusters.
- Once I am out of the coordinates with the permission of Master I will amend the passage plan & follow the procedures as mentioned above.

11. Clear Visibility & 12Nm range, your action?



Acquire all targets & wait for complete processing time.
Since this is 12' range head on situation still doesn't begins to apply and The target on my stbd quarter is in a parallel course with me & no risk of Collision with that.
I'm going to make a broad alteration of course to port side,
Using trial manoeuvre function on RADAR without letting any violation of master's CPA.
Keep all the targets on the stbd side and once they are finally past and clear I'll come back to original course.

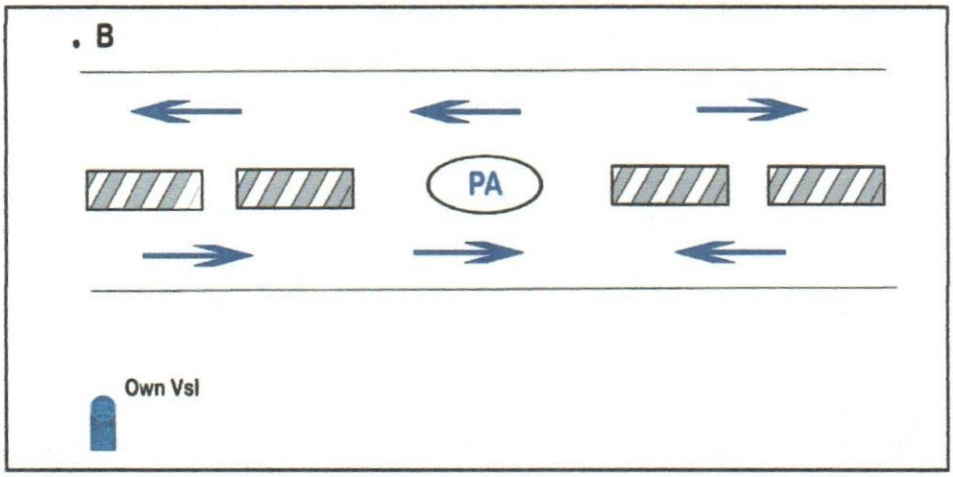
12. Restricted Visibility, 12Nm range, your action?



Acquire all targets & wait for complete processing time.
Use VRM & EBL, get target information & prioritize targets.
As per Rule 19 part (d) since this is detected by radar alone.
Reduce engine speed so the target just abaft of stbd beam to come ahead of the beam.
The moment it comes ahead of the beam, broad alteration of course to stbd side,
Using trial manoeuvre function on RADAR without letting any violation of master's CPA.
Keep all the targets on the port side and once they are finally past and clear come back to original course.

13. What is Precautionary Area?
Due to the conditions of the traffic & the navigational dangers, Should navigate with caution & shouldn't confuse other vessels nearby

14. How do you navigate to the point B?



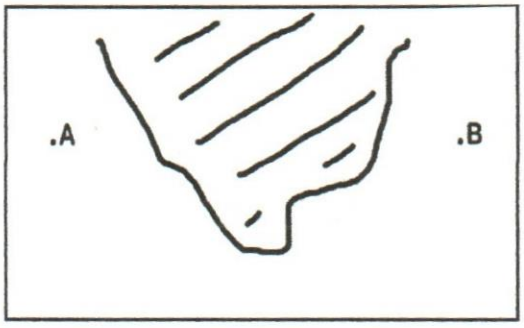
Draw & explain, Joining can be done at the termination,
Not recommending crossing from anywhere because there is a precautionary area.
Explain with Rule 10 appropriate parts.
Navigating with extreme caution near precautionary area.
Join west bound lane as per the rule.

15. What is the range of a fog signals?
16. Visibility of lights?

17. Principal of RADAR?
18. Difference between RADAR & ARPA?
19. What is Echo Sounder?
20. What is Azimuth circle & Azimuth mirror?
21. Maintenance of Magnetic compass?
22. Steering test at Noon time? (Specially mention about changing-over between two motors)

23. Safe water mark?
24. Isolated danger mark?

25. You're on an ECDIS vessel, Master asking rough distance between A & B, How you will calculate?



Select a safe way point below the land & insert all 3 way point's coordinates in QUICK DISTANCE TOOL on ECDIS & find Great Circle distance

26. How do you compare that distance with another mean? Use GPS waypoint input method and compare.

27. *How do you select ENC's for ECDIS?*
28. How do you do plan a passage ECDIS?
29. Content of Ocean passages for the world?
30. What is T&P corrections?
31. How do you update T&P on ECDIS?

32. Contents of Muster list
33. LSA FFA training manuals?
34. What are the pyrotechnics available on bridge?
35. You are newly joined 3rd mate, half of the portable fire extinguishers are sent ashore for servicing, once you receive them back, how do you replace them correctly?
With the help of Fire and Safety plan.

36. How do you maintain a Cargo watch at night time?

37. You're at pilot station, How do you receive pilot safely?
Specially mention about communication, illumination, lifebuoy, checking of pilot ladder, no obstructions.
38. What are your duties on bridge when pilot is there?
Mention about Master-pilot exchange.
39. Crew informed about an Enclosed space entry in poop deck, you're on bridge, what are your duties?
Mention one copy of the permit should be with your, inform Master & ER, Communication, inform early if any changing of Weather & Explain 5 sections of enclosed entry permit.

40. Content of Stability booklet?
41. What is Stiff & Tender?
42. What is negative GM & Angle of loll?
43. How do you correct Angle of loll?

44. What is turning circle?
45. Parametric rolling?

46. Engine room asking "How much is the dew point", how your will measure & tell them?
47. What is Cold & Warm front?
48. What is humidity?
49. What is Monsoon?

50. Gyro failure, what will u do?
51. Ok, now Main engine failure what will u do?
52. Now Black out also, what will u do?

53. You receive DSC Distress alert what is your action?
Set to appropriate RT channel, listen & gather all information, Plot the distress vessel position on your chart, Find distance and ETA, if close by call Master....

54. Crew member reported having a Chest pain, what would you do?

55. Explain Turbo charger.

A big Thank You to everyone who supported me, Good luck!

Name: W M DURANTHA FERNANDO

Examiner: CAPT GAMINI WILSON

Date: 10/JAN/2019

Status: PASS

1. **Duties as 2/0?**
2. **Contents of Noon report?**
3. **How do you get the noon position?**
4. **How do you read the draft?**
   I drew and explained
5. **What is deep draft vessel?**
6. **You see a CBD vessel right ahead of you. What is your action?**
   I assumed it is a head on situation and altered my course to stbd
7. **Same situation. You have an obstruction on your stbd side. What is your action?**
   Alter course to port by deviating from the rules as per rule no. 2
8. **Same situation in restricted visibility.**
   Mention the sound signals u here in restricted visibility and I mentioned speed reduction is not effective, therefore my action still is alteration to port. As rule no 19 does not prohibit going to port only says so far as possible
9. **The CBD is finally passed and clear, now you have heavy fishing traffic right ahead of you. What is your action?**
   Mention reduction of speed to assess the situation, Calling master and informing of engine room, using of hand steering using both steering pumps for maximum efficiency and steering of a best course to clear the fishing vessels
10. **Other situations you call master**
11. **Master is not turning upon the bridge. Your immediate action with fishing fleet right ahead**
    Answer is mentioned in question 9 already

12. **You have ETA to maintain. Will you still reduce your speed when you see the fishing fleet**

    Safety of navigation is first priority; ETA is just an estimation of arriving time

13. **Now you are arriving at port. How do you prepare bridge for arrival**

    Mention the preparation as per the ISM checklist for arrival/departure

14. **Your duties as OOW when navigating with pilot**
15. **How do you assist your master when berthing and unberthing?**

    Mention proper log keeping, helm orders executed proper and monitored accordingly, RPM adjustments, monitoring of UKC and passage progress

16. **Passage plan concept A to B**
17. **What are the distance measuring methods?**
18. **Fuel consumption per day= 30MT**

    Speed of vessel =12kts

    Calculate the fuel consumption for 10miles

19. **Where to get pilot information and VTS reporting**
20. **Where to get information about TSS**
21. **Contents of Ships routing**
22. **How to calculate the tides**

    I drew and explained a primary port calculation

23. **Draw and show how to calculate swinging circle of your vessel**
24. **You are at anchor, bunker barge is approaching 2-3 cables and bearing is steady. Your action as second officer**

    Mention you are getting the attention of the other vessel by any means as per rule no. 35

25. **Monitoring of you passage using ECDIS**
26. **Safety parameters you set on the ECDIS**
27. **Alarms of ECDIS**
28. **GMDSS logbook content**
29. **GMDSS testing and maintenance**
30. **Latest IMDG code edition**
31. **Contents of IMDG (Volumes and supplements)**

32.Precautions when loading DG

33.Equipment to carry onboard when carrying DG

Fire lance, hazardous material suits, wildons pump for DG, medical first aid kit as per the DGs carried onboard

34.Pressure drop 3mb, What is your action

35.Pressure drops 5mb, What is your action

Refer (NP 100) 'Meteorology' section for TRS. Detailed answers can be found

36.Avoiding actions when you are in the path of a TRS

Alteration of course towards the equator is the best action keeping the wind in the respective side of the navigable semi circle

37.How do you implement garbage management plan on bridge?

38.What is angle of LOLL

39.What is the difference between List and Heel?

40.SOLAS Drill frequency

41.What is free pratique?

42.How do you get free pratique before going to a port?

Mentioned about the details of the Port Health Declaration form

43.What is the sanitation exemption certificate?

44.How do you maintain a medical locker?

45.Certificate from medical locker and validity period

46.How do you dispose medical waste and expired medicine?

Mention that you will log down the generic name, quantity of medical waste in the Medical Log book. There is no garbage category called Medical waste.

Candidate : Y.Vasanthan

Examiner : S.M.S Bandara

Date : 31.01.2019 (0900-1015)

PROJECT

1. What is the responsible of safety officer in DRY DOCK
2. How do you prepare repair list for dry dock

For bandara sir , he will ask only one of question from your project, you must able to tell what exactly typed in your project,use same word and points should be in same order as you wrote.

CADET TRAINING BOOK

1. What is AMVER?
   Voluntary reporting system, Us coast guard,for SAR purpose.

2. What is emergency stop?

I did not give correct answer for both questions,at the end bandara sir sent me outside to find answer for both question.

RULES

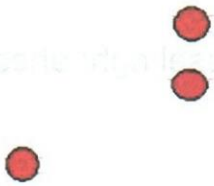
1. What is safe speed?
   For bandara sir you must say in your own word,Never tell same as in Rules
   What i say was,
   Sir the safe speed is the speed which i maintain at all the times, depend on the situation,While i am maintaining safe speed if i want to take any action to avoid collision or close -quarter situation i can take proper and effective action and sir if i want to stop my ship , i can stop with a distance appropriate to prevailing circumstance and condition.

In above rule "close quarter" is not from Rule but bandara sir need this word.

2. What is Rule no 19?
   I said full rule Word by word, sir accepted.

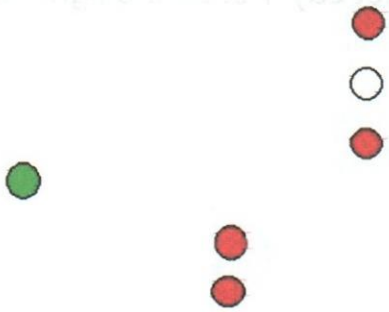
LIGHTS AND SHAPES

1.What is this light?



Sir this is the NUC vessel making way through the water,viewed from port side

2.What is this Light?



For bandara sir you must say in this order

Sir this is an Power driven Vessel, length less than 50 m,
Viewed from stbd side and sir this is RAM vessel
Engaged in underwater operation or dredging,making way through water
And she has obstruction on her stbd side.

3.What is mine clearance vessel?
Sir mine clearance vessel is which engaged in mine clearance operation
And this is an RAM vessel.and say Only the definition of RAM.
And you must say(before bandara sir ask) the lights and shapes and sound signal.

4.What is your action if u see mine clearance vessel right ahead?
Refer manushika's paper

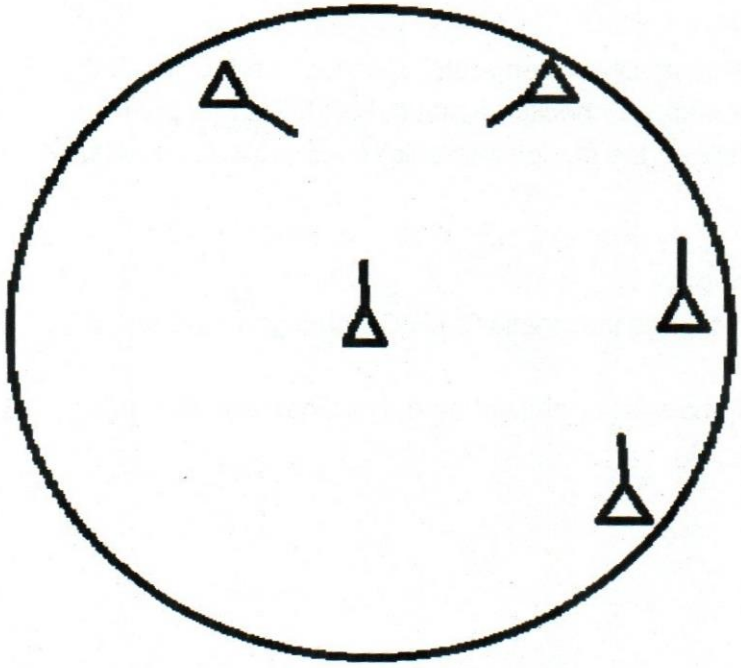
5.what is NUC vessel?
6.what is RAM vessel?
7.what is Sailing vessel?

Say definition as per rule no 3 , Lights and shapes, Sound Signals.

IMPORTANT NOTE: for bandara sir You must say 1 st all the lights then You say day shapes. Don't mix.

SITUATION

Restricted visibility
Range : 12Nm



My answer was : acquire targets,wait for complete processing time.During that time monitor the bearing and range using VRM & EBL, Once i get the target information i will prioritise target.
Bandara sir said ok 1st priority is vsl on stbd Bow
Then i said sir i will make broad alteration to STARBOARD. As per Rule 19 Avoid alter course to port for the vessel forward of the beam,other than for a vessel being overtaken.
You must say i will use Trial Maneuvering in radar before take action and make sure my action would enough to maintain master CPA.(this point is important for bandara sir).

WATCHKEEPING

Best note for watch keeping and emergency is Adeepa's Note.Tell all the points in correct order,if u miss a point which he needs,he will not satisfied with your answer.

1.How do you take over cargo watch in container ship?
Tell all the points in order , specially mention about DG and REEFER containers.

2.How do you receive pilot safely?
Tell all the points such as while going check communication with bridge,check the deck for illumination,obstruction & oil.lifebuoy,checks of pilot ladder(Important point is checking the shackle which attached the ladder with ship),checks on accomodation ladder.

3.Master-pilot exchange information?
Tell give pilot card - master exchange informations-pilot exchange informations.

After that say sir i will tell how to navigate with pilot as duty officer and start telling the points.

Refer adeepa's notes.

EMERGENCY

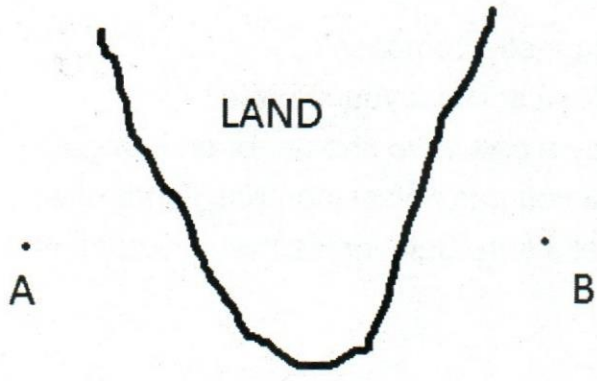
1. You have gyro failure what will u do?
I will use mag compass and steer the ship
2. Ok now main engine failure what will u do?
Sir now i don't have engine but i have power steering so i will use ship inertia and steer the ship using mag compass away from danger.
3. Ok now black out what will u do?
Sir now power for steering also not available but i will wait till emergency power comes once i get emergency power i will start emergency steering motor and using ship inertia steer the ship away from danger.

In addition to this tell all other points.(better adeepa's note)

IALA BUOYAGE SYSTEM

1.Isolated danger buoy?
2.safer water mark?

PASSAGE PLANNING & ECDIS



1.How do u find the distance between A and B in ECDIS?
Sir i will select a safe way point below the land and i will insert all 3 way points in QUICK DISTANCE TOOL in ECDIS, and select Great Circle , then i can find distance.

2.In GPS?
Sir i will select a safe way point below the land and i will insert all 3 waypoints in GPS, and select Great Circle , then i can find in distance.

3.How do u select ENC for ecdis?

4.How do you do planning stage in ECDIS?

5.What are the publications you use for passage planning?
6.what are the contents of OCEAN PASSAGE FOR THE WORLD?

RADAR

1.What is the principle of radar?
You must tell finding range and bearing also

2.What are the limitation of radar?

BRIDGE EQUIPMENTS

1.What are the maintenance of Magnetic compass?
In addition to the points in THILAK sir's Book you must tell
As it is keep close at all the time by a cover we should open in regular interval and check the condition of compass glass,compass card,check periscope for any salt deposits,make sure bulb inside the periscope is working properly.

METEOROLOGY

1.How do u find dew point of atmosphere?
Explain dry,wet bulbs reading

2.what is humidity?
3.what is saturated air?
4.what is warm front?

CHART CORRECTION

1.what are the types of correction in ECDIS?
2.Explain manual correction?
Refer manushika's paper
3.What is T&P corrections?

LSA

1.Contents of muster list
2.LSA FFA training manuals?
3.What are the pyrotechnics available on bridge?

FFA

1.You get a fire alarm on panel on bridge at 2200 hrs, as a duty officer what is your action?
My answer was
Sir first i will confirm whether real fire of false alarm?
I can not send my duty ab bcz watch level will be reduced
So i will call bosun and os and tell them to check,
Make sure they wear proper PPE & communication
tested.....

MANEUVERING CHARACTERISTICS

1.What is turning circle?
2.what is pitching synchronize?

STABILITY

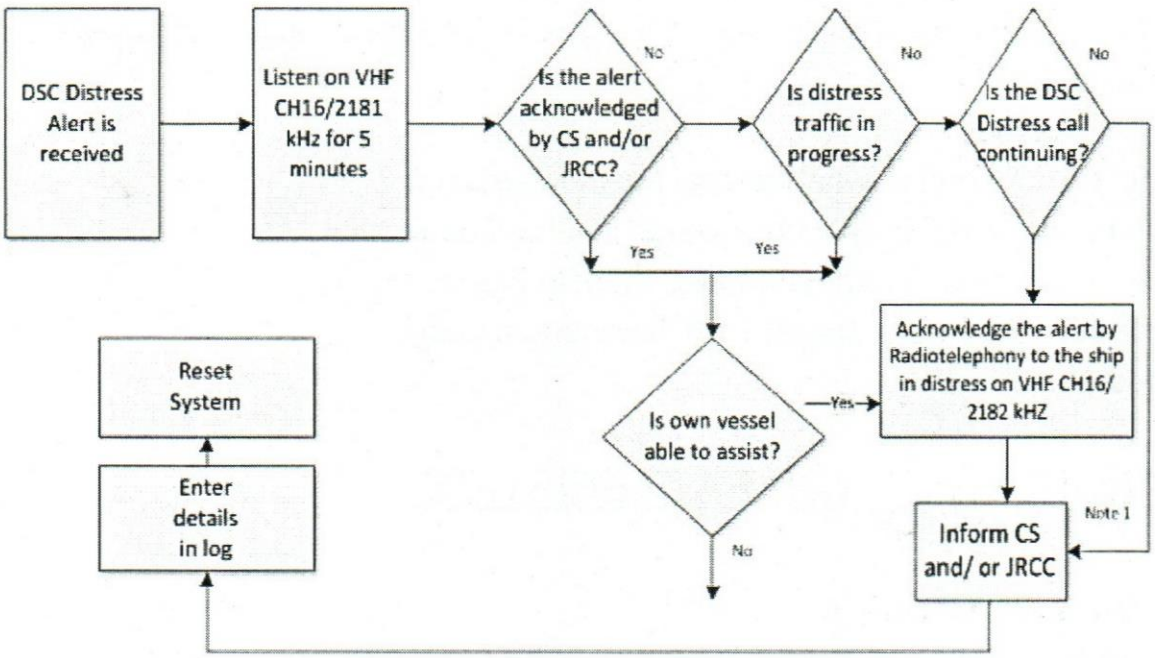
1.Contents of stability booklet?

GMDSS

1.you receive dsc alert what is your action?
Keep appropriate watch on radiotelephone,
Write down all the informations

Plot the distress vessel position and own vessel position on chart,
Find out the distance and ETA.
Call master IMPORTANT POINT for bandara sir is : sir but the if the distress vessel position is so far i will not call the master.
He stopped me with that point
But in addition to you must say the flow chart

FLOW DIAGRAM 1 (COMSAR/Circ.25)
ACTIONS BY SHIPS UPON RECEPTION OF VHF/MF DSC DISTRESS ALERT



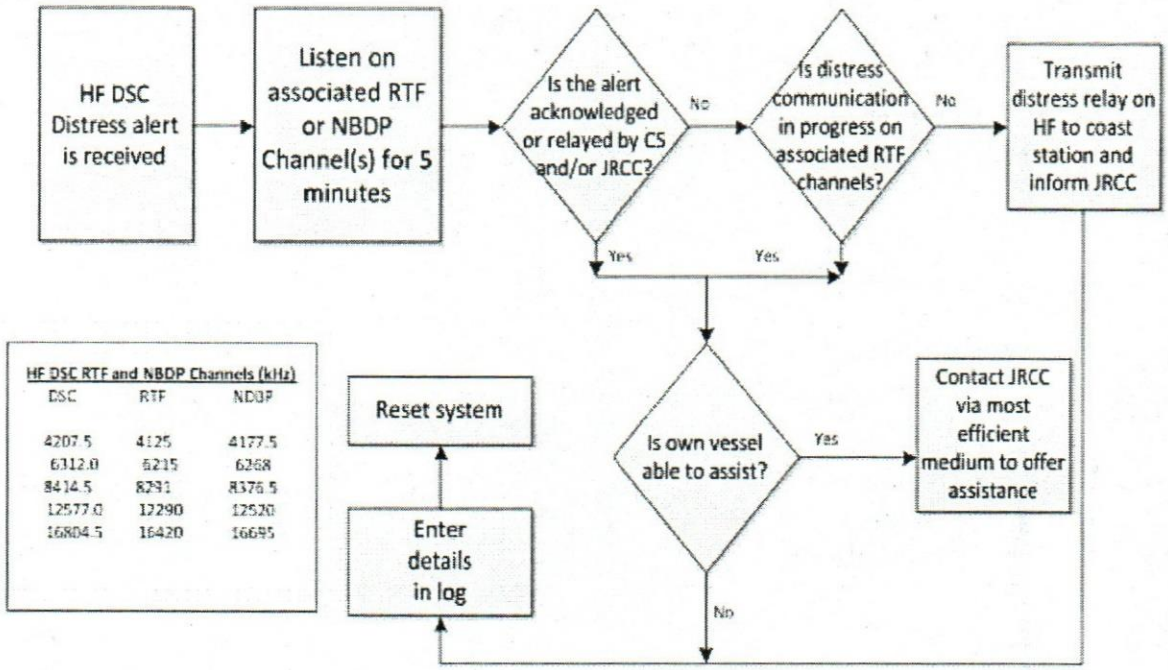
REMARKS:

Note 1: Appropriate or relevant JRCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with a JRCC or Coast Station, be sent to terminate the call.

Note 2: In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF channel 70 or MF Channel 2187.5 kHz

CS = Coast Station **JRCC** = Joint Rescue Co-ordination Center

FLOW DIAGRAM 2 (COMSAR/Circ.25)
ACTIONS BY SHIPS UPON RECEPTION OF HF-DSC DISTRESS ALERT



HF DSC RTF and NBDP Channels (kHz)

DSC	RTF	NBDP
4207.5	4125	4177.5
6312.0	6215	6268
8414.5	8291	8376.5
12577.0	12290	12520
16804.5	16420	16695

REMARKS:

Note 1: If it is clear the ship or persons in distress are not in the vicinity and/or other crafts are better placed to assist, superfluous communications which could interfere with search and rescue activities are to be avoided. Details should be recorded in the appropriate loghook.

Note 2: The ship should establish communications with the station controlling the distress as directed and render such assistance as required and appropriate.

Note 3: Distress relay calls should be initiated manually.

CS = Coast Station **JRCC** = Joint Rescue Coordination Centre

MEDICAL

1.Bosun having chest pain , what you do as 2nd officer?

ENGINEERING KNOWLEDGE

1.EXPLAIN freshwater generator

Candidate : Tharindu Dehiwatta

Examiner : Capt Upul Peiris

Date : 25/01/2019

Status : Pass

From Project : GMDSS

- **Sea areas and Equipment to be carried**
- **DSC Distress Procedure (As per Flow chart in ALRS Vol 5)**

  Should be able to explain the flow chart

- **MMSI**
- **How to distinguish Coastal station and Ship Station by MMSI**

  Coastal station starts with 00 (00XXXXXXX)

- **Navtex Self Testing Frequency & Where is it mentioned?**

  As per SOLAS CH IV Reg 15.5, Flag state shall ensure the radio equipment to be maintained to provide the availability of functional requirement

- **Contents of ITU list of Ship and coastal stations**

1. **How do you implement garbage management plan onboard?**
2. **Food waste Discharging Criteria**
3. **Max dimension of comminuted food waste**

   Should be able to pass through a screen or mesh with holes of larger than 25mm

4. **How do you discharge cooking oil?**
5. **Garbage categories**
6. **What is SOPEP?**
7. **Contents of SOPEP manual**

8. **Precautions when loading a DG container?**
9. **Document required for IMDG carriage**
10. **How do you segregate DG cargo and why is it important?**
11. **IMDG Segregation Requirements**

Four segregation requirements as per IMDG code

12. **What is stability?**
13. **Statical and dynamical stability**
14. **What is metacentric height?**
15. **How do you calculate metacentric Height?**

KG can be calculated taking moments about keel.

KM can be taken using stability booklet

$GM_{solid}=KM-KG$

$GM_{Fluid}=GM_{solid}-FSC$

16. **How do you determine the vessel's stability by observation?**

By observing the rolling period

17. **What is free surface effect? And factors affecting FSE**
18. **What is turning circle?**
19. **What is pivot point?**
20. **What are shallow water effects?**
21. **What is interaction?**
22. **What is squat and how does it occurs?**
23. **What is Parametric rolling?**
24. **What is Synchronized rolling and pitching?**

25. **Maintenance of fixed CO2 system**

MSC Cir 1318

26. **Familiarization of newly joined crew member**
27. **Drill frequency of a davit launch life raft**
28. **Drill frequency of rescue boat**
29. **Security Drill frequency**
30. **Relationship between SOLAS and LSA Code /FFA Code**

SOLAS states the minimum requirements

LSA/FFA codes gives Technical specifications, Testing specifications

31. **Actions by OOW in a MOB incident**
32. **What is the convention on COLREG?**
33. **What is the latest update to COLREG?**

Part F

34. **How do you know that you are overtaking another vessel?**
35. **What is restricted visibility?**
36. **What is isolated danger mark?**
37. **Passage Planning on ECDIS : Only the planning stage**
38. **What is presentation Library?**

IHO Standard S52, Latest Edition 4.0

Also mention the content

39. **How do you know if your ECDIS is compatible with latest presentation library?**

Go to System Information

Check the software version

Verify with the manufacturer if it is compatible

40. **How do you maintain security at port?**

41. **What is cargo securing manual and who approved the CSM?**

Explain the content / Classification society

42. **What are the precautions to be taken when entering an enclosed space?**

Date: - 10.01.2019 / CLASS III Orals

Candidate: - Gihan Buwanayaka (CINEC)

Examiner: - Capt. Upul Peris

Status: - Pass

Duration: - 2 Hours

1. **How do you carry out safe mooring practices?**
2. **What is fatigue? And how to identify it?**

   Fatigue is degrading of human performance or extreme tiredness due to physical, emotional or mental facts...

   We can identify the fatigue by:

   - Sleepiness
   - Cannot determine the distance
   - Degrade of performance
   - Trying to take risk
   - Slow to respond
   - Change of attitude

3. **How to mitigate fatigue?**

   - Good sleeping habit
   - Work / Rest hours
   - Good food habit
   - Managing work load

4. **LSA Maintenance?**

   - Answer with all the regulation numbers (SOLAS CH III/Reg 20,36)

5. **EEBD Maintenance?**

   - Weekly check the condition of bottle, mask, hose connection and Gauge for a correct pressure.

6. **What is ECDIS Anomalies?**

   - Unexpected and Unintended behavior of ECDIS, which affecting for use of equipment and navigational decisions made by the user

7. **How to control Overreliance of ECDIS?**

   - Crosscheck the ECDIS details with another independent means,
   - Eg:- Charts, NTM, Admiralty List of Lights(ALL), Admiralty Total Tide(ATT), Radar

8. **Passage Planning on ECDIS?**

   - Refer Mr.Dhamnath's Paper and add some more details for the Appraisal Stage.

9. **How do you use CATZOC for passage planning?**

   - Sir when I'm making passage on ECDIS I'll always switch on CATZOC function on ECDIS display, in the CATZOC each and every stage is having the position accuracy and depth accuracy so when I'm drawing my course line I'll always keep a distance and depth to my course line more than what the CATZOC is mentioned.

10. **What is use of Cumulative and Annual NTM?**

    - Cumulative NTM published in twice a year, on JAN and JUNE
      This publication is very useful to find out the *missing chart corrections (Permanent correction) on Paper chart* and *to check the current edition hydrographic publications*

    - Annual Summery Of NTM is published once a year, which has two parts
      Part 1 – Annual Summary of NTM (T & P Notices)
      Part 2 – Updates for ASD and Miscellaneous nautical publications

11. **In TSS one vessel on your STBD side crossing ant 6-7 nm range, what is your action?**
    Refer Mr.Dhamnath's Paper

12. **Safe Water Mark?**

13. How to cancel False EPIRB alert?

- Switch off EPIRB and send the cancellation massage to MRCC by using most effective means (VHF,MF,HF or SAT-C Cancellation msg as a Distress Priority

14. GMDSS Daily / Weekly / Monthly tests?

- Refer Mr.Dhamnath's Paper

15. Which volume of ALRS contains GMDSS?

- ALRS Vol 5

16. 9 GMDSS functional requirements?

- Transmission of ship to shore distress alert by at least two independent means
- Reception of shore to ship distress alert
- T & R of ship – ship
- T & R of SAR coordinating communication
- T & R of on-scene communication
- T & R MSI
- T & R signal locating
- T & R of general communication
- T & R of bridge – bridge communication

17. GMDSS Watch-keeping Requirements?

- VHF on Ch 70 for DSC
- VHF Ch 16 (if practicable)
- MF 2187.5 khz for DSC
- HF 8414.5 khz and another HF frequency for DSC
- SAT C for EGC
- SAT C for reception of shore to ship distress
- International Navigational Texel (NAVTEX)
- HF Radiotelex
- T & R of MSI

18. What is MMSI?

- Maritime Mobile Service Identity

19. How to identify SES or Coastal station by MMSI number?

- SES - The 9-digit code constituting
- **MIDxxxxxx**
- where MID represent the *Maritime Identification Digits* and X is any figure from 0 to 9

- Coast station identities - **00MIDxxxx**
- where the first two figures are zeros, and X is any figure from 0 to 9

20. Who is adding the regulations for GMDSS?

- ITU (International Telecommunication Union)

21. How to cancel MF/HF DSC?

- Reset the Eq to prevent further transmission of DSC (Switch off and on)
- Go to appropriate RT channel and broadcast cancellation massage

All stations X 3
This is (Own Name) X 3
CALL SIGN, MMSI NO
Please Cancel my Distress Alert of
Date, Time, Psn
OVER...

22. Oil Spillage reported on deck, your action as duty officer?

Refer Mr.Dhamnath's Paper

23. Contents of SOPEP manual?

24. Where to report, If there is any oil spillage in Sril-Lankan waters?

- MEPA – Marine Environment Protection Authority (Baseline Road)
- Colombo Port Control
- Merchant Shipping Secretary

25. Garbage Categories?

A. Plastics
B. Food waste
C. Domestic wastes
D. Cooking oil
E. Incinerator ashes
F. Operational waste
G. Animal carcasses
H. Fishing gear
I. E-waste
J. Cargo residues (non-HME)
K. Cargo residues (HME)

26. How to dispose cooking oil and what is the unit you are using for it?

- Dispose to the shore facility of incineration.
- Units – M^3

27. How do you implement Garbage Management Plan?

- Refer Mr.Dhamnath's Paper

28. Explain Marpol Annex VI?

29. How to Load reefer cargo?

30. Events to issue DOS (Declaration of Security)?

- The ship is operating at a higher security level than the port facility or another ship with which it is interfacing
- There has been a security threat or a security incident involving the ship or the port facility
- The ship is at a port facility that is not required to have and implement an approved port facility security plan.

31. How do you maintain the security in the port ?

- Gangway watch
- ID check
- Baggage Check
- F to A and Top to Bottom 24x7 security
- Lock up the restricted areas
- Issue DOS
- Contact PFSO regarding any security matter

32. Why stability is important?

- Stability is important so make ship upright position once it is heeled by external forces or in other world it is a degree of been stable of vessel or check the vessel's seaworthiness.

33. What is Dynamic Stability?

- **Dynamic Stability** is the **ship's** ability to resist external heeling forces.
- The area under GZ curve is the Righting Energy the **ship** possesses,
- Or the **ships** ability to right itself.
- Heeling Moment curves can be projected onto this curve to determine the maximum beam winds and seas the **ship** can withstand.

34. Signs of TRS?

35. From where you can find the general direction of traffic flow in TSS?

- Admiralty Sailing Directions
- Ship's Routine
- Chart By Symbol

36. Crew member with medical issue, what is your action?

- Remove him from the danger
- Diagnose the person
- Check for Symptoms and indications along with International Medical Guide for Ship's

- Check what are the treatments which is recommended for illness
- Write all the details and give it to master and master is responsible to issues the medicines
- If there is any doubt get the radio medical advice

37. How to take Radio medical advice?

- First fill up the reporting form which is on back side of the International Medical guide for ship

- The reporting form is consist with 4 Parts ;
  - Ship Master's Report Form
  - Ship's Identity and Navigational Status Form
  - Patient Health Status
  - Primary Physician's Report Form

- Then get the details of CIRM from ALRS Vol 1 of from SMS

- Contact by most effective means

38. Sri – Lankan Legislation?

- Merchant Shipping ACT 52 of 1971 as amended 1988
- Legislation is a set of Law
- Director general of merchant shipping has a responsibility to all the shipping related acts in Sri-Lanka and about all the seafarers in Sri-Lanka
- Applies to –
  - All Sri Lanka ships wherever they are
  - All ships registered or deemed to be registered under this Act wherever they are
  - All ships, not being Sri Lanka ships, licensed under this Act to engage in the coasting trade, while engaged in such trade
  - All other ships while in a port or place in, or within the territorial waters of, Sri Lanka:
- There are 12 parts
  - INTRODUCTION
  - CONTROL OF SHIPPING
  - REGISTRY
  - MASTERS AND SEAMEN PRELIMINARY
  - CONSTRUCTION, EQUIPMENT AND SURVEY
  - LOAD LINES
  - SAFETY OF NAVIGATION

- COURTS OF SURVEY
- WRECK AND SALVAGE
- LEGAL PROCEEDINGS
- SUPPLEMENTAL
- REPEAL AND TRANSITIONAL

39. What is Latest MSN? And Why MSN is issued?

- MSN - MERCHANT SHIPPING NOTICE
- It is a document which is prepared to add new regulations for the sir Lankan law of shipping
- Latest MSN - 01/2008 - IMO UNIQUE COMPANY AND REGISTERED OWNER IDENTIFICATION NUMBER

40. What is Maritime Casualty?

- **Maritime casualty** means a collision of vessels, stranding or other incident of navigation, or other occurrence on board a vessel or external to it resulting in material damage or imminent threat of material damage to a vessel or cargo.

41. What did you get from the herald of free enterprise disaster?

- International Safety Management Code

I Would Like To Thank Especially To All The Lecturers In Navigation Department, Simulator, GMDSS Department, Survival Department and Library Staff...

Good Luck..!!!

❖ Specially go through with your Cadet Record Book

ND Class III orals

Candidate: D.G.S.R.Dewasinghe

Examiner: Cpt. Upul Peris

Status: Pass

Date: 20-09-2018

Time: 0920 – 1130

From Project

- What are the precautions when using power tools in ships caring liquid gas cargoes & Dangerous cargo?
- How do you carry out risk assessment?

1. What is the purpose of IMDG ode?
2. How do you carry out steering gear test?
3. What is the purpose of emergency steering drill?
4. Frequency emergency steering drill?
5. What is VDR?
6. What are the backup requirements of VDR?
7. When do you back up VDR?
8. How do you up-date ECDIS?
9. What are the problems that you have to face if you haven't update ECDIS for latest software? (Specially expecting ECDIS anomalies)
10. What are the overreliances's of ECDIS?
11. Passage planning in ECDIS? (Only Planning stage)
12. What are the publications do you use for passage planning?
13. What are the contents of routine chart?
14. Contents of ships routine?
15. What is archipelagic sea lane?
16. How do you plan a passage through archipelagic sea lane?
17. What is the purpose of TSS?
18. How do you find general direction of traffic flow?
19. How do you determine risk of collision?
20. What are the actions you should avoid in restricted visibility?
21. You see a crossing vessel 1 point Stbd bow in 10NM range. What is you action?
22. What is the purpose of traffic separation zone?
23. What is safe speed?
24. What is the structure of IMO?
25. How do you identify when your anchor is dragging?
26. What is your action when anchor dragging?
27. How do you maintain fixed CO2 system?
28. What are the procedures you would fallow when realising fixed CO2 system?

29. What is negative GM?
30. How do you correct it?
31. What are the dangers of ships having negative GM?
32. What is a stiff & tender ship?
33. What are the contents of stability booklet?
34. What is angle of loll?
35. How do you load a reefer container?
36. How do you implement garbage management plan onboard?
37. What is the drill requirement for davit launch life raft?
38. What are the contents on wheel house poster?
39. What are the factors affecting ships manoeuvrability?
40. How do you carry out performance monitor test on your RADAR?
41. What is the latest amendment to COLREG?
42. What is isolated danger mark?
43. What is fall preventer Device?
44. What is Sri Lankan legislation?
45. Where do you find Sri Lankan requirements when you are going to do class II? (According to merchant shipping act 52 there is a gazette published in 2016. Gazette number 1978)
46. What is the purpose of ISM code?
47. What are the elements of ISM code?
48. What are the certificates required as per ISM ode?
49. How do you implement ISM code onboard?
50. What are the contents of stability booklet?

GOOD LUCK!!!!!!!

I WOULD LIKE TO THANK ALL LECTURES IN NAVIGATION DEPARTMENT, SIMULATOR, GMDSS AND SURVIVAL DEPARTMENT..

Class III oral examination

Candidate : Kurunathan Nishanthan

Examiner : Capt. Asiri Herath

Date : 07/06/2018

Time : 1400-1545 HRS

1. How do you carry out steering gear test?
2. How tide and current affect a ship?
3. Difference between mandatory reporting & voluntary reporting?
4. If you not give information to VTIS how it affect?
5. Draw & show trial manoeuvre how it appear in radar screen?
6. Draw & show manual RADAR plotting for STBD crossing vessel course &speed alteration required as per masters CPA required?
7. What is VDR? Uses? Regulation? Carriage requirement?
8. What is VDR float free capsule? How it work?
9. Difference between AIS data & ARPA data?
10. How do you navigate in a heavy traffic area?
11. Rule 10?
12. What is part F in COLREG? What it says?
13. How do you backup VDR?
14. Recommendation to save VDR save in ? (within 12 hours)

Candidate : Kurunathan Nishanthan

Examiner : Capt. Gamini Wilson

Date : 26/06/2018

Time : 0945-1020 Hrs, 1330-1420 Hrs

1. What are the avoiding actions says in rule no 08?
   Alteration of course or speed
2. What is lookout?
3. What are the all available means?
4. What is safe speed?
5. What are the factors to be considered by all vessels when determining safe speed?
6. What are the manoeuvring characteristics of a vessel?
7. From where you can find manoeuvring characteristics of a vessel?
8. Contents of wheel house posters?
9. How do you determine risk of collision?
10. There is a tug towing a 200m vessel, length of the tow 2NM. For which one you take bearing to determine risk of collision?
    I said for the tow (200m vessel)
11. From which part you take bearing? Fwd midship or aft?
    I said forward mast
12. Factors to be consider when deciding safe speed by vessel fitted with operational RADAR?
13. What are the characteristics of a RADAR?
14. Limitations of RADAR?
15. What is minimum range of a RADAR?
16. What is range discrimination?
17. What is range accuracy and how to overcome?
18. Show me how to do manual RADAR plotting for a crossing vessel?
19. Advantages & disadvantages of RADAR plotting?
20. Which side of a narrow channel you keep on your vessels STBD side?
21. Are you allow to cross narrow channel?
22. A narrow channel could it be a TSS?
23. In narrow channel if you are overtaking another vessel form STBD side what is the sound signal ? what is the morse code for that signal?
24. Of overtaken vessel in agreement what is the sound signal?
25. If not in agreement what is the sound signal?
26. When nearing a bend in a narrow channel what is the sound signal? If another vessel hears your sound signal what is her reply sound signal?
27. From where you can find details of a TSS?
28. Contents of ships routeing?
29. How do u join a TSS?
30. Which vessel may use ITZ?

31. Region B lateral marks & preffered channel to STBD & PORT?
32. What is isolated danger mark?
33. You are heading 180 course you see North cardinal mark right ahead what is your action?
34. What are the master pilot information exchange?
35. Duties when master & pilot onboard?
36. Master gives you one order pilot gives another order which one you follow?
37. Action to avoid collision as a stand on vessel?
38. You are a stand on vessel you have a give way on your STBD side. If you find she is not take proper action to avoid collision what is your action?

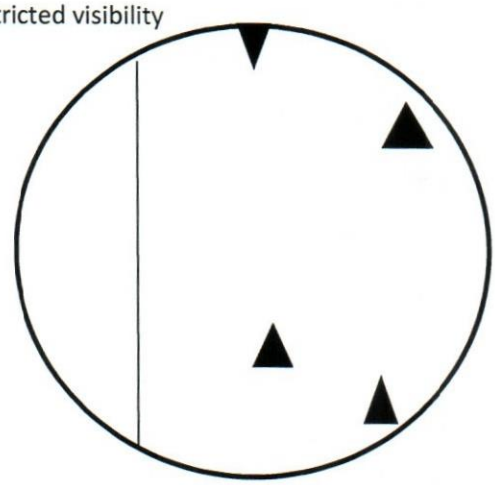
    Alter to PORT go parallel once give way vessel pass come back to original course if give way vessel doing higher speed than me.

    If give way is doing lesser speed take full round turn on PORT and pass stern of give way vessel.

39. You have another vessel on your port side now what is your action?

    Reduction of speed

40. Restricted visibility



RADAR off centered shallow water on your PORT side vessel ahead is 12NM away. vessel on your STBD bow steady bearing 4Kts speed. vessel on your STBD quarter 6Kts speed. What is you action to avoid collision? (Examiner not give me vessel ahead speed own vessel speed & distance of vessel on STBD quarter)

Answer : As per Rule 19 (d) & (e) reduction of speed.

41. Passage plan in ECDIS from Scotland to Australia?
42. Contents of IMO resolution A 893(21)?
43. If you know your vessel stability condition (GM) how would it help in passage planning?
44. How will you select ENC for your passage?
45. What are the passage planning methods in ECDIS?
46. How would weather routine helps in passage planning?
47. What is T & P correction?

48. What is cumulative list? When it published?
49. What is annual summary of notices to mariners?
50. Free fall life boat launching requirements?
51. What is simulated launching?
    MSC Circ 1578 Annex page 4
52. All drill frequencies ISPS, SOLAS,ISM?
53. Life boat markings & equipment's?
54. Life boat maintenance?
55. How do you carry out safety inspection for LSA?
56. Rescue a person from water & rescue boat launching drill frequency?
57. If your barometer shows 3mb drop within 3 hours what is your action?
58. You receive HF DSC distress alert distress vessel 300NM away from you what is your action?
59. How many sea areas in GMDSS?
60. How many satellites are there?
61. What is SEEMP?
62. What is TEEMP?

    I said I don't know

63. Muster list contents?
64. What is minimum UKC?
65. Contents of deck log book?
66. Contents of official log book?
67. What is transverse thrust?
68. What is shallow water effect?
69. What is squat?
70. Performance standards for ENC?
71. Latest amendment to IMDG?
72. Limitations of ECDIS?

Note : Most of the questions are cross questions from my answer. Whatever you are saying you should know it.

Except for buoyage all other questions examiner not allow me to give complete answer.

Thanks for everyone who help me to achieve this goal.

Wish you all the best.

(5)

CLASS 3 NAVIGATION ORALS

CANDIDATE: A.A. MANUSIKA D. ABHAYAWARDHANA

EXAMINER: CAPT. S.M.S. BANDARA

DATE: 10 JULY 2018 TIME: 0900H – 1100H

STATUS: PASS

QUESTIONS

1. WHEN DO YOU DISCARD WIRE ROPES?

Refer OCIMF Effective mooring booklet

2.

i) YOU ARE THE OFFICER IN THE AFT MOORING STATIONS, YOU HAVE A FRESH CADET. HOW WOULD YOU DEAL WITH HIM?

Since he is a fresh cadet on board I should make sure that his safety is to be the priority. In this case I have to explain all the procedures involved in mooring operations before I go to the mooring stations. And also before going to the mooring stations I have to show him the necessary plans , mooring plans, general arrangement plans and the safe working loads of all equipment and there meanings. After I confirm that he knows the arrangements as per the plans I will bring him to the mooring stations. Before proceeding to the stations I ill check whether he is wearing all the proper PPE and whether they are in good conditions and is worn properly. Once I am at the mooring stations I will explain the operation of all the equipment including their characteristics and limitations and all the information related to safety as how to handle the ropes(only by hand not using the foot), should maintain a safe distance from the mooring winch, always follow duty officers orders, instructions given by the senior able bodied seafarers, how the lines will lead, how master will give orders, how the tugs will approach and how to handle the tug rope and how to deal with dangers involved in tugs and the mooring operations. Then the snap back zones and dangers involved in the above, once I confirm that he is already familiarized with all the procedures and the equipment I will make sure that he is only observing the operations since it is the first day and make sure that he is not involved in any dangerous operations in the stations.

ii) WHEN TO CALL MASTER?

The officer of the watch shall call the master in the following occasion but not be limited to,

- When restricted visibility is encountered.
- When traffic conditions and movement of other vessels cause concern.
- When difficulties are experienced in maintaining the vessel course.
- On failure to sight land, navigational marks, or a change in sounding at expected time.
- In sighting unexpectedly land, navigational marks, or changing of soundings.
- On breakdown of engines, propulsion, steering gear, navigational equipment, alarms or indicators.
- Malfunction in GMDSS/ radio equipment.
- Heavy weather, weather dangers.
- Any hazard or danger to navigation.
- When vessels security concern arises.
- In any doubt or in an emergency.
- When a distress alert is received.

3. EXPLAIN THE RADAR PRINCIPLE. (RADAR LIMITATIONS)

Refer to SAMADHI SIRS notes.

4.

i) WHAT ARE THE SPEED LOGS?

The speed logs on board are used to measure the speed through the water and speed over ground. There are 3 logs used to measure speed through water and 2 logs to measure the speed over ground.

The speed log which gives the speed through water are Impeller log, Electromagnetic log and the Pressure tube log.

The speed log which gives the speed over ground are the Doppler log and the Echostic co-relation log. And also the Doppler log can be used to get the speed through water.

ii) WHAT IS THE PRINCIPLE OF ANY ONE OF THEM?

Refer THILAK SIRS BRIDGE EQUIPMENT NOTES

5. WHAT IS THE DIFFERNCE BETWEEN BOTTOM TRACK AND WATER TRACK SPEED MODES AND WHEN TO USE THEM?

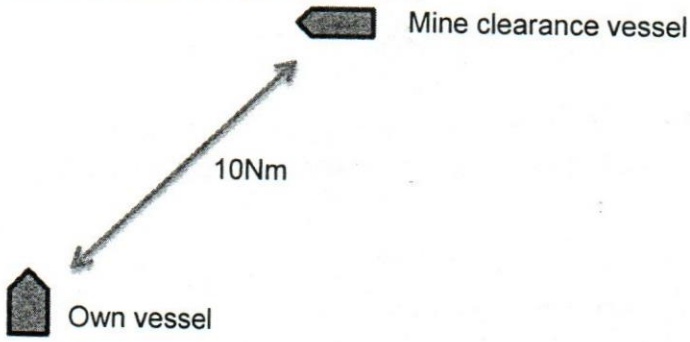
Water track mode refers the speed through water; this includes the effect of current on the vessels movement also. And this is used for collision avoidance whatever the external factors affected to my vessel will be the same on the other vessel so the situation will be readily apparent for me.

Where bottom track speed measures the speed over the ground and it is mainly used for navigation, for example when we're entering to the shallow areas near the coast we have to know the speed and the course through the ground to keep clear of any navigational dangers.

6. WHAT IS A MINE CLEARENCE VESSEL?

Mine clearance vessel is a vessel restricted in her ability to manoeuvre engaged in mine clearance operations. It is the only vessel which does not exhibit RAM lights.
The lights exhibited on a mine Clarence vessel are as follows,
At night she shall exhibit in addition to the PDV underway lights or vessel at Anchor lights, three all- round green lights on near the fore mast and other at each end of the fore yards.by day she shall exhibit the shapes as three black balls one near the fore mast head and other at each end of the fore yards.
These lights and shapes indicate that it is dangerous to approach the above vessel within a distance of 1000m.
In restricted visibility she shall sound the appropriate sound signals consisting of, in an interval of not more than 2 min, three blasts in succession, one prolonged followed by two short blasts.

7. THE EXAMINER MENTIONED THAT YOU HAVE IDENTIFIED THAT IT IS A MINE CLEARENCE VESSEL. WHAT IS YOUR ACTION?

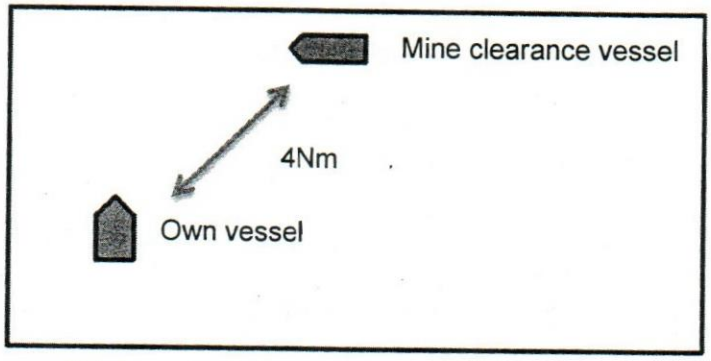


Mention the following key points When I realise that she is a mine clearance vessel,

- This will never happen in my watch, but since due to some reason as this has already happened, I will reduce my speed to which I can maintain my course to allow more time to access the situation.
- Put on hand steering
- Call the master and engine room
- Check my and the other vessel position
- Check all navigation warnings received
- Recheck and make sure that VHF channel maintained is Ch.16
- If I don't have any warnings received via Navtex or EGC I will call the other vessel by the information acquired from the AIS and get the coordinates of the mine clearance area
- By the time master comes on the bridge I will have all the information related to the situation and I will check the coordinates and amend the passage plan under the approval of the master and only after I confirm

that the new passage is 100% safe I will maintain the masters CPA from the mine clearance area if it more than 1000m.

8. WHEN YOU RECEIVED THE CORDINATES YOU FOUND THAT YOUR VESSEL IS ALREADY IN THE MINE CLEARENCE AREA. WHAT WILL BE YOUR ACTION?



I will stop my vessel immediately and call the master and the engine room and engage stern propulsion and move astern by correcting the transverse thrust using the bow thrusters and once I am out of the coordinates with the permission of Master I will amend the passage plan and follow the procedures as mentioned above.

9. WHAT IS PRECAUTIONARY AREA?

It is an area where more precautions are to be exercised due to the conditions of the traffic and the navigational dangers. All the precautionary areas can be found from the Ships Routine.

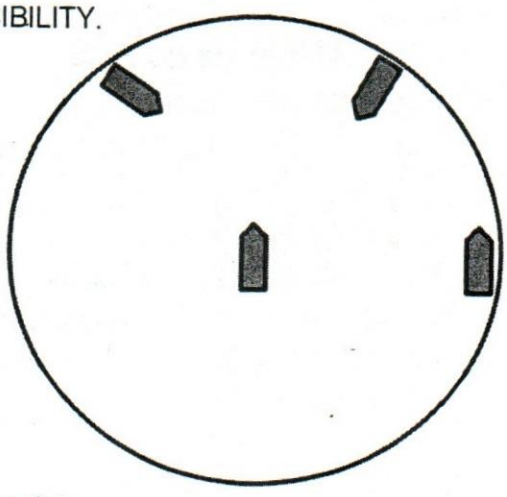
10. TELL ME RULE NO. 19

Explain rule No 19 in your own words.

11. WHAT IS SAFE SPEED, BREIFLY EXPLAIN IN YOUR OWN WORDS?

It is the speed that a vessel should maintain so that she can take proper and effective action to avoid collision and to be stopped within a distance appropriate to the prevailing conditions.

12. WHAT IS YOUR ACTION?
IN RESTRICTED VISIBILITY.



12Nm range

Mention the following key points,

- Since this is in restricted visibility part B section I and iii applies.
- I will go to my RADAR and acquire all targets.
- I will not wait for the full processing time, I will use the EBL and VRM to check whether there Is a risk of collision
- If risk of collision exists and once I have the CPA and TCPA I will prioritize the targets and check the vessels violating the masters CPA.
- Since I have detected by the RADAR I have to comply with rule No.19 Part D, says to avoid altering course to port for a vessel forward of the beam other than for a vessel being overtaken. And avoid altering course towards a vessel abeam or abaft the beam.
- But the best action to take according to this situation I reducing the speed at which I can maintain my course but I will assume that there is no risk of collision with the vessel on the beam assuming that her speed is higher than mine once she comes forward of my beam I will use trial manoeuvre and alter my course to starboard and maintain masters CPA with the crossing vessel on my Starboard bow.
- I will monitor the effectiveness of my action as per rule No 8. D until the other vessel is finally past and clear. And come back to my original course.

13. WHAT IS A SAFE WATER MARK?

As per IALA Buoyage system give all info including usage, characteristics of lights and colours without missing any points.

14. WHAT IS AN ISOLATED DANGER BUOY?

As per IALA Buoyage system give all info including usage, characteristics of lights and colours without missing any points.

15. WHAT ARE THE DISTANCE CALCULATION METHODS?

- Admiralty distance tables
- Reeds distance tables
- Insert it in GPS to get Rhumb line and great circle distance
- BP marine software
- Auto routine function of ECDIS
  (Rough distances can be taken from routine charts and the ocean passages for the world NP136)

16. WHAT IS THE MOST ACCURATE ONE AND THE ACCURACY OF THE DISTANCE TABLES?

When considering about a long distance passage all the distances will be same from any above sources.
Accuracy of distance tables is 0.003%

17. PLAN A PASSAGE FROM PANAMA TO TAIWAN.

Refer to the attached document "PASSAGE PLANNING BY PAPER CHARTS".

18. HOW MANY ROUTINE CHARTS ARE THERE?

There are **five main** charts categorized as follows, North and South Atlantic, North and South Pacific, Indian ocean.
There are 12 charts per each above for each month of the year.

19. ROUTINE GUIDE CHARTS.

There are mainly four routine guide charts for English Channel, Dover strait, Malacca strait and Suez.
It gives info necessary for the passage plan. (Mention content given in the routine guide charts).

20. HOW TO CORRECT ENC?

In correcting the ENC there are 3 main methods, namely AUTOMATIC, SEMI AUTOMATIC and MANUAL.

21. TELL ME HOW TO DO A MANUAL CORRECTION.

In correcting ENC manually first of all have to make sure that am following the instructions as per the publication HOW TO KEEP YOUR ADMIRALITY PRODUCTS UP TO DATE.
I will be also familiarised with the symbols and abbreviations in ENC as per publication NP5012.
Different ECDIS manufactures have different instructions in correcting the above manually; I will read and understand the manufacturer's instructions also.
Normally manual corrections are done for the T&P notices, since countries such as INDIA; SRI LANKA AND PAKISTAN does not produce above notices for the ENC, we are using the manual correction function.

Switch on the function, check the weekly notices to mariners for the correction, check the symbols required from NP5012, select the appropriate symbol, enter the geographical coordinates manually and accept and enter. Or drag and drop the symbol on the given position. (Depends on the type of ECDIS familiarized.)

22. YOU ARE THE NEW THIRD OFFICER PREVIOUS THIRD OFFICER HAS SENT 50% OF YOUR FIRE EXTINGUISHERS ASHORE FOR ANNUAL MAINTANANCE, AND YU RECEIVE THEM, HOW WOULD YOU CORRECTLY PLACE THEM ON THEIR PLACES?

As I am the third officer I should be well familiarized with the FIRE AND SAFETY PLAN and as per my company plan maintenance system I will have the location of all the safety equipment and locations with their numbers. I can use these to place the fire extinguishers back on their correct places.

23. CONTENTS OF THE SOLAS TRAINING MANUAL.

There are two types of manuals as LIFE SAVING APPLIANCE and FIRE FIGHTING APPLIANCS.

Solas training manual (LSA)

- Comes under solas ch.3 reg.35
- All ships should have these on board
- Should be available in mess rooms and recreation rooms or in each cabin.
- Should give instructions and information in easily understood manner
- Gives the procedures in donning of life jackets, immersion suits and TPA
- The muster station
- Boarding, launching and clearing away including marine evacuation system
- Methods of launching from within the craft

- Release from launching appliances
- Illumination of area
- Use of all equipment
- Use of radio lifesaving appliances
- Use of drugs and medicine
- Using of the engines
- Recovery including the boat and securing of the boat
- Best use of survival equipment
- Instructions of repair.

Solas training manual (FFA)

- Comes under solas ch2. Part 2 Reg 15
- General fire safety practices in relation to dangers of smoking, electrical hazards, flammable liquids and similar shipboard hazards
- General instructions of fire fighting activities
- Meaning of ships alarms
- Operation of fire fighting systems and appliances
- Operation and the use of fire doors
- Operation and the uses of fire dampers
- Escape system appliances.

24. CONTENTS OF THE MUSTER LIST.

Refers solas ch.3 reg 37

25. WHAT ARE YOUR DUTIESS AS A THIRD OFFICER?

Mainly can be divided into 4 sections, NAVIGATION WATCH, PORT PAPERS, LSA/FFA MAINTANANCE AND RECORDS OF DRILLS AND TRAINIGS & CARGO WATCH. (Explain above sections briefly)

26. HOW WOULD YOU LOAD IMDG CARGO?

27. YOU ARE THE DUTY OFFICER, THERE IS AN ENCLOSED SPACE ENTRY AT THE FWD, AND HOW WOULD YOU MANAGE IT?

Explain to him the definitions as per MSC Circ. 1050 and the enclosed space entry procedure as per company SMS including the 5 sections of the enclosed space entry permit.

34. If there is no risk of collision in restricted visibility do you need to follow rule no.19?
35. How do you determine if a V/L is crossing by visually?
36. How to update digital publications on-board?
37. Who approves to use digital publications on-board?
38. Apart from lifeboat what are the other LSA maintenance?
39. How to find the buoyage region of a country by ECDIS?
40. What is your duty once the pilot is on-board?
41. What is safe water mark?
42. What is isolated danger mark?

Capt.ASIRI HERATH

From:11.00 To :14.00
16th January 2018

1. How to plan a passage on ECDIS?
2. How to find whether is it the shortest passage?
3. What is playback function?
4. How to find out the corrections applied to the ECDIS?
5. How to find out the permit expiry of ENC?
6. How to order ENC for a new passage, what is the latest method?(**Mention him about Automatic and semi-automatic ordering**)
7. How to update ENC?
8. How to update digital publications?
9. How to check the updates done to Digital publications?
10. How to carry out the man overboard drill?
11. How to carry out the Williamson maneuver?
12. How to reduce the speed by engine when E/R is UMS?
13. What are the latest drills and frequency?
14. What are the maintainace you do to life boats?
15. What are the other LSA maintainace you do?
16. What is the frequency of freefall lifeboat drill?
17. What to do if Free fall lifeboat release mechanism is not working from the inside?
18. After a drill what is the procedure?
19. What are the special weather conditions you experience when navigating in South Africa?(**Abnormal waves june/july southern winter**)
20. What are the GMDSS tests?
21. How to carryout weekly test?
22. What are the record keepings on GMDSS log book?
23. What are the checks on reserved batteries?
24. What to do when received a distress alert?
25. If there is a malfunction of the equipment how to find it?(**GMDSS function test**)
26. At port your vsl is listing what could be the reason?
27. In this situation as OOW what is your action?

28. There are so many reasons for listing but how to find out it is just because of the cargo?
29. If negative GM how to correct it?
30. How to refer damage stability book and contents?
31. How to load an IMDG cargo?
32. What are the segregation methods?
33. What are the documents required to carry DG?
34. What are the types of fresh water generators and mechanism?

ND Class III orals

Capt.UPUL PERIES

W.M.Themiya Ruwan Wijesinha

From:11.30 To:14.30

12th December 2017

1. What are the types of survival crafts on-board?
2. What are the maintenance you do to them?
3. What is the purpose of IMDG code?
4. IMDG cargo is spilled crew member has contact them action?
5. What are the Documents required to carry IMDG cargo and content of them?
6. What are the hazards when carrying the coal cargo?
7. What are the precautions?
8. What is cargo sweat and ship sweat?
9. How to check the Humidity inside the cargo hold?
10. How to check cargo shifting?
11. How to carry out a fire drill?
12. How to carry out emergency steering drill?
13. Frequency of Emergency Steering drill?
14. What do you check during the drill?
15. What is the dynamic test on lifeboat?
16. What is the first familiarization need to be done to a crew member newly joined?
17. What is VDR?
18. When to save data?
19. Who will decide to press the save button?
20. What are the requirements need to be full fill to use ECDIS as primary means of navigation?
21. Passage planning ECDIS; planning stage very thoroughly?
22. How do you decide shortest distance given by ECDIS auto routine is accurate?
23. How do you amend a passage according to the weather routine?
24. GMDSS all the test?
25. How do you carryout test call with a CRS?
26. If they did not acknowledge action?
27. You receive a MF distress alert action?
28. How to send a distress alert?
29. GMDSS record book record keeping?
30. 200m V/L at anchor fog signal?
31. How do you determine risk of collision?
32. How do you take action to avoid collision?
33. How do you take action in restricted visibility?

34. If there is no risk of collision in restricted visibility do you need to follow rule no.19?
35. How do you determine if a V/L is crossing by visually?
36. How to update digital publications on-board?
37. Who approves to use digital publications on-board?
38. Apart from lifeboat what are the other LSA maintenance?
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Capt.ASIRI HERATH

From:11.00 To :14.00
16th January 2018

1. How to plan a passage on ECDIS?
2. How to find whether is it the shortest passage?
3. What is playback function?
4. How to find out the corrections applied to the ECDIS?
5. How to find out the permit expiry of ENC?
6. How to order ENC for a new passage, what is the latest method?(**Mention him about Automatic and semi-automatic ordering**)
7. How to update ENC?
8. How to update digital publications?
9. How to check the updates done to Digital publications?
10. How to carry out the man overboard drill?
11. How to carry out the Williamson maneuver?
12. How to reduce the speed by engine when E/R is UMS?
13. What are the latest drills and frequency?
14. What are the maintainace you do to life boats?
15. What are the other LSA maintainace you do?
16. What is the frequency of freefall lifeboat drill?
17. What to do if Free fall lifeboat release mechanism is not working from the inside?
18. After a drill what is the procedure?
19. What are the special weather conditions you experience when navigating in South Africa?(**Abnormal waves june/july southern winter**)
20. What are the GMDSS tests?
21. How to carryout weekly test?
22. What are the record keepings on GMDSS log book?
23. What are the checks on reserved batteries?
24. What to do when received a distress alert?
25. If there is a malfunction of the equipment how to find it?(**GMDSS function test**)
26. At port your vsl is listing what could be the reason?
27. In this situation as OOW what is your action?

28. There are so many reasons for listing but how to find out it is just because of the cargo?
29. If negative GM how to correct it?
30. How to refer damage stability book and contents?
31. How to load an IMDG cargo?
32. What are the segregation methods?
33. What are the documents required to carry DG?
34. What are the types of fresh water generators and mechanism?

NVD Class III

Examiner:-Capt. S.M.S.Bandara

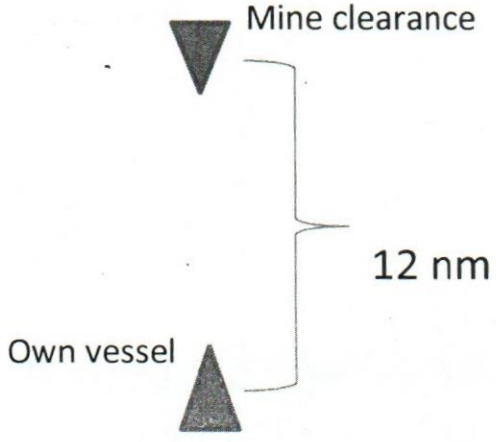
Candidate:-K.B.Chiran Madhusankha Perera

Date:-10/10/2017

Time:-1100-1330

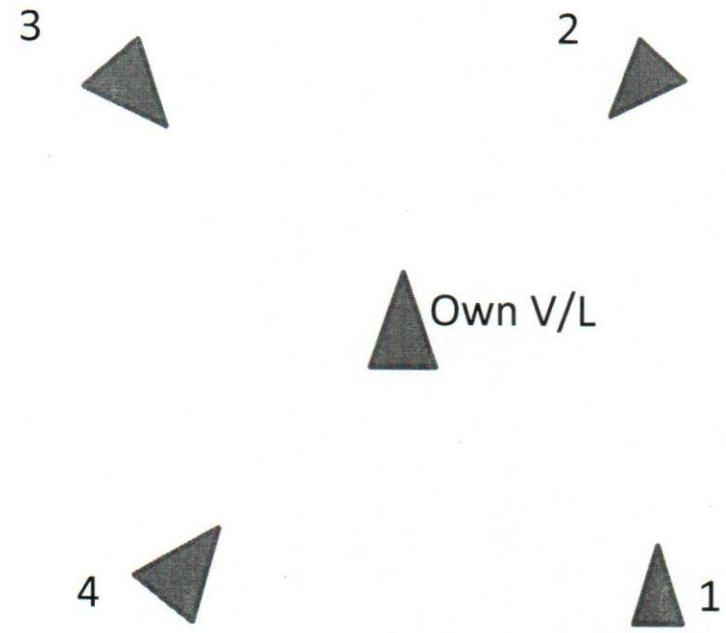
First he asked my cadet training record book and CDC.Then he asked my experience.(container only)After that he asked the letter, which was issued by Mr. Shane from CINEC.While checking my CRB,he asked following,

- What kind of portable extinguishers, do you have last ship?
- How do you identify them?(Type and location of extinguishers)
- What is the fixed firefighting system?
- What kind of fixed firefighting system, do you have last ship and in which areas?
- Contents of damage control booklet?
- When and how do you refer the damage control booklet?
- What is look-out?(not the full rule)
- What do mean by all available means?
- What is safe speed?(not the full rule)
- Explain sailing vessel and RAM?(definition, day & night shape, sound signal)
- Explain mine clearance vessel?(day & night shape, sound signal)
-

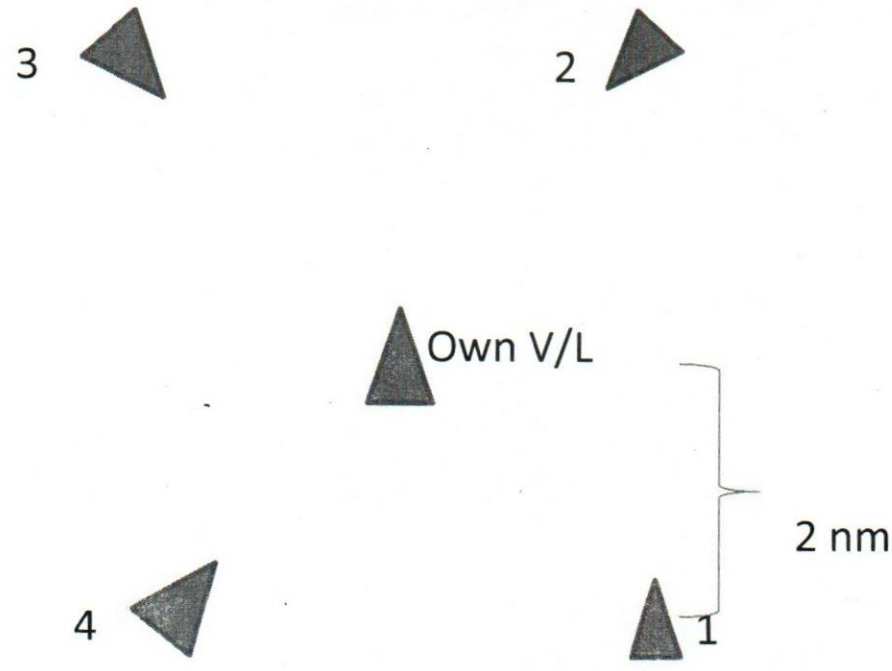


What is your action? (Give full answer even mentioning the amendments to the passage plan)

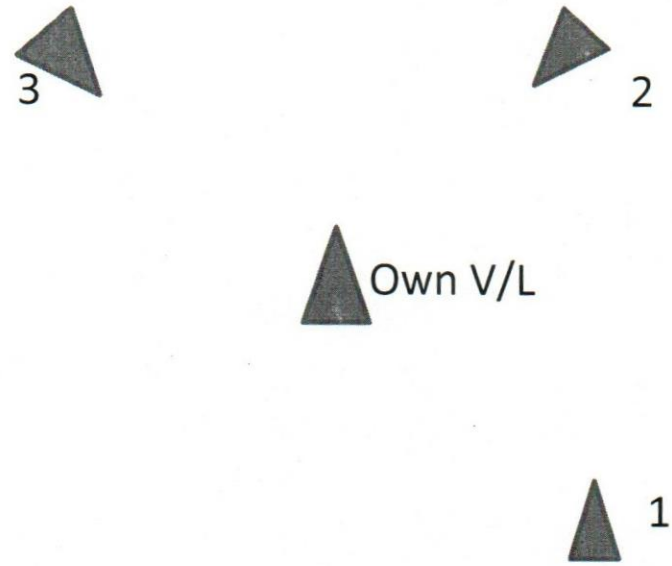
- If master's CPA is 2 nm, how much clearance will you maintain?
- Three white lights in vertical line, possibilities?
- Minimum CPA limits in clear and restricted visibility, if master not mention?
- In clear visibility, what is your action(without giving distances)



- After my action to above situation (alter to stbd),he gave me same situation with distance. Then ask, what is my action now?



- After my action to above situation (slacken my speed),all vessel(1,2,3,4) come closer range to own vessel. Meanwhile master decide to increase the CPA limit and presently own vessel violate the master's CPA limit. What is my action?
- What is restricted visibility?
- Which part it cover in COLREG and explain it?(Rule no.19)
- What is your action, in restricted visibility?



- Explain North Cardinal mark?
- Explain isolated danger mark?
- Explain preferred channel to STBD, region "A"?
- What are the maintenance to magnetic compass?
- Explain SVDR?(SOLAS Chapter V,Regulation 20)
- SOLAS training manual contents and how to use it?
- Contents in damage stability booklet and capacity plan?
- Contents in muster list?
- Signs of dragging anchor?
- How to keep cargo watch?
- When will you call the master?
- Third officer duties?

- How to take over the duties at first time as 3rd officer?
- What are the preparation to take pilot onboard and duties when pilot onboard?
- Plan a passage from Brazil to South Africa by using paper charts?
- How do you calculate distances between two points?
  (GPS, Great circle formula, ECDIS by using way point entering method and/or graphical interference system, Distance tables, Roughly can check from the general charts, Ocean passage of the world, Ship routine)
- Contents in ocean passage of the world?(Specially mention him that it gives recommended routes as per seasons)
- Content in ship routine?
- How to check the accuracy of distance table?
- Explain weekly notices to mariners?
- Explain annual notices to mariners?
- What is T & P corrections?
- ECDIS carriage requirements and back-up arrangements(Only for cargo ship)
- How to update the ECDIS(Auto and Manual,he needs step by step as actually doing onboard)

  Auto – As per manufacturer instructions.Update can be done via DVD, email, online or coping to pen drive

  Chart assistance ⟶ Click on update tab ⟶ Select required directory and run update

  Manual – Mostly AIO have update manually because some countries like India, not producing them

  Task ⟶ Manual correction ⟶ Select objects, line, text as required ⟶ Add ⟶ Edit ⟶ Exact position taking from NM's ⟶ Apply

- Explain transverse thrust and usage?(To enter buoyed channel and when berthing and unberthing specially without tugs)
- Explain turning circle?
- You are OOW and enclose space operation is going in forecastle deck. How do you monitor the operation? (3 copies of enclose space entry checklist and each checklist have 3 sections, should be mentioned)
- Man overboard STBD side, action as per OOW?
- Content in GMDSS log book?
- Explain IAMSAR volume and its content including SAR co-ordinations?
- Engine failure, action?
- Signs of TRS?
- How it behavior, dangerous quadrant and avoiding action in northern hemisphere?
- How do you obtain metrological warnings?
- What is the angle of LOL and explain it?
- Crew member reported that he is having a back pain, what are the actions?
- Explain oily water separator?

Thanks for all the lecturers and all my friends for supporting me to achieve this goal!!!!!!!!!!!!!!!!!!!!

MD Class III

ORAL EXAMINATION

OFFICER IN CHARGE OF NAVIGATIONAL WATCH ON SHIPS OF 500GT OR MORE

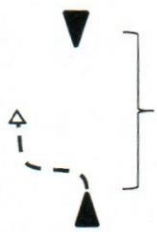
Examiner : Capt. Nick Senanayaka (New Questions)

Candidate : M.D.Theekshana Perera

1. What are the types of vessel (Situations) not applicable in Rule no 19? **Or** what type of vessel can make port alteration in restricted visibility?

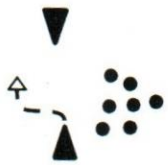
A)

B)



There is no Risk of collision exists and/or Close-quarter situation is developing.

C)

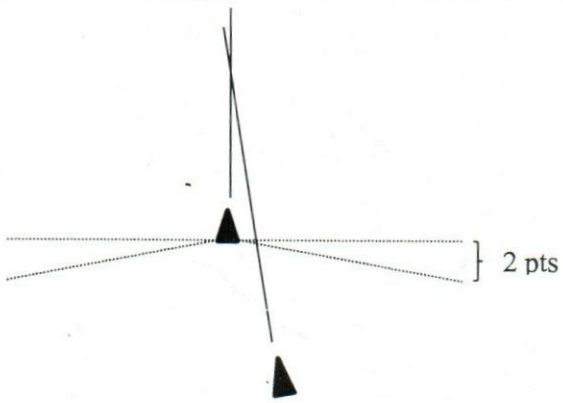


There is Risk of collision exists and/or Close-quarter situation is developing, but Stbd abeam having shallow patches , fishing traffic or any obstructions.

D)

As per the rule as so far as possible shall be avoided, an alteration of course towards a vessel abeam or abaft the beam.

2. What is the converging course situation, Draw? What are the limits of converging course situation?



3. You see a NUC vessel/ aground vessel/ Mine Clearance vessel on right ahead. What is your action?
4. What is ECDIS?
5. Carriage Requirement of ECDIS?
6. ECDIS passage planning?
7. What is True Vector and Relative Vector?
8. You are going to approaching a fog bank, what is your action?
9. Explain the general alarm and fire alarm?
10. What is the minimum distance, you will pass an isolated danger mark? Minimum 500m
11. What is the scavenge Fire? You are on the bridge, how do you get to know and what is your action?

GOOD LUCK!!!

28. WHAT ARE THE SAFETY CHECKS TO BE DONE WHEN PILOT COMES ONBOARD?

Main points are condition of ladder, illumination, and life buoy with light and line.

29. WHAT IS ANGLE OF LOLL?

Refer to stability notes

30. WHAT IS TORSIONAL STRESS?
It is the twisting moment of the hip due to the external factors affecting on the vessel. Torsional box or under deck passages are provided to overcome these stresses on container vessels.

31. WHAT IS A COLD FRONT?

Explain as per the meteorology notes

32. WHAT IS MONSOON?

Explain as per the meteorology notes

33. GYRO FAILURE, ME FAILURE AND A BLACKOUT ALL TOGETHER, TELL ME YOUR ACTIONS AS DUTY OFFICER?

Mention the following key points,

- Call master
- Follow your vessels contingency plans
- NUC lights and shapes
- Broadcast a safety and urgency massage
- Record keeping

34. WHAT IS YOUR ACTION WHEN YOU RECEIVE A DISTRESS ALERT?

Mention the following key points

- Plot the position of both vessels
- Inform master and log down details
- Set watch on RT frequency
- Listen to the massage on RT
- Wait for CRS to calculate
- If no acknowledge from CRS, acknowledge by RT and contact the distress vessel.

- If no replies from the distress vessel relay the distress massage on behalf of the distress vessel with the authority of the master and log down all the details including the actions.

35. CONTENTS OF CHRONOMETER LOG BOOK?

Refer the BRIDGE EQUIPMENT notes of THILAK SIR.

36. WHAT IS CHRONOMETER ERROR?

Refer the BRIDGE EQUIPMENT notes of THILAK SIR.

37. WHAT IS DAILY RATE IN CHRONOMETER?

Refer the BRIDGE EQUIPMENT notes of THILAK SIR.

38. YOUR CREW MEMBER REPORTED HAVING A BACK PAIN, WHAT WOULD YOU DO AS A SECOND OFFICER?

Mention the following key points

- Reassuring the patients mind
- Inform master
- Examine the patient as per the ships medical guide
- Ask for any previous medical records and whether he is under any other medications
- Whether he was working on any incorrect postures
- If and only if master authorize issue pain killers according to the dosage in the ships medical guide
- Seek for radio medical advice

39. EXPLAIN THE FRESH WATER GENERATOR.

Draw and explain as in ENGINEERING KNOWLEDGE notes.

BEST OF LUCK!!!!!!!!!!!!!!

I WOULD LIKE TO THANK SPECIALLY ALL THE LECTURERS IN NAVIGATION DEPARTMENT, SIMULATOR, GMDSS DEPARTMENT, SURVIVAL DEPARTMENT AND THE LIBRARY STAFF.

PASSAGE PLANNING BY PAPER CHARTS

APPRAISAL

Once I receive orders from the master what the departure and arrival ports as an officer responsible for passage planning I have to find out where the ports are located.

By using Norries tables I can find the latitude and longitude of ports correctly.

If the master needs rough distance i will give him the distance by,

- Admiralty distance tables
- Reeds distance tables
- Insert it in GPS to get Rhumb line and great circle distance
- BP marine software

I will take the passage planning ism checklist printouts from the ships SMS

I will read and confirm company guidelines on passage planning specially,

1. UKC limit
2. Latitude limit
3. Load line limits
4. Passage to be either Rhumb line or great circle
5. Charter party requirements
6. Owner instructions

Then with all above information I will discuss any special information with the master.

This includes,

1. Condition of the vessel
2. Equipment's
3. Stability
4. Operations
5. Manoeuvrability of the vessel
6. Details of cargo, any information and restrictions, possible dangers.
7. Well rested crew required carrying out the passage.
8. Any special certificates required relating to crew vessels and equipment's.

Since the passage is needed to be from berth to berth so the above information should be from departure port to arrival port.

Once I clarify and discuss all doubts with master I will take **NP136 OCEAN PASSAGES FOR THE WORLD.**

Check the closest best possible recommended sea passage and favourable route with less effect of seasonal changing of weather.

Then I have to find available charts and publications for the planning voyage and what charts are ordered.
So for my convenience I will divide the passage into 3 types,

1. Berth to pilot
2. Pilot to pilot
3. Pilot to berth

Before i check the chart catalogue np131 i will collect information such as,

1. Local weather reports/ Navtex/ EGC warnings
2. Navigational hazards, gunnery practices, or SAR operations can be expected
3. Any information from old log books if voyage been carried out
4. VTS reporting , mandatory reporting to be done

With all details i will go to np131 chart catalogue,

- Part 1, by using the geographical interface method I will draw a rough passage on the chart and select the letters applicable for my voyage, i will then note down the required letters.
- Then I will go to the planning chart section which is part 3 of np131, from the above mentioned letters selected from part 1, I will select the respective comparable scale Mercator charts (section a1 to u) , and I will select the required gnomonic charts for the ocean passage (v- northern hemisphere and w-southern hemisphere). I will select the best possible largest scale charts.

- Then i will go to the section 4 of np131, and select the routine charts for the sea areas. And check the current favourable ice limits and meteorological hazards. The routine guide charts available. Gnomonic charts to plan the passage on great circle. Also antipiracy planning charts if available.

Once i have finished the selection of the charts i will go to the publication selection. This includes,

1. Sailing directions
2. List of lights and fog signals
3. Admiralty list of radio signals
4. Ships routine
5. Guide to port entry
6. Ships particulars
7. Nautical almanac

Once I have listed the Charts and publications i will check what is on-board and what is to be ordered.
I will use chart inventory and publication inventory, if not the charts which are to be ordered will be given to the master.
Master will most probably double check the charts with the passage and also the publications. If he is satisfactory he will order the charts.

And the charts available on board I have to make sure all are updated,

1. I will use chart correction log
2. Cumulative list
3. Annual summary of notices to mariners.

And additionally I will collect details on,

- Any MARPOL restriction areas
- Volume of traffic in given periods of times
- Availability of weather routine
- Port emergency contacts and procedures
- And all other relevant information port of refuge and details

With maximum possible information i will go to planning.

PLANNING

Whenever, during planning a passage I will start with the ISM checklist.
My passage plan will include three sections,

1. Departure to pilot
2. Pilot to pilot
3. Pilot to berth

1 & 3 sections can be done quickly it is Mercator sailing

$$TAN\ COURSE = \frac{D'LONG}{DMP}$$

Once all local information are gathered from sailing directions, ships routine, ALRS and guide to port entry courses can be laid off on the charts.

Minimum UKC shall not be violated in any part of the passage plan.

Once the course are been laid off, I will write the data's including,

- Course and distance
- Position fixing method and interval
- Vessel traffic information
- Contingency anchorages
- ECA & MARPOL restrictions
- Pilot contact channels
- Signals and flags required
- Speed restrictions
- Position plotting interval

Now the coastal passage is done. i.e.: berth to – pilot – to berth
Now can make the ocean passage

If it is a great circle I will use gnomonic charts.
I will select well away positions from departure and arrival ports and draw a straight line joining them.
Then draw a straight line which will be the great circle.

As per the weather predictions if i have limiting latitude then i will have two great circle tracks along parallel sailing.

Whenever using gnomonic chart,

- Select d'long
- Write down Lat and long on paper
- Find the course between two d'longs

$$TAN\ COURSE = \frac{D'LONG}{DMP}$$

All coordinates will not be on one chart so I will have to another chart.

- Once the courses have been laid down all relevant data will be written on the ocean charts.
- Then prepare the course card and enter all remarks.
- All the safety data to be attached to charts for reference
- Routine chart to be kept for quick reference
- Take a divider and select 5Nm distances and check scale from char to chart.
- Keep along the course and check any dangers or any depth issues on the planned passage.
- Once all preparations are done take the passage plan to the attention of the master and explain and justify each leg and discuss the reason of using the above.
- With the advice from the master any changes can be done.
- Once amended bring it to the masters attention and conduct a Bridge team meeting with a member from engine room.
- Take signatures from participants on agreement to the passage plan.

EXECUTION

- All watch keeping officers has to follow the passage plan strictly.
- And the ship must be always kept on the planned course.

While doing so full regard to be given to;

1. Conditions of all navigation equipment's
2. Estimated times of critical arrivals
3. Heights of tides
4. Set & drift
5. Meteorological conditions
6. Time of the day passing the dangers
7. Traffic conditions
8. Dense traffic points

MONITORING

Once the execution has been done the watch keepers must verify the vessel position by means of:

- In open sea: GPS/celestial
- Coastal waters: terrestrial/GPS

Monitoring of the passage includes obstructions, traffic density, meteorological conditions, secondary position fixing, visual sights, etc.

With all the data the plan has to be carefully followed and if any special hazard or condition appears it must be noted down and to be in future voyages.

MD Class III orals.

New.

Exam – CLASS III Oral examination

Candidate – SAMITHA UDUKUMBURA

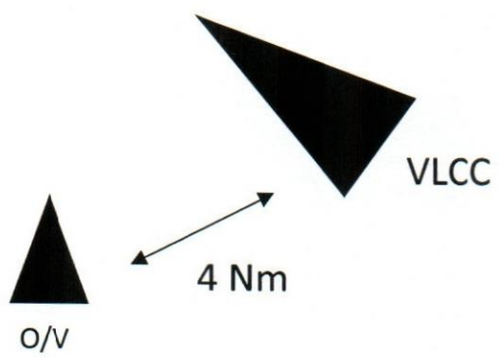
Examiner – Capt. SUNIL JAYAWEERA

Date - 03.05.2018

Status - PASS

(First he asked which type of ships I have sailed and then he asked for my CADET training record book .He started to ask questions from TRB. Following are not in the sequence)

1) What is Lookout?
2) How do you determine Risk of collision? Scanty means?
3) Following Situation has been given,



CLEAR VISIBILITY

- Sir, I will go to RADAR and acquire those target on my ARPA.I will not wait for the full processing time .I will take series of compass bearing and determine whether the risk of collision exist or not.
- If risk of collision exist, Since TWO PDV are crossing each other and in sight of one another **RULE NO-15** will apply, So as per rule no.15 the vessel which has the other on her own starboard side shall keep out of the way and according to the situation avoid cross the head of the other vessel. So sir, for my vessel **rule No.16** will apply and for the other vessel **rule no.17** will apply. As per rule no.16 the vessel which is directed to keep out of the way of another vessel shall take early and substantial action to keep well clear. Therefor as per **rule No.8**, Since there is sufficient sea room availability, alteration of course alone may be the most effective action to avoid close quarter situation, So sir I will make broad alteration to STBD and pass the stern of the other vessel within a safe distance and I will monitor the effectiveness of my action until other vessel finally past and clear.

➢ <u>What is your action in restricted visibility for the same situation? Is it same?</u>(Do not directly say yes, but explain your action as per the rules)

RESTRICTED VISIBILITY

- Sir ,Since risk of collision exist, not in sight of one another and In or near the restricted visibility **RULE NO-19** will apply,
- As per the rule no-19 a vessel detect by RADAR alone and risk of collision exist ,Sir I shall take the avoiding action on ample time and If my action consist of alteration of course, as far as possible ,

1. I shall Avoid alteration of course to port for a vessels Forward of my beam other than for a vessel being overtaken
2. I shall Avoid alteration of course towards a vessel abeam or abaft the beam

- So sir in this situation I shall avoid my course alteration to port side, And sir as per **rule No.8**, Since there is sufficient sea room availability, alteration of course alone may be the most effective action to avoid close quarter situation, So sir I will make broad alteration to STBD and pass the stern of the other vessel within a safe distance and I will monitor the effectiveness of my action until other vessel finally past and clear.

4) What is ISOLATED DANGER MARK?
5) What is SAFE WATER MARK? Draw and show me some locations where you can see this buoy? How far safer from safe water mark? (Sir If I can pass more closer to safe water mark or If lateral marks are given from both side ,That is the safest area to pass)
6) What is special mark?(Specially note these marks are not using for navigation)
7) Different between SAFE WATER mark and SPECIAL mark?
8) What is the purpose of TSS?
9) Different between narrow channel and fairway?
10) Different between narrow channel and TSS?
11) All the possibilities of one WHITE LIGHT?
12) How do you know that other vessel is crossing? Day time? Night time?(Day time by aspect and night time with mast light/s and one side lights, If examiner is not happy explain outer limits of head-on and outer limits of overtaking)
13) What is aspect? Draw and show me?
14) How do you determine whether other vessel crossing your stern or bow?(From opening and closing bearing)
15) Conditions to occur Tropical revolving storm?
16) Explain me about frontals?(Warm front, Cold front, Occluded front and stationary front explained)
17) What is frontogenesis? (the process of frontal depression ,detail explanation is required)
18) What is frontolysis? (Decaying process of frontal depression, detail explanation is required)
19) What is Coriolis force? (It is a force acting on unpiloted objects due to earth rotation, NH-right hand side, SH-left hand side)
20) How to encounter fog?
21) Explain me Advection fog and Radiation fog?(Detail explanation is required)
22) Different between TRS and Frontogenesis?
23) What is Oxygen meter?
24) How to calibrate?(explained calibration methods for Oxygen meter and multi gas detectors also)
25) Follow the recommended procedure for encountering restricted visibility?
26) What is fixed firefighting system?
27) Different between portable and fixed firefighting systems?
28) How to enter CO2 room?(He is expecting the ventilation systems prior to entry)
29) Who authorized to release CO2?(As per Masters decision Chief engineer is authorized to operate the mechanism-If CE not available substitute for key person will take the command)
30) Procedures prior to release Co2?
    - Take company emergency checklist and follow-(because I will not miss any important things)
    - Make sure all persons are evacuated from engine room
    - Head count has to be taken
    - Close all doors to engine room
    - Close sky lights to engine room

- Close all dampers and ventilators
- Shut funnel door remotely
- Shut quick closing valves (F.O sett.tank,serv.Tank,purifiers)
- Shut machineries such as booster pump, transfer pump, purifiers
- Confirm main engine is shut
- Then proceed with the mechanism for releasing CO2

31) Tell me the contents of MUSTER LIST?
32) Purpose of Having a MUSTER LIST? (Highlight the point it is an emergency plan)
33) What is the purpose of Using FPD?(MSC.1/Cir 1327)
    - In case of unintentional release of life boat hook and falls the FPD will take the weight of life boat. Using on boats which have on load release mechanism.
34) Situations of using FPD?
    - During Maintenance
    - During drill time when lowering boat with crew
    - During inspections(Eg-When port state control go and check the boat)
    - During heavy weather conditions
35) Can you use FPD during emergency situation?
    - Sir, If manufacture is giving clear & proper instructions to use during an emergency, If company SMS provide proper procedure to use during an emergency and If the procedure is included to SOLAS training manual onboard.
    - After Master carrying out a risk assessment and with Masters Discretion we can use FPD during emergencies.
36) How you are going to test Life boat move from stowed position? How far you will move the life boat?
37) What is the purpose of VDR?
38) Different between VDR and SVDR?
39) Limitations of ECDIS?
40) What is ECDIS Anomalies? Give me examples?
41) What is Base display and Standard display on ECDIS?
42) Plan a passage on ECDIS from (A) to (B)?
43) What is Negative GM? How you are going to correct Negative GM?
44) What is FSC (Free surface correction)?
45) Show me the relationship between KG, GM and FSC?
    - KM – KG = GMsolid
    - GMsolid – FSC = GMfluid
46) What is the minimum UKC as per your company? If UKC is less than 1m, what are the dangers?
47) What is Squat? How to minimize squat?
48) What is parametric rolling? What are the avoiding actions? What is the best, alter course or alter speed? (Read MSC.1/Circ.1228)
49) What is Tactical Diameter?
50) What is drift angle?
51) Different between Static and Dynamic stability?
52) How you are going to check Dynamic Stability?
53) How you are going to carryout emergency steering?
54) Vessel is proceeding to anchorage, Master on bridge and what are the support duties from you as an OOW?
55) You are alone on bridge.Bosun comes to you and asking to enter Duct keel. Do you accept it?
    Chief Officer already give permission to enter. So what are the things you will check prior to enter? How you manage this operation during your watch? (Highlight following points)
    - Enclosed space entry procedure to be followed.

- No one allowed to enter without carrying out preliminary checks as per the SMS checklist.
- Responsible person must be permitted and Master has to be authorized.
- Attendant should be standby at the entrance
- Proper communication has to be conducted while space is occupied within frequent interval as agreed.

56) What you will do if you send an EPIRB alert mistakenly? From where you will find information to contact MRCC?

57) What is BRM?

58) What is SEEMP? EEDI? EEOI? (Check circular MEPC 203(62))

SEEMP

- Ship Energy Efficiency Management Plan
- This is a ship specified manual under MARPOL Annex VI
- Main purpose is to measure and control the emission of greenhouse gases to the atmosphere.
- Applicable for all new and existing ships of 400GT and more.
- All ships must have SEEMP onboard before issue IEEC.(International Energy Efficiency Certificate)
- Main features are Reduction of fuel consumption, Decrease Greenhouse gas emission and Enhancement of ships efficiency.
- There are four implementation steps,
    1) PLANING
    2) IMPLEMENTATION
    3) MONITORING
    4) SELF EVALUATION & IMPROVEMENT

EEDI

- Energy efficiency design index
- This is a ship specified system under MARPOL annex VI.
- It will monitor the amount of CO2 and other greenhouse gases emission.
- It is an index quantity about the CO2 that the ship emit in relation to the good transport.
- Eg- grams/(Tonnes . Nautical miles)
- Actual EEDI called "ATTAINED EEDI"
- Level value is called "REQUIRED EEDI"
- So attain EEDI value should be lower than Required EEDI value.
- Mandatory for new ships 400GT and more.
- This is to promote more efficiency equipment and engines to ships.

EEOI

- Energy Efficiency Operational Index
- This is the equipment which monitor the emission level.
- This is under MARPOL Annex VI
- Applicable for all new and existing ships 400GT and more.
- Define as a ratio of Mass of CO2 emitted per unit of transport work.
- Eg- Tonnes CO2 / (Tonnes . Nautical mile) or Tonnes CO2 / (TEU . Nautical mile)

Thank you for everyone who help me to achieve this goal....
WISH YOU ALL THE BEST....

2nd Class III orals.

Exam :- Class 3 orals

Candidate :- P.M.L. Panagoda

Examiner :- Capt. Sunil Jayaweera

Duration :- 1020h – 1230h (15 / March / 2018)

Status :- Pass

01. Where to report in case of oil spillage in srilankan waters?
02. What is an Archipelagic sea lane?
03. Srilankan legislation
04. What are the things you do when taking over as 3rd officer for first time?
05. As oow anchoring procedures
06. How you drop the anchor?
07. How do you know whether anchor is brought up?
08. What is anchor cockerbil?
09. How to find whether anchor is dragging?
10. Who approved ECDIS?
11. CATZOC?
12. Complete passage plan on ECDIS?
13. Paper chat only planning stage?
14. SOLAS Training manual?
15. The difference between LRIT and AIS?
16. VDR?
17. Magnetic compass maintenance?
18. 3 errors in sextant : Only the name , not asked to explain
19. How do you receive navigational warnings?
20. What you do then?
21. Safe water mark?
22. Isolated danger mark?
23. Quickly explain preferred channel to port, region B, How it flashes?
24. Life boat maintenance?
25. Equipments inside life boat?

26. As a safety officer upon receiving new pyrotechnics what you do?
27. Drill requirements?
28. How do you load IMDG ?
29. Documents required to load IMDG
30. Latest amendmend FOR IMDG?
31. In which volume you find the segregation. What are those?
32. What is fall prevention device?
33. You are trading in heavy cold weather area. What you do as a oow?
34. Snap back zone meaning?
35. How do you carry out steering gear test?
36. Negative GM
37. Angle of loll
38. Why IAMSAR have 3 separate volumes? Contents?
39. Condition required for TRS?
40. What is frontal depression?
41. Barometric tendency?
42. What is Ship security plan?
43. How do you avoid freezing the compass liquid?
44. What is Transverse thrust?
45. How to recover person from hypothermia?

ND Class III

ORAL EXAMINATION

OFFICER IN CHARGE OF NAVIGATIONAL WATCH ON SHIPS OF 500GT OR MORE

Candidate : M.D.Theekshana Perera

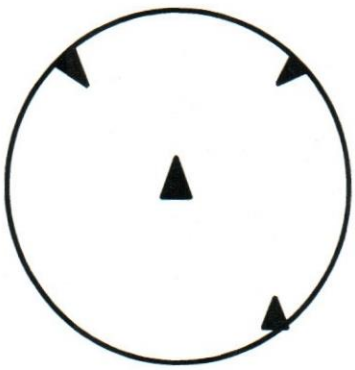
Examiner : Capt. S.M.S. Bandara

Date : 30-Jan-2018

Time : 1230hrs to 1430hrs

Status : Pass

1. What are the avoiding actions in restricted visibility (Explain rule no 19 part D & E)
2. What is your action in restricted visibility? Radar Range :12nm



Note: Clearly mention following key points;

- Prioritize the targets as per the CPA & TCPA limits.
- Before taking any action always use trial maneuver.
- Your action should not violate Master's CPA.
- Your action should not make another close-quarter situation (Rule No 08 (c)).

3. You see a Mine clearance vessel ahead of you. What is your action?

Note: Clearly mention following key points;

- Call the master & Plot the V/L position.
- Check previous Sat-C & Navtex messages if not received any messages, contact the M.C V/L and take the co-ordinates.
- Plot the co-ordinates of Mine clearance operational area
- Make sure new passage 100% safe, before resume the voyage.

Etc.

4. What is Sailing vessel? (Definition , Rule no 25 part a,b,c,d,e and Sound signals in restricted visibility)

5. What is combined lantern (Draw and Explain)
6. You see four white lights in vertical line. What is that vessel?
7. IALA Buoyage (Explain usage & Characteristics)
8. What are responsibilities of 3rd Officer?
9. How do you hand over cargo watch to next officer?
10. Enclosed Space operation in forecastle deck. As an OOW how do you going to monitor the operation?
11. What are the Contents of Enclosed Space entry permits?
12. You are in a fully ECDIS ship and how do you plan a passage (great circle) from South America to Sri Lanka.
13. How do you use the Graphical Interface method?
14. How do you calculate the grate circle distance between those two ports?
15. What are the other methods for find the distance between two points?
16. What is the accuracy of distance tables? 0.03%
17. What is carriage requirement of ECDIS? (Auto-Routing function)
18. How do use this function?
19. Your passage distance and Auto route recommend passage distance not same. Why? What is your action?
20. How do you update ENCs?
21. What are the contents of Ocean passage of the world?
22. What is Weekly Notices to Mariners? (All sections should be in proper order)
23. What is Annual Summery of Notices to Mariners?
24. What is T & P Notices? (Explain how do you carry out T & P corrections on board and how do you maintain the correction folder)
25. What are the contents of IAMSAR manual and its SOLAS regulation?
26. What are the SAR co-ordinators?
27. What are the duties of On-scene co-ordinator?
28. What are the contents of GMDSS log book?
29. As an On-Scene co-ordinator, what are the entries you made in GMDSS log book and which part?
30. What is SVDR? (Regulation and Carriage requirement)
31. What are the differences between SVDR & VDR?

32. What is ARPA limitations and maintenance?
33. What is the maintenance of LRIT?
34. What is squat and formula?
35. What is the Stability Booklet and it's Contents?
36. What is Angle of Loll?
37. What are the contents of capacity plan?
38. How do you use the Damage Control booklet and its contents?
39. What is the SOLAS regulation, requirement, and contents of muster list?
40. What is the SOLAS regulation, contents of SOLAS Training Manual? How do you update?
41. If you received a TRS warning message, as an OOW what is your action?
    Note- First you have to mention- Plot the ship position and check whether it is in my area or not, if it is in my area then call the master .. Etc.
42. What is Barometric tendency?
43. You are going to receive a pilot. What are the safety checks you have to carry out? (Check the pilot ladder, Illuminations Lifebuoy with light etc.)
44. What are the new MARPOL amendments for 2018? Explain?
45. How do you load the IMDG cargo on board?
46. What is the new IMDG amendment for 2018? Explain?
47. Crew member having a chest pain. What is your action as a 2nd officer?
48. You are the OOW on the bridge at night. You received a fire alarm in Galley. What is your action?
49. What is Oily Water Separator?
50. What is the MARPOL annex and requirement for Oily water discharge overboard? (Annex-I, should be less than 15ppm)

GOOD LUCK!!!

Capt.UPUL PERIES

W.M.Themiya Ruwan Wijesinha

From:11.30 To:14.30

12th December 2017

1. What are the types of survival crafts on-board?
2. What are the maintenance you do to them?
3. What is the purpose of IMDG code?
4. IMDG cargo is spilled crew member has contact them action?
5. What are the Documents required to carry IMDG cargo and content of them?
6. What are the hazards when carrying the coal cargo?
7. What are the precautions?
8. What is cargo sweat and ship sweat?
9. How to check the Humidity inside the cargo hold?
10. How to check cargo shifting?
11. How to carry out a fire drill?
12. How to carry out emergency steering drill?
13. Frequency of Emergency Steering drill?
14. What do you check during the drill?
15. What is the dynamic test on lifeboat?
16. What is the first familiarization need to be done to a crew member newly joined?
17. What is VDR?
18. When to save data?
19. Who will decide to press the save button?
20. What are the requirements need to be full fill to use ECDIS as primary means of navigation?
21. Passage planning ECDIS; planning stage very thoroughly?
22. How do you decide shortest distance given by ECDIS auto routine is accurate?
23. How do you amend a passage according to the weather routine?
24. GMDSS all the test?
25. How do you carryout test call with a CRS?
26. If they did not acknowledge action?
27. You receive a MF distress alert action?
28. How to send a distress alert?
29. GMDSS record book record keeping?
30. 200m V/L at anchor fog signal?
31. How do you determine risk of collision?
32. How do you take action to avoid collision?
33. How do you take action in restricted visibility?

ORAL EXAMINATION

OFFICER IN CHARGE OF NAVIGATIONAL WATCH ON SHIPS OF 500GT OR MORE

Candidate : ***E. G. S. S. Dhamnath***

Examiner : ***Capt. Upul Peiris***

Date : ***23 Nov 2017***

Status : ***Pass***

1) Master appoints you as officer responsible for operating GMDSS Radio Equipment on the ship. How do you perform your duties, what maintenance you do and how do you keep records?

Sir, As a Navigating officer it is my duty to maintain a GMDSS watch as a part of the Navigational watch. So I have to be concern about the GMDSS Radio communication. What messages we receive, what are the frequencies to keep the watch on, what actions to take if I receive a Distress, Urgency, Safety alerts, the procedures to follow. And what are the tests and maintenance to carry out, time frequency, how to keep the records.

The tests and maintenance are divided into Daily, Weekly and Monthly basis. And I have to do those tests as per that frequency.

Daily tests for GMDSS equipment consists of:

- Testing the proper functioning of DSC facilities, without transmitting any radiation, only by the means provided by the equipment. Known as the Self-Test for VHF and MF/HF
- On-Load/Off-Load test for GMDSS batteries
- Condition of the Printers and if there is sufficient paper remaining

Weekly Tests consists of:

- Testing the proper functioning of DSC equipment by transmitting a Test Call to a Coast Station. It has to be acknowledged by the Coast Station.
- If the reserve source of power is not a battery, for a example a Motor Generator, it should also be tested weekly.

Monthly Tests consists of:

- Testing the EPIRB to determine its capability to operate properly, using the means provided in the device, without using the satellite.

DSC - Digital selative calling

set 2

ORAL EXAMINATION

OFFICER IN CHARGE OF NAVIGATIONAL WATCH ON SHIPS OF 500GT OR MORE

Candidate	:	***E. G. S. S. Dhamnath***
Examiner	:	***Capt. Upul Peiris***
Date	:	***23 Nov 2017***
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DSC - Digital selative calling

- Garbage discharging criteria.
- Records to be kept regarding garbage.
- Person in charge of Garbage Management onboard.
- Responsibility of each person onboard regarding Garbage Management and their duties.
- Company Procedures to follow.
- Location of the Garbage storage, Capacity of it.

As the OOW I have a role to play in Garbage Management. I should know what are the discharge criteria of Garbage. What are special areas and their requirements. As a example if a crew member ask me about discharging Garbage like food waste, first I must confirm with Chief Officer that he has given permission to do so, and then whether we're in a special area or not, what are the requirements, the Distance from the Nearest Land, which side is most suitable to discharge. (windward and leeward sides) and provide him adequate information to discharge.

And I must make sure the people on the bridge following segregation procedure. We should minimize Garbage Generation onboard by using methods such as using both sides of paper, compressing all plastic bottles and stuff before storing.

With regard to Cargo watch, I must make sure that Placards and posters are posted on deck, Garbage bins are provided so that stewardores can use them. If any Garbage on deck I must instruct to pick them and put it in bins. When we receive stores and provisions we must discharge all palettes, polythene used to wrap them, card board boxes, so that we don't have to store it on the ship. I should always encourage the crew to follow proper procedures.

Any negligence to follow regulations or we break any I must inform it to Garbage Management officer and Master. Those are the duties of me as the OOW when implementing Garbage Management Plan onboard.

3) MRCC inform you that you have to participate in a Search and Rescue Operation, How do you prepare your ship for that?

Sir, When we receive such order first we have to inform it to our company and charterers that we have to participate in a SAR operation. Then we have to make a deviation to the passage plan and amend it. Then we have to send a deviation report through the ship reporting system.

Then as per on scene coordinators instructions we have to proceed to the distress location. In the mean while we have to prepare our ship for the SAR operation.

We have to prepare our communication equipment so that we can communicate efficiently. As the OOW I have to maintain all the records with time, so that it can be used for future reference and log book entering.

And also we have to prepare the rescue team, make sure they are wearing proper PPE. Even though we are assisting another vessel we have to be concern about our own safety. We should not do anything that will jeopardize the safety of our crew, vessel or the environment. And we should prepare the rescue boat for lowering.

We have to rig nets and grab lines, so that if any person at water can hold on to it. We should prepare life buoys, even the spare ones, so that we can use it as it required.

We should prepare the hospital, so in case we can treat the survivors.

We have to retune the RADAR, so that we can get echoes of survival crafts, any survivors or from the SART. We should use all available means and keep a good look out.

We have to follow the instructions given by MRCC and on scene coordinators. We have to refer the IAMSAR manual Vol. III to get more information and instruction about search and rescue operation.

4) What is the regulation to follow when recovering a person?

Sir, in SOLAS Ch. III, Regulation 17.1 states that every vessel should have a ship specific, approved manual for recovering a person from sea.

5) What is the Name of that Manual, and it's content?

Manual for Recovery of Person from Water

- It contains plans and procedures to follow when recovering a person from water.
- Shipboard LSA which are used for recovery, their limitations, specification, principle of operation.
- Lifeboat lowering and recovery speeds.
- Recovering a person having hypothermia.
- Recovering from windward side/Leeward side.
- Recovery Log.
- Recovery Drill Records.
- Duties and Responsibilities of crew.
- Duties and responsibilities of Master.
- Risk Assessment in Recovery Planning.
- Treatments for recovered personnel.

6) How do you identify whether there is a Risk of Collision?

Sir, COLREGs Rule No. 7 has given some specific instructions to identify if there is a Risk of Collision. As per that;

I should use all available means that I can use to identify a Risk of Collision, in all circumstances, regardless whether it is day/night or in clear/restricted visibility, which are appropriate to the present condition. If I Have any doubt whether there is such risk, I should assume that there is and take all necessary measures to prevent it. As a Junior officer my threshold of doubt is less because of inadequate experience, therefore I should be more cautious when determining a Risk of Collision.

If my ship is fitted with a operational RADAR, I should use it properly to determine if there is a risk of collision, by using functions like long range scanning to get early warnings, Radar Plotting or any equivalent observation such as using ARPA function.

I shall not make any decisions depending on scanty information, especially scanty RADAR information.

In COLREGs it has given situations to consider when deciding whether there is a Risk of Collision or not, such as when the compass bearing of an approaching vessel does not appreciably change or sometimes even when there is an appreciable change is evident, such as when approaching a very large vessel or a tow or approaching a vessel at close range.

7) You have determined that there is a Risk of Collision, How do you take action?

Sir, In COLREGs Rule No. 8 it has specified what instructions to follow when taking an action to avoid a collision. As per that,

Any action I take to avoid collision should be in accordance with the Rules of this part. And if circumstances of the case admit I have to make it in ample time, be positive and with regard to observance of common practice of Good seamanship.

If I am altering my course or speed to avoid a collision, if the circumstances of the case admit it should be large enough to be seen from a ship who is observing me visually or by the means of RADAR. I should not do a succession of small alteration as it can be doubtful to the other vessel and it may confuse them.

If there is enough sea room alteration of course may be the most effective action to avoid a close quarter situation, but it has to be made in good time, substantial and my action should not end up in another close quarter situation.

Any action I take to avoid collision shall finally result in passing the other vessel at a safe distance. And I should monitor the effectiveness of my action until the other vessel is passed and clear.

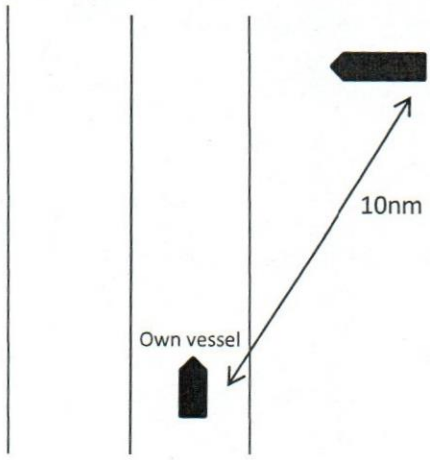
If I feel necessary to avoid a collision or if I require more time to assess the situation I will slow down or stop and take all way of by reversing my engines.

If I should not impede the passage or safe passage of another vessel, I should take early action so that other vessel can pass safely at a safe distance.

If I should not impede the passage or safe passage of another vessel who is approaching in a collision course, when I am taking action I should consider about the actions which may be required by the rules of this part.

If my passage is not to be impeded by another vessel, I am fully obliged to comply with the rules of this part when approaching with another vessel so as to involve a risk of collision.

8) Tell me your action until the other vessel is finally past and clear.



Sir, First I will acquire the target and wait for the full processing time. I will take series of bearings to determine if there is a Risk of Collision. In the mean time I will try to identify the other vessel.

If there is a Risk of Collision as per rules, in this case target is in a crossing situation with me. And she is in my own STBD side, therefore I will be the Give way vessel while she is the stand on vessel. So I have to comply with Rule No. 15, 16 and 17 as well as since I am in a TSS Rule No. 10 also applies.

Since I am in a TSS I will already have my engines on ST-BY and engaged manual steering.

As per those rules I will reduce my speed and allow the other vessel to cross ahead of me at a safe distance. Because it will be more appropriate than going into the inshore traffic zone. I will monitor my actions until other vessel is finally past and clear and then I will come back to my original course and resume my passage.

9) At what Range will you reduce your speed?

Sir, It is better to take action early because in this case if I wait till the last moment I will have to reduce my speed by a large amount. But if I reduce speed early I will only have reduce by a small amount to let the target pass and clear.

10) The target is joining the TSS. As the Master I will not be satisfied with your action since you took the action early I say your judgment is incorrect, Justify your action?

No Sir, I did not mean that I will take the action at 10nm range, after determining that there is a Risk of Collision I will observe the other vessel for a while before taking action. If she is joining the TSS she has to join in a small an angle to the general direction of the traffic flow. Therefore she has to start altering before she reaches the traffic separation line. Therefore if I observe that she is entering, I will check her speed if she is doing a higher speed than me then her entering will not cause trouble for me. But if her speed is less than me then I have to take action for safe passing. Therefore I will observe and take action at 6-7nm range.

11) Plan a Passage from A to B in ECDIS

Sir, The purpose of the passage plan is to support the Bridge team and aid to navigate the ship from Berth to Berth safely and efficiently. Guidelines to follow when planning a passage is given in IMO Resolution 893(21).

As per that the fundamental principle of passage planning is same whether we use Paper Chart or ECDIS. Passage plan has 4 stages.

1) Appraisal
2) Planning
3) Execution
4) Monitoring

In the appraisal stage Master discuss with 2/O about the intended voyage and how he plans to sail to the destination. As per Master's requirements 2/O has to gather all the relevant information to the intended voyage. Such information shall include;

- Condition and state of the vessel, its stability, equipment, operational limitations, permissible drafts in fairways and in ports, maneuvering data including any restrictions.
- Any special characteristics of the cargo, it's distribution, stowage and securing.

All ENCs has to available and up to date. So I have to order all ENCs which we don't have for the intended voyage. To order that, I will log into Admiralty Digital Chart Catalogue, Select AVCS, from there select ENC tab and tick Overview charts, General Charts, Coastal Charts, Approaching Charts, Berthing Charts and other digital publications require. By using geographical interface method draw a rough route joining two points, then all the required charts and publications will be selected, compare them with the onboard ENC inventory and select the ones we don't have. Add them to the cart and then take a ENC status report to check whether any ENCs are going to expire during the voyage. Add them also to the cart. Then show it to the Master and make a requisition.

After getting all the required ENCs and publications gather all other information relevant from books and publications such as,

- Sailing Directions
- ALRS
- List of Lights
- Tide Tables/Atlases
- Ships Routeing
- Routeing Guide Charts
- Routeing Charts
- Guide to Port Entry
- Distance Tables
- Mariners Hand Book
- Ocean Passages for the World
- Any local publications

And from other sources such as;

- Hydrographical and oceanographical data
- Meteorological Information
- Weather Routeing
- Owners/Charterers Requirements
- Met/Nav Warnings
- Pilotage information

On the basis of information gathered by above means, an overall appraisal of the intended voyage should be made. This appraisal should indicate all areas of dangers, those areas which will be possible to navigate safely, where marine environmental and protection measures apply.

In the Planning stage, first we have to input all the safety parameters to the ECDIS, such as after considering ship's draft, squat effect, company UKC policy the safety depth, safety contour, shallow and deep contours must be entered in the ECDIS.

Then use **CATZOC** to determine the reliability of the charted information, before laying up the courses. Adjust the Safety Vector length as required.

Then by using Geographical interface method or way point input method draw the track. A detailed passage plan should include,

- Intended direction of planned route or track
- Areas of danger, existing ships routeing and reporting systems, VTS, any area where marine environmental protection considerations apply.
- No Go Areas, Precautionary Areas
- Use of safety Margins
- Primary and secondary position fixing methods and fixing frequency.
- Necessary speed alterations en route
- Minimum clearance required under keel, or over head in critical areas
- Positions where change in machinery status and fuel required
- Course alteration points and wheel over points
- Contingency plans for alternative actions. Eg: Contingency anchorages, Abort points

Those information should be clearly marked on the ECDIS as well as hard copy of the Passage Plan.

Then use Auto Routeing function to make sure the shortest and safest route is selected. Then by Route Check see what alarms will cause concern and take all the necessary measures to make sure there are no dangers or Hazards to navigation by minimizing or eliminating those alarms.

Afterwards show the passage plan to the Master and get the approval from him.

Before executing the planned passage conduct a Bridge Team meeting where presence of an engineer is also required. Discuss all the Navigational Hazards, Dangers that we will encounter and actions and strategies to follow to eliminate them. Discuss about Bridge Manning Levels and each point where the E/R has to be manned, where change of fuel change over notices are to be given. Master calling points, arriving to critical points. Then execute the planned passage and follow it safely.

In the Monitoring stage, the planned passage should always available on the Bridge, so that the officers can refer it whenever require. Progress of the passage should be closely and continuously monitored by using all position fixing methods. Any deviations from the passage should be approved by the Master and amend it to the Passage plan. Any dangers or hazard we encounter during voyage should be note it down, because it can be used when planning future passages.

12) What are the Back Up arrangements for ECDIS?

- Separate ECDIS with independent power supply and positioning input.
- An up to date Paper Chart system
- An ECDIS capable of displaying Raster Navigational Charts
- A Chart-Radar as per IMO performance standards

13) If you're using Raster Navigational Charts on ECDIS, what is the Display Mode?

RCDS Mode (Raster Chart Display System)

14) What are the other display modes?

ECDIS Mode, By default it is in ECDIS mode

15) What is meant by Raster Chart and Vector Chart?

Raster Navigational Chart is a scanned copy of a paper chart, it is easy to produce, same symbols as paper charts, not much expensive, but zooming in will degrade the quality, zooning in will not give any more information than given, by clicking on a object cannot get information about it, minimum number of alarms can be set.

On the other hand Vector charts are more complex and sophisticated chart, each point on the charts are digitally mapped, but expensive, symbols are different than paper charts. However zooming in will not degrade the quality, it will give more information, by clicking or by pic report more information can be obtained.

16) What is the Backup arrangement for VDR?

VDR has a Long Term Recording Medium which contains a Solid State Drive which can store data for 30days or 720hrs.

17) How do you back up VDR?

By pressing the save button on the VDR it will save the data for last 48hrs.

18) At what situation you press save button?

In case of an emergency situation I will press the button. Such as Collision, Grounding, Fire, Man Overboard, etc.

19) A crew member got in contact with IMDG cargo, what action you take, how do you treat him?

Sir, I should not treat him without referring to Medical First Aid Guide (MFAG) in IMDG code, not even washing it. Therefore first I will check the DG Manifest or declaration to see the content of the DG container. Then with that I will refer to the DG list in Vol.2 to check the MFAG table.

After that I will refer the MFAG table and give the First Aid as per that. But it is only short term, medical treatment should be given to him as soon as possible, therefore if we are at sea we can get Radio Medical Advice if his situation is getting worse. If at port we have to send him to a medical facility. Anyhow until medical assistance arrives we have to closely monitor the patient. Afterward administer the medical treatments directed by the professionals.

20) What are the other contents in DG List?

- Proper shipping Name
- UN Number
- Classification
- Packing Group
- Limited Quantity
- Excepted Quantity
- Marine Pollutants
- EmS Guide
- MFAG
- Subsidiary Risks
- Packing Provisions, etc.

21) What is the Latest IMDG Amendment?

38/16

It is still in Voluntary basis from 1st Jan 2017, It will become mandatory from 1st of Jan 2018. The Changes in that are;

- 8 new UN numbers have been added. (3527-3534), covering Polyester Resin Kits, Polymerizing Substances, Engines and Machinery.
- Engines and Vehicles previously covered by one UN no. 3166, now it is only for vehicles. Engines and machinery covers by UN 3528-3530
- Vehicles are not subjected to provisions of this code, if they meet special provisions 961.
- A new class placard have been introduced for class 9, Lithium metal and Lithium ion batteries.
- New provisions and Packing instructions added.

22) How many classes in IMDG Code?

9 classes

23) A crew member reports to you that there is an oil spill on deck, what is your action as OOW?

Sir, First I will assess the cause, if it while bunkering, I will stop it immediately, then I will raise the General Emergency Alarm and muster the crew. I will inform Master and Chief Officer. I will check whether if oil has gone overboard or not, if not I will do everything possible to contain it onboard.

As the OOW it is my main responsibility to keep records of everything that is happening with time. Through Master we have to inform the Port authorities, Agent and relevant Parties such as Qualified Individual.

We have to implement Shipboard Oil Pollution Emergency Plan (SOPEP), I will make sure that they only use SOPEP equipment, because using other equipment can generate sparks. Keep the firefighting appliances ready in case. Don't allow anyone to smoke or light naked flames. I will stop the cargo operations depending on the size of the spill. If there are any DG cargoes which will cause concern, with chief officer's permission I will ask to discharge them.

Use all equipment and man power available to stop the spilling and contain it and clean it up. Make sure crew members are properly dressed with proper PPE for the situation. I will follow any special instructions and orders given by Master or Chief Officer.

24) What are the Digital Publications Available onboard, How to update them?

- Digital Sailing Directions
- Digital List of Radio Signals
- Digital List of Lights
- Digital Tide Tables

Sir, we receive updates by a DVD, Mail or online, We have to insert it to the computer which has digital publications, then select the publications to be updated, and press update tab. Afterward record it in the update log.

(Examiner was not satisfied with this answer, Please find more about it)

25) What are the maintenance you do in Lifeboat and its Launching Appliances?

Instructions to follow when maintenance of lifeboat or any other Life Saving Appliance is given in SOLAS Chapter III, Regulation 20.

The inspections are divided as per weekly and monthly basis, PMS will give the relevant inspections and tests to be done as a work order. We have to follow it.

Weekly inspections include;

- All survival crafts, rescue boats and their launching appliances have to be visually inspected to make sure that they are ready for use at any time. No corrosion, no damages to the equipment, it is clean and tidy. And also;
    - Condition of hooks and attachments.
    - On load release gear properly reset
- Lifeboat engine has to be run for a period of at least 3mins, engage gear ahead and astern, try out the Rudder with helm and tiller.
- Check the condition of battery, whether it is fully charged or not.

- Compare the compass with Bridge.
- Physical condition of the launching appliances.
- Lifeboat except free fall lifeboat on cargo ships have to be moved from their stowed position, without any person inside, to make sure that it is working satisfactorily.
- Check all the notices and instructions to follow are posted and they are not damaged.

Monthly Inspections Contain;

- Except free fall lifeboats other lifeboats have to be turned out from their stowed position, without any person inside.
- Take an inventory of lifeboat equipment; check their condition and expiry dates. Make sure they are stowed in correct places.
- Check whether launching appliances and their moving parts are properly lubricated no damages.

After each inspection a report have to be entered in the Log Book.

26) What is the Drill Requirement for Rescue boat?

As per SOLAS, once a month, the rescue boat has to be launched with the assigned crew and maneuver it on water, but if it is unsafe and impracticable at least once every 3 months.

27) What are the methods used to plot position on ECDIS?

Sir, ECDIS updates the ships position automatically by the positioning input supplied. But if we have to verify the position we can use manual plotting for that. By using two ranges, two bearings or a range and a bearing. We can get the ranges from RADAR and bearings from the compass. Or we can use the RADAR overlay function for that I taking ranges and bearings from compass and RADAR takes time to transfer in to ECDIS. After that go to Menu, select manual plotting and input the data we obtained. A VRM and a EBL will come on the display. Place the interception of that two at the reference point, the center of it will give the ship's position. We can compare it with the automatic position update and verify it.

28) How do you order medicines for Medical Chest?

Sir, In the International Medical Guide for ships it has given a recommended list of medicines to be carried onboard. But the rules and regulations regarding the medicine requirements are given by the Administration.

It gives the medicine type and quantity to be carried onboard the ship. As an example UK flag gives the required medicine list for 10 persons, as per that we have to carry the amount require for the crew onboard.

Medicine list is given in the Medical Log Book. We have to check it monthly to make sure no medicines has been expired or short. If so we have to make a requisition through Master beforehand to order them.

ND Class III orals (3)

CERTIFICATE OF COMPETENCY – ORAL EXAMINATION

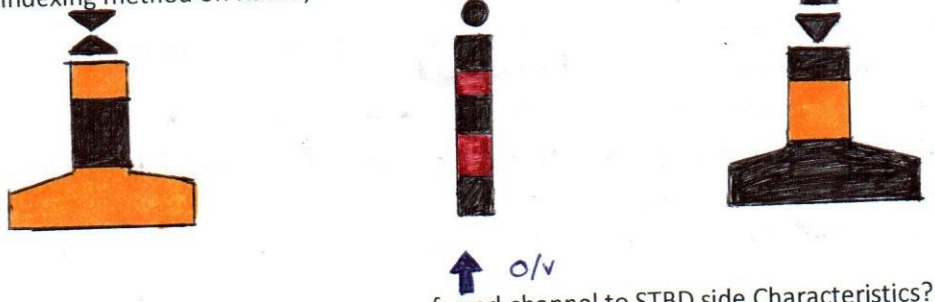
NAVIGATION WATCH KEEPING OFFICER 500 GT OR MORE **(CLASS 3)**

CANDIDATE – UDARA SAMPATH

EXAMINER – CAPT.GAMINI WILSON

- How you take over a Navigational watch as an officer
- When you are entering restricted visibility area, what you do first?
- Is that compulsory to call master, where it mentioned –**(stcwchapt 8 mentioned)**
  Then when to call master?
- What are the avoiding actions?
- You hear fog signal fwd of your beam,& nothing detected on radar, what is your action ?
- Fog signals you make as a PDV
- Definitions of CBD Vessel (LIGHTS,SHAPES,SOUND SIGNALS)
- Explain – Rule 18 (Responsibilities between vls)
  Rule 9 (Narrow Channels) , What actions you take ?
  Rule 8 (Action to avoid collision)
- Sailing vessel lights , shapes
- What is RAM vessel (Full definition)
- What lights you can see on dredger?
- Fog signals of Towing vessel?
- What is Safe Speed
- Procedure of crossing TSS
- What is the reason to keep right angle to the general direction of traffic flow
- There is only one rule, it says you can take any action at any time for vessels safe what is that?
- What is Rule No – 2
- What is COLREG?
- What is the New Part of the COLREG rules?
- What are the contents of Rule Number41
- When you see one target on your port bow, what is your action?
- You see a white light aheadof you, what are the Possibilities?
- It is a slow speed vessel than you, what is your action
- When you are overtaking another you see her green light, what is your action?
- You see FL (2) white light ahead of you, what is your action?
- You are heading 000 degrees and you see South cardinal Buoy, what is your action?
- If you alter Course to STBD , what will be the Next cardinal mark you can see ?

- You are heading 180 degrees and you see North cardinal Buoy, what is your action? After your action, you see west cardinal buoy forward of your beam, Now what is your action? What are the characteristics of those buoys? From where you can find them?
- Characteristics of SOUTH CARDINAL Mark ?
- In this Situation How you navigate?
  (First he gave only the Isolated danger Mark, then I said alterations he add East and West cardinals to either sides)
  What resources on bridge you have and what precautions you take as a Navigator?
  (Make sure this is a narrow channel situation and he expect you to mention about Parallel indexing method on Radar)



- When you are in Japan you see a preferred channel to STBD side Characteristics?
- How you plan a passage from Trincomalee to New York ? What details you need? (Passage planning Full procedure)
- What actions you take gyro fails?
- Your v/l is 5' in Northern hemisphere pressure falls by 5 mb , what will be that ?
- Some place, wing is veering what is your place &action?
- TRS on your path place &action ? Signs of approaching a TRS ?
- You are 200 miles out of Colombo harbor , your barometer reading reduced by 6mb , what kind of situation you are in ? (TRS avoiding actions for both semi circles)
- What are the isobaric patterns you know ?
- What is frontal depression? What you meant by front?
- What are the responsibilities in navigational watch as a duty officer?
- AIS / GYRO Services period ?**5 years.**
- What is LRIT? Difference between AIS &LRIT ?
- What is BNWAS?
- Contents of Log Books?
- What is GMDSS log, what entries you make?
- Contents of GMDSS log book?
- What are the test you carried out for GMDSS equipment?
- What are the functions of SAT – C ?
- What is Ballast water log , what is requirement ?
- What is oil record book, and contents?
- What is deck log book?
- How do you rely on paper charts?

- What is WGS 84? If there is No WGS 84 ? (ED – 50 & SBGB – 2008)
- What is Turning circle , Advance & Transfer ?
- What is T &P ? Where you find them?
- Limitations of RADAR?
- Different between "N" up & "H" up ?
- Tell me Radar Errors ?
- What is Shadow sector? Difference between Shadow & Blind Sector? Where you find them ?
- What is synchronized rolling, how to overcome it?
- What is the compass error ?
- Carriage requirements of ECDIS ?How would you plan the passage on ECDIS?
- What is sea clutter & rain clutter ?
- What is Vector chart ?
- How would you test the steering gear? What is the requirement of that?
- If single steering motor is employed, how much time will take to move the rudder?
- Life Boat requirement? Free fall life boat drill requirement?
- Latest SOLAS drill requirement? **(Enclosed space entry drill , oil spill drill , security drills)**
- Different between simulated Drill & Free fall?
- What is ON lord & OFF lord release system?
- How do you update SOLAS training Manual ?
- How do you prepare the bridge for the Departure ?
- How do you Lord IMDG Cargo ?
- What are the Signals you use when lording IMDG ?
- IMDG Spillage what is your action?
- How would you give O_2 for casualties?
- Fire in F'cl Store while lording operation going on, what is your action?
- Company asked you to join as a 2 ndofficer , how would you rely the medical chest inventory ?
- As a 2 nd officer what are the duties of Medical chest?
- What is the validity Period of medical chest certificate?
- What is Port health declaration?
- When it's new ship how you know which medicines are required to Medical chest?
- Validity Period of Medical Chest?

GMDSS Log Book

Section A

Ship particulars
Details of servicing company

Section B

Details of certified persons holding GOC
Name of person designated to distress communication by master
Designated person for checks, maintenance and log entries.

Section C

Daily records of the operations and receiving alerts, radio installations
Any test carried out
Distress alert received
Printouts of self- test and live tests
RT conversations carried out regarding distress

What are the GMDSS equipments

EPIRB – (406MHz)
SART – (9GHz)
MF/HF radios
NAVTEX (518 KHz)
INMARSAT – C
VHF Radios
Two way GMDSS Walkie Talkies
X – BAND Radar (9GHz)

What are the checks carried out on GMDSS equipments

Daily – SAT – C, EGC Function, self-test
On- load, OFF – lord Test of batteries and the Fully charged Condition
Proper Function of GMDSS equipments

Weekly – DSC Distress and safety radio equipments Test
By the means of a Test Call with a V/l in Communication range or with a Coast station
Batteries shall be tested with use of hydrometer, sealed batteries by suitable load test

Official Log Book

Gives by the flag state to the ship
Incase of court case, should submit to court
Log book considered to be a running log of all official events such as
Arrival / Departure of VSL from Port
Draft , Free board
Emergency drills
Crew onboard
F.W /FUEL Rob
Master's standing orders etc..

What information you can get from ocean passages of the world

Ocean routes for PDV vessel
Ocean routes for sailing vessels
Distances between ports
Important positions
Details of weather , currents and Ice hazards
Rute diagrams showing
effects of climate, wave heights
load line zones

Contents of Sailing Directions

Navigational hazards
Pilotage
General Notes on the countries
Port Facilities
Buoyage system
Regulations
Seasonal Currents
Ice and Climate conditions

Contents of Weekly Notice to Mariners

Lists of New editions of charts and Publications
Lists of cancelled charts
Corrections to charts (BA ,AUS , NZ , & JP)
Re prints of radio navigational warnings
Corrections to sailing directions
Corrections to sailing directions
Corrections to list of lights and fog signals
Corrections to ALRS

Contents of Ship's routine

All TSS adopted by IMO
No GO Areas
Recommended tacks
Local rules and regulations
Deep water route
reporting systems

What is Cumulative List ?

It published twice a year, January and July

January edition includes all admiralty Notices to Mariners Numbers published during the previous 2 years. July edition contains 2 and half years info.

It contains correction number and applicable number of week, last edition dates for all charts, list of current hydrographic publications.

How you correct a Nautical Chart ?

Correct voyage charts, oldest NTM should use to correct first,

Refer the index of affected charts and find out correction numbers accordingly, check above affected charts against chart correction log. Make the small corrections on chart and enter the correction number using magenta color pen on bottom Left corner of the chart, and then enter it into the correction log.

Which regulation says about Birth to Birth Passage planning?

It comes under IMO resolution A.893 (21)

Company SMS under ISM Code, Also mentioned about passage planning.

What are the things you can find in COMPANY SMS ?

Safety & Environmental Policy

Designated Person

Recourses & Personnel

Masters responsibility & Authority

Company's responsibility & Authority

Review &evaluationsProcedures for internal audits

Vessel details all according to international & flag state legislations

Operational procedures / duties

Emergency procedures

Reporting of accidents, non-conformities

Maintenance and records

Documentations

What is T &P ?

Temporary & Preliminary corrections

T – Temporary amendments to charts that will be cancelled after stated date.

P -Amendments to chart which will become permanent eventually.

What is Squat?

Reduction of UKC resulting from the ship sinking deeper in the water and change of trim, which occurs when ship moves through shallow waters.

How it Happen?

When a ship moves FWD relative to the water due to the propeller action there will be a low pressure area created at the stern

This is forming in all waters but when this occurs in shallow water, there will be no sufficient water to fill this low pressure area.

So there will be a bodily sink age of the ship and increase of the aft draft of the ship by reducing UKC,This will effect on both fwd and aft draft.

What actions can be taken to reduce squat?

Reduction of speed is the most effective action.

What is shallow water?

When the depth to draft ratio reduce up to 1 to 1.5 it can be called as shallow water.

What is Bow cushion & Bank suction effect?

Occurs in Narrow channels near proximities of banks

There is a tendency for the bow of a ship to be pushed away from the bank, called bow cushion.

Ship moves bodily towards the bank, which appears at stern called bank suction.

How does it happen?

Caused by restricted water flow on the bank's side

Velocity of water to the bank increases and pressure reduces. This result in drop of water level towards bank as result thrust is setup towards bank as result thrust is setup towards bank.

Therefore stern pushes towards bank.

How to Overcome?

When v/l approaching to the bank, apply helm to the bank and reduce speed to prevent sheer from developing.

What is Transverse thrust?

It is a sideways force generated by action of propeller commonly known as paddle wheel effect.

Right handed propellers, paddle the stern to stbd when moving ahead,

Paddle the stern to port when going astern.

What is rolling synchronization or Parametric rolling?

When rolling period is equal to wave encountering period this effect occurs.

In other words when maximum breadth of v/l is equal to wave length of the wave encountering.

Altering of course is the most effective action to avoid.

What is Pitching synchronization?

It occurs when pitching period is equal to or nearly equal to apparent wave encountering period.

Causes excessive racing of the engines, damage engines, and propeller emerges from the water or approaches the surface.

What is Interaction?

It occurs when a ship comes too close to another ship or river or Chanel bank.

When two ships are directly in line ,very close to each other each ship will develop an angle of heel, small ship will drawn towards large one.

Both ships could lose steerage efficiency an alter course with ought to change of rudder helm.

What are Life Boat Markings?

No of Persons permitted	Port of registry	Life boat No
Name of the ship	Call sign (on the capacity)	Capacity (L x B x D)

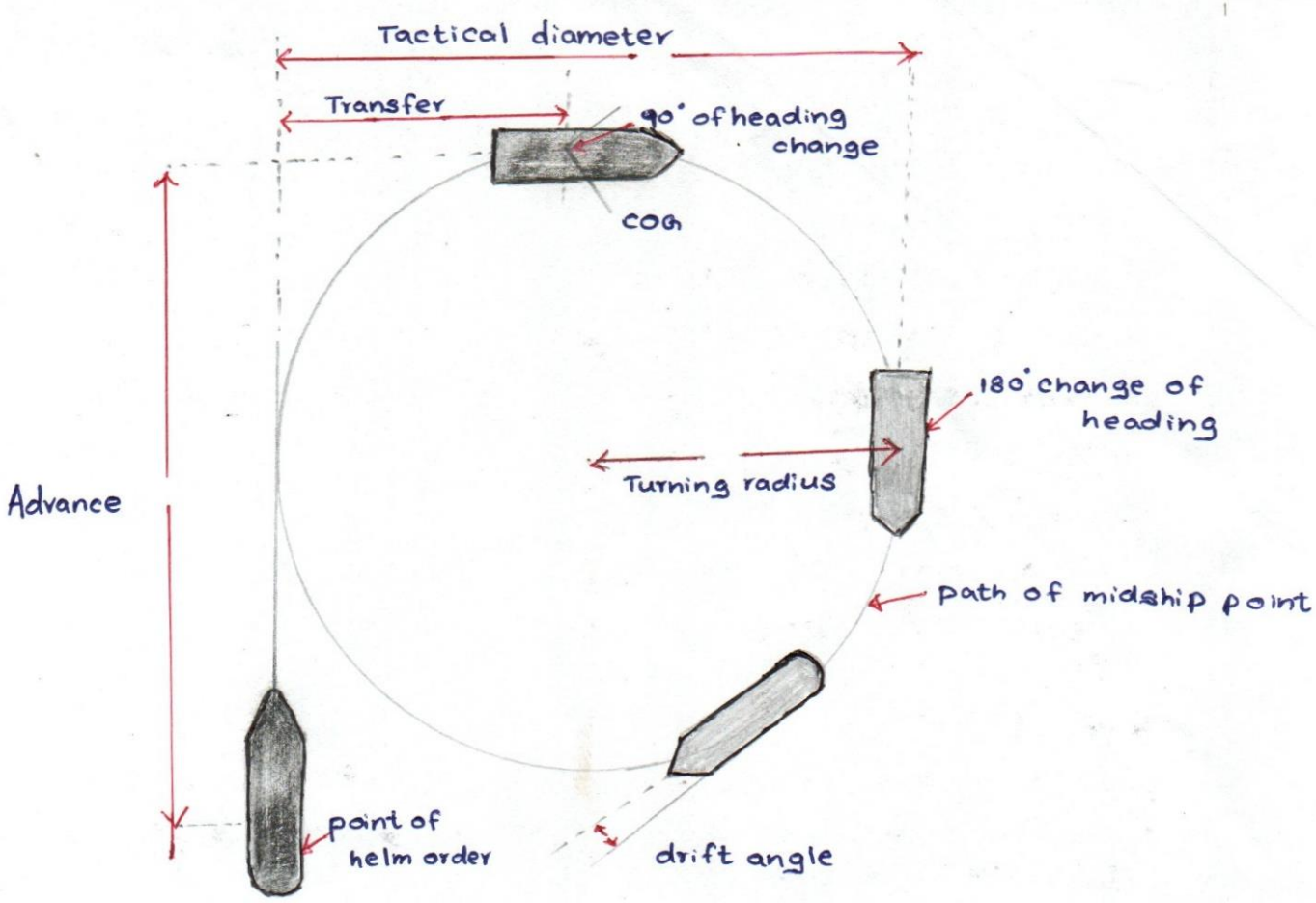
Life Boat Equipments?

2 Boat hooks	Sea anchor	Dipper with lanyard
Sufficient buoyant oars	Portable fire Extinguisher	3 L of water for each person
2 buoyant rescue quoits	6 Hand Flares	Food ration10000KJ per each
Survival manual	4 Rocket Parachutes	water proof electric torch
Operational compass	2 Buoyant smoke signals	Day light signaling mirror
Whistle	First Aid Kit	Anti sickness tablets

When it's new ship how you know which medicines are required to Medical chest?

Flag State sends report that includes all requirements in medical chest.

Validity Period of Medical Chest is 1 Year.



Tactical diameter–Transfer when 180' change of course, or perpendicular distance between ships initial course, when helm is put hard over and its course when she has turned through 180'

Transfer – Perpendicular distance to the initial track measured to the COG of the V/I.

Advance – Distance travelled in the direction of the original heading measured from point of first applied the helm.

Turning Circle – Path of ships pivot point as it executes a 360° turn in shallow water turning circle will become larger.

These are most common questions & answers asked by the examiners. (According to The NWKO oral examination checklist), Other questions & answers you can easily find out when referring ORAL Class (III) book.

To be Honest no doubt this book very helpful for your ORALS (Especially examiners questioning pattern).When you finish your orals at least handover the questions (that asked by the observation examiners).Then it will helpful for future candidates in Sri Lanka.

Additionally refer BatuwanthuduwaB.book(CINEC Library) & www.Marineinsight.com - Latest amendments etc..

I would like to thank everyone who helped& encouraged me to achieve this..... Cheers!!

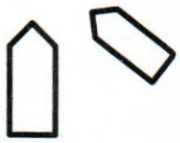
Wish you all the Best .....

- KUMA -

class-III

CANDIDATE : T.M.B.WARAPITIYA
EXAMINER : CAPT. SUNIL JAYAWEERA
DATE : 22.09.2017
DURATION : 1045h – 1300h, 1330h -1430h

First he asked about my previous vessels, and company details.

1. What is Lookout?
2. What do you mean by hearing, How to keep lookout by hearing?
3. When you hear a fog signal of a ship which cannot see by visually and radar, what is your action and how to determine the situation?
4. What is Risk of Collision?
5. How do you take Bearing?
6. How do you use Azimuth circle & mirror, How to check the error of the A.Circle?
7. How do you synchronize Gyro repeaters?
8. What is the error between the master gyro and gyro repeaters?
9. How do you take Compass Error,(different methods need to mention)
10. 
What is your action? Clear & Restricted visibility conditions.
(He drew the ship very closely, but he said range was 3nm)
11. What is the new category of Garbage, and garbage discharge criteria?
12. Meaning of STCW and its purpose?
13. What are the equipment you carry onboard for landing a helicopter?
14. How do you check cargo loading, whether it is as per plan or not, how to correct it if not?
15. How do you identify a position of a container?
16. What is a Frontal Depression and the effect of it?
17. What are Isobars and what is the use of it?
18. What is the meaning of Anchor "Brought up"
19. How would you know whether the anchor is dragging and what is your immediate action?
20. You see a unknown person near steering gear room what is your action, at sea and port?
21. How to test Off Course Alarm?
22. How do you test steering gear?

23. How do you test Emergency steering?
24. Is it possible to control steering from Bridge wings?
25. How many spare chargers required for fire extinguishers?
26. What is the weather patterns experienced in srilanka?
27. What is the difference between VDR and SVDR?
28. Carriage requirement of SVDR?
29. Why we need TSS?
30. What is the difference between Lateral marks and Cardinal marks?
31. What is IALA?
32. What is Region A and Region B
33. What are the information you required for passage planning?
34. What are the Nav.Warnings?
35. What would you do after receiving a nav.warning?
36. How do you know Nav.warnings Cancel or not?
37. What is Cumulative list?
38. What are the information you get from charts?
39. How do you get information about lashing gear?
40. What are the contents of CSM?
41. What is simulated launching of free-fall lifeboat?
42. What is Recovery Strop?
43. What are the contents of Muster list?
44. What is a tender ship and how to identify it at sea and port?
45. Is it good or bad and reason for that?
46. What is angle of LOL?
47. How do you correct it, at sea and port?
48. What is Free Surface Effect, and how do you eliminate it at sea?
49. What are the minimum stability criteria's for a cargo ship?
50. How do you maintain a Medical locker, from where do you get the medicine list?

class - III

Candidate: D.A.O.T Perera

Examiner: Capt. Asiri Hearth

Date : 14th September 2017

1. What will you do during a navigational watch?
2. What are the all available means to maintain a proper lookout?
3. What is LRIT? How do you know if it is working?
4. You are in a fully ECDIS ship, how do you plan a passage?
5. What is the latest method to order charts for the ECDIS?
6. Carriage requirements of ECDIS?
7. What is the latest Performance Standards for ENC?
8. What is the "playback" function in ECDIS? What is the purpose of playback function?
9. What is Radar overlay? Its purpose?
10. What are the backup arrangements for ECDIS?
11. How do you insert "pilot calling point", "Master calling point" on the ECDIS?
12. In which situations will you deviate from your originally planned passage?
13. How will you justify your deviation from the planned passage?
14. How are you going to deviate from your passage? What are the actions to be taken?
15. You are going to anchorage, how will you prepare? How are you going to anchor?
16. What is anchor brought-up?
17. How will the ship settle after dropping the anchor?
18. What are the content in the stability booklet?
19. What are the content in the muster list?
20. How are you going to plan and conduct a fire drill as per SOLAS?
21. What will you be observing when carrying out the drill?
22. What is the fire and abandon ship drill requirement?

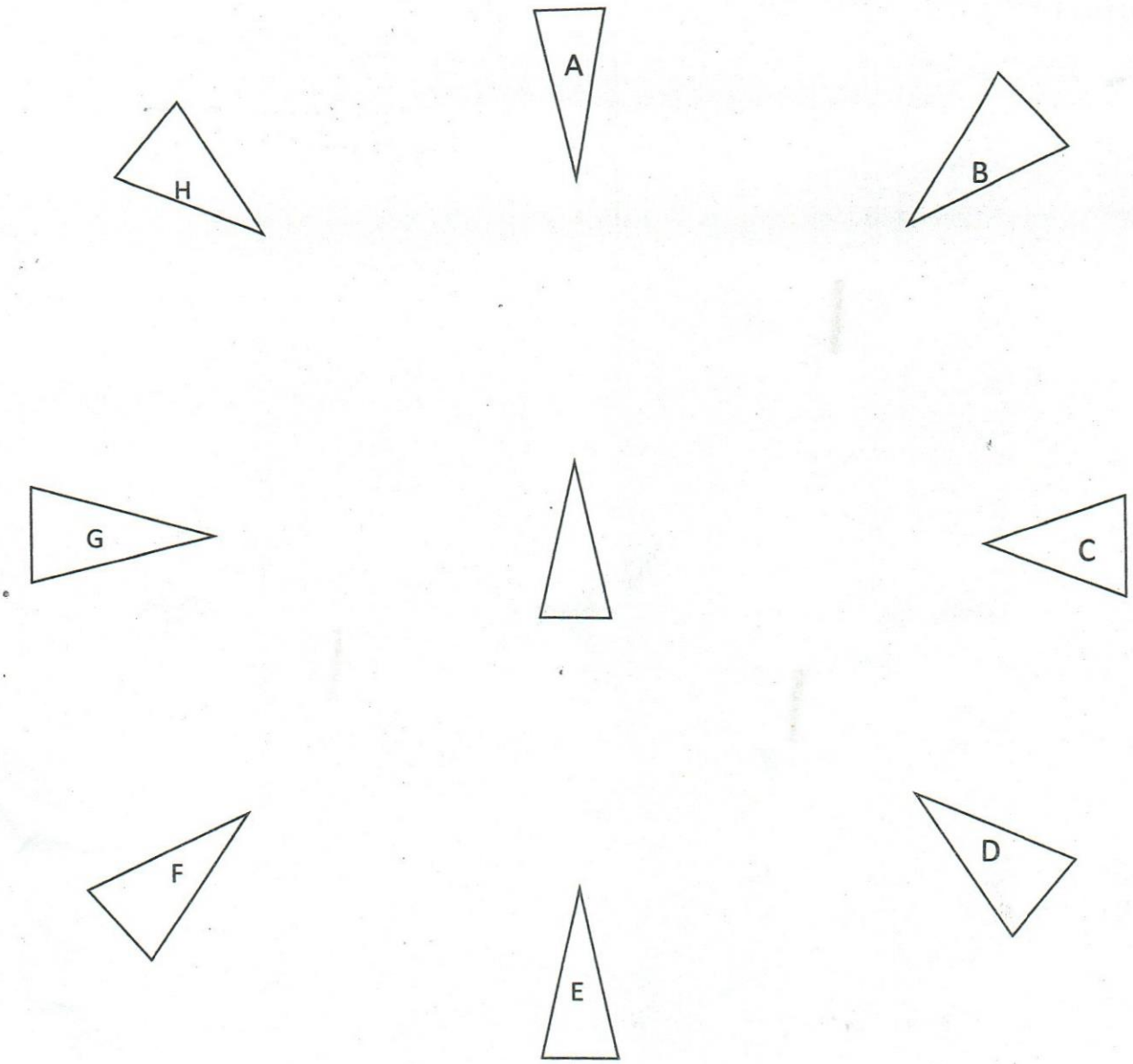
23. What is the latest amendment for the life boat?
24. How will you prepare the vessel's LSA & FFA equipment for an Annual survey?
25. All GMDSS equipment tests?
26. How to carry out the MF/HF weekly test?
27. What are the MF/HF DSC frequencies? From where can you find them?
28. Your radio equipment malfunctions, what is you action?
29. What are the latest IMDG amendments?
30. What are the contents in the IMDG code?
31. What are the segregation methods for a IMDG container? From where can you find them?
32. When the Ballast Water Convention did came in to force?
33. What are the ballast exchange standards?
34. What are the methods uses in the ballast water treatment plant to treat the ballast water?
35. What are the weather patterns around Sri Lanka at present?
36. You are sailing in to a TRS common area, what are the precautions that you take?
37. How to determine the probable direction and the distance from a TRS?
38. Describe the structure of a TRS?
39. What is a close-quarter situation?
40. What is risk of collision?
41. What is ODAS means?
42. What are the data that can be obtain by ODAS?
43. What is ODAS buoy look likes?
44. What is safe speed?
45. 12nm range, clear visibility, one by one targets are approaching, your action?
46. 12nm range, restricted visibility, one by one targets are approaching, your action?

47. Clear visibility, risk of collision exists, B & C approaching your action? H & B approaching your action?

48. Restricted visibility, risk of collision exists, A & C approaching your action? A & D approaching your action?

49. Clear visibility, range 4nm, D is approaching, risk of collision exists, what is your action? Range keep on reducing and D is not taking any action, what is your action? If you are taking any action, why are you taking that action and which rule say so?

50. Clear visibility, range 4nm, F is approaching, risk of collision exists, what is your action? Range keeps on reducing and F is not taking any action, what is your action? If you are taking any action, why are you taking that action and which rule say so?



Monthly – Each SART using inbuilt test facility

Check for security and sign of damages (SOLAS REG III/19)

Each survival craft 2 way VHF equipment on a frequency other than CH.16

Sat-C with EGC .test by means of actual communication.

Batteries Connection. Security, condition of batteries and their compartment.

What is ENC ?

Electronic navigational chart

Is a Database, standardized as to content, structure and Format, issued for use with ECDIS by Government Authorized HO (Hydrographic office)

Contains chart information and many contain supplementary information in addition to that in paper charts.

What is Vector Charts (ENC)

Digital Paper Charts, Set of accurately positioned lines, points and areas

Amplifying information ,found in associated database

Looks different from paper chart

Allows queries' and layer selection

Zooming reveals details

Complex, expensive and time consuming to produce

Need powerful computer and expensive display (IHO requirements)

Can issue warnings impending danger a head.

What is Raster Chart (RNC)

Scanned paper charts, simply bitmap images

Set of coloured pixels representing chart information

Cheap and easy to produce, run easily on PC ,

No inherent safety warning ability

World widely available, update with weekly raster patches

Limitations of RADAR

Range discrimination	Shadow Areas, Shadow sectors
Bearing discrimination	Blind Sectors
Minimum & Maximum range	Age and reliability of the set
Range Accuracy	Number of Radar and displays fitted
Bearing Accuracy	Are there any inter switching facilities fitted
Is an ARPA Fitted	The type of display presentations

RADAR Errors

False and unwanted radar responses
Multiple echoes
Side echoes
Second trace echoes
Blind and shadow sectors
Spoking
sectoring
serrated range rings
PPI display distortion

Shadow Sector

Sector on radar scope in which the appearance of radar echoes is improbable because an obstruction near the antenna (Samson Post)

Blind Sector

They occur when large angles subtended by obstructions (Funnel)

Normally these sectors are posted near radar display, If not you can find them on RADAR Operators Manual.

Stability Booklet Contents

Depends on flag state requirements, and load line regulations

Ship particulars
Tank arrangements
Scaled diagrams of cargo hold, tanks, accommodation
Capacities and Position of COG for holds tanks
Estimated weights and position of COG's of deck cargoes on exposed decks
Information to calculate FSE
Diagrams of load line marks
Tables or graphs showing hydrostatic particulars
Graphs to enable the construction of GZ curve for differnet load condition
Stability calculations for different conditions

Damage Control Booklet Contents

Requirement comes under SOLAS CH II Reg 19

Damage control Plan
Capacity Plan
General arrangement Plan
Bilge & Ballast piping system diagram
Vent & sounding pipe diagram
De-watering piping diagrams
Water ingress alarm systems
Location & Capacities of all ballast & Bilge Pumps

This helps to take effective actions in case of damage to ship and cause flooding and recover ships loss of stability.

ORAL EXAMINATION
EXAMINER : CAPT. G. WILSON
CANDIDATE: A. C.GUNAWARDENA
IST ATTEMPT
21.08.2017

205/- ND orals II

1. What is the stability criterion to be achieved after loading a gas tanker?
2. How do you find your vessel is meeting with criteria?
3. What is a KN value? How did it derive? Draw and explain.
4. You are the chief officer in 3500 TEU container vessel, voyage order is received to load 2800 TEU containers how do you proceed with the loading?
5. What is CSC plate? What is the meaning of stack weight in CSC plate?
6. What is stack weight?
7. How do you find it? Is there any other method to calculate if containers to be loaded in to a general cargo vessel as non standard cargo?
8. What are the documents to be carried if loading a DG container?
9. What is DG declaration?
10. How do you find a cargo is suitable to carry in a gas tanker?
11. What are the contents of a Certificate of fitness for the carriage of liquefied gasses in bulk?
12. Tell me full procedure of gas carrier loading including safety precautions.
13. Suppose you are given an empty tank container to be loaded how do you load it? What is the certificate to be checked?
14. You get an 850t of heavy lift cargo to be loaded. You are given with two derricks with 550t SWL and 450t SWL .Tell me full procedure.
15. Draw and show me what are the methods used.
16. What are the critical stages where you have to calculate GM values? How do you calculate GM and list?
17. When loading heavy lift where do you stay as a chief officer and where will the master stay monitoring the operation?
18. What is load density? Why it is taken for a unit area without taking square meter?

ORAL EXAMINATION
EXAMINER : CAPT. G. WILSON
CANDIDATE: A. C.GUNAWARDENA
IST ATTEMPT
21.08.2017

19. What is register of lifting appliances and items of loose gear? Why it is important in heavy lifting?
20. Suppose you are leaving harbor with loaded vessel meeting all the criteria and after proceeding to sea vessel experience rolling and stay in stbd 20 and then roll back and stay on Port 20? What are the possibilities?

21. How does the Meta centre changes in seaway?
22. You are in a 20000t Bulk carrier doing the morning watch. Barometric pressure drops by 5mb what is your action?(action as a chief officer)

23. Now in that same vessel in same situation master died. What are you going to do?(taking avoiding actions as master)

24. You have a new 3rd officer onboard and suddenly 2nd officer injured and repatriated. How do you proceed with passage planning in ECDIS with new 3rd officer onboard?

25. What is garbage management plan? How do you implement on board?

26. Food waste on board and you are staying a very long time at anchor it is becoming a threat to hygiene. What are you going to do?
27. How do you discharge food waste in to sea?

28. You are in a 20000t vessel on a coastal route suddenly ship is aground. Master collapsed on the bridge. What is your action?

class - III

Candidate: R.D. Palihakkara Batch 28.

Examiner: Capt M.U.I. Peiris

Date: 16/08/2017

- How do you take over the duty, 1st time as a 3/O?
- What are the familiarities for your ECDIS at first time?
- How do you carry out the correction for ENC?
- What is RNC? Different between ENC & RNC?
- What is SENC?
- What is an ECDIS anomaly?
- How do you identify ECDIS anomaly?
- What are the effects on ECDIS if having anomalies?
- How do you identify auto correction and manual correction on ECDIS Display?
- How do you identify the buoyage region on ECDIS for given port?
- What is Safety contour?
- What are the display modes of ECDIS?
- If there is a GPS system failure, how do you plot a position on ECDIS?
- How do you fix a position on ECDIS near coastal areas?
- How do you manage the alarms in ECDIS?
- What are regulations for ECDIS in SOLAS? (Reg number only)
- What are the limitations of the Radar?
- How do you carry out PM?

- How do you know whether radar performing well or not by doing PM? (There is a chart in user manual to check this against the age of the radar)
- What are the purposes of VDR?
- What is the backup for VDR?
- What is the IMO convention for collision avoidance?
- To whom will it applicable?
- What is risk of collision?
- How do you avoid a collision?
- There is a vessel on your port bow, explain in detail what your action is until she finally past and clear?
- How do you identify whether you are overtaking or not?
- There is a vessel on your right ahead, what is your action?
- You observed three white lights in a vertical line, what are the possibilities?
- What is the day shape for towing vessel?
- What do you mean by a deep draft vessel? (Explain CBD with all lights & shapes)
- What is TSS?
- How do you navigate in a TSS? (Explain rule no. 10)
- How do you find out the general direction of traffic flow? (Chart, Ships routing guide, ASD)
- What are the lights and shapes of vessel aground?

- What is restricted visibility? (Definition)
- How do you navigate in restricted visibility? (Explain rule no.19)
- What is a lateral mark?
- What is isolated danger mark?
- How do you identify the buoyage region?
- You are approaching a port where the 1st lateral mark has broken on one side. There is no any other buoy to clarify and no top mark as well. How do you identify the safe side to pass?
- What is Bridge Resource Management?
- How do you do BRM as OOW?
- How do you participate to BRM as bridge team member?
- What is the main purpose of Annual Summery of NTM?
- How do you do maintenance of LSA & FFA?
- What are checks for life boat hooks?
- What is fall preventing device?
- All drill requirement as per SOLAS?
- What are the GMDSS equipments available onboard?
- What are the requirements of GMDSS?
- What are tests of GMDSS equipment? (Explain separately daily, weekly & monthly tests)
- What are the contents of GMDSS logbook?
- How do you carry out MF/HF DSC test with coastal station?
- What are the entries in logbook after above test?

- How do you comply with SMS?
- What is Sri Lankan legislation?
- What is the latest MSN?
- What do you mean by negative GM?
- What are the contents of stability booklet?
- How do you load DG container and Reefer container as duty officer?
- What are the signs of TRS?
- How do you lift up a person from water to rescue boat who is having hypothermia?
- What is the first aid for hypothermia?
- Explain the operation of AED?
- What is garbage management plan?
- What are the onboard discharging criteria for food waste?
- What is nearest land?
- Where do you find the definitions for nearest land and base line?
- How do you calculate the distance to nearest land from the ship?
- What are the short courses have you done?

Important: Look straight. Always answer clearly with high confidence and show him you are competence. He expects explanations most of the time, but make sure what you are talking about for explanation. He may put you in trouble from your own words. All the Best. Thank you!

ND Class III orals.

CANDIDATE : NADUN HASITHA DE SILVA
EXAMINER : CAPT. GAMINI WILSON
DATE : 31. 08. 2017
DURATION : 1030 HRS - 1415 HRS

First he asked me about my personal history, information regarding the previous vessels, voyages etc... Then he asked about the subjects which I have studied at the Academy..... Then Started asking cross questions and most of the questions he asked, based on the answers given by me. Always try to give full answers and don't let him to point out each and every part of your answer.....If does so, sir will not wait until you complete the answer.

01. What did you study for Orals as a subject? (In this question I had to explain, mainly all the watch keeping duties, how to takeover watch, watch keeping at Port/Anchor/Sea, when to call Master, etc...)
02. What Is COLREG? What are the new amendments to COLREG?
03. What is Part F of COLREG?
04. How would you comply with Part F on board?
05. What are the measures to be taken when implementing Part F on board a ship? (how would you prove that the vessel is complying with implementing Part F on board the ship)
06. Lights and Shapes of following vessels
    Pilot vessel underway/at anchor, Sailing vessel underway/at Anchor, RAM vessel underway/at anchor, vessel engaged in dredging, CBD vessel
07. What is the diameter of the Ball, Cylinder? (Diameter and Height)
08. What is NUC? RAM? CBD? (Definitions)
09. You'll receive some messages that, some fishing vessels are engaging in fishing in close Proximity, How do you identify them? (Light & Shapes)
10. What are the signals for fishing vessels when shooting nets?
11. You're on a Course 180°; you see an isolated danger mark. How to identify? Characteristics? Light? Etc...
12. What is safe water mark? Fairway buoy?
13. Is there a difference between a safe water mark and fairway buoy?
14. What is the difference between an isolated danger mark and Safe water mark? (as both indicate navigable water all around)
15. You're an experienced 2/O on the bridge and you receive messages regarding heavy traffic in the area..... How you carryout navigational watch? (Master won't expect you to call him) (In this case I explained rule no 05/06/ and 08 as well)

16. You have a vessel 4pt on stbd bow, bearing steady; 9 miles range.....one vessel is exactly behind you, same speed, 2 miles range....shallow waters on Port side... Parallel Indexing 3 miles....In restricted visibility...What is your action?
17. How would you navigate within a TSS?
18. How to plan a passage using ECDIS? What are the passage planning methods in ECDIS?
19. How to select the required charts using ECDIS?
20. How would you check whether your RADAR is working properly in open sea?
21. What is happening to Gyro Compass in Higher latitudes? Why?
22. What would you do in case of gyro failure?
23. What are the Drills you carry out on Board? Requirement?
24. What's Srilankan drill requirement? (Fire & Abandon ship)
25. FFLB launching requirement?
26. What is simulated launching?
27. What is Dynamic test of lifeboat?
28. How do you maintain the medical locker?
29. Who and how to decide minimum required amount of medicines on board?
30. How would you examine a Patient complaining a severe stomach ache, and how to get free radio medical advice?
31. What is C.I.R.M and how to contact them?
32. Validity of ship's medical certificate?
33. How to carry out a work in an enclosed space?
34. What is IMO stability criteria for cargo ships?
35. What is rolling synchronization?
36. What is Advance & Transfer?
37. What Is GMDSS log book? Entries to be made in part C?
38. Daily/ weekly/ Monthly tests of GMDSS equipments?
39. What are the contents of SOLAS training manual?
40. You are in southern Hemisphere, 15S latitude, your barrow Graph records 5mb pressure difference....what would you expect by that? Give me Full answer.
41. What are the clouds associated with the TRS?
42. How do you maintain LSA & FFA equipment on board?
43. What is Oily water separator?
44. What are the contents of oil record book?
45. And finally he asked, if the company asks you to join directly as a second mate, would you take that opportunity?

ND Class III orals

CANDIDATE: **S.P.DAMITH CHATHURANGA SILVA (BATCH 26)**

DATE: **25TH & 26th MAY 2017**

EXAM: **NAVIGATION WATCHKEEPING OFFICER ON SHIPS OF 500GT OR MORE (CLASS III)**

EXAMINER: **CAPT. SUNIL JAYAWEERA & CAPT. S.M.S. BANDARA**

QUESTIONS

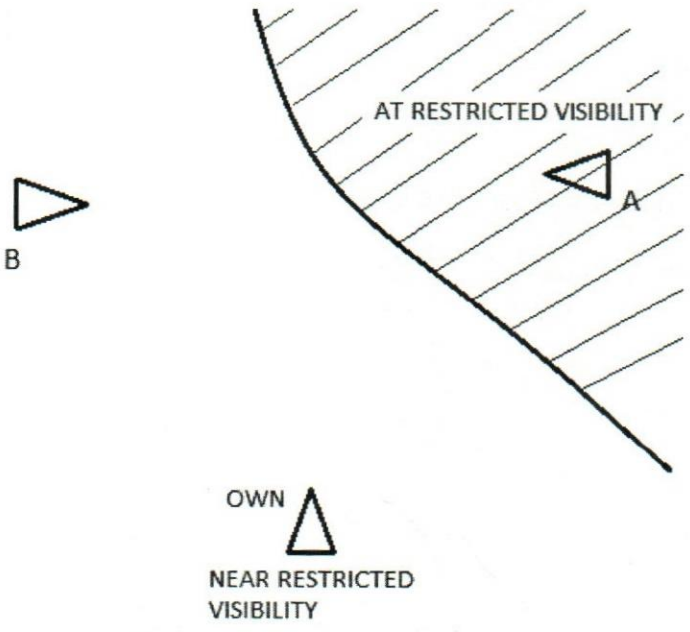
BY CAPT. S.M.S. BANDARA

- WHAT IS ISOLATED DANGER MARK? (Give full description according to IALA Buoyage)
- WHAT IS RAM VESSEL? (Definition, Lights, Shapes and Sound Signals)
- WHAT IS RESTRICTED VISIBILITY? (Definition under Rule 3, and Explain Rule 19)

When explaining Rule 19 he is expecting to draw and explain them properly.

-Vessels not in sight of one another (Can explain using the term which comes under Rule 3, **only when one can be observe visually from the other,** draw it)

-At or near a Restricted Visibility



Own vessel and Vessel **A** - according to Section I and III of Part B

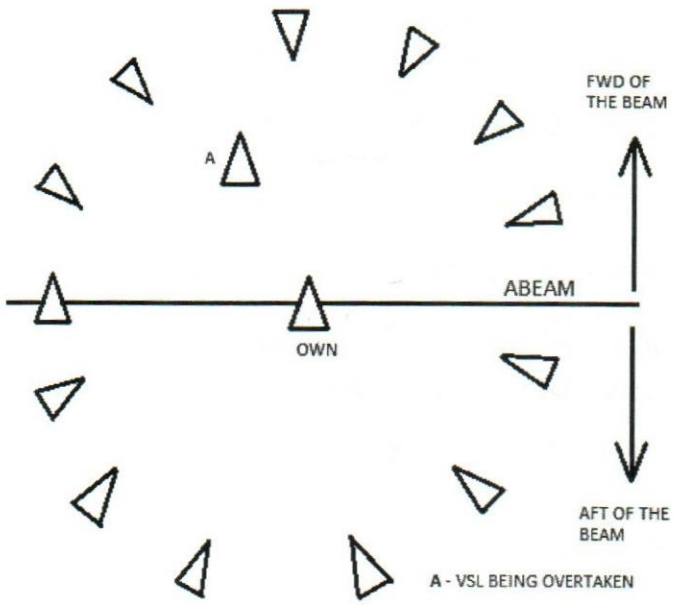
Own vessel and Vessel **B –** according to Section I and II of Part B

-Shall proceed with **Safe Speed** (Use Rule 6 Safe Speed to explain)

-PDV shall have her engines ready immediate manoeuvre

-Comply with Section I of this Part

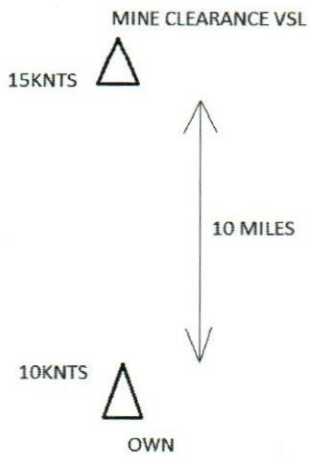
-Rule 19d, avoiding actions (draw and explain as same as drawn below, draw many vessels which are approaching from various directions, show which are applicable for fwd of abeam, abeam and abaft of abeam, also draw a vessel being over taken(vessel **A**))



- Rule 19(e); also mention that change of sound signal.

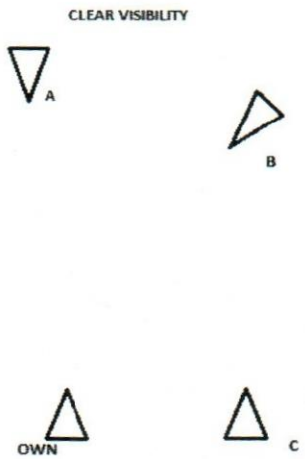
- WHAT IS MINECLEARANCE? {Rule 3(g) and Rule 27(f)}

- **<u>Situation 1</u>**



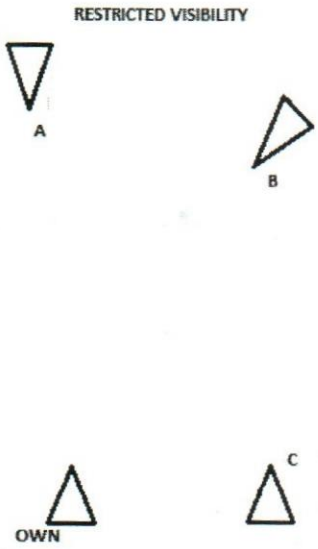
- Since she is doing higher speed, she is moving away from me and no risk of collision exist, but when you realize that she is a mineclearance vessel by any mean,
    - First tell that I will maintain a proper watch and I will not wait to develop such situation, I will monitor the nav warnings and plot them if it is applicable and when mineclearance vsl carrying out there operation they broadcasting it frequently but since this has happen.
    - Reduce my speed where I can maintain my course to get more time to assess
    - Put on hand steering
    - Inform master
    - Plot a position on chart and check whether the vessel has enter to a mine field
    - Check any navigational warning has been received on Navtex, Sat C and also Keep watch on VHF or any other mean
    - Check where the save water lie
    - Proceed towards where the safe water lie

Situation 2



- Since this is in clear visibility part B section I & II apply. First I will plot the targets on my radar and I will not wait for the **full processing time**. I will take serious of compass bearing to determine that the risk of collision exist or not, tell Rule 7d. After determining **CPA** and **TCPA** check whether the CPA violates the **Masters CPA** and if it's violate, take it to consideration. Try to **identify** the targets. **Prioritize** the targets according to the **CPA** and **TCPA.** If these vessels are power driven vessels. For the vessel ahead of mine is a Head on Situation, Tell Rule **14a,** but here can not alter to stbd since one vessel is on my stbd beam. For the vessel on stbd bow is a Crossing Situation, explain Rule **15**, It's my responsibility to keep out of the way, also tell that alteration to stbd is not possible, since one vessel is on my stbd beam. I may use trial manoeuvre to obtain the action to get desired CPA. Here, the best option is to slacken my speed (**Rule 8e**) or take all way off by stopping or reversing means of propulsion and let these vessels clear. I will monitor the effectiveness of my action (**Rule 8d**) until the other vessel finally pass and clear with a safe distance. Come back to original track and speed.

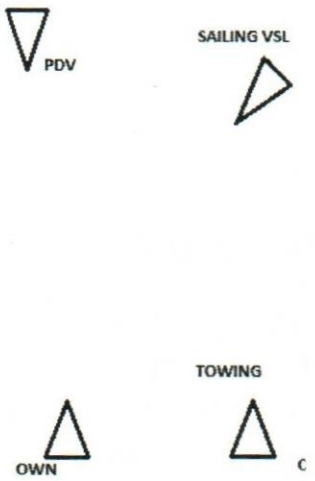
SITUATION 3



Since this is in restricted visibility part B section I & III apply. Explain Rule 19. First I will plot targets on my radar and I will not wait for the **full processing time**. I will use EBL and VRM to check whether the bearing is constant and range is reducing of targets (Rule 7d), if it is then risk of collision exist. After determining **CPA** and **TCPA** check whether the CPA violates the **Masters CPA** and if it's violate, take it to consideration. . **Prioritize** the targets according to the **CPA** and **TCPA**. Tell **19d** specifically. I may use trial manoeuvre to obtain

the action to get desired CPA. Here, the best option to avoid collision is to slacken my speed (**Rule 8e**) or take all way off by stopping or reversing means of propulsion and let these vessels clear. And also I will change my sound signal when PDV underway stop and not making way though the water shall sound two prolonged blast at an interval of not more than 2 minutes (Rule 35b). I will monitor the effectiveness of my action (**Rule 8d**) until the other vessel finally pass and clear with a safe distance. Come back to original track, speed and sound appropriate signals.

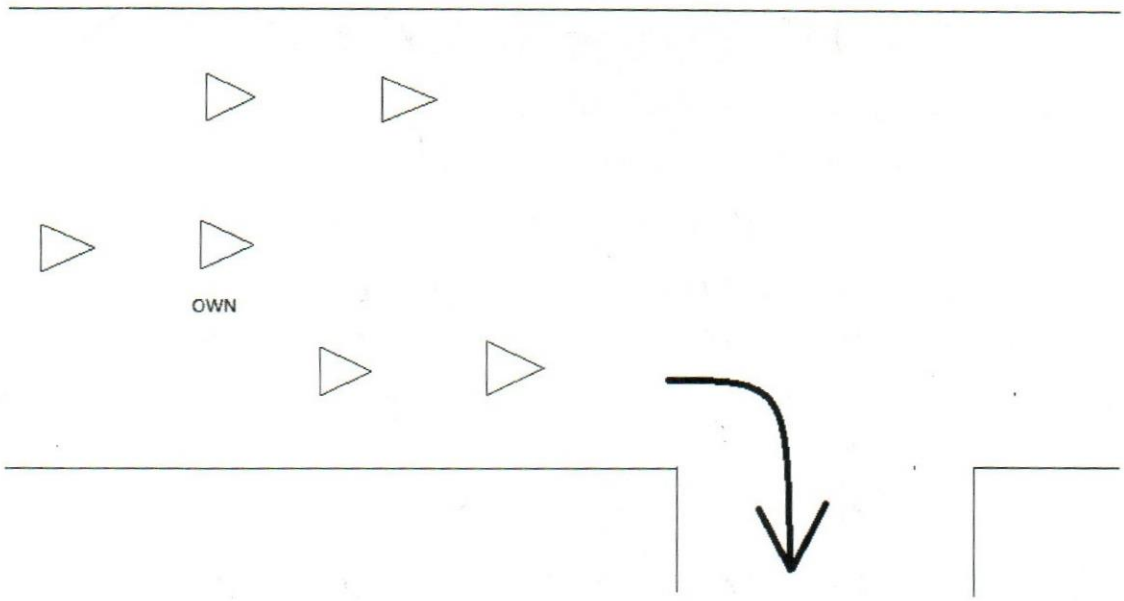
SITUATION 4



CLEAR VISIBILITY

- Since this is in clear visibility part B section I & II apply. First I will plot the targets on my radar and I will not wait for the **full processing time**. I will take serious of compass bearing to determine that the risk of collision exist or not, tell **Rule 7d**. After determining **CPA** and **TCPA** check whether the CPA violates the **Masters CPA** and if it's violate, take it to consideration. Try to **identify** the targets. **Prioritize** the targets according to the **CPA** and **TCPA**. For Power Driven Vessel which is ahead of mine is in a Head on Situation, Tell **Rule 14a,** but here can not alter to stbd since a Towing Vessel is on my stbd beam. For Sailing Vessel on my stbd bow, According **Rule 18a**, it's my responsibility to keep out of the way. I may use trial manoeuvre to obtain the action to get desired CPA. Here, since I don't have enough sea room, the best option is to slacken my speed (**Rule 8e**) or take all way off by stopping or reversing means of propulsion and let these vessels clear. I will monitor the effectiveness of my action (**Rule 8d**) until the other vessel finally pass and clear with a safe distance. Come back to original track and speed.

SITUATION 5



CLEAR VISIBILITY, TSS, YOU HAVE TO JOIN TO NEXT TRAFFIC LANE, HOW ARE YOU GOING TO ASSESS THE SITUATION? (THIS IS THE SAME DIAGRAM WHICH WAS DRAWN)

THIS IS IN CLEAR VISIBILITY AND VL IN TSS, FIRST ASK THE EXAMINER AND VERIFY THE DISTANCE TO THE OTHER VLS AND DISTANCE TO THE TRAFFIC LANE WHICH THE VL IS INTENDED TO JOIN AND CONFIRM THE SPEEDS OF THE VESSELS. WHERE THE EXAMINER TOLD THE VLS PROCEEDING IN SAME SPEED. SINCE THE VLS ARE FOLLOWING IN SAME SPEED RISK OF COLLISION DOES NOT EXIST. SAME TIME IF MASTERS CPA TCPA LIMITATIONS TO BE TAKEN IN TO ACCOUNT. PRIOR TO GETTING IN TO THIS SITUATION I WOULD AVOID COMING IN TO THIS SITUATION BY PROCEEDING CLOSER TO THE TRAFFIC SEPERATION LINE. THE ACTION WOULD BE IF THERE IS SUFFICIENT SEAROOM ALTER CO TO STBD AND MAINTAIN THE SPEED OF THE VL AHEAD AND PROCEED UNTIL THE VL REACH THE ALTERATION POINT AND JOIN THE STBD TRAFFIC LANE, WHILE TAKING THESE ACTIONS I WILL MONITOR THE EFFECTIVENESS OF MY ACTIONS UNTIL THE ALTERATION IS EXICUTED.

ND Class III orals

CERTIFICATE OF COMPETENCY- ORALS EXAMINATION

NAVIGATION WATCH KEEPING OFFICER 500 GT OR MORE

Getting Ready for orals

Take your CDC, GOC, Original certificates, cadet training book (ship particulars filled properly), Letter from ITUM on certification of record book, Letter of Eligibility, Completed projects, sea service letters.

Photocopy all new certificates (ex: radar courses, Aff, course completion..etc) and GOC and hand them over to the exam dept of ministry of shipping.

Attire shall be a WHITE long sleeves shirt, with tie, black trousers.

A wrist watch must be worn. Take a pen and rough sheets in case you have to explain.

He will take you in go through your file. He will question you about your voyages during the cadet period. Make sure you know what you're talking about. And the measures you took to properly slow and carry the particular cargoes you say.

Exam- ORAL EXAMINATION CLASS 3

Candidate- W.A.R. Sandakelum

Examiner- Capt Nick Senanayaka

Date- 21/ 02/ 2017

(At the beginning he was ask about previous vessels that I was being. NAME/ GT/ CARGO etc

01). Definitions

a) NUC

b) RAM

c) CBD

d) SAILING VSL

e) FISHING VSL

f) UNDERWAY

g) VESSEL

h) RESTRICT VISIBILITY (exactly as per rule and without even single letter)

2). What are the avoiding actions in restricted visibility per rule no.19, explain?

If our action to avoid collision consists of an alteration of course, so far as possible following shall be avoided.

- An alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken.
- An alteration of course towards a vessel beam or abaft the beam.

3).you are the duty officer on the bridge, in restricted visibility you have an echo detected on your radar STBD bow, 4 points 5 miles range, range reducing and bearing steady, what is your action?

First I go to the radar and acquire this target on my ARPA, I will not wait for the full processing time(usually 3mins) since the range is reducing and bearing is steady, there is risk of collision exists. This situation is in restricted visibility therefore rule no.19 applies. As per the rules if our action to avoid collision consists of an alteration of course, we should avoid, an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken. So I have 2 options at this situation.

- An alteration of course to STBD
- An alteration of speed

If there is sufficient sea room, alteration of course alone is the most effective action to avoid collision. Therefore I will make a board alteration of 60 degrees to STBD, and cross the stern of the other vessel at a safe distance on my PORT side. While taking this action I will monitor for the effectiveness of it. Once the other vessel is finally past and clear I will come back to my original course and resume my voyage.

4). How did you decide to alter by 60 degrees?

Target is at 4 points on my STBD bow; 1 point is equals to 11.25 degrees so 11.25 in to 4 is about 60 degrees.

He asked why you call the master you should mention situation is in restricted visibility and night time as well. Then he asked how you call the master? I will acknowledge the master about the situation. State of visibility, target not detect on radar, and fog signal etc., so I'm in doubt I need your advice.

5). You are the OOW on watch in zero visibility an echo detected on your Radar PORT bow, 4 points 5 miles, range reducing and bearing steady, what is your action?

First I go to the Radar and acquire this target on my ARPA; I will not wait for the full processing time. Since the range is reducing and bearing is steady, there is a risk of collision exists. This situation is in restricted visibility therefore rule no.19 applies. As per the rules if our action to avoid collision consists of alteration course, we should avoid, an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken. So I have 2 options in this situation.

- An alteration of course to STBD
- An alteration of speed

If there is sufficient sea room, alteration of course is the most effective action to avoid collision. Therefore I will engage hand steering and take a full round turn to STBD and cross the stem of the other vessel at a safe distance on my STBD side, while this execution I will monitor my action for the effectiveness till the other vessel is finally past and clear. Once it is clear I will return to my original course and resume.

6).how do you know it is past and clear?

When the other vessel is on abaft my beam (he wants us to show it by using our relevant hand. In this situation show the area abaft of the STBD beam, at least 3 point abaft of my beam)

7). You are the duty officer on the watch in restricted visibility an echo detected on your radar, port bow 4 points, range reducing and bearing steady. Another echo detected on your STBD beam, what is your action?

First I will go to the radar acquire both targets on my ARPA. Since 1 target has reducing range with a steady bearing I will not wait for the full processing time. There is a risk of collision with that target. Since there are 2 targets, I have to prioritize the targets and I will give first priority to the target which is on my port side because there is a steady bearing and range reducing, as rule 19

> If our action to avoid collision consists of an alteration of course, so far as possible following shall be avoided.
>
> - An alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken
> - An alteration of course towards a vessel beam or abaft the beam.

There I will not be able to do any alteration of course either PORT or STBD as per the rules. The only available action is an alteration of speed. I will reduce my speed to a minimum where I can keep my vessel on steady course. I will wait until the target which is on my port side cross my bow and clear me at a safe distance. By the time STBD side target will be automatically cleared. Once I found that both targets are well cleared I will increase my speed back to the initial speed and resume the voyage.

8).what is the safe distance?

Safe distance is the master's minimum CPA, if master has not mentioned any about CPA

- CLEAR VISIBILITY -3 miles
- RESTRICTED VISIBILITY – 4miles

9). What is the minimum speed?

Dead slow ahead speed

10). In zero visibility at night time you are the OOW and you are hearing a fog signal of another vessel from 2 points on STBD bow. Nothing detected on the radar. What do you do?

When I heard fog signal apparently forward of my beam, I will reduce my speed to minimum where I can keep my vessel on a steady course. I will inform master, open bridge wing doors (because the target is not detected on the radar), post extra look outs, call helmsman and put the wheel on hand steering mode, retune the radar and continue to listen the sound signal whether it is increasing or decreasing and navigate with extreme caution until the danger is over.

11).still increasing?

I will take my way off and make no way through the water. I will change my sound signal to 2 prolong blasts at an interval of not more than 2 minutes. Duration between 2 blasts is about 2 seconds. I will post a lookout at forward with a walkie-talkie if weather permits to do so and continue to listen to sound signal whether it is increasing or decreasing (if it is day time stop al noisy deck works)

12).how do you take all way off?

I will give full astern and stop the vessel moving ahead relative to the water and then stop the engines.

13). Still increasing

I will operate astern propulsion and changes my sound signal to 1 prolong blast at an interval of not more than 2 min. by this time master will be on the bridge and once the sound signal fade off I will come to my initial speed and resume my voyage.

14).how you give a full astern?

I will bring the telegraph to the stop position then to the full astern position, you also should know about the all the positions of telegraph in order as well as including stand by and stop the engine positions.

15).in clear visibility a vessel detected on 4 points on our STBD bow, 6 miles range, range reducing, bearing steady, what is your action?

First I will go to the radar and acquired this target on my ARPA; I will not wait for the full processing time. Since the range is reducing and bearing is steady, there is a risk of collision exists. Since this is in clear visibility I will consider this as a crossing situation. I will be the give way vessel and the vessel which is on my STBD side will be the stand on vessel. I will sound my maneuvering signal 1 shot blat/ 1 flash; take a broad alteration of 60 degrees to STBD and cross the effectiveness when she is finally past and clear I will come back to my original course and resume.

16). Which 1 do you give first blast or flash?

Whenever you give a sound signal automatically light signal will be there too, because these 2 are interconnected. But when you give a light signal it is not connected so, it gives only the light signal.

17).in clear visibility you see a target on 4 points of your PORT bow 9 miles range, range reducing and bearing steady, what is your action?

First I will go to the radar and acquire this target on my ARPA; I will not wait for full processing time. Since the range is reducing and bearing is steady, there is a risk of collision exists. Since this is in clear visibility it is crossing situation. I will be the stand on vessel and the other vessel on my port side is the give way vessel. I will use binocular and try to make sure it is a power driven vessel. If it is a PDV I will monitor visualy, audibly as well as from the radar whether she is taking any action or altering her course. If any sufficient action is not apparent at 6 miles range, I will sound 5 short rapid blasts on the ship's whistle to show that I'm in doubt. At 5 miles range if she still doesn't take any action to avoid collision, then I will take an action by my manoeuvre alone to avoid collision. Before taking any action I will consider about the speed of the other target.

If the speed of the other vessel is same or less than my speed- I will sound 1 short blast 1 flash and make a full round turn to STBD and cross the stern of other vessel at a safe distance on my STBD side.

If the speed of the other vessel is higher than my speed-I will sound 1 short blast /1 flash make a broad alteration about 60 degree to STBD and go in a parallel course with the other target. Then pass the other vessel at safe distance on my port side.

While taking the action I will monitor the effectiveness of the action and once the other vessel is finally past and clear I will come back to my original course and resume my voyage.

18). Clear visibility night time you see 2 white lights nearly in vertical line, 5 degrees from the STBD bow, what could be that vessel? Situation? And your action?

- A PDV of length 50m or more, side lights out of range
- A PDV less than 50m in length showing a second mast head light, side light out of range
- A vessel engaged in towing, towing vessel less than 50m, low less than 200m side lights out of range

Since these lights are insight of 1 another and possibilities are PDV and both vessels' are in nearly reciprocal course I will consider this situation as a head on situation.

Both vessels are in nearly reciprocal course therefore the situation is a head on situation. As per the rules both vessels has to take an action to avoid collision. Therefore I will sound 1 short blat/ 1 flash, and make a broad alteration of 30 degrees to STBD, and pass the other vessel at a safe distance on my port side when she is finally past and clear I will come back to my original course and resume my voyage.

19).when do you take this action at what range?

I will take the action about 6 miles range because the minimum range of the masthead light in vessel 50m or more in length is 6 miles.

20). What are the range of other lights?

In vessels 50m or more

- Mast head light – 6 miles
- Side lights- 3 miles
- Stern light- 3 miles
- Towing light-3 miles

21). Lights and shapes, sound signals of the followings

Power driven vessel under way and making way

- Lights- 1 mast head light in the forward mast, another mast head light higher and abaft the forward 1 if the vessel is 50m or more in length, or even if it is less she is not obliged to, but she may do so. Additionally side lights and stern light
- Shapes- no particular shapes to be shown
- Sound- 1 prolonged blast at an interval of not more than 2 min.

Power driven vessel under way and not making way

- Lights- mast head light in the forward mast, another mast head light higher and abaft the forward 1 if the vessel is 50m or more in length, or even if it is less she is not obliged to, but she may do so. Additionally side lights and stern light
- Shapes- no particular shapes to be shown
- Sound- 2 prolonged blasts at an interval of not more than 2 min. the duration between the 2 blasts is about 2 seconds

NUC under way and making way

- Lights – 2 all round red lights in a vertical line where they can best be seen, additionally side lights and stern light.
- Shapes -2 black spheres in a vertical line where it can best be seen
- Sound – 3 successive blasts on the ship's whistle, namely 1 prolonged blast followed by 2 short blasts at an interval of not more than 2 min.

NUC under way and not making way

- Lights -2 all round red lights in a vertical line where they can best be seen.
- Shapes -2 black spheres in a vertical line where it can best be seen
- Sound – 3 successive blasts on the ship's whistle, namely 1 prolonged blast followed by 2 short blasts at an interval of not more than 2 min

Vessel engaged in towing, towing vessels 50m in length, length of tow 200m

- Lights – 3 mast head lights in a vertical line in the forward mast, 1 mast head light in the main mast higher and abaft the forward one, side lights, stern light, towing light vertically above the stern light. And in the vessel being towed side lights and stern light.
- Shapes – 1 black diamond in the towing vessel where it can be seen. And 1 black diamond in the vessel being towed where it can be seen.
- Sound – 3 successive blasts on the ship's whistle, namely 1 prolonged blast followed by 2 short blasts, immediately after that in the vessel being towed if manned 4 blasts in succession namely 1 prolong blast followed by 3 short blasts at an interval of not more than 2 min.

A PDV of length 100m aground

- Lights – 2 all round red lights in vertical line where it can be seen. 1 all round white light at the forward and another all round light at the aft lower than the forward 1.
- Shapes – 3 black spheres in a vertical line where it can be best be seen.
- Sound – the bell should be sounded in the forward and the gong in the aft. 3 separate and distinctive strokes on the bell, followed by the rapid ringing of the bell for 5 seconds, followed by another 3 separate and distinctive strokes on the bell in forward and then followed by the rapid sounding of the gong for 5 seconds in the aft at interval of not more than 1 min. additional 2 short blasts followed by a 1prolong blast (MORSE CODE U) to give a warning about her position to an approaching vessel.

A vessel constrained by her draft? Are those lights and shapes compulsory?

- Lights – 3 all round red lights in a vertical line where it can be seen. I addition to that PDV lights, 1 mast light at the forward mast another mast head light higher and abaft the forward 1, side lights and stern light.
- Shapes – a vertical black cylinder where it can best be seen
- Sounds – 3 successive blasts on the ship's whistle, namely 1 prolonged blast followed by 2 short blasts at an interval of not more than 2 min.

    - These lights are not compulsory. Rule says she may exhibits.

A sailing vessel 80m in length underway.

- Lights – 2 all round lights in a vertical line upper being red and lower being green where they can be seen.
- Shapes – 1 black cone apex facing downwards where it can be seen.
- Sound – 3 successive blasts on the ship's whistle, namely 1 prolonged blast followed by 2 short blasts at an interval of not more than 2 min

22). What is the duration of short blast and prolong blast

- Short blast means a blast of about 1 second's duration
- Prolong blast means a blast of from 4 to 6 seconds

23).whistle's minimum audibility ranges

- Vessels less than 20m – 0.5 miles
- Vessels 20m or more but less than 75m – 1 mile
- Vessels 75m or more but less than 200m – 1.5 miles
- Vessels 200m or more – 2 miles

24). Definitions of light signals

- What is a mast head light, are of visibility and range?
  (exactly as per rule no 21 without even missing a single letter)

- What is a stern light, are of visibility and ranges?
  (exactly as per rule no 21 without even missing a single letter)

- Definition of side lights

25) what you mean of ' over an arc of the horizon' ?

26) what is the requirement for the vertical separation of the mast head lights?

- When 2 mast head lights are carried the aft 1 shall be at least 4.5m vertically higher than the forward 1.
- In normal trim condition, the lights should be viewed separately from each other at a distance of 1000 m from the stem when seen from sea level
  (remember the requirement for the horizontal separation of mast head lights. Sometime he may ask you.)
- When 2 mast head light are carried; the horizontal distance between mast head lights shall not be less than half of the distance of the vessel, but shall be more than 100m
- Forward light shall be fitted not more than ¼ of length of the vessel from the stem.

27).IALA maritime buoyage system (shapes, colors, top marks, lights and rhythms)

- Region B port head?
- Preferred channel to STBD, region A?

28).when you see this buoy when you are entering to a port, what is your action?
I will select the channel which is on my STD side and keep this buoy on my port side

29). isolated danger mark and its usage, explain.
(when you give an answer to this you must tell definition first as in PC tute , then describe the buoy colour, shape , top mark , light colour ,light rhythm)
Isolated danger marks are erected on, or moored on or above , isolated dangers of limited extent which have navigable water all around them. For an example to indicate a shoal which is well offshore, or an islet separated from the coast by a narrow channel.

30). East cardinal buoy?
When you are telling the rhythm, remember to say for east cardinals 3 quick flashes in a group within a period of 10 seconds and 3 very quick flashes in a group with in a period of 10 seconds.

For west cardinals 9 quick flashes in a group within a period of 15 seconds and 9 very quick flashes in a group within a period of 10 seconds.

You may have to remember the rate of quick light flashes.

- Quick light flashes at a rate between 50 to 79 flashes per minutes, usually either 50 or 60
- Very quick light flashes at a rate between 80 to 159 flashes per minutes, usually either 100 or 120.

31). When you heading 180 degrees and you see this buoy right ahead, what is your action?
Alter your course to port side and keep the buoy on your STBD side at a safe distance of about 1 mile.

32).what are the indication for the isolation danger marks?
Danger is beneath that buoy and navigable water all around it

33).when you see preferred channel to port in region B, what is your action?
(as PC, mention about that you will select)

34). When you heading 180 degrees and you see this buoy what is your action?
(when he ask from you about cardinal mark, after that he will ask this question then you should give an answer according to the cardinal mark which he ask)

35). What are the rate quick light flash and very quick light flash?

36). Meteorology

- How do you obtain the reading of the precision aneroid barometer?

Open the bridge wing door to equalize the pressure, wait for a while and depress the button to activate the magic eye, then turn the knob until the magic eye shows a continuous line. And turn the knob in the opposite direction until it shows a broken line. Obtain the regarding just before it shows the broken line, apply the errors.

37). How do you maintain it?
It has to be inspected by a port met officer once a year, he should bring a properly calibrated equipment with a known error, compare the ship's instrument with it and note down the error on the equipment it self.

38). How do you obtain a reading of the aneroid barometer?
Open the bridge wing door to equalize the pressure, wait for a while and tap on the dial face of the instrument gently to release any striking of levels or pointer due to friction.
Then take the reading and apply the index error and height error.

39). What are the errors?
Index error
Height error

40). What is the height error?
Met reports are given to the sea surface level, so the readings of the barometer should be corrected to the sea level from the observer's eye level; there is a 1 mb correction for every 10m of height difference. Find out the distance between observer's eye level and the sea level, divide it by 10 and add it to the barometer reading.

41). Why the height error is always addictive?
Because the height increases atmospheric pressure drops.

42). What is the index error?
Due to the imperfect elasticity of the vacuum chamber there will be an index error. It will be noted on the equipment itself.

43). What is the requirement for steering gear testing? Where you can find it?
The steering gear should be tested within 12 hours prior to arrival and departure.
When both steering motors are employed, turn the rudder hard over 35 degrees to 1 side. Then when the rudder put to opposite side 30 degrees, the rudder should move in an the maximum draft – only if he ask.
In SOLAS you can find it – chapter 5 reg 26

44). How do you test the steering gear?
Send a crew member to the aft to check the rudder area is clear.
Call engine room and inform them that you want to test the steering gear, and ask one engineer to standby at the steering gear room.
Establish communication with the steering gear room.
Synchronize the rudder angle indicator with the wheel indicator (on the bridge and in the steering gear room)
Employ I steering gear motor, move the rudder 5 degrees to 1 side and check whether rudder is following up. Cross check the rudder angle indicator with the wheel indicator, if that's fine, call steering gear room and ask engineer about what is showing in the rudder angle indicator. If he says the same as in the bridge move the rudder 10 degrees, 15 degrees till hard overto that side as above sequence.
Do the same to the opposite side.
Change the steering pump and repeat the same.
If everything is fine switch on both steering motors, turn the rudder hard over 35 degrees to 1 side. Then when the rudder put to opposite side 30 degrees, the rudder should move in an interval of not more than 28 seconds.
Last you should mention that you will write down the details in movement book as well as in deck log book.

45). What is single gear and double gear?
It is 2 modes on the cargo winches.

- When single gear motor is employed the drum turns faster but the weight that the drum can bare is less.
- When double gear mode is employed the drum turns slowly but it can bare more weight.

46). What is short turn and how you do it?
Short turn is a manoeuver used in restricted water to turn the ship around with in a minimum possible space.

If your vessel has a single screw right hand propeller, you have to put the wheel hard over to STBD and bring the engine full ahead till your speed reaches 1.5 knots. When the speed reaches 1.5 knots, stop the engines an amidships the wheel. Then put the engines full astern and wait until seed comes to 1.5 knots astern and stop engine. Repeat this action until vessel comes to a reciprocal course with the initial course.

When you say ' I will repeat this action' , he will say I do not need repeat what will you do next? Then start again from then I will put the wheel hard over to the STBD .. continue.

47). What are the daily corrections to be applied to the Gyro Compass?
Latitude , speed

48). Plan a passage from Cap town to Jakarta limiting latitude of 45S

I will select 2 positions well away from the land but close to ports. Select the southern polar gnomonic chart and plot the positions on the chart. Then join those 2 positions as a straight line. After that select a common interval of longitude of 5 degrees and obtain the coordinates from chart itself. Take the merchant charts, plot the coordinates on the chart and draw the courses. Check whether the tract goes above 45 S latitude. If it goes above it, parallel sailing should be employed from that position up to the position where the track below the 45 S latitude. My passage will consist of 2 great circle tracks and 1 parallel sailing track. The great circle tracks will appear as a series of straight lines on Mercator chart.

49). Why do you select 2 points well away from land but close to port? Why do not use coordinates of parts.
Because the great circle track on a gnomonic chart will appear as a straight line. If there are any obstructions it not be made properly.

50). How do you plan the passage if you don't have Gnomonic charts?
I will select 2 positions well away from land but closer to ports. Then find out initial course, final course and great distance by using Haversine formula. Then I will find out the vertex. The purpose of finding out the vertex is to get the intermediate positions of common longitude of 5 degrees by using Napier's rule. After finding those intermediate positions, I will plot them on the Mercator chart and draw up my course.

You should know how to draw a rough sketch of a Gnomonic chart and a Mercator chart.

Hav(Dist) = hav (D' Long) coslat A. cos lat B + hav (D.Lat).

A = Tan lat / tan p B =Tan dec / sin p Tan AZ = 1 / c.cos lat

51). What are the 4 stages of passage planning? Explain each

52). Which publication will you prefer when passage planning? What is the most important one?
Sailing direction

53).what are the T & P correction?

54).what is the easiest method of correcting the index of the Sextant?
Horizon method. Set the index arm and the micrometer drum exactly to the zero. Hold the sextant vertically and observe the horizon through the prismatic monacle. If the true and reflected image appear in one line there will be no index error. But if the images not appear in 1 line, there will be an index error. Turn the micrometer drum until 2 images appear in one line and obtain the value. It can be on the arc or off the arc. If it is on the arc subtract this reading or if it is off the arc deduct this reading.

55). Why do you take a vertical sextant angle? And how you do it?
To find the distance off from a height known object to sail around the arc.
Set the index arm and the micrometer drum exactly to the zero. Hold the sextant vertically and observe the base of the terrestrial object/light house through the telescope. Then move the index arm outward along the arc until the reflected image on top of the light house appears in the horizon glass. Then take the reading and apply the index error of the sextant.

Distance off (nautical miles) = height of the object (meters) X 1.854/ vertical sextant angle

56). Prepare the STBD anchor for letting go

- I will gather my anchor party and check their PPE and make sure they are in good condition.
- Inform the engine room to give power for the windlass.
- Obtain a working VHF set with and extra battery and provide another VHF set to another crew member.
- Proceed to the station with a working torch light.
- Once you are in the station check for enough illumination. If don't have enough ask from the bridge for working station lights.
- Remove the hawse pipe covers and spurling pipe covers.

- Switch on windlass motors.
- Test the windlass by turning it clockwise and anti clockwise, if found satisfactory engaged the anchor cable.
- Release the brakes and take the weight to the windlass from lashings then engage the break.
- Remove anchor lashing such as devil's claw and bow stopper has to be secure in the open position.
- Check over side for any obstructions, small crafts, if not any remove the brakes and lower the anchor 1m above water level. This position is called as anchor a cockbill.
- Fasten the brakes and disengage the windlass and report to bridge STBD ANCHOR READY FOR LETTING GO, ANCHOR ON BREAKS AND GEAR OF.

57). How do you take over watch at night?

- Go to bridge 15 minutes early.
- Check the chart and plot the position, check the planned track for the next 6 hours additional 2 hours for safety reasons. Check whether there is any reporting points, dangers, alterations, master calling points, warnings.
- Check the meteorological warnings, navigational warnings.
- Read, understand and sign master's night orders.
- Go to the ARPA check the targets, and try to get a clear appraisal of situation by comparing the visual image and radar image. As well as can compare the chart image and radar image to get a clear understanding of your position.
- Go to the bridge wing and check the funnel for any sparks, black smoke, navigational lights and also check any targets on your blind sector. By comparing the target on the radar you can assume the range of visibility.
- Check all navigational equipment and specially GMDSS equipment. (VHF should be on relevant channels and check the volume)
- Ask the relieving officer for the details of the watch,traffic density and special tasks carried out during watch, any malfunctions of equipment and any advices from other senior officers.
- Check your look out is present and he is sober, fit for duty.
- Compare gyro course and charted course.
- Check the difference between gyro and standard compass.
- If everything found satisfactory, take over watch and note down the position.

58). What are the danger?

Shallow patches, military exersice area, high traffic density area, TSS enter and exit areas, coastal areas etc...

59). Why do check planned track for 6 hours period?

if master order to increase the speed.

60). The gyro is 2 degrees high, the true course is 145 degrees what is your gyro course?

147 degrees

61). Leeway is 5 degrees, wind is coming from STBD what is the gyro course that you steer?

152 ' (when counteract the wind)

62). Life boat painter requirement as per SOLAS ? where are they stowed?

2 efficient painters. 1 with a quick release system (toggle painter) the length of the painters should be equal to the twice the distance from the life boat stowed position to the water line when she is at lightest sea going condition or 15m which ever is greater.

Toggle painter is stowed near the bow and tow painter should be secured to a strong position at the bow.

63). What are the 2 painters and purposes?

- Toggle painter – to get the head movement when sheer off from the ship.
- Towing painter- for towing purpose.

64). How to shoot LTA and expiry dates and length of the line?

- Remove the cover of LTA, secure the rest end to a strong point, hold the LTA about 45 degrees to the horizontal. If there is wind, make an angle about 20 degrees to the downward wind and shoot.
- Lines – 9 year/line -3 years if it is coming as 1 equipment – 3 years
- Length minimum 230m

65). What is squat and formula?

When ship moves forward relative to the water, due to the propeller action there will be a low pressure area created at the stern. This is prominent inn all waters but when this occurs in shallow water, there will be no sufficient water to fill this low pressure area. So there will be a bodily sinkage of the ship and increase aft the aft draft of the ship by reducing the UKC. This is called as squat. This will effect on both FWD and aft draft. (check the equations)

66).what actions can be taken to reduce squat?

Reduction of speed is the most effective action.

67). What is shallow water?

When the depth to draft ratio reduce up to 1 to 1.5 it can be called as shallow water.

68).how to test auto – pilot at port?

- Send a man to the aft to check the rudder area is clear.
- Call engine room and inform them that you are going to test the auto pilot.
- Switch on steering gear motor. Synchronize gyro repeaters. Check rudder angle indicator and wheel indicator at mid ship position.
- Adjust the auto pilot course to present heading.
- Turn the auto pilot knob to 1 side about 5 degrees and observe following of the rudder.
- Repeat the same procedure to the opposite side.
- At the same time observe the off course alarm.

69).how to obtain the error of azimuth circle ? what are the courses? How to correct it?

- Select a low altitude celestial object and take the bearing with both arrow up mode and arrow down mode. If those are same no error is present. If there is any difference, there will be error.
- Axle of the prism is loose or bent, or the axis of the prism is not parallel to the plane of the instrument.
- To correct the error, check mounting screws for tightness and observe if error can be eliminated. Rotate the prism and ensure bearings are not bent.

70). What is the turbo charger and its function?

Turbo charger is a turbine like equipment working with exhaust gas from the main engine. It sucks fresh air from out side and introduce to cylinders for better combustion.

If it fails, black smoke will be visible from the funnel, vibration, drop down the speed can be observed.

71). What is Turning gear and its function?

- Turning gear is a reversible electrical motor which can be engaged with a toothed flywheel to turn the engine.
- It is used to turn the engine 1 or 2 revolutions prior to starting with air to make sure the engine is free to turn and has no water collected in the cylinders.

72). What is the Srilankan drill requirement?

- For cargo vessels once in a period of not more than 14 days
- For passenger ships once in period of not more than 7 days

73). Explain the general emergency alarm and fire alarm

General emergency alarm is 7 or more blasts followed by 1 prolong blast.

Fire alarm is continuous ringing of the bell.

74). How do you use a hydrometer? What is the purpose?

I will wash the hydrometer with fresh water thoroughly, then I will wipe it clean with a clean cloth. Then I will carefully immerse the hydrometer in the liquid as just before letting it float freely I will give a small twist as I let it go. Once the spinning stops I will take the reading at eye level.

Purpose- to measure the specific gravity (relative density) of liquids.

75). How do you use a sea water bucket?

I will make sure that the sea water bucket is clean and ready to use. If not clean by using freshwater and dry it. Make sure the vessel is going at a speed appropriate for me to lower the bucket in the water. Make sure that I take sea water sample far away from any water outlets of the ship, ex: engine room cooling room etc. (best place for the reading is midship) also take the sample from about 1.5m to 2 m below the sea surface, as surface currents may affect the sample.

76).if the temperature of the dry thermometer and wet thermometer are nearly same what does that mean? Why can that be?

if temperatures are same it means that the relative humidity is 100% or near 100%. You must refer the table to get the correct R.H

it can be that the atmosphere is actually that humid, but for 100% R.H it means that the thermometer must be underwater.

So it may be an error caused because the muslin of the water thermometer is unclean, maybe dust particles or oil, carbon from funnel ashes is making an error.

Also it may be, because the muslin is not properly wet.

Reading of the hygrometer should be taken from the windward side, accurate readings are given in winds exceeding 7kts.

77). What is BNWAS and its function?

- Stand for bridge navigation watch alarm system
- Purpose of the BNWAS is to monitor bridge activity and detect operator disability.
- The master decides the specified time out period, which is 3 to 12 minutes.
- Once that period is over an automatically generate visual alarm for 15 seconds.
- If not acknowledge an audible alarm will be automatically sounded for another 15 sec.
- If failed to reset system during that 30 sec automatically, officer call alarm will be activate (usually master cabin)
- Duration of officer call alarm about 90 sec to 180 sec
- If not acknowledge it that time period finally crew call alarm will be generate.

78). What is VDR

- ✓ Stand for voyage data recorder
- ✓ It is a data recording system designed to collect data from various sensors on board.
- ✓ Then the data digitize, compresses & stores in a protective storage unit. It is fitted on bridge.
- ✓ And it's combined with a float free unit fitted on the monkey island.
- ✓ VDR should be capable of recording data for a mini period of 12 hours.
- ✓ Purpose
    - Accident investigation
    - Used for weather damage analysis
    - Used for performance & efficiency monitoring
    - Used to improve safety & reduce accidents & incidents.
- ✓ Came with the SOLAS chapter 5 safety of navigation.
- ✓ Compulsory to have on passenger ships & cargo ships more than 3000GT.
  Working under inmarsat – c system.

79). What is LRIT ? who can receive information.

- ✓ Stands for long range identification & tracking
- ✓ It is a system designed to collect & circulate VSL's POS information to SOLAS contracting Government.
- ✓ For security purposes.
  Also help for search & rescue purposes.
- ✓ LRIT data transmit at every 6 hrs. also capable to increased frequency up to about 15min.
- ✓ Party
    - As a flag state an administration can get data.
    - SOLAS contracting Government.
    - V/L bound for a part of particular contracting Government.
    - SAR parties operating with in the area.
    - Within a distance no exceed 1000m near the coast area country

80). You will see a white light port bow, 5 points, 4 miles ranges, range reducing, bearing steady what could it be?

- Stern light of a PDV
- Mast head light of a PDV, less than 50m in length, side light out range.
- All round white light of an anchored VSL less than 50m in length.
- All round white light of a PDV less than 12m in length, side light out of range.
- All round white light of a PDV less than 7 min length & less than 7 knts
- Stern light of a sailing VSL, not exhibiting optional lights.
- Sailing VSL less than 7m in length, showing a electric torch light or a lantern.
- VSL under oars showing an electric torch or a lantern.
- Shore light
- Low altitude celestial object
- Malfunction buoy

81). How do you identify the target?

I will acquire the target on my ARPA, wait full processing time & from the true vector, I can identify whether it is moving away my VSL or coming towards my VSL, from that I can identify whether it is a mast head light or a stern light.

Also from the visibility ranges of the mast head light & the stern light of VSL's less than 50m in length,

Mast head light – 5 miles

Stern light – 2 miles

82).why hearing is steady and the range is reducing?

Because there is a risk of collision exists & the target is on a converging course & I have a more speed than the target.

83). Ok it is a stern light, what is your action?

I will sound my maneouring signal 2 short blasts & 2 flashes & alter my course to port & cross the STERN of the other VSL & overtake her at a safe distance on my STBD side. Once she is finally past and clear I will come back to my original course and resume my voyage.

84). Your VSL being overtaken. What is your action?

I will proceed with my course & speed. It is the responsibility of the overtaking VSL to keep clean of me.

85). How do you know that it is overtaking VSL?

If the target is coming up with an angle more than 22.5 degrees abaft my beam on either side of my VSL, she shall be an overtaking VSL.

86). Why do you check the difference of the gyro & standard compass?

In case of gyro failure we can switch on the standard compass steer by applying the value of different between them.

87). How do you take compass error?

- By the celestial observations
  Taking a compass bearing of a celestial body & then calculate the true azimuth by using ABC table & difference between true bearing & the compass bearing is the compass error.
- By using transit bearings of the leading lights.

88).what is deviation?

It is the angle between the magnetic north & the compass north

Deviation occurs due to ship's magnetism &with the ship's heading, change the deviation.

89). Is the deviation constant?

No

When the ship heading changes deviation also changes.

To obtain the deviation for various heading, we can use deviation card.

90). Where you get variations?

- From variation charts
- By the compass rose of the relevant area
- GPS

91).what is the frequency of taking compass error?

Once every watching & as soon as possible after as major alteration of course, because due to our heading change, deviation value will be change.

OKAY !! YOU CAN GO NOW !!

DO THE BEST & GOOD LUCK!!!! (PALU intake 23).....

Candidate-R.S Dodantenne

Examiner-Capt Asiri Herath

Status-Pass

Time-1045h-1345h

1) Your joining as 3/off for the first time how do you take over?

1. Meet the master hand over all relevant documents to him.

2. Meet the 3/off at the bridge read, understand and sign masters and chief/eng standing orders.

3. Familiarize with the bridge equipment.

4. Get the handing over notes from the 3/off read, understand and sign if there are any doubts clear it with outgoing 3/off there itself.

5. Get all passwords required from the outgoing 3/off for example PMS password.

6. Inquire whether the 3/off is required to carry out any document and publication updating if so get all related information.

7. Inquire whether any requisitions have been made or whether it is required to made for LSA & FFA *equipment if so details about them.*

8. Head to the safety locker and EHQ check the inventory, check whether any requisitions are there to be made.

9. Check and identify all locations of fire boxes and fire hydrants.

10. Familiarize with the life boat check the boat inventories.

11. Once satisfied with everything take over from the outgoing 3/off.

2) How to take over a navigation watch?

1. Proceed to the bridge at least 15min prior.

2. Head onto the chart room read, understand and sign masters night orders check whether there are any other important information from master or E/R.

3. Go to the chart plot a position and confirm plan track for atleast 6hrs, check the courses, variations.

4. Proceed to the wheelhouse and let your eyes acclimatize to the low light conditions prior taking over the watch.

5. Check whether the taking over lookout is fit to carry out a navigation watch.

6. Compare the compasses get the errors.

7. Observe the radar and try to identify the targets in the vicinity to get a good situational awareness.

8. Get the prevailing and predicted tides, currents, weather, visibility and navigational warnings.

9. Check whether all Navigation and Safety equipment are working properly and check whether the vessel is monitoring all required GMDSS channels.

10. Identify the effects of Heel, Trim, Water Density and Squat on under-keel clearance.

11. Status of the water tight doors.

12. Status of Fire Zones

13. Check whether any special work is in progress.

14. Talk to the reliving officer and confirm whether any verbal information is given by the Master or C/E, inquire any important incidents taken place during he's watch.

15. If satisfied with all information take over the watch. Log down position as well.

3) How to carry out mooring operation onboard?

1. Plan before arrival.

2. Toolbox meeting and a training to be held with the relevant station crew members.

3. Snap back zones to be mentioned and explained.

4. All the safety measures to be explained.

5. Mooring lines to be checked several days' prior arrival and to be replaced if needed or repaired.

6. Risk Assessment to be done.

7. All the PPE should be check on station members.

8. Communications to be tested with the bridge.

9. Mooring plans to be confirmed from the pilot before berthing.

10. Ask the winch power from the E/R

11. If the winches are hydraulic let the pump run for around 10mins to warm up the oil.

12. Check the oil lines for any leakages.

13. Test mooring winches.

14. All the mooring lines to check for damages before using.

15. Pre-arrangements of the mooring lines to be done as required (flake)

16. Both anchors to be ready for letting go.

17. Heaving line to be prepared.

18. Crew should never stand on a bight.

19. Crew should never stand on a snap back zone.

20. Never stand near line under tension.

21. Maximum SWL never to be exceeded.

22. Always cautious when using automatic tensioners.

4) What are the mandatory reporting on board?

1. Ships should report floating ice, derelicts which cause navigational hazards,

2. Sub-zero temperatures with Gale warnings

3. If the wind force is more than force 10 in beaufort scale and there been no meteorological warnings

- Master should use all available means at he's disposal to inform all vessel in vicinity and all other relevant authorities.

5) When to call Master.

1. If restricted visibility is encountered or expected.

2. If the traffic conditions or the movements of other ships are causing concern.

3. If difficult to maintain course.

4. On failure to sight land or a navigation mark or to obtain soundings by expected time.

5. If unexpectedly land or a navigation mark is sighted or a change in sounding occurs.

6. On breakdown of the engines, propulsion machinery remote control, steering gear or any essential navigational equipment alarm or indicator.

7. If radio equipment malfunctions.

8. In heavy weather possibilities of damages.

9. If ship meets any hazards to navigation.

10. In any other emergency or if in any doubt.

6) What is ECDIS, Errors, How to update, Who approves it?

ECDIS stands for Electronic Chart Display Information System. It should have an adequate backup system and should be capable of displaying navigational charts as per SOLAS chapter V Reg 19/27. For it to be an ECDIS it should pass the type approval and test procedures developed by IEC (International Electro

Technical Commission) base on the ECDIS performance standards of IMO resolution 232(82). And also applying the requirements of IHO (International Hydrographical Office) standards S52 (Presentation Library) S57 (Data Transferring Standards) in particular.

ECDIS should be capable of

1. Automatic Position updating.
2. Built in redundancy.
3. ECDIS should be capable of aiding Mariner with all aspects of Navigation.

Sir basically ECDIS is the legal equivalent of a paper chart.

How to update ECDIS?

The vessel receives 2 base DVDS accompanied with 1 AIO (Admiralty Information Overlay). Updating can be done by running the base DVDS and updating the information. AIO contains all T&P Notices, but just running the AIO won't update all relevant T&Ps, this is due to some countries still not producing electronic T&P notices such as India. So this information should be manually inputted to the ECDIS.

ECDIS Errors.

Safety Contour Error – Safety contour is the margin between safe water and shallow water when a safety contour is put above a wreck the ECDIS takes out the wreck from the chart display this poses a danger to navigation.This is an error in ECDIS.

7)Your in a full ECDIS ship how do you plan a passage.

Sir whether you are in a full ECDIS ship or a paper chart ship the principal remains the same

Appraisal-Collecting and assessing all relevant information required for the intended voyage.

1. Sailing directions info
2. Anchoring and contingency
3. Bunker calculations
4. Availability of charts and reliability of hydrographical data.
5. Availability and reliability of navigational aids
6. Traffic density
7. Communications.(GMDSS)
8. Pilotage requirements
9. Draught requirements
10. Rout selection and waypoints
11. Routing and reporting measures
12. Weather routing
13. Birth requirements
14. Bridge manning
15. Cargo considerations
16. Mooring and tug operations
17. Port entry

18. Strength and stability
19. Ballast water management
20. ECA areas
21. MARPOL
22. Local regulations

Under availability of charts on ECDIS we have to confirm whether we have all the required charts onboard.For this log into Admiralty Digital Chart Catalogue select AVCS (Admiralty Vector Chart Services) from there select ENC and tick overview charts,general charts,coastal charts,birthing charts,approaching charts.By using geographical interface method draw a rough rout joining the two ports then all charts will be selected add them to cart in here compare the charts with the onboard chart inventory and select only the unavailable charts show them to master and make the requisition.

Proceed to chart management and get an ENC status report this will show all onboard charts expiry dates of there license as per that also make requisitions for license.The updating to be done as per the answer in question number 6.

Planning –Developing and approving passage plan by master based on the outcome of the appraisal of all relevant information.A detailed passage plan should be prepared this should cover the entire passage from birth to birth A.893(21).On ECDIS the following information should be shown.

1. ETA to WP arrival
2. Cross track distance
3. Identification of navigational hazards
4. Leg distance
5. Planned track with true course
6. Safety depths and contours
7. Clearing bearing rangers
8. Conspicuous chart features for position fixing
9. No go areas
10. Safe waters
11. Routing and reporting requirments
12. Safe water
13. Tidal heights
14. Wheel over positions

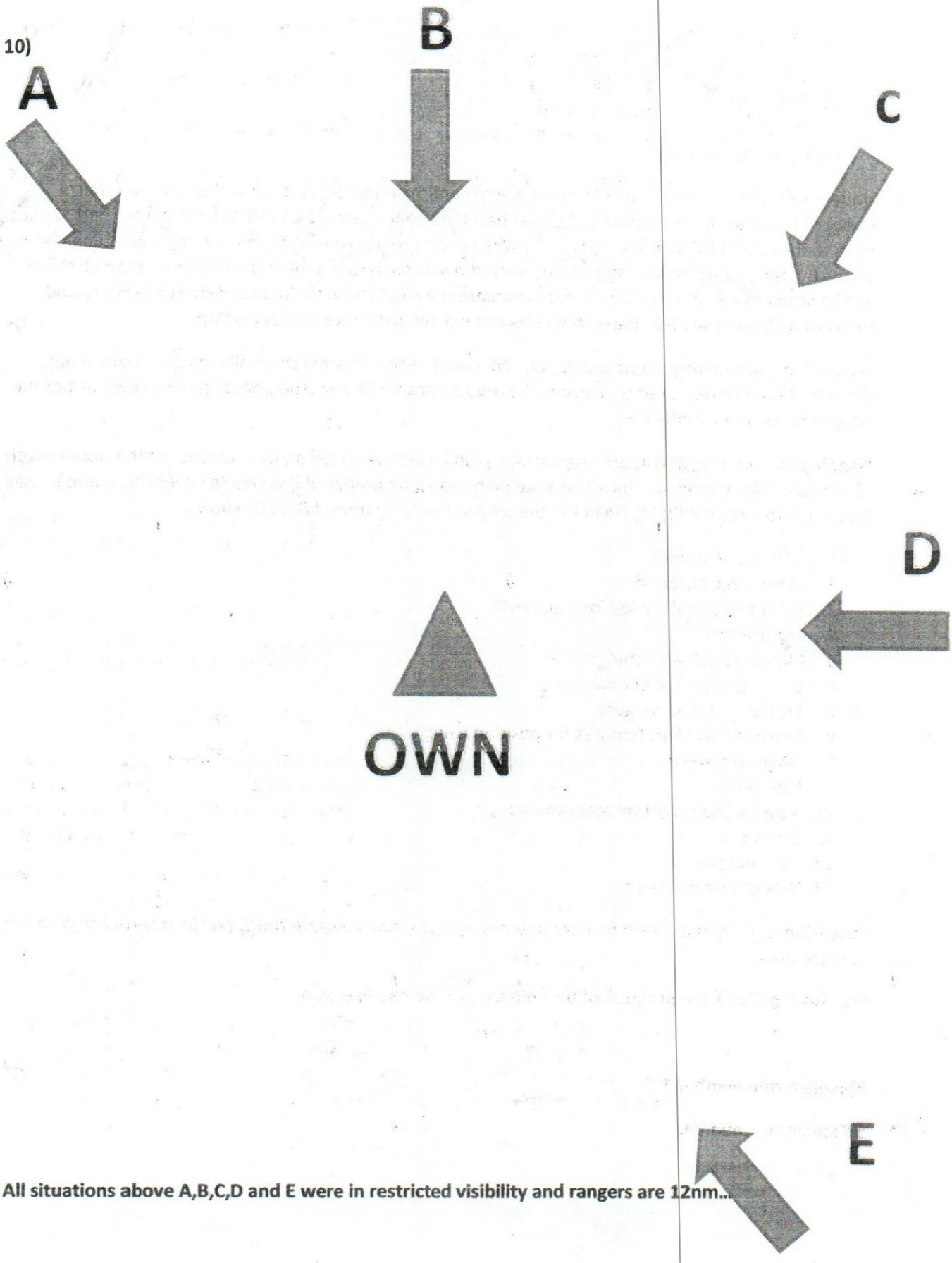
Execution-Briefing the bridge team on the passage plan and navigate the vessel in accordance with the passage plan

Monitoring-Check the progress of the ship against the passage plan.

8)Explain rule number 19

9)Explain rule number

10)



All situations above A,B,C,D and E were in restricted visibility and rangers are 12nm...

1. **For A**-Since this is in restricted visibility ill call master and sound my restricted visibility sound signal one prolong blast.In this situation rule number 19 applies and I should avoid
    1. Alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken should be avoided.
    2. Alteration of course towards a vessel abeam or abaft the beam shall be avoided

    Sir I will acquire the target on my radar and wait for the full processing time. So in this situation sir I have only two options either a reduction of speed or an alteration of course to starboard.I will make an alteration of course to starboard where I will pass the other vessel port to port and the effectiveness of my action will be closely monitored until the other vessel is past and clear and will come back to my original course.

2. **For B**- Since this is in restricted visibility ill call master and sound my restricted visibility sound signal one prolong blast.In this situation rule number 19 applies and I should avoid
    1. Alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken should be avoided.
    2. Alteration of course towards a vessel abeam or abaft the beam shall be avoided

    Sir I will acquire the target on my radar and wait for the full processing time .So in this situation sir I have only two options either a reduction of speed or an alteration of course to starboard.I will make an alteration of course to starboard where I will pass the other vessel port to port and the effectiveness of my action will be closely monitored until the other vessel is past and clear and will come back to my original course.

3. **For C**- Since this is in restricted visibility ill call master and sound my restricted visibility sound signal one prolong blast.In this situation rule number 19 applies and I should avoid
    3. Alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken should be avoided.
    4. Alteration of course towards a vessel abeam or abaft the beam shall be avoided

    Sir I will acquire the target on my radar and wait for the full processing time .So in this situation sir I have only two options either a reduction of speed or an alteration of course to starboard.I will make an alteration of course to starboard where I will pass the other vessel port to port and the effectiveness of my action will be closely monitored until the other vessel is past and clear.

4. **For D**- Since this is in restricted visibility ill call master and sound my restricted visibility sound signal one prolong blast.In this situation rule number 19 applies and I should avoid
    1. Alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken should be avoided.
    2. Alteration of course towards a vessel abeam or abaft the beam shall be avoided

    Sir I will acquire the target on my radar and wait for the full processing time .So in this situation sir I have only one option which is to reduce my speed to a minimum where I can maintain my course and let the other vessel pass ahead of me.The effectiveness of my action shall be closely monitored until the other vessel is finally past and clear and will come back to my original course.

5. **For E-** Since this is in restricted visibility ill call master and sound my restricted visibility sound signal one prolong blast.In this situation rule number 19 applies and I should avoid
    1. Alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken should be avoided.
    2. Alteration of course towards a vessel abeam or abaft the beam shall be avoided

    Sir I will acquire the target on my radar and wait for the full processing time .So in this situation sir I will alter my course to port and will come in parallel with the other vessel and let her overtake me and will closely monitor until the other vessel is well past and clear and will come back to my original course.

11)Explain lateral marks..?

12)What is bridge resource management..??

Bridge resource management is where you use all resources available on the bridge such as man power and equipment for the safe navigation of your vessel .

13)What are the benefits of bridge resource management.?

Nothing in this world is 100% correct any decision taken by you or me wont be 100% correct but by using all resources onboard actions taken onboard can be atleast 99.9% correct.

14)How to do LSA and FFA maintenance as per PMS?

15)How to postpone a job order on PMS?

16)You have received a new LSA equipment onboard how do you add it to the SOLAS training manual?

Get the manufacturers instructions and add it to the SOLAS training manual.At the same time familiarize with the equipment so that you are able to explain it to the crew.

17)How do you load a heavy cargo onboard?

Refer OPS notes on CARGO.

18)IMO stability criteria for cargo ships.

Refer Shane sirs stability touts

19)What are monsoons?

Refer Metrological touts

20)You see a person unconscious what do you do?

Gg

21)What is rolling synchronization?

22)Explain about the onboard FW generator

23)What are the new IMO amendments for year 2017?

Please refer the attached note (this is for the beginning of the year 2017 it can defer as the days pass by)

24)What are the new amendments for the new IMDG code 38/16?

Please refer the attached note (this is for the beginning of the year 2017 it can defer as the days pass by)

→ SOLAS carriage requirments for ECDIS 1 July 2016.

→ SOLAS → Record of equipment.

2017

→ SOLAS Amendments — Secondary means of venting each tank. 1 Jan 2017 Regulations II-2/4.5 and II-2/11.6

→ Amendments to SOLAS — Ventilation system in vehicle special category and ro-ro spaces. 1 Jan 2017 Regulation II-2/20

→ New Mandatory International Code for ships operating in Polar waters (Polar Code). 1 Jan 2017 Under SOLAS & MARPOL

Planning and Training: Structure, Machinary, Navigation, LSA

→ International Code of safety for ships using gases or other low flashpoint fuels (IGF code). 1 Jan 2017

~~Arrange~~ control and monitoring of machinary, equipment and systems using low flashpoints fuels.

→ Amendments to the International Maritime Solid Bulk cargoes (IMSBC) code.
1 Jan 2017. New amendments for iron ore fines and methods of determining there TML

STCW

1st Jan 2017

→ Amendments to STCW convention related to the International code of safety for ships using gases or other low-flashpoint fuels (IGF code)
1978 STCW Part A and Part B

MARPOL

→ Amendments to MARPOL Annex I regulation 12.
*It addresses clarification on other means of disposal such as via approved methods (incinerator, auxilory boiler), common piping arrangements. 1 Jan 2017

MLC

→ 2014 amendments to the Maritime Labour Convention 2006. (18 Jan 2017)

As of March 2014 the ILO abandonment of seafarers database listed 159 abandoned merchant ships some dating back to 2006 with cases still unresolved/without pay / lack of food and water/medical care/cannot return home. This gives further protection to them.

Repeated.

→ SOLAS 1974 Regulation V/19 carriage requirments of ECDIS. (1 July 2017)

→ ~~New mandatory Internal~~

1st Jan 2018.

→ New mandatory International code for ships operating in Polar waters (Polar Code).

1st July 2018.

→ New SOLAS regulation II-2/10.4 Communication equipment for fire fighting teams.

→ SOLAS 1974 regulation V/19 carriage requirments of ECDIS.

Ballast Water Management Convention.

* Due to harmful aquatic organisms.

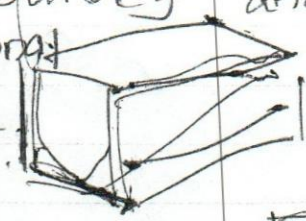
→ 12 months after ratification by 30 states, representing 35% of world merchant shipping tonnage. The condition was met on 8 sept 2016. by the ratification by Finland. Comes into force 8 sept 2017

→ On entry into force the BWM convention will require ships to manage their ballast water and sediment.

→ Initia this may be by either exchanging ballast on every voyage or by treating ballast useing an approved ballast water treatment system. Subsequently only ballast water treatment will be accepted.

Under it a

→ Have an approved ballast water management plan onboard.
→ Maintain a ballast water record book
→ Manage their ballast water on every voyage by performing ballast water exchange or by treating it useing an approved ballast water treatment system.
→ Undertake an initial survey and be issued with an International Ballast water management certificate



MLC (SRI LANKA)

~~Sri~~ Will come into ~~full~~ force for Sri Lanka on 12 Jan 2017 1 yr after ratification. that is 12 Jan 2018

MLC 2006
Ratification 20 Aug 2012
Entered into force 20 Aug 2013

Working hours.

* 8 hrs a day under normal circumstances with one day as rest day.
* A maximum of 14 hrs in any 24 hr period.
* A max of 72 hrs in any 7 day period.
* Provided with a minimum of 10 hrs of rest in any 24 h period.

Minimum rest.

* A minimum of 10h in any 24h period.

* A minimum of 77 hours in any 7 day period.

Rest hours according to STCW.

* A minimum 10h of rest in any 24h period.

* 77 working hours in any 7 day period.

* The hours of rest may be devided into no more than 2 periods one of which shall be at least 6 hr in length and intervals between consecutive periods of rest shall not exceed 14hrs.

IMDG Code. 38/16

New changes

→ Proper shipping name ~~and~~ for vehicles and engine under UN 3166 now only covers vehicles / engines under 3528, 3529, 3530.

→ Polyester rasin kit has been devided into 2 entries liquid and solids.

→ Polymerizing substances of class 4.1 is assigned to new entries 3531 UN, 3532 UN and 3533 UN

→ A standerized lithium battery marks excepted shipments.

→ New packing instructions for lithium batteries.

IMDG CLASSES.

1. Explosives
2. Gases.
3. Flamable liquids
4. Flamable solids
5. Oxidizing substances
6. Toxic substances
7. Radio active materials.
8. Corrosives.
9. Miscellaneous.

Limited quantities.

→ Can contain several inner packing containers of same or deffrent UN numbers.

→ Max outer packing container weight should not exceed 30 or 20 kg.

Excepted quantities.

→ Inner packing container max amount 30g or 30ml.

→ Outer pack not exceed 1kg

→ CTU max packages not exceed 1000.

2ND Class MT orals.

Q:)What are the avoiding actions in restricted visibility as per rule 19?

Sir,If our action to avoid collision consists of an alteration of course , so far as practicable following shall be avoided,

01.An alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken

02.An alteration of course towards a vessel abeam or abaft the beam

Q:)You are the duty officer on the bridge , in restricted visibility you have an echo detected on your radar STBD BOW , 4 points , 5 miles range , Range reducing and bearing steady , Whats your action?

- Sir,First I will go to the radar and aquire this target on my ARPA.
- I will not wait for the full processing time(which is usually abt 3 mins)
- Since the range reducing and bearing steady , there is a risk of collision exists.
- This situation is in restricted visibility therefore rule no 19 applies.
- As per rule no 19 If our action to avoid collision consists of an alteration of course , so far as practicable following shall be avoided,

  01.An alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken

  02.An alteration of course towards a vessel abeam or abaft the beam

- So I have 3 options in this situation.
  - An alteration of course to STBD
  - An alteration of speed
  - An alteration of course and speed
- If there is sufficient sea room , alteration of course ***alone*** is the most effective action to avoid collision (Because its readily apparent and instantly effective)
- Therefore I will make ***a broad alteration of 60^0 degrees to STBD , and cross the stern of the other vessel at a safe distance*** keeping that vessel to my PORT side,
- While taking this action I will monitor the effectiveness of my action.
- Once the other vessel is finally past and clear I will come back to my initial course and resume my voyage sir.

Q:)How did you decide to alter by 60^0 degrees?

- Sir, The target is at 4 points on my STBD bow,
  - 1 point is equal to 11.25^0 so 11.25^0 x 4 is around 60^0.
  - (if not satisfied)The target vessel is on 4 points on STBD side therefore I will take another two points away from the target vessel to keep a safe distance.

Q:) You are the OOW watch in zero visibility an echo detected on your radar PORT bow , 4 points , 5 miles, Range reducing & bearing steady, What is your action?

- Sir first I will go to the radar and aquire this target on my APRA
- I will not wait for the full processing time since the range is reducing , bearing is steady and therefore risk of collision exists.
- This situation is in restricted visibility so rule no 19 applies.
- As As per rule no 19 If our action to avoid collision consists of an alteration of course , so far as practicable following shall be avoided,
  - 01.An alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken
  - 02.An alteration of course towards a vessel abeam or abaft the beam
- So I have 3 options in this situation.
  - An alteration of course to STBD
  - An alteration of speed
  - An alteration of course and speed
- If there is sufficient sea room , alteration of course ***alone*** is the most effective action to avoid collision (Because its readily apparent and instantly effective)
- Therefore I will engage hand steering and take a full round turn to STBD & cross the stern of the other vessel at a safe distance on my port side.
- While taking this action I will monitor the effectiveness of my action till the other vessel is finally passed and clear.
- Once the other vessel is finally passed and clear I will come back to my original course and resume my voyage.

Q:)How do you know its past and clear?

When the other vessel is abaft my beam sir(*Show is with your respective hand)*

Q:)What do you mean by abaft the beam?

Sir, She will be deemed to be finally past and clear ***when she is at least 3 points abaft my beam(show the beam with your respective hand and how three points abaft the beam by your hand gestures)***

Q:)You are the OOW in Restricted Visibility an echo detected on your radar , PORT BOW 4 points , Range reducing, Bearing Steady.Another Echo detected on your STBD BEAM, What is your action?

- Sir I will go to the radar and acquire both targets on my ARPA.
- Since on target observed as range reducing and bearing steady I will not wait for the full processing time because a risk of collision
  exists with that target.
- As two targets are involved I have to prioritize the targets and I will give first priority to the target which is on my port bow because the bearing is steady and the range is reducing.
- This situation Is in restricted visibility so rule no 19 applies.
- As per rule no 19,
  If our action to avoid collision consists of an alteration of course so far as possible following shall be avoided;
  - An alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken.
  - An alteration of course towards a vessel for a vessel abeam or abaft the beam
- Therefore I will not be able to do any alterations of course either to port of starboard sir.
- The only available action is alteration of speed.
- *I will reduce my speed to a minimum* ***where I can keep my vessel on a steady course.***
- I will wait until the target which is on my port bow cross my bow and clear me at a safe distance
- By this time STBD side target will be automatically cleared sir
- Once I found that both the targets are well cleared I will increase my speed back to the initial speed and resume my voyage.

Q:)What is Safe Distance?

Safe Distance is the masters minimum CPA sir, If master hasnot given any CPA,

- In Clear visibility – 3 miles
- In restricted visibility – 4 miles

Q:)In Zero visibility at night you are the OOW and your hear a fog signal of another vessel from 2 points on STBD bow.Nothing detected on radar.What do you do?

- When I hear a fog signal ***apparently*** forward of my beam I will reduce my speed to a minimum where I can keep my vessel on a steady course.
- Then I will inform the master, open bridge wing doors, post extra lookouts , call helmsmen and put the wheel on hand steering
- Retune the radar , continue to listen the sound signal whether its increasing or decreasing and NAVIGATE WITH EXTREAME CAUTION until the danger is over

Q:)Still Increasing...

- I will take all my way off and make no way through water.
- I will change my sound signal to 2 prolonged blasts at an interval of not more than two minutes.Duration of blasts is about 2 secs.
- I will post a look out at the forward with a walkie talkie if weather permits to do so.
- If its in day time I would stop all the noisy deck works.*(the question says its night time , sometimes he may not accept this.But still as you go with the flow no harm mentioning this)*

Q:)How do you take all the way off?

Sir, I will give full astern and stop the vessel moving ahead relatively to the water and then stop the engine.

Q:)How you will give full astern?

First I will bring the telegraph to the stop position when the rpm nearly comes to zero i will then put the telegraph to the full astern position

Q:)Still Increasing...

- I will operate astern propulsion and change my sound signal to one prolonged blast at an interval of not more than 2 minutes.
- By this time master will be on bridge sir
- Once the sound signal of the other vessel fade off I iwill come back to my initial ahead speed and resume my voyage.
-

Q:)Why you call Master?

- The situation is in restricted visibility, in night time sir.
- As the target is not detected on radar I'm in doubt and it possesses a danger to navigation , Therefore I will call master

Q:)In Clear Visibility a vessel detected on 4 points on your STBD bow , 6 miles range , range reducing , bearing steady. What is your action?

- First I will go to the radar and acquire this target on my ARPA.
- I will not wait for the full processing time since the range is reducing and the bearing is steady, therefore risk of collision exists.
- Since this is in clear visibility I will consider this as a crossing situation.
- I will be the give way vessel and the vessel which is on my STBD side will be the stand on vessel.
- I will sound my maneuvering signal one short blast and one flash then take a broad alteration of 60^0 degrees to STBD and cross the astern of the other vessel at a safe distance on my port side.
- While taking this action I will monitor the effectiveness of my action.
- Once she is finally past and clear I will come back to my original course and resume my voyage.

Q:)Which one do you give first, Short blast of the flash?

- Whenever I give a sound signal, automatically the light signal will be given because these two are interconnected.
- But when I give a light signal its not connected so it will only gives the light signal.
- Here I will give the sound signal which will give both indications so other vessel can observe visually and audibly .

Q:)In clear visibility you see a target on 4 points of your port bow 9 miles range , range reducing and bearing steady, What is your action?

- First I will go to the radar and acquire this target on my ARPA.
- I will not wait for the full processing time since the range is reducing and the bearing is steady , there is a risk of collision exists.
- Since this is in clear visibility I will consider this as a crossing situation.
- As per the rules I will be the stand on vessel and the vessel which is on my port side will be the give way vessel.

- I will use binoculars try to make sure it's a power driven vessel.
- If it's a PDV I will monitor visually , audibly as well as from the RADAR whether she is taking any action to avoid collision.
- If any sufficient actions is not apparent at 6miles range I will sound 5 short rapid blasts on the ships whistle to show that im in doubt.
- At 5 miles range is she still not taking any actions to avoid collision, then I will take an action by my maneuver alone to avoid collision.
- Therefore I will engage hand steering, sound one short/one flash and make a full round turn to STBD and cross the stern of the other vessel at a safe distance on my port side.
- While taking this action I will monitor the effectiveness of my action.
- Once the other vessel is finally past and clear I will come back to my original course and resume my voyage.

If own vessels speed is lower than the other vessel:-

- I will sound my maneuvering signal one short blast/flash.
- Make a broad alteration of 60^0 to STBD , go in a parallel course with the other vessel
- Let her pass at a safe distance on my port side
- Come back to my initial course and resume my voyage.

Q:)Clear Visibility, night time you see 02 white lights nearly in a vertical line, 5^o degrees from the STBD bow, What could be that vessel, situation, and your action?

1. A PDV length is 50m or more, side lights out of range
2. A PDV less than 50m in length showing a second mast headlight, side lights out of range.
3. A Vessel engaged in towing vessel less than 50m in length , tow less than 200m, sidelights out of range.

   Since all three of options are PDV , the lights are in sight of one another and both vessels are in nearly reciprocal courses therefore this situation can be considered as head on.

   - As per the rules both vessels has to take actions to avoid close quarter situation or collision.
   - Therefore I will sound one short blast/flash and make a broad alteration of 30^0 degrees to STBD and pass the other vessel at a safe distance on my port side.
   - When she is finally passed and clear I will come back to my original course and resume my voyage.
   -

Q:)When you take this action , at what range?

- I will take actions about 6 miles range because the minimum range of the mast head light is vessels 50m or more is 6 miles.

Q:)What are the ranges of other lights?

In Vessels 50m or more	
Mast Head Lights	6 Miles
Side lights	3 Miles
Stern Light	3 Miles
Towing Light	3 Miles
White , red , green , yellow , all round lights	3 Miles

12m< Vessel < 50m in length	
Mast Head Lights	5 Miles
Side lights	2 Miles
Stern Light	2 Miles
Towing Light	2 Miles
All round lights	2 Miles

12m< Vessel < 20 in length	
Mast Head Lights	3 Miles
Side lights	2 Miles
Stern Light	2 Miles
Towing Light	2 Miles
All round lights	2 Miles

Vessels less than 12m in length	
Mast Head Lights	2 Miles
Side lights	1 Miles
Stern Light	2 Miles
Towing Light	2 Miles
All round lights	2 Miles

Lights and Shapes

Q:)Power Driven vessel underway and making way.

- Lights:-
  - 01 mast head light in the forward mast, another mast head light higher and abaft the forward one if the vessel 50m or more in length.
    Even if its less than 50m she shall not be obliged to but may do so.
    Additionally side lights and stern light.
- Shape:-
  - No particular shapes to be shown.
- Sound:-
  - One prolonged blast at an interval of not more than two minutes.

Q:)Power Driven vessel underway and Not making way.

- Lights:-
  - 01 mast head light in the forward mast, another mast head light higher and abaft the forward one if the vessel 50m or more in length.
    Even if it's less than 50m she shall not be obliged to but may do so.
    Additionally side lights and stern light.
- Shape:-
  - No particular shapes to be shown.
- Sound:-
  - Two prolonged blasts at an interval of not more than two minutes. The duration of the 2 blasts about 2 sec

Q:)NUC underway and making way

- Lights:-
    - 2 all round red lights in a vertical line where they can best be seen, additionally side lights and stern light.
- Shape:-
    - 2 black spheres in a vertical line where they can best be seen.
- Sound:-
    - 3 successive blasts on the ships whistle , namely one prolonged blast followed by 2 short blasts at an interval of not more than 2 mins.(_ . .)

Q:)NUC underway and not making way.

- Lights:-
    - 2 all round red lights in a vertical line where they can best be seen.

- Shape:-
    - 2 black spheres in a vertical line where they can best be seen.
- Sound:-
    - 3 successive blasts on the ships whistle , namely one prolonged blast followed by 2 short blasts at an interval of not more than 2 mins.(_ . .)

Q:)Vessel engaged in towing, towing vessel 50m in length , length of the tow 200m.

- Lights:-
  - TOWING VESSEL-3 mast head lights in a vertical line in the forward mast , 01 mast head light in the main mast higher and abaft the forward mast, side lights, stern light, towing light vertically above the stern light.
  - Vessel being towed- Side lights and stern light
- Shape:-
  - One black diamond in the towing vessel where it can best be seen.
  - One black diamond in the vessel being towed at the aft extremities
- Sound:-
  - 3 successive blasts on the ships whistle , namely one prolonged blast followed by 2 short blasts. **(_ . .)**
  - Immediately after that in the vessel being towed *if manned* 4 successive blasts, namely one prolonged blast followed by 3 short blasts at an interval of not more than 2 min. **(_ . . .)**

Q:)A PDV of length 100m aground.

- Lights:-
  - 2 all round red lights in a vertical line where they can best be seen,one all round white light at the forward and another all round light at the aft lower than the forward one
- Shape:-
  - 3 black spheres in a vertical line where they can best be seen.
- Sound:-
  - The bell should be sounded in the forward and the gong in the aft
  - **Forward:-**

    3 separate and distinctive strokes on the bell , followed by the rapid ringing of the bell for 5 sec , Followed by another 3 separate and distinctive strokes on the bell
  - **Aft:-**

    Immediately followed by sounding of gong for 5 sec at an interval of not more than 1 minute

  - Additionally 2 short blasts followed by one prolonged blast to give warining about her position to an approaching vessel(_ . . – U ; You are running into danger)

Q:)A vessel Constrained By her draft, Are those lights and shapes compulsory?

- **Lights:-**
  - 3 all round red lights in a vertical line where it can best be seen.
  - In Addition PDV lights , 01 mast head light in the fwd another mast head light abaft and higher than the forward one. Side lights and stern light.
- **Shapes:-**
  - A vertical black cylinder where It can best be seen
- **Sound:-**
  - 3 succesive blasts on the ships whistle, namely one prolonged blast followed by two short blasts at an interval of not more than 2 minutes.

These lights are not compulsory.Rule says she may exhibit!

Q:)Sailing vessel 80m in length underway

- **Lights:-**
  - Two all round lights in a vertical line upper being red and lowed being green, where they can best be seen.
  - Additionally side lights and stern light.
- **Shapes:-**
  - A black cone apex facing downwards where it can best be seen.
- **Sound:-**
  - 3 successive blasts on the ships whistle namely one prolonged blast followed by two short blasts at an interval of more than two mins. (_ . .)

Q:)What is the duration of short blast and prolonged blast

- Short blast means , a blast about one seconds duration
- Prolonged blast means , a blast **from 4 to 6 seconds**

Q:)Ranges of Ships Whistle

- Vessels less than 20m in length - 0.5 miles
- Vessels 20m or more,less than 75m - 1 mile
- Vessels more than 75m,less than 200m - 1.5 miles
- Vessels 200m or more in length - 2 miles

Definitions of Lights

What is the Mast Head light?

Mast head light means a white light placed over the fore and aft centerline of the vessel showing an unbroken light over an arc of the horizon of 225^0 and so fixed as to show the light from right ahead to 22.5^0 abaft the beam on either side of the vessel.

What is the stern light?

Stern light means a white light placed as nearly as practicable at the stern showing n unbroken light over an arc of the horizon of 135^0 and so fixed as to show the light 67.5^0 from right aft on each side of the vessel.

Side lights

Side light means a green light on the starboard side and a red light on the port side each showing an unbroken light over an arc of the horizon of 112.5^0 and so fixed as to show the light from right ahead to 22.5^0 abaft the beam on its respective sides.

In a vessel less than **20m** in length the side lights may be combined in one lantern carried on the fore and aft centerline of the vessel.

Q:)What is the requirement for the vertical separation of mast head light?

- When two mast head lights are carried the aft one shall be at least **4.5m** vertically higher than the forward one.
- In normal trim conditions, the lights should be viewed separately from each others at a distance of 1000m from the stem when seen from the sea level.

Q:)Horizontal Separation

- When two mast head lights are carried , horizontal distance between them shall not be less than half of the length of the vessel(but shall not be more than 100m)
- Forward mast head light Shall be fitted not more than ¼ of length of the vessel from the stem

Q:)What do you mean by arc of the horizon?

Arc of the horizon means If I view from a birds eye view the angle of ..... Degrees which it will display.

Buoyage

Refer IALA buoyage tutorial (NP 100)

- Examiner will ask you to describe one Lateral Mark
- Preferred Channel buoy
- Cardinal buoy

Isolated Danger Mark (Be very accurate)

When describing above mentioned marks you can draw them in your rough sheets if he allow you to do so and then explain.
Always better to ask the examiner and start sketching and explain.
When describing mention;

- Colour
- Shape
- Topmark
- RR
- Light& Rhythm

Q:)When you see preferred channel to STBD Region A when entering to a port what is your action?

I will select the channel which is on my stbd side and keep the buoy on my port side.

Q:)Isolated Danger mark and its use?

Isolated danger marks are erected on , moored on or above isolated dangers of limited extend which have navigable water all around them

For example it can be a shoal which is well offshore , an islet separated from the coast by a narrow channel.

Rate of Quick light Flashes

- Quick light flashes at a rate between 50 to 79 flashes per minute.
- Very Quick light flashes at a rate between 80 to 159 flashes per minute.

When you heading 180^0 , you see east cardinal buoy right ahead. What is your action?

Sir I will alter my course to PORT side and keep the buoy on my STBD side at a safe distance

When you heading 090^0 , you see south cardinal buoy right ahead.What is your action?

Sir I will alter course to STBD and keep this buoy on my PORT side at a safe distance

METEOROLOGY

Q:)How do you obtain the reading of the precision aneroid barometer?

- First I will open the bridge wing doors to equalize the pressure and wait for a while
- Depress the button to activate the magic eye.
- Then turn the knob until the magic eye shows a continuous line.
- Then turn the knowb in the opposite direction until it shows a broken line.
- Obtain the reading just before it shows the broken line
- Apply the errors

Q:)How do you maintain it?

- It has to be inspected by a port met officer once a year.
- He should bring a properly calibrated equipment with a known error.
- Compare the ships instrument with it and note down the error on the equipment itself

Q:)How do you obtain reading of the aneroid barometer?

- First open the bridge wings and wait a while to equalize the pressure
- Tap on the dial face of the instrument gently to release any striking of levers or pointers due to friction
- Then take the reading at eye level and apple the index error and height error

(maintenance is same like the precision aneroid barometer additionally if the error is more than 3mb the equipment should be replaced or send a shore and get it repaired by authorities)

Q:)What is the height error?

- Information's in the met reports are given for sea surface
- So the reading we obtain from the barometer should be corrected to sea level from the observer's eye level.
- There is a 01mb correction for every 10m of height difference.
- Find out the distance between observers eye level and sea level divide it by 10 **add** it to the barometer reading.

Why the height error always additive?

- Because as the height increases atmospheric pressure drops.

Q:)What is the index error?

- Due to the imperfect elasticity of the vaccum chamber there will be an index error. Its normally noted on the equipment itself.

Q:)How do you use a Hydrometer? What is the purpose?

- I will wash the hydrometer with fresh water thoroughly and I will wipe it clean with a clean cloth
- Then I will carefully immerse the hydrometer in the liquid, just before letting it float freely I will give a gentle **twist**
- Once the spinning stops I will take the reading at eye level

Purpose is to measure the specific gravity of liquids

Q:)How do you use a sea water bucket?

- First I will make sure the sea water bucket is clean and ready to use.
- If not I will clean it by using FW and dry it.
- Make sure the vessel is running at a speed appropriate for me to lowed the bucket to the water.
- I will take the sea water sample as away as possible from any water outlets such as ER cooling water..etc(Preferred place to take the sample is midship)
- Take the sample about 1.5 -2m below from the sea surface because the surface currents can affect the sample

Q:)If the temperatures of thr dry thermometer and wet thermometer are nearly same what does that mean? Why can that be ?

Sir If the temperatures are same , it means that the relative humidity is 100% or nearly 100%.**I must refer the table to get the correct R.H.**

It can be that the atmosphere is actually that humid. But for 100% RH it means that the thermometers must be underwater.

So it can be an error caused because the muslin of the wet bulb thermometer is not clean , maybe dust particles or oil , carbon from soot.

It can also occur because the muslin is not properly wet.

Reading of the hygrometer should be taken from the **windward side**, accurate reading are given in winds exceeding 7kts.

What is the requirement for steering gear testing? Where you can find it?

- The steering gear should be tested within 12 hours prior to arrival and departure
- When both(or all) steering motors are employed , turn the rudder hard over to one side.Then when the rudder put to opposite side 30^0, the rudder should move in an interval of not more than 28 secs(When she is doing maximum service speed and at the max draft- if ask)

IN SOLAS CHAPTER 5 REGULATION 26

Q:)How do you test the steering gear?

- First I will send one crew member to the aft to check the rudder area is clear.
- Call engine room & inform them I want to test the steering gear and ask on engineer to standby at the steering gear room.
- Establish communication with the steering gear room
- Synchronize the rudder angle indicator with the wheel indicator(on the bridge and the steering gear room)
- Employ one steering motor, move the rudder 5 degrees to one side and check whether the rudder is following up.Cross check rudder angle indicator with the wheel indicator, if that's fine call steering gear room and ask the engineer about what is showing in the rudder angle indicator. If he says the same as in the bridge move the rudder 10^0, 15^0till hard over to that side as above sequence.
- Do the same to the opposite side.
- Change the steering pump and repeat the same.
- If everything is fine, switch on both(all) steering motors, turn the rudder hard over 35 degrees to one side, Then when you put the rudder to opposite side 30 degrees , the rudder should move in an interval of not more than 28 sec
  If found satisfactory I will note it down in the movements book as well as in the deck log book.

Q:)What is single gear and double gear?

These are two modes on the cargo winches;

1. When single gear mode is employed the drum turns faster but the weight that the drum can bear is less.
2. When double gear mode is employed the drum turns slower, but it can bear more weight.

Q:)What is a short turn and how you do it?

- Short turn is a maneuver used in restricted waters, to turn the ship around with a minimum possible space.
- If your vessel has a single screw , right hand propeller you have to put the wheel hard over to STBD and bring the engine Full Ahead till you speed reaches 1.5knots.
- When the speed reaches 1.5kts, stop the engine and midship the wheel.
- Then(when are rpm reaches zero) put the engines full astern and wait until speed comes to 1.5knots astern and stop the engine.
- Repeat this action until vessel comes to a reciprocal course with the initial course.

What are the Corrections applied for the gyro compass?

- Latitude
- Speed
- Course

Q:)Plan a passage from cape town to Jakarta limiting latitude 45^0 S.

- I will select two positions well away from the land but closer to ports.
- Select the southern polar gnomonic chart.
- Then join these two positions as a straight line.
- After that select a common interval of long 5^0 and obtain the coordinates from the chart itself.
- Take the Mercator chart and plot the coordinates on the chart and draw the courses.
- Check whether the track goes above 45 degrees south latitude.

- If it goes above it , **parallel sailing** should be employed from that position up to the position where the track goes below the 45 degrees south latitude.
- So sir my passage will consist of 2 great circle tracks and one parallel sailing track.
- The great circle track will appear as a series of straight lines on Mercator chart

Q:)Why do you select two positions well away from the land but closer to port?Why not use coordinates of port?

Because the great circle track on a gnomonic chart will appear as a straight line. If there are any obstructions it cannot be made properly.

Q:)How do you plan passage if you don't have Gnomonic Charts.

- I will select two positions well away from the land but closer to ports.
- Then I will find the intial course, final course and great circle distance by using haversine formula/cosine formula.
- Then I will find the **vertex**.The purpose of finding the vertex is to get the **intermediate positions** of a **common longitude** of 5 degrees by using **Napier's rule.**
- After finding those intermediate positions I will plot them on the Mercator chart and draw up my course.

Q:)What is the easiest method of correcting the index error of the sextant?

(try to demonstrate how you do it by using your hands)

Horizon method is the easiest method

- Set the index arm and the micrometer drum exactly to zero.
- Hold the sextant vertically and observe the horizon through the prismatic monocle.
- If the true and reflected images appear in one line there will be no index error.
- But if the images not appear in one line, there will be an IE
- Turn the micrometer drum(use your hand gestures) until two images appear in one line and obtain the value.
- If can be on the arc or off the arc. If it's on the arc subtract this from the reading or if it's off the arc add this to reading.

Q:)Correctable errors of the sextant.

1. Index error
2. Side error
3. Error of perpendicularity.

When you add index error to the sextant altitude what is the observation you get?

Observed Altitude

Q:)Why do you take a vertical sextant angle , and how you do it?

- To find the distance off from a height known object to sail around the arc
- Set the index arm and the micrometer drum exactly to the zero.
- Hold the sextant vertically and observe the base of the terrestrial object though the telescope.
- Then move the index arm outward along the arc until the reflected image on top of the terrestrial object appears in the horizon glass
- Then take the reading and apply the IE of the sextant.

$$\textit{Distance off} = \frac{\textit{height of the object(m)}}{\textit{vertical sextant angle}} \times 1.854$$

Q:)Prepare the STBD anchor for letting go

- Do a risk assessment and identify the dangers associated with anchoring.
- Gather the anchor party and brief them about these dangers and how to minimize the risks , check their PPE and make sure they have worn properly and in good condition.
- Inform the E/R to give power to the windlass/ Req water on deck(safety reasons)
- Obtain a working VHF set with an extra battery and provide another working VHF set to another crew member from anchor party.
- Proceed to the station with a working TORCH LIGHT.
- When I go to the station , will check for illumination , if don't have enough , ask the bridge for working station lights.
- Remove the hawse pipe covers and spurling pipe covers.
- Switch on windlass motor
- Test the windlass by turning it clockwise and anticlockwise. **If found satisfactory engage the anchor cable**

- Release the brakes and take the weight to the windlass from lashings and then engage the brakes
- Remove anchor lashings such as devils claw and bow stopper and secure them in open position.
- Check over side for any obstructions , small crafts , if not any remove the brakes and lower the anchor 1m above the water level. This position is called anchor cockabill
- Fasten the brakes and disengage the windlass and report to the bridge **STBD anchor ready for letting go clear off hawse pipe anchor on brakes & gear off !**

Q:)How do you take over watch at night?

- Go to the bridge about 15mins early.
- Check the chart and plot the position, check the planned track for the next 6 hours. Additional two hours for safety reasons.
- Check whether there are any reporting points , dangers(such as shallow patches, fishing areas, buoys, high density traffic, coastal regions, military ex areas, TSS entrance and exit..etc)alterations, master calling points, warnings ...etc
- Check the meteorological and navigational warnings.
- Read, understand, and sign the masters night orders.
- Go to the ARPA and check for vessels around , try to get a clear appraisal of the situation by comparing the visual image and the radar image. As well as compare the chart image and the radar image to get a clear understanding of the position.
- Go to the bridge wing, check the funnel for any black smoke , sparks coming out, navigational lights, by comparing a range known target on radar try to ascertain the range of visibility, check for any vessels in the blind sector of the radar, wind direction , sea state, any unusual sounds emitting from vessel.
- Check all navigation equipment's including GMDSS equipment's
- Check VHF in appropriate working channel and for volume.
- Ask the OOW for details from his watch such as any special tasks are being carried out, malfunctions of the equipment's, advices from the other senior officers, traffic conditions, concentration of fishing vessels during his watch.
- Check the lookout is present and make sure he is fit for his duty.
- Check gyro course and charted course.
- Check the difference between gyro and standard compass
- If everything found satisfactory, take over watch and note down the position.

Why do you check the planned track for 6 hours. Are you on watch for 6 hours?

No sir, If my relieving officer is late to come to the bridge or if he is not fit for duty I will have to keep watch so for safety reasons.

Also if the vessel speed increases she will go further than the planned distance for 4 hours. For ex;- if the vessel proceed at 10kts it will cover 40 miles in four hours.if vessel speed increased to 15kts due to favorable currents by ships engine the vessel will cover 60 miles.

The gyro is 2 degree high, the true course is 135 degrees.Whats the gyro course?

137 degrees

Leeway is 5 degrees.wind coming from STBD.

142 degrees.

Q:)What is finally past and clear?

- When the other vessel is 3 points abaft my beam sir.(Show three points abft the beam using your respective hand)
- (if not satisfied) when any subsequent actions between both vessels will not make any close quarter situations.

How do you know whether any subsequent actions from vessels wont make any close quarter situations?

- When the target is having negative TCPA value.
- And the range between vessels are safe and increasing
- By employing a trial maneuver and check

Q:)How to shoot a LTA and expiry dates

- Remove the cover of the LTA
- Secure rest end to a strong position on deck
- Hold the LTA about 45 degrees to the horizontal
- If there is wind make an angle about 20 degrees to the downward wind and shoot so it will parabolically reach the target position(if he ask you will have to demonstrate how the rocket and the line will behave under wind effect)

Line- 9 years

Rocket- 3 years

If It's coming as one equipment – 3 years ! Length minimum – 230m

Q:)Life boat painter requirement and where are they stowed?

- Two efficient painters , one with quick release system (toggle painter)
- The length of a painter should be equal to the twice the distance from the life boat stowed position to the water line, when she is at lightest sea going condition or 15m whichever is greater.
- Toggle painter is stowed near the bow and towing painter should be secued to a strong point at the bow.

Q:)What are the two types of painters and their purposes?

1. Toggle painter – to get the head momentum when sheer off from the ship
2. Towing painter – for towing purposes

Q:)What is Squat? And Formulas?

- When a ship is moving ahead relatively to the water due to the propeller action there will be a low pressure areas formed at the stern.
- This is forming in all waters but in shallow waters this is highly pronounced.
- When this low pressure area is formed there won't be sufficient amount of water to fill it up so a bodily sinkage of the ship and increase of draft is apparent by reducing UKC
- This is called as squat.
- This will effect on the whole ship and both forward and aft drafts will be increased.

Squat= speed^2/100

Squat= 10% of the draft

Squat=0.3m for every 5kts of ahead speed

What is the action can be taken to reduce thr squat?

Reduction of speed is the most effective action

Q:)What is shallow water?

When the depth to draft ratio reduce to 1 to 1.5 it can be called as shallow water

Q:)How to test auto pilot?

- Send a crew member to the aft to check the rudder area is clear from any obstructions.
- Call E/R and inform that I'm going to test the auto pilot.
- Switch on a steering pump, synchronize gyro repeaters
- Check rudder angle indicator and the wheel indicator is at midship position
- Adjust the autopilot course to the present heading and switch into auto pilot mode
- Turn the auto pilot knob to one side about 5 degrees and observe the following up of the rudder
- Do the same procedure to the opposite side
- At the same time observe the off course alarm

Q:)How to obtain error of azimuth circle?

Select a low altitude celestial object and take the bearing with both arrow up mode and arrow down mode.

If those are same no error is present if there is any difference there an error is exist.

What are the causes?

Axle of the prism loose or bent or the axis of the prism is not parallel to the plane of the instrument.

How to correct it?

- Check mounting screws for tightness and observe if error can be eliminated.
- Rotate the prism and ensure bearings are not bent.

Q:)What is the turbo charger and its function?

- Turbo charger is a turbine like equipment working with exhaust air from the main engine
- It sucks fresh air from the outside and introduce to the cylinders for better combustion
- If it fails black smoke will be visible from the funnel, vibration and drop down of the speed can be observed.

Q:)What is turning gear and its function?

- Turning gear is a reversible electric motor which can be engaged with a toothed flywheel to turn the engine.

- It's used to turn the engine one or two revolutions prior to starting with air to make sure that the engine is free to turn and no water has collected in the cylinders.

What is Sri lankan drill requirement ?

For cargo ships at a period of not more than 14 days

For passenger ships at a period of not more than 7 days

BNWAS

- Stands for Bridge Navigation Watch Alert System
- Purpose of the BNWAS is to monitor Bridge activity and operator disability.
- The master decides the specified time out period which is 3 to 12 mins
- Once that period is over an automatically generated visual alarm will be given for 15 seconds
- If not acknowledged an audible alarm will be automatically sounded for another 15 seconds
- If failed to reset during that 30 seconds, automatically officer call alarm will be activate(usually masters cabin)
- Duration of officer call alarm about 90 seconds to 180 seconds
- I not acknowledged during that period, finally crew call alarm will be generated.

VDR

- Stands for Voyage Data Recorder
- It is a data recording system designed to collect data from various sensors onboard.
- Then the date digitize , compress and stores in a protective storage unit fitted on the bridge.
- Its combined with a float free unit which is fitted on the monkey island
- Float free capsule is a tamper proof unit and its designed to withstand extreme shock, pressure and heat.
- VDR should be capable of recording data for a minimum period of 12h

Purposes:-

1. Accident investigation
2. Used for weather damage analysis
3. Used for preventive maintenance

4. Used for performance end efficiency monitoring
5. Training purposes to improve safety , reduce accidents and incidents.

LRIT

- Long range Identification and Tracking
- It is a system designed to collect and circulate vessels position information's to SOLAS contracting governments for security purposes
- Also help for search and rescue purposes
- LRIT date transmit at every 6 hours also capable to increase frequency upto about 15mins

Who can receive LRIT data?

- As a flag state , an administration can get data
- SOLAS contracting governments
- Vessel bound for a part of particular contracting government
- SAR parties operating within the area

Q:)You see a white light PORT bow 3 points , 4 miles range.Range reducing and bearing steady.What could it be?

1. Stern light of a PDV
2. Mast head light of a PDV less than 50m in length, side lights out of range
3. All round white light of an anchored vessel less than 50m in length
4. All round white light of a PDV less than 12m in length
5. All round white light of a PDV less than 7m in length less than 7kts
6. Stern light of a sailing vessel not exhibiting optional lights
7. Sailing vessel less than 7m in length showing a torch light or a lantern
8. Vessel under oars showing a torch or a lantern
9. Shore light
10. Low altitude celestial object
11. Malfunction buoy

How do you identify the target?

- I will acquire the target on my ARPA and wait for the full processing tie and from the TRUE VECTOR it can identify whether its moving away from my vessel or coming towards my vessel.From that I can identify whether it's a mast head light or a stern light
- Also from the visibility ranges of the mast head light and the stern light of vessels less than 50m in length

  Mast head light – 5 miles
  Stern light - 2 miles

Q:)Why bearing is steady and the range is reducing?

Because there is a risk of collision exists and the target is on a converging course *(show it using both the hands)* and I have more speed than the target.

Q:)OK, it's a stern light , what is your action?

- I will sound my maneuvering signal **two short blasts and two flashes** and alter my course to PORT and cross the stern of the vessel and overtake her at a safe distance on my STBD side.
- Once she is finally passed and clear I will come back to my original course and resume my voyage

Q:)Your vessel is being overtaken, what is your action?

- Sir I will proceed with my course and speed.
- It's the responsibility of the overtaking vessel to keep clear of me

Q:)How do you know that's a overtaking vessel?

Sir if the target is coming up with an angle of 22.5 degrees abaft my beam on either side of my vessel she shall be an overtaking vessel.

Q:)Why do you check the difference of the gyro and standard compass?

In case of gyro failure we can switch to the standard compass and steer by applying the value of difference between them

Q:)How do you take compass error?

- By Celestial observations:-

- Taking a compass bearing of a celestial body and then calculate the true azimuth by using ABC tables.
- Difference between true azimuth and compass bearing is the Compass Error

- By using transit bearing of the leading lights

Q:)What is Deviation?

- It's the angle between the magnetic north and the compass north
- Deviation occurs due to the ships magnetism and with the ships heading , deviation keep on changing.

From Where can you get variation?

1. From variation charts
2. By the compass rose of the relevant area
3. GPS

Is Deviation constant?

No sir, Deviation is not a constant. When the ships heading changes deviation also change.

To obtain the deviation for various heading we can refer the deviation card.

What is the Frequency of taking compass error?

Sir once every watch and as soon as possible after a major alterations of course , because due to our heading the value of deviation will be changed.

How do you check the altitude of a celestial body with a sextant?

1. Take the sextant
2. Check for the errors
3. Look at the required celestial body through the prismatic monocle.
4. Bring the reflected image of the celestial body to the horizon until it just touch the horizon by using the index arm
5. If required do fine adjustments by using the micrometer drum
6. Then get the true alt as follows
   Sext alt-
   IE -

Obs alt –
Dip( ) -
App alt-
Total corr -
True alt-

- **Make sure you know how a trial maneuver is done**

GOOD LUCK.!!!

ND Class III
only

Candidate : D/ CDT Harindra Makawitage

Date : 14th June 2016

Time : 1100 to 1150 (1300 to 1320 on 13th June)

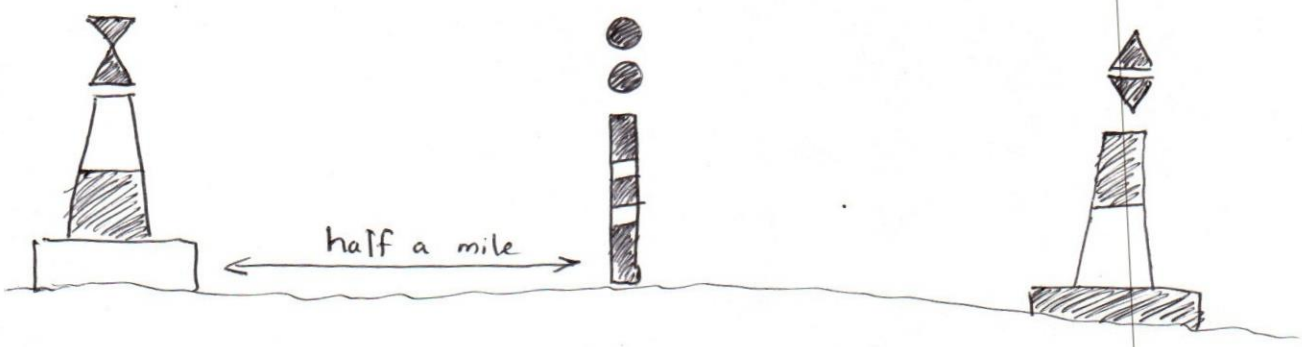
Examiner : Captain Gamini Wilson

First he asked about my voyages as a cadet and about duties I carried out (he took me for 20 min previous day). And he checked my file.

1. Tell me how you take over a navigational watch as an officer
2. When you are entering restricted visibility area, what you do first?(full answer)
3. Is that necessary to call master, where is it mentioned?
4. What are the avoiding actions?
5. You hear fog signal forward of your beam, and nothing detected on radar, what is your action?
6. Fog signals you make as a PDV
7. When you check gyro and standard compasses, you find 15 degrees of error. What can you assume by that?
8. From where you find deviation and variation?
9. You're heading 180 degrees and you sea north cardinal buoy. What is your action? (then I said I will reduce my speed and make broad alteration to starboard, and pass it by 1000m)
10. Ok, what is broad alteration, why you said you reduce your speed?
11. After your action you see west cardinal buoy forward of your beam, what is your action now?
12. What are the characteristics of those buoys?
13. From where you can find them?
14. What is RAM vessel?(full answer)
15. What lights you can see on dredger?

Above Questions he asked me on first day.

1. What is safe speed (tell him full rule)
2. What actions you take in narrow channel? (rule 09)
3. How you cross a TSS
4. You see a white light ahead of you, what are the possibilities?
5. If it is a slow speed vessel than you, what is your action
6. When you are overtaking another you see her green light, what is your action.
7. You see Fl(2) white light ahead of you, what it can be? And your action
8.



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2ND class III orals.

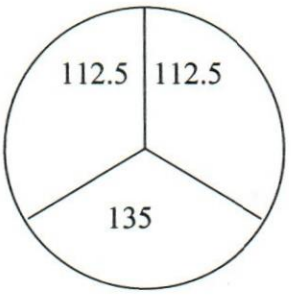
Candidate : T.L.Gihan Amarasinghe (Batch 025)
Date : 9/ 06/ 2016
Examiner : Capt. S.M.S Bandara (Expects you to answer what you are practically doing onboard)

1. How do you take a reading by aneroid barometer ?
open the bridge wing doors to equalize the pressure. Tap the face of the instrument to make the moving parts free from any friction. Take the reading at eye level, apply I.E error & height error.

2. From where do you find the I.E?
It is written down in the instrument it self.

3. What is NUC, RAM, CBD, SAILING, FISHING, TOWING,PDV ?
Definition, Lights and shapes(Making way, not Making way)
& Fog signals. Thorough knowledge is required as he questions you by giving various ships lengths.

4. Draw me a combined lantern and explain.
Sailing vessel less than 20m in length may use a combined lantern at or near the mast where it can best be seen.



5. Lights and shapes of a vessel engaged in mineclearance?
Three all-round green lights, exhibited near the foremast head and one at each end of the fore yard. By day, three balls exhibited near the foremast head and one at each end of the fore yard. Mast head lights, Side lights & stern light.

6. Head on situation with a mine clearance vessel . What is your action?
Since this is a head on situation, as per Rule no.14 each shall alter her course to stbd so that each shall pass on the port side of the other & also I should keep in mind it is dangerous to approach within 1000 meters of the mineclearance vessel. So I will make a broad alteration to stbd keeping a safe distance of not less than 1000m radius from the mine clearance vessel. I will check the effectiveness of my action until the other vessel is finally past & clear.

7. How do you judge the amount of alteration required to keep clear of the other vessel?
By doing a manual RADAR plotting or by employing trial maneuver .

8. What is "finally past & clear" ?

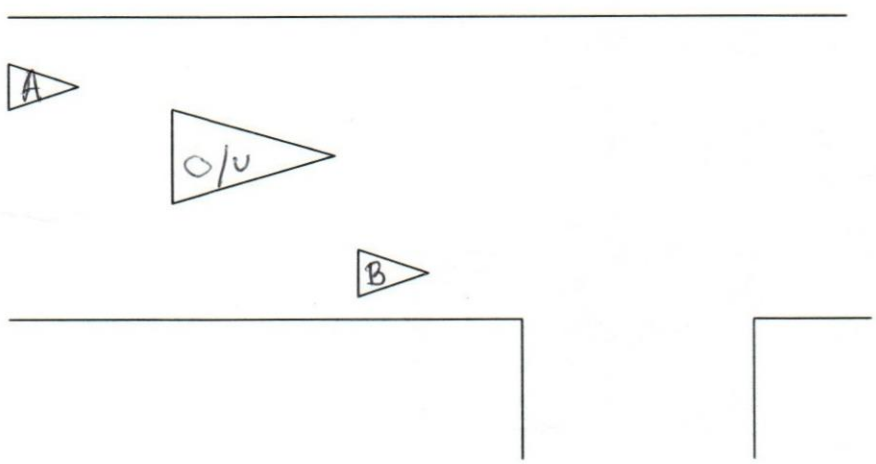
-When any alteration between two vessels does not result in another close quarter situation
- When the other vessel is at least 3 points abaft my beam
- When the TCPA of the other vessel is negative

9. Masters CPA 1nm what distance will you keep from the mineclearance vessel?
1nm is equal to 1852m so masters CPA is higher than the safe distance required to keep from a mineclearance vessel which is 1000m. So I will keep masters CPA.

10. If master has not mentioned any CPA?
In clear visibility about 3miles and In restricted visibility about 4 miles CPA.

11. Explain Rule no.09 & 10 .

12. Own vessel intend to join the deep draft route. Speed of A is higher & B is lower than the own vessel. What is your action in clear visibility?



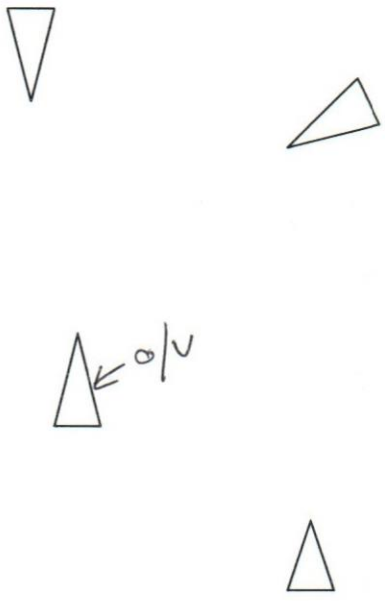
I will go to the RADAR & I will acquire these targets on my ARPA. I will check the speed of other vessels and then I will assess the situation. Since the speed of vessel A is higher than my vessel and since she is coming from an angle more than 22.5 degrees abaft my beam I will consider it as an overtaking vessel. As per rule no.13 any vessel overtaking any other shall keep out of the way of the vessel being overtaken. So vessel A should keep clear of my vessel. Speed of vessel B is lower than my vessel so I'm overtaking and I should keep clear of vessel B. In this situation I will reduce my speed to a minimum where I can maintain my course, followed by an alteration of course to stbd to keep my vessel on the stern of vessel B. I will show my intention by sounding one short blast and flash. I will monitor the effectiveness of my action until the other vessel is finally past and clear. Then I will join the deep draft route.

13. Any other way of conveying your Intention to another vessel?
VHF communication.

14. Same situation ,Speed of vessel A is lower and B is higher than own vessel.

Then I will let vessel B pass ahead of me since her speed is higher. If necessary a reduction of speed to aid the safe distance but I will make sure not to reduce my speed below the speed of vessel A. Then I will join deep draft route.

15. In clear visibility. what is your action?



First I will go to the RADAR & acquire these targets on my ARPA. I will wait for the full processing time which is about 3 minutes. Then I will check if there is any risk of collision. If so,
I will consider vessel A as a Head on situation because she is a PDV vessel, In a nearly reciprocal course ,So as to involve risk of collision. As per rule no.14 each shall alter her course to stbd so that each shall pass on the port side of the other.
I will consider vessel B as a crossing situation. Because it is a PDV crossing so as to involve risk of collision. She is on my stbd side. As per rule no.15 the vessel which has the other on her own stbd side shall keep out of the way. So I am the give way vessel and I should take early & substantial action to keep well clear.
I will consider vessel C as an overtaking vessel. Because she is coming up from a direction more than 22.5 degrees abaftt my beam. As per rule no.13 she should keep out of my vessel and I should not make any alteration which makes the overtaking vessel a crossing vessel.
I can either reduce my speed and or alter my course. Since there is not much sea room I will reduce my speed to a minimum where I can maintain my course or take all my way off to avoid any close quarter situation. I will check the effectiveness of my action until the other vessels are finally past and clear.

16. In restricted visibility?

First I will go to the RADAR & acquire these targets on my ARPA. I will wait for the full processing time, which is about 3 minutes. Then I will check if there is any risk of collision. This situation is on restricted visibility so rule no.19 applies. As per rule no.19

- we should avoid an alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken.
- & an alteration of course towards a vessel abeam or abaft the beam

therefore I will not be able to do any alteration of course either to port or stbd. I will reduce my speed to a minimum where I can keep my course or take all the way off. I will check the effectiveness of my action until the other vessel is finally past and clear.

17. How do you carry out an anchor watch?

18. How do you carry out a cargo watch?

19.IMDG loading,what precautions you take?

- Ask chief mate for the DG cargo list and check the amout ,UN no and refer to the IMDG supplement for emergency spillage procedures and Medical guide.
- Notify the crew on watch.
- Before loading make sure the placards and UN no.is intact in all sides of the container
- Check for any leaks or damages on the container.
- Make sure they load the containers on the designated slot as per the loading plan.
- Prohibit smoking near DG
- Make proper lashing
- Frequently check the containers for any leaks or spillage

20. RADAR Setting up procedure.

- First stabilize the Radar- Ground stabilization or sea stabilization
- Orientate the RADAR - Head up, North up or Course up.
- Motion mode - Relative or true
- Select appropriate range scale
- Transmit
- Select correct pulse length
- Set the gain and sea clutter
- optimize tuning

21. ECDIS Carriage requirements.

22. Advantages Of ECDIS over paper charts.

23. What is SVDR?

24. Explain me PREFERRED CHANNEL BUOY, SAFE WATER MARK & ISOLATED DANGER MARK ,

25. Say you are going from China to Canada, How do you plan a passage ?

26. What are the publications required to plan a passage?

27. How do you select charts for the intended voyage ?
-First I will draw a rough route on the chart catalogue for the intended voyage
-Then I will select the charts which have been intersected by the roughly drawn route on the CC

28. Mater asks you to calculate the distance between the two ports roughly,How would you do it?

29. Contents of SOLAS training manual.

30. Contents of the Muster List

31. Contents of GMDSS log book.

32. Contents of Capacity plan.

33. Contents of Damage Stability booklet.

34. Contents of SOPEP manual.

35. Draw the Behavior of a TRS in Southern hemisphere,

36. Wind is backing in Southern hemisphere.What is your action?

37. What does "Anchor Brought up" means?

38. How do you know if the Anchor is dragging from the Bridge?

39. You expect bad weather in two days time. What precautions would you take as 3.OFF?

40. What is Synchronized rolling?

41. What is Squat?

42. Squat calculating formulae?

43. Southern Hemisphere ice types.

44.Explain Oily water separator.

Cndidate : T.M.Himal R. Nandasena

Examiner : Capt. Bandara

Date : 06.10.2016

1. Accident or incident in your carrier and if you are Master what is your action
2. Your going to plan voyage crossing 42' Lat.what are the actions as a Master
3. Voyage for 40 days. Preparations as a Master
4. ISM implementation procedure for new type of vessel which came to your company. Required full procedure including company certification procedure
5. Definition of short term and Interim certificates
6. How to review SMS
7. How to amend masters amendments or suggestions to SMS
8. During bunkering you hear emergency alarm. What is your action
9. Oil spill now overboard, what are the actions
10. After departure port during stoway search you found 2 stoways.actions
11. What is the damage stability
12. After departure shanghai you waiting for clear in bound traffic.Your v/l grounded.What is your action
13. One crew member complaining about chest pain. What will you do
14. You were not receiving 2 month salary.What will you do
15. Now officers receiving ratings not.so?
16. V/L passing gulf of Aden. Charterers said that you will have convoy there. When you proceed to said position there is no convoy.Then charterers say that they will double up salary and if people agree you can proceed and crew were agree. Company said that take all precautions and proceed. What will you do
17. PSC request to check SSP. What will you do
18. Iron ore loading with water. Actions during loading, while sailing & during discharging port
19. SOLAS new amendments
20. STCW amendments
21. Statutory documents to carry on board
22. Anchor foul.What are your actions
23. What happen to Costa Concordia & what are the outcomes
24. Shipper loading damage packages and rusty iron bars. Requesting clean B/L.How you deal with that

25. What are the covers of P&I club
26. TRS East of Thaiwan 1000miles away.What will you do
27. Now TRS is vicinity and you are nort of Thaiwan.Then?
28. Now you intended to pass east of Taiwn.No charts available so..?
29. Company ask about maximum cargo intake and C/O give you wrong calculation. Without double check you send it to company any company agreed with charterers now. While preparing stowage plan you found mistake. What is your action including C/O disciplinary actions
30. Your v/l in Singapore strait,Situation as bellows.3rd officer call you and said that two v/s behind you are not answering by VHF.You are about to alter to deep water route.What is your answer.I need practical answer what you are doing on board if this situation comes

* How you identify your Chart is approved type

9. In this situation how you navigate? (First he gave only the isolated danger mark, but when I said alterations he add east and west cardinals to either sides) .What resources on bridge you have and what precautions you take? (this is a narrow channel situation and he expect you to mention about parallel indexing method on radar)
10. What is BPG (bridge procedure guide), and what it comes under?
11. How you load IMDG cargo?
12. How you plan a passage from Trincomalee to New York? What details you need?(full answer of passage planning)
13. What actions you take if gyro fails
14. You are 200miles out of Colombo harbor, your barometer reading reduced by 6mb, what kind of situation you are in? (he don't ask much, but he is expecting full answer from you . don't forget to mention you're in northern hemisphere and your TRS avoiding actions for both semi circles)
15. What are the isobaric patterns you know
16. What is frontal depression? What you mean by a front?
17. What is BNWAS?
18. If someone complains severe pain in stomach, when you are at sea, what you do? (mention radio medical advice and special access codes on sat phones and CIRM)
19. What is GMDSS log, what entries you make?
20. What is ballast water log, what is the requirement?
21. What is oil record book, and contents
22. What is deck log book
23. What is oily water separator, and what do you mean by ppm?
24. What is T & P? where you find them
25. Limitations of RADAR
26. What is shadow sector? Difference between shadow and blind sector? Where you find them?
27. Carriage requirements of ECDIS
28. What is sea clutter and rain clutter?
29. What is synchronized rolling, how to overcome it?
30. Latest SOLAS drill requirement? (mention enclosed space entry drill , security drills and oil spill drill also)
31. If your company asked you to join as 2/officer directly, what you do (I start giving my answer, after mentioning two points he stopped me) Ok do you think you are competent to do your job?
    I said YES sir,
    OK THEN, I SEE NO ISSUE TO PASS YOU.GOOD LUCK!

(Captain Gamini is always expecting full answers; don't let him to point out each part of question to you, if he sees you are giving your answer properly without getting stuck he will not wait until you finish your answer .and he is very keen to listen about regulations affecting your answer.)

ND Class III orals

Candidate : M.S.Gunawardena

Examiner : Capt. Nick Senanayaka

You should wear a white shirt with a black tie, wrist watch is a must. Completed record book evaluated by HOD, all true copies of your certificates, CDC, blank sheets to draw and explain.

Rule no.3 and rule no.21 learn by hard. Don't try to explain unless you are asked to.

Definition will be asked together with lights and shapes , fog signals while underway making way and at anchored.

Situations...

Q. You are the OOW. In restricted visibility an echo detected on your radar, port bow, 4 points range reducing and bearing steady. Another echo detected on your stbd beam. What is your action?

Sir first I will go to the radar acquire both targets on my ARPA. Since one target has a reducing range with a steady bearing I will not wait for the full processing time. There is a risk of collision with that target. Since there are two targets I have to prioritize the targets and I will give 1st priority to the target which is on my port side because there is a steady bearing and range reducing. This situation is in restricted visibility so part B section 1 and section 3 of the rules apply.

As per rule no.19 if my action consist of an alt. of course, so far as possible following to be avoided.

An alt. of co. To port for a vessel forward of the beam other than a vessel being overtaken. An alt. of co. towards a vessel of your beam or abaft the beam. In this case I will not be able to do any alteration of course. I will reduce my speed to a minimum where she can be kept on her course. I will wait until the target which is on my port side to cross my bow and clear me at a safe distance. By the time stbd side target will be automatically cleared. Once I found that both targets are well cleared will increase my speed to the initial speed and resume my voyage.

Q. In clear visibility you see a target on 4 points of your port bow. Range 9' reducing and bearing is steady. What is your action?

First I will check visually using binoculars what the vessel is...(examiner-ok it is a PDV) I will acquire it on ARPA. I will not wait for the complete processing time since the range is reducing and bearing is steady, there is a risk of collision. I will consider this situation as a crossing situation. I will be the stand on vessel, vessel which is on my port side is the give-way vessel. If any sufficient action is not apparent at 06' range I will sound 5 rapid short blasts on the ship's whistle to show that I am in doubt, then I will take an action by my maneuver alone to avoid collision. Therefore I will sound one short blast/ flash, make a full round turn to my stbd side (alt. of co to port for another PDV should be avoided). Alteration of course may be the most effective action to avoid collision provided that there is sufficient sea room and does not result in an another close quarters situation. I will carefully check the effectiveness of my action until the other vessel is finally past and clear and resume my voyage.

Q. what if the own vessel is slower than the other? Are you still going to take a full round turn?

No sir. I will sound one short blast/flash and take a broad alt. to stbd. Come to a parallel co. with him. Then I will do a trial maneuver to check whether to take a full round turn or to let him pass from my port side and cross the stern of that vessel.

Q. How do you determine any subsequent actions from vessels won't make any close quarter situation?

When the target is having a negative TCPA, the range between vessels are safe and increasing, employing a trial maneuver on the radar and check.

Q. how to do a trial maneuver? Ref. radar booklet (all the steps to be mentioned in order)

Q. what is finally past and clear? The answer they expect is when own vessel is 3 points abaft the other vessel's beam.

Q. Zero visibility at night time you are the OOW & you are hearing the fog signal of another vessel 2 points from the stbd bow. Nothing detected on radar. What do you do?

When I hear a fog signal apparently fwd of my beam I will reduce my speed to a minimum where I can keep my vessel on a steady course. I will inform master, open bridge wing doors. Post extra look out, wheel to hand steering mode and navigate with extreme caution until the sound fades away.

Q. still the sound is increasing...

I will take all way off and make no way through water and change my sound signal to 2 prolong blasts at an interval of not more than two minutes. I will post a lookout at fwd with a VHF if the weather permits to do so and continue to listen weather it is increasing or decreasing.

Q. what actions will you take on approaching a fog bank?

Notify master. Start sounding appropriate fog signal before entering the fog bank. Switch on navigation lights. Reduce vessel speed to safe speed and have her engines ready. Place lookouts and make the radar fully operational with systematic plotting of detected objects. Ascertain the position of the vessel before entering the fog bank. Log it down. Stop all the noisy work on deck. If necessary increase the frequency of sounding of fog signals.

Q. You sight a mine clearance vessel right ahead ; what is your action?

You should keep clear by maintaining a CPA of 1000 meters (rule 27f) or stop and take all way off. Notify master and contact the vessel with positive identity and take information as per the exercise. Act according to their instructions and pass well clear.

Q. lateral marks, isolated danger marks and cardinal marks...

Ref. Thilak sir's handout

Q. what is the minimum dist. You will pass an isolated danger mark? Minimum will be 500 meters.

Q. How do you plan a great circle track?

There are basically 2 methods. Calculating it by great circle formulas or using gnomonic charts.

Q. what are the information that you can get by calculation method?

Initial co. , final co. , great circle distance, vertex, mid latitudes.

Q. what formula do you use to find them?

Cosine rule, Haversine formula.(he wanted me to draw and explain. I was familiar only with the Cosine/ napier's rule so I explained from it)

Q. Plan a passage from cape town to Jakarta. Limiting latitude of 45 degrees south, using charts.

I will select 2 positions well away from the land but close to ports. Select southern polar gnomonic chart. Then join those two positions as a straight line. Master usually gives the common intervals of longitude but if he asks you to decide I will take every 10 degrees and obtain the coordinates from the chart itself. Take the Mercator charts plot the coordinates on the chart and draw the course. Check whether the track goes above 45 degrees south lat. If it goes above it parallel sailing should be employed from that position up to the position where the track goes below the 45 degrees lat. My passage will consist of two great circle tracks and one parallel sailing track known as composite great circle sailing. In the Mercator chart it will appear as a series of straight lines.

Q. When involved in making up a 'passage plan' , what principles would you employ in its construction?

Fundamental principles would be Appraisal, planning, execution, monitoring. Evaluation is done by the master. I would conduct the plan to operate from berth to berth bearing in mind that any plan is meant to be flexible and carry with it relevant contingency plans to cater for exceptional circumstances.

Ref. shane sir's passage planning handout

Q. what is a mason's hygrometer and what is it used for?

It is the name given to dry bulb and wet bulb thermometers, usually contained in stevenson's screen often found on the ship's bridge wing. It is used for measuring the humidity.

Q. What is a hydrometer and how do you use it?

A hydrometer is used to obtain density of the water. Before using the hydrometer, sir I would first wash it with fresh water thoroughly with fresh water then I will wipe it and clean it with a clean cloth. I will carefully immerse the hydrometer in the liquid, just before it settles in the water I will give a gentle twist to eliminate the air bubbles. Once the spinning stops I will take the reading at eye level.

Q. how would you obtain a reading of the aneroid barometer?

First open the bridge wing doors to equalize the pressure. Wait for a while, tap on the dial face of the instrument gently to release any sticking of levers or pointers due to friction. Then take the reading and apply the index error and height error.

Q. what is the height error and how to apply the correction?

Met reports are giving to the sea level, so the readings of the barometer should be corrected to the sea level. 1mb correction to be added for every 10m of height from the sea level because as the height increases atmospheric pressure decreases. Find out the height from the sea level to the observer and divide it by 10 and add to the reading.

Q. How do you test the steering gear?

Q. what is squat? And best action to reduce it? (reduction of speed)

Q. when do you consider you are in shallow waters? When draft to depth ratio reduces to 1:1.5

Q. What is the easiest method to correct index error?

Horizon method is the easiest method. Set the index arm and the micrometer drum exactly to zero. Hold the sextant vertically and observe the horizon through the prismatic monocle. If the true and the reflected images appear in one line there will be no error. But if they do not appear in a straight line the error exists. Turn the micrometer drum until the two images appear in one line and obtain the value. It can be "on" or "off" the arc. If it's on the arc subtract the value and if its off the arc add the value to the reading.

Q. when you add I.E to sext.alt what do you get?

Observed altitude.

Q. expiry dates of a LTA? Line - 9yrs, rocket -3yrs. Both comes together – 3yrs

Q. How to shoot a LTA?

Remove the cover of the LTA. Secure the end to a strong position on deck. Do not aim it to any person. Hold the LTA 45 degrees to the horizontal. If there is wind, make an angle about 20 degrees to the downward wind and shoot.

Q. What is single gear and double gear?

It is two modes of cargo winches. When single gear motor is employed the drum turns faster but the weight of the drum that can bare is less. When double gear mode is employed the drum turns slowly, but it can bare more weight.

Q. Prepare STBD anchor for letting go...

I will gather my anchor party, check PPE, make sure they are in good condition. In form engine room for deck water and power for the windless. Two working VHFs and an extra battery. Make sure proper illumination is there. Do a quick risk assessment. Remove hawse pipe covers. Switch on windlass motors. Test the windlass by turning it clockwise and anticlockwise. Release the brakes and take the weight to the windlass. Remove anchor lashings such as devil's claws and bow stopper/compression bar and secure them in open position. Check overboard for small crafts or objects. Walk back the anchor about 1m above the water level (anchor cockabill position) and place the brake on hard. If the brake is seen to be effective, take the anchor out of gear and report to the bridge anchor is ready to let go.

Q. How do you know, after letting go the anchor, when the vessel is brought up?

By watching the cable after applying the brake once the required scope has been played out. If the cable rises up, to long stay and then bows, to form a "catenary", then rises again. This cable movement is an indication that the vessel is riding her anchor not dragging her anchor. If the cable stays taught all the time it may be assumed that the anchor is dragging under tension.

Q. what are the actions in a MOB situation?

Immediately wheel hard over to casualty side, raise the alarm, release the MOB buoy, MOB button on GPS and VDR push to save button/notify master. Sound 3 prolonged blasts on ship's whistle and repeat if necessary. Post lookout with binoculars and instruct him for continues watch on MOB. Hoist signal flag "O". Commence a recovery maneuver such as Williamson's turn. Log down ship's position, wind spd & direction, time. Inform engine room and place engines on stand by. Muster recue boat crew. Prepare rescue boat for possible launching. Distribute potable radio vhf for communication. Broadcast distress message to ships in vicinity. Prepare hospital. Use of IAMSAR if does not find casualty.

Q. How do you take over a watch? Ref. STCW chapter 8

Q. What are the duties of the OOW when in pilotage waters, with a pilot on board?

The OOW remains the master's representative in the absence of the master, despite the presence of a pilot (exception panama canal). During any pilotage period he would expected to maintain an effective lookout at all times. In addition, he would continually monitor the ship's position by primary and secondary means and ensure that the under keel clearance is adequate throughout. His duties will also include the management of the bridge personnel and he would further ensure pilot's instructions are executed by the correct manner by the members of the bridge team. He would further ensure that the pilot is made familiar with bridge equipments and advised of compass errors and any defects may affect the safe navigation of the vessel.

Q. What are the types of cargo which cannot load when bunkering?

IMDG class 01(explosives) except for class 1.4 and all barges must cast off when loading heavy lifts.

Q. Life boat painter requirement? And where are they stowed

Two efficient painters, one with a quick release system (Toggle painter) should be twice the length from water level to stowed position when she's at her lightest sea going condition or 15m which ever is greater.

Towing painter has to be secured to a strong point at the bow. Both painters are stowed inside forward of the lifeboat.

Keep the checklist when you're studying for your orals, use hand gestures and answer with confidence... Good luck!

I would like to thank all the lecturers in navigation department, survival, radar simulator dept. and GMDSS, Library staff, Batch mates for helping and encouraging me towards my goals.

CHECK LIST USED BY THE EXAMINERS

Examination of Masters and Mates

NWKO Oral Examinations

Name of Candidate: -

Index Number: -

01st Attempt/Date: -

02nd Attempt/Date: -

Thorough knowledge of watch keeping practices onboard a vessel covering following sections but not be limited to: At sea / At port / At Anchor & signs of anchor dragging / Responsibilities and practices when navigating with pilot / Presence of Master on bridge / Occasions to call Master on Bridge

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Thorough knowledge on RADAR/ARPA covering following sections but not be limited to: Requirement/Principal/ Errors / Maintenance / Settings etc.

Thorough knowledge on other bridge equipment (AIS, LRIT, VDR/SVDR, Auto Pilot, Steering Gear, Speed Log, Gyro & Magnetic Compass, ECDIS, Echo Sounder, Barometer/Barograph, Hygrometer, Thermometer covering following sections but not be limited to: Requirement / Principal / Operation / Limitations / Errors / Maintenance / Settings etc.

Thorough knowledge on COLREG and their applications, practical application of RADAR plotting

Following minimum areas to be examined / questioned but not be limited to:

Rule No. 05 Lookout	Rule No.13 Overtaking
Rule No. 14 Head On	Rule No. 07 Risk of collision
Rule No. 08 Action to avoid collision	Rule No. 16 Giveaway Vessel
Rule No. 17 Stand on vessel	Rule No. 10 TSS
Rule No. 19 Restricted visibility	RADAR Plotting practical head on / Crossing / Overtaking
Rule No. 06 Safe Speed	Rule No. 15 Crossing
Rule No. 09 Narrow Channel	Rule No. 18 Responsibility between vessels

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Thorough knowledge on IALA system of buoyage: Lateral marks / Cardinal Buoys / Isolated danger marks, Safe water marks / Special Marks etc.

Passage planning Concept / Berth to Berth / Special precautions taken during pilotage / Publication required and the contents / shallow water effects / transferring of positions from chart to chart / reliability of the charts / Knowledge on chart symbols / knowledge on various guiding charts / BRM concept and application

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Knowledge and practice on charts & other publication correction / read and understanding on publication "How to correct charts in admiralty way" method of insertions/ delete / transferring of chart info/ T&P corrections, Preliminary corrections, WNTM, Annual summary of NTM, Cumulative List Etc.

Practical knowledge on LSA/FFA maintenance onboard and SOLAS/ LSA Code / FSS Code/ requirement, knowledge and practice to refer the above publications

Compiled By Dilshan Wijesekara

Content on SOLAS training manual and SOLAS requirement, Third/Second officer's responsibility to keep it updated as and when new equipment added to safety or replacing of equipment.

General knowledge on cargo wok relating to Loading/Discharging procedures, Securing procedures including securing manual, cargo related documentation and special regulations referring to DG

General practices onboard: Enclosed entry procedure, Hot work permit, Operation of lifting appliances and related safety procedures Operation of mechanical hatch covers and related safety procedures, Safe mooring/Unmooring practices, Safe anchoring/ heaving up practices including how to identify whether the vessels has brought up or not/ Arrival/ Departure preparation, Pilot transfer arrangement, rough weather practices, knowledge on code of safe working practices onboard merchant ships and bridge procedures guide

Knowledge on Stability of the vessel: Basic stability calculations, IMO stability criteria, correcting negative GM/angle of loll/ Basic knowledge on dry docking and practices, knowledge on stability booklet and practice on reference

General knowledge on weather and associated phenomena including TRS/ Monsoons / Ice / Frontal depressions / Reading of weather maps / Incidents that SOLAS required mandatory reporting

General knowledge on emergency preparedness including but not be limited to: Man overboard / Abandon ship / Oil Spill/ Steering failure / Grounding / fire / collision / Gyro failure / M.Eng Failure / Using of pyro techniques / Line throwing apparatus / SART / EPIRB / IAMSAR & SAR Procedures / Organizing of emergency parties etc.

General knowledge on onboard record keeping / log books / plans/ manuals etc. including but not be limited to: Deck log books, Sounding log book, Ballast water record book, GMDSS record book, chronometer record book, RADAR log book, compass error log book, oil record book, garbage record book, garbage management plan, Register of cargo gear and lifting appliances, SOPEP, Stability booklet, SSP, ISM manuals, General Plan, Capacity plan, Shell expansion plan, Midship section, Docking plan, Rigging plan

Knowledge on maneuvering characteristics and behavior of ships including but not be limited to: transverse thrust, squat, bow cushioning, stern suction, interaction, rolling synchronization, pitching synchronization, stiff and tender ship, turning circle, tactical diameter, advance, transfer

Knowledge on Life saving techniques and firefighting techniques and medical care

Basic knowledge on ship's machinery including but not be limited to: ME / Boiler / FW Generator / Oily Water Separator / Turbo charger / Windlass / mooring winches / crane and safe operation of relevant equipment.

Date:

Pass/Fail

Examiner's Signature:.....

CANDIDATE: GIRIJA SHANKR JAISWAL

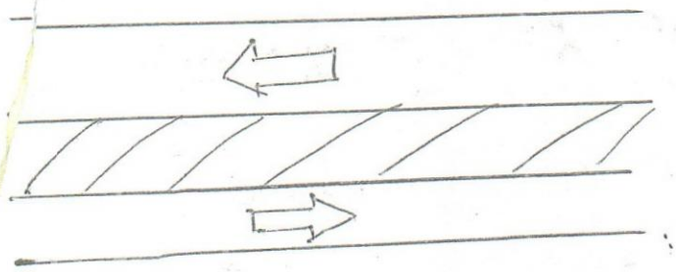
EXAMINER: CAPT. PERIS

DATE: 22-DEC-2015

STATUS: PASSED

Class III

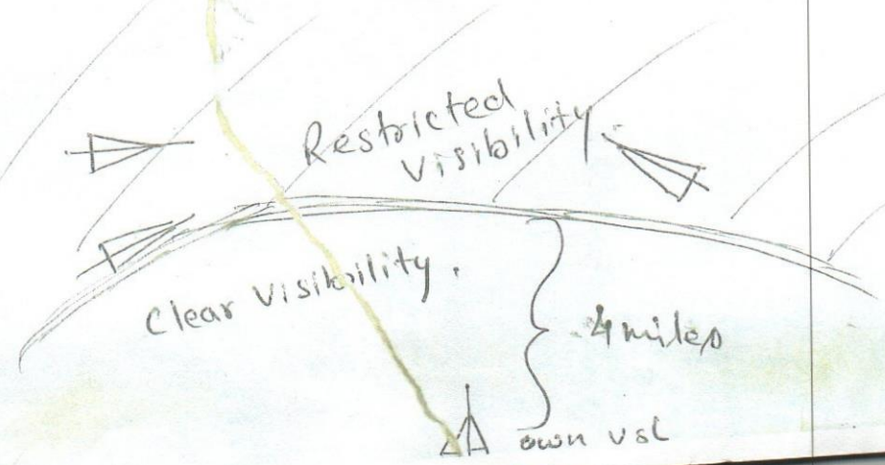
1 What are responsibilities between vessels? {explain rule no. 18}
2 How would you determine the safe speed?
3 What are factors to be considered in determining the safe speed?] Explain Rule No. 6
4 How would you join TSS? {in the following show me}
5 How would you cross the TSS?



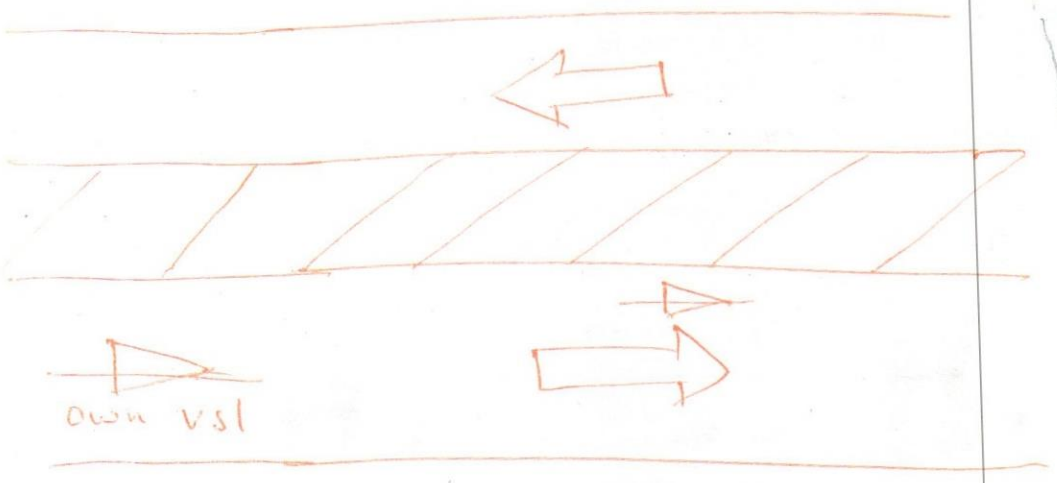
6 How would you know if there is risk of collision?
7 How would you overtake another vessel?
8 What overtaking rule says?
9 How would you determine if another vessel is overtaking you or not?
10 Explain crossing situation in the TSS?
11 What is restricted visibility?
12 What are the actions to be taken in restricted visibility to avoid collision?
13 What is short and prolong blast?
14 What is towing vessel and lights of towing vessel {49m} tow length 200m? Fog signals in R.V?
15 What is N.U.C? Lights and shapes and fog signals in Res. Vis. ?
16 What are CBD lights, shapes and fog signals?

[Please mention the reference of your answer [Q.No 14, 15, 16, 17, 18]

In this situation what is your action? {master is not in the bridge}



Q- what action will you take.



Land.

class - II

EXAMINER: CAPT. SUNIL JAYAWEERA

CANDIDATE: N.N.GODAHEWA

DATE: 22.09.2016

*Before ask the questions, examiner asked my past sea experience and any special incident or accident occur while onboard?

1. What is Agrounding?

2. Light and Day signal for above?

3. Definition CBD & lights, Shape?

4. Four white lights in-line what can be?

5. Towing vessel Day signal?

6. Four Red lights what is the Possibility?

7. Rule No-19(Given a one Situation)?

8. Fog signal for aground vessel?

9. What do you mean of 3 distinct strokes in sound signal?

10. You are the C/O, Master is sick, what can be the option?

11. Then V/L arriving to the port for loading, how you prepare the Vessel?

12. What are the documents required after berth?

13. Then V/L will go to the anchorage, how you prepare the V/L for anchorage?

14. How you find the condition of seabed?

15. What is safe speed for anchoring?

16. How you Drop anchor?

17. No Wind Only Current How you drop Anchor, How you determine Current?

18. Anchor is dragging what action you take?

19. If drop both anchors what are the possible danger?

20. If Anchor Foul, What action you can do?

21. If Heavy weather encounter ,during anchor fouling what is your action?

22. Before release from bitter end, what is your action?

23. Still heavy weather encounter, what has to do?(Engine power not enough to heave-to)?

24. What are the documents required to load cargo?(Not specify any cargo)

25. Why load density important. From where you find Load density?

26. What is TML?

27. Connection between MC and TML?

28. Danger involve in above?

29. What is stiff V/L?

30. What is synchronized rolling? How to avoid

31. What is Pooping and how to avoid?

32. How to find Rolling period?

33. How to find GM by using Roll period?(From Browns Nautical almanac)

34. Connection between COB & Metacenter?

35. Stable, Unstable Neutral equilibrium explains?

36. Loaded with Coal cargo, Cargo hold bilges full of water, Bilge pump is working, But bilges not pumping out, What is your action?(Examiner expect fully procedure to approach this situation step by step)

37. Ballast water management plan (When implement to the existing Vessel)?

38. CLC Convention?

39. FAL Convention?

40. Bunker Convention?

41. What is E-navigation?

Some cross question asked by Examiner as per my answers?

Good Luck!!!!

I would like to thanks all lectures in CINEC and all my batch mates who gave me support to achieve this valuable goal.

Capt. Asiri Herath (Orals)

ND Class III

Construction

Draw a cross section of a container ship
Types of rudders
The new of rudder design that is being used and its advantages
What is twin-screw ship and its advantages

IMDG

How to load an IMDG cargo
Latest amendments to the IMDG code

Stability

IMO stability criteria for cargo ships
Factors to consider when loading a container ship

ECDIS

Passage planning with ECDIS including the principles of passage planning
Certificates required for the ECDIS
How to check if the ENCs are valid and up-to-date?
Performance standards for ENCs

GMDSS

How to keep a GMDSS watch?
Testing of GMDSS equipment
Actions when you receive a distress alert

Ship Documents

Contents of the Capacity plan and Shell expansion plan
How to compile the SOLAS Training Manual?

Emergencies

Subsequent actions when a Main engine failure is experienced inside a TSS

Pre-departure checks

How to prepare the bridge for departure?
Steering gear test procedures and the SOLAS requirement

Bridge Team

What are Bridge Resource Management and Bridge Team Management?
What are the mandatory reports that should be made by a Master according to SOLAS and the consequences if neglected?

COLREGS and Buoyage

What is Risk of Collision?
Explain rule no.19
Situations in clear visibility and restricted visibility
Everything about the Isolated danger mark

What is Electronic Logbooks?

Program where manually inserted data is combined with data automatically recorded from the vessel's instruments such as position and time.
According to IMO, SOLAS and flag-states, e-logbooks complying with requirements of IMO Res A916(22), are accepted as an equivalent to the logbooks requirements set in SOLAS ChV Reg13.

What is the major drawback in loading a container ship and the actions taken to overcome it?

Accuracy in the declaration of container weights is the major drawback and to overcome this new Container verification code has been introduced.

Who is responsible to declare the container weight?

Shipper is responsible but, in his absence the loading port can declare the container weight.

The case of MOL Comfort and the recommendations proposed after the incident

NiponKaiji has proposed the IACS for:

1. New longitudinal strength standards for container ships with increased plate thickness,
2. New functional for direct analysis by finite element analysis,
3. New set of loading conditions for container ships.

What is Nairobi Code?

How to make a body burial at Sea? (International Medical Guide for Ships)

ND Class III

Exam-ORAL Examination Class 3
Candidate-K.A.S Chathura Maduranka
Examiner-Capt, Nick Senanayake
Date-04/05/2016

[At the beginning he was ask about previous vessels that I was being..NAME/GT/CARGO etc]

01) Definitions

a) NUC
b) RAM
c) CBD
d) SAILING VSL
e) FISHING VSL
f) UNDERWAY
G) VESSEL
e) RESTRICT VISIBILITY

02) The actions to be avoided in restricted visibility as per rule no19? (same as in PC tute)
Pubudu Chathuranga's Tute.

03) In restricted visibility a target is detected on your STBD bow 4points,5miles,range reducing bearing steady what is your action? (same as in PC tute)

04) How did you decide to alter by 60 degrees? (same as in PC tute)

05) You are the OOW on watch in zero visibility an echo detected on your RADAR PORT bow 4points,5miles, range reducing and bearing steady,what is your action? (same as in PC tute)

06) How do you know it is finally past and clear? (show it using your hand ,in this case STBD)

07) you are the OOW on watch in restricted visibility an echo detected on your radar PORT bow 4points,range reducing and bearing steady, another echo detected on your STBD beam,what is your action? (same as in PC tute..He may ask what is the minimum speed?dead slow ahead speed)

08) What is safe distance?(PC)

09) In zero visibility at night time you are the OOW on watch and you hearing a fog signal of another vessel from 2 points on STBD bow.NOTHING detected on your radar ,what is your action? (same as in PC tute but when he ask why do you call the master you should mention situation is in restricted visibilty and night time as well... then he was ask how you call the master? i was said i will acknowledge the master about the situation..state of visibility,target not detect on radar,and fog signal etc..then i was said ,so im in doubt i need your advise)

10) How you take all your way off? (sir,I will give a full astern and stop the vsl moving ahead relative to the water ,then stop the engine)

11)How you give a full astern?(sir,I will bring the telegraph to the stop position then to the full astern position,you also should know about the all the positions of telegraph in order as well as including stand by and stop the engine positions)

12)In clear visibility a vsl detected on 4points STBD bow ,6 miles ,range reducing and bearing steady,what is your action?(PC)

13)Which one will you give first,short blast or the flash?(PC)

14)In clear visibility you see a target on your PORT bow ,4 points,9 miles,range reducing and bearing steady,what is your action?(PC)

15) Clear visibility ,night time you see 2 white lights nearly in a vertical line,5 degrees from the STBD bow,what could be that vsl? Situation? And your action?(PC) (additionally PC's answer "sir ,since these lights are insight of one another and possibillities are PDV and both vsls's are in nearly reciprocal course i will consider this situation as a head on situation")

16)When you take this action? at what range?(PC)

17)What are the ranges of other lights in vsl's 50m or more in lengths? those are minimum or maximum ranges?

LIGHTS AND SHAPES,SOUND SIGNALS

18)PDV Under way and making way?(PC)
19)PDV Underway and not making way?(PC)
20)NUC Underway and making way?
21)NUC Underway and not makingway?
22)VSL engaged in towing,towing vsl 50m in length,tow 200m?(PC)
23)PDV length is 100m AGROUND?(PC)
24)CBD?These lights are compulsary?(No sir,rule says it is not compulsary,she may exhibit)
25)What are the duration of short blast and prolong blast?(exact words on PC Tute)

DEFINITIONS OF LIGHTS

26)Mast head lights?Stern light?what you mean of 'over an arc of the horizon'?

IALA

27)Region B Port hand?
28)region A ,preferred channel to PORT?
29)south cardinal mark?(when you say light rhythm,for an example lets take south cardinal buoy"6 VQ flash in a group plus one long flash with in a period of 10sec or.....like wise)
30)Isolated danger mark?(when you give an answer to this you must tell the definition first as in PC tute,then describe the buoy colour,shape,topmark,light colour,light rhythm)

31)What are the indicate from isolated danger mark?(danger is beneath that buoy and navigable water all around it)

32)When you see preferred channel to PORT in region B,what is your action?(as PC..mention about that you will SELECT)

33)When you heading 180 degrees and you see this buoy what is your action?(when he ask from you about cardinal mark,after that he will ask this question then you should give an answer according to the cardinal mark which he asked)

34)what are the rates of quick light flash and very quick light flash?(PC)

METEORLOGY

35)How do you obtain the reading of precision android barometer?(PC)
36)How it is maintain?(PC)
37)How you obtain the reading if android barometer?(PC)
38)What is the height error? why is it always add?(as per height increases atmospheric pressure drops)
39)What is the index error?(PC)
40)What is the purpose of hydrometer and how is it use?(PC)
41)How you use the sea water bucket?(PC)
42)In hygrometer ,both temperatures are same,what it is mean? how can it happen?(same as Banagala's tute)

43)What is the requirement of steering gear testing? where you can find it?(PC)

44)How do you test the steering gear ? (same as PC tute at last you should mention that you will right down the details in movement book as well as in a deck log book)

45)What is the single gear and double gear?(PC)

46)What is the short turn and how do you do it?(same as in PC tute BUT WHEN YOU SAY "I repeat this action..then he will say i dont need repeat what will you do next? then start again from the "then i will put the wheel hard over to the STBD..continue)

47)What are the FOUR STAGES of passage planning? explain each? (this is a new question so be ready for this)
48)which publications will you prefer when passage planning? what is the most important one?(sailing directions)

49)what are the T&P correction? (new question,be ready)

50)Plan the passage from capetown to jakarta,limiting latitude 45 degrees south?(same as in PC tute,you should be able to draw and show him how to do it)

51)Why do you select two positions well away from land?(PC)

52)If you dont have a gnominic chart ,how do you do it?(PC)

53)What is the easiest method of correcting the Index error of the sextant?(PC)

54)Why do you take the vertical sextant angle? how do you do it?(PC)

55)Prepared the STBD anchor for letting go? (same as PC tute,but when he do not mention a side when you say reporting part do not mention the any side)

56)How do you take over watch at night?(PC)
57)What are the dangers? (shallow patches,military exersice area,high traffic density areas?TSS enter and exit areas,coastal areas etc..)

58)why do check planned track for six hours period? (same as Banagala's tute,additionally mention if Master order to increase the speed..)

59)Gyro is 3 degree high,true course 145 degrees ,what is your gyro course? 148 degrees

60)If the wind come fro your STBD and leeway is 5degrees,,then what is the gyro course? 153 degrees(Give the answer when counteract the wind not allowing)

61)Life boat painter requirement as per SOLAS? Where they stowed? what are the purposes?(PC)
62)How you shoot the LTA? and what are the expiry dates and length of line?(PC..when you give an answer use your hands to show the angles)

63)what is the squat and formulas?(PC)
64)What action to be taken to reduce the squat?(PC)

65)What is the shallow water?(PC)
66)how to test the auto pilot at port?(PC)
67)How to obtain the error of azimuth circle ?what are the causes? how is it eliminate?(PC)
68)What is the turbo charger and its functions?(PC)
69)How is it looks like? what are the parts? (New question)
70)what is the turning gear and its functions?(PC)
71)What is the sri lankan drill requirements?
72)What is the BNWAS and its functions?
73)What is the VDR?
74)What is the LRIT and which parties can obtain the LRIT data?

75)What is the TRIAL MANEOURE? purpose,how is it operate? (he was ask about this thouroughly when give an answer for purpose of employ trial maneoure mention specially about increase the CPA)

76)In clear visibility you see a white light on your port bow 3 points,what can be it?

77)How you identify the target?(same as shashika's tute when you give same answer he will ask again how? then show him what happen when the acquire target on ARPA and hoe you identify the vsl direction)

78)why is the range reducing and bearing steady? (same as shashika's tute,,specially mention about converging course and you should be able to show him by hands or by draw it if necessary)

79)If it is a stern light what is your action? (same as shashika's tute but dont say just alter course to port,you should mention the amount of degrees,45degrees acceptable)

80)what is your action when you being overtaken?
81)How you identify over taking vsl?(shashika's tute)
82)what is the deviation?and what is the reason?(ship's magnetism)
83)where you can obtain the variation?
84)How often will you take the compass error?(shashika)
85)Why you obtain the difference between standard compass and the gyro compass?
86)what is the relative vector and true vector,what is the difference?(new question from him)
87)what are the display modes on ECDIS?(NEW)rastar chart display mode /vector chart display mode
88)which formats have in ECDIS?ENC /SENC(new one explain those little bit)
89)which format can be eliminate? ENC
90)what are difference between rastar chart and the vector chat?
91)what is the carriage requirement of ECDIS?

STUDY WELL ABOUT THOSE NEW QUESTIONS..YOU MUST PREFFER THE TUTES OF PUBUDU CHATHURANGA(PC)/BANAGALA/PATHINAYAKA AND SHASHIKA....

I would take this oppurtunity to thank,

Mr.Thilak Wickramasinghe
Mr.Shane Sankanarayana
Capt.Krishan Perera
Capt.Ranjith Perera
Capt.Aruna kothalawala
Mr.Prasad alwis
Mr.Yasas Thelwaththa
Mr.Samadhi
Mr.Saminda

To all my Freinds ,for helping me to achieve this goal....

WISH YOU ALL THE BEST.....

CLASS 3

Candidate : W.M.M.T.Wasala
Date : 12th November 2015
Time : 1230 to 1430
Examiner : Capt. Asiri Herath

1. How many vessels you sailed on? What type of vessels? What were the sizes of the vessel? How many hours of watch you kept daily onboard?

2. How would you take over duty as a second officer? (Not a navigation watch, a total taking over of duties after joining)
   Read hand over notes. Any doubt, clear it by asking the outgoing 2nd off.
   Read company and masters standing orders at sea and at port. Any doubts clear it.
   Check all the bridge equipments and get familiar with their operations. Any faults in the equipments. Repairs and maintenance due and next certificate renewals. Also any spares in order or to be ordered.
   Inventory of bridge equipments spares.
   Inventory of charts and their last updates and editions. Check whether the updates are done or up to which week the charts are been updated. Check whether the required charts for the voyage are available. And also any new charts to be ordered and been ordered.
   Hospital medicine inventory and check whether the required amounts are there. Check the expiry dates. Check what to be ordered soon and what are been ordered already.
   Familiarize with the deck arrangement and equipments. Arrangement of fire fighting and life saving appliances. Familiarise with the deck machinery and their operational limitations. The mooring arrangement. The ballast arrangement and the procedures. Also any special requirements during port stays.

3. How do you keep an anchor watch?
   - determine and plot the ship's position on the appropriate chart as soon as practicable
   - when circumstances permit, check at sufficiently frequent intervals whether the ship is remaining
   - securely at anchor by taking bearings of fixed navigation marks or readily identifiable shore objects
   - ensure that proper look-out is maintained
   - ensure that inspection rounds of the ship are made periodically
   - ensure vessel access control precautions are maintained in respect of vessel security
   - observe meteorological and tidal conditions and the state of the sea
   - notify the master and undertake all necessary measures if the ship drags anchor
   - ensure that the state of readiness of the main engines and other machinery is in
   - accordance with the master's instructions
   - if visibility deteriorates, notify the master
   - ensure that the ship exhibits the appropriate lights and shapes and that appropriate sound
   - signals are made in accordance with all applicable regulations
   - take measures to protect the environment from pollution by the ship
   - and comply with applicable pollution regulations

4. How would you know whether the anchor is dragging?
   By manually plotting the ships position and checking whether the vessel is within dragging circle.
   By checking the anchor cable. If the cable goes to long stay and then to a short stay and again to long stay continuously.
   By observing the speed on the gps.
   By increasing the true vector on the radar.
   By switching on the anchor watch on the ecdis.

5. How do you check the vessel position by two ranges?
   Select two objects (preferred 180 degrees apart) and take the range from the radar. Draw the range circle from the two objects and the intersection will give the vessel position.

6. How would you check vessel position by two bearings?
   Select two objects (preferred 90 degrees apart) and draw the bearing lines from them. The intersection of the two bearing lines gives the ships position.

7. How do you calculate the dragging circle?
   Radius of dragging circle = (No. of shackles X 27.5) + Bow to bridge distance

8. What would you do if the anchor is dragging?
   Call master. Call for anchor stations. Inform engine room and get the engines on standby as soon as possible. Send out a safety message to other vessels in the vicinity.

9. Your vessel is dragging anchor toward another vessel. What action would you take?
   Was not happy with the answer of paying out more cable. He was happy with Drop the other anchor or use engines and move away

10. What are your duties when pilot is onboard?
    I will not be relieved of my duties. I will keep on carrying out the required duties such as position fixing, monitoring the helmsman, monitoring the vessels progress, navigation.

11. The pilot is taking a wrong action. When he has order harder port instead of so he ordered harder starboard. (I will inform the master regarding the wrong order) Master is not on bridge what would you do?
    If the master is not on bridge I will first call the master on bridge. And the mean time I will ask the pilot of his intention. And I will inform him that the action he is taking will endanger the vessel.

12. If the pilot is not listening to you what would you do? (Question followed after saying I will inquire the pilot regarding his order and also would advice him to alter to port)
    I would take over the con and take necessary actions to keep the vessel safe until the master is present on bridge and take over the con.

13. How do you carry out a cargo watch?
    - Always come on deck early allowing sufficient time to take over.
    - Take over the watch properly. Go through the cargo plans and understand the present situation clearly. Understand any special orders regarding the cargo operations such as the night orders. Go through the cargo logbook.
    - Enquire from the outgoing officer, details of any unusual incident that may have occurred during his watch.
    - Make sure the gangway is sitting properly and the ship is alongside.
    - Ropes are properly tightened. Never leave ropes slack.
    - In the day time, flags are properly rigged or at the night time lights are on.
    - Make sure all the restricted areas are closed and locked.
    - check for any oil patches around the waters of the ship
    - Check the cargo operations are going according to the plan and the lashings are properly done.
    - Any damages must be immediately reported to the chief officer.
    - Make sure that the duty AB also been assigned with duties and he is fit for the watch.
    - Make sure that no garbage is thrown overboard.
    - Carry out ballast operations directed by the chief officer.
    - Check for any unusual containers that are being loaded, particularly regarding security concerns.
    - Note down the timings of each event.
    - Always make sure to keep a good relationship with the stevedores and any wrong lashings to be corrected.

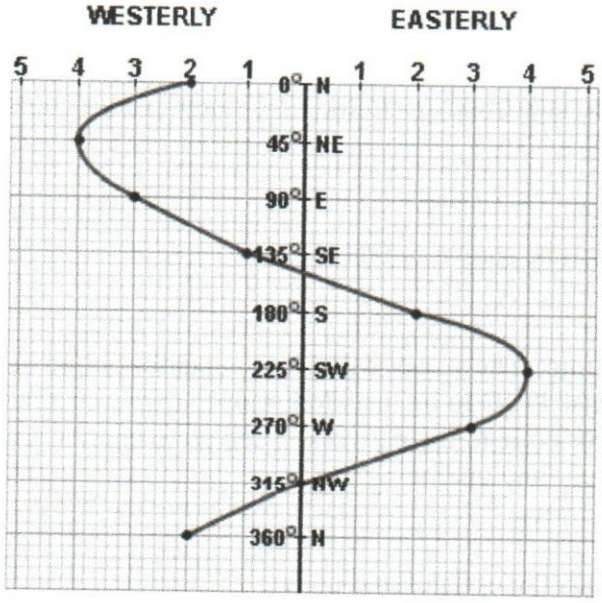
14. You are loading IMDG containers. What things will you do?
I will first get the loading IMDG list from the chief officer and check them with IMDG code. Then I will not allow any one smoke on deck. Prior the container is loaded onboard I will check for damages and leakages of the container at the jetty. When loading I will allow the container to be loaded at the location where the plan says. Any deviation I will inform the cargo foreman and the chief officer. The once it is loaded I will again check for any damages or leakages. Then I will monitor the container at regular intervals.

15. A loaded IMDG container is having a spill. What actions do you take?
Raise the alarm and don't let anyone touch it. Barricade the area so that no one can enter. Inform the master and chief officer. Check the leak container no and get to know the UN No of the goods inside. Then take actions as recommended in the IMDG code supplementary regarding the spillage. Proper PPE including the chemical suits should be worn.

16. Someone has touched the spilled IMDG cargo. How do you handle him?
Raise the alarm and inform master and chief officer. He has to be treated as per Medical First Aid guide in the IMDG supplementary. Therefore check the container no and find out what goods in that container using the IMDG manifest.

17. Your vessel is at anchor. Tell me how would you prepare a deviation card?
Swing the ship 360 degrees. For each 10 degree of heading change note down the gyro heading and magnetic heading. Apply the gyro error to the gyro heading and find the true heading. Get the variation from the chart. Then using the fact that, CE = VAR +/- DEV u can find the deviation.

18. Draw and show me a deviation curve.



19. What is the maximum deviation allowed? Where it is mentioned?
5 degrees. It is mentioned in the SMS. It will vary as per the flag state.

20. What are the principles of passage planning?
Appraisal, Planning, Execution and Monitoring

21. Tell me in detail about the appraisal and planning?
Appraisal
When you gather as much safety and navigation information to give you a safe voyage

Type of information involve are The tides, Tidal streams Under-keel allowances, Information from pilot books/sailing directions, Chart dangers (rocks, shallow water oil-rigs etc.), Traffic schemes Weather information (shipping forecasts), Possible areas of restricted visibility
Any areas, which would involve an area of high traffic density, tell about all the publications reuired.

Planning
Planning out the intended voyage, using all the information from Appraisal
Plot the intended voyage making sure it is safe, and that the plan has been checked out by the master of the vessel, use way points, parallel indexing , courses, distance to steam on each leg, and by using all the information that you Appraised

22. You are in a vessel with full ECDIS complied. How would you plan the passage?
(Since the vessel is paperless the waypoint editor method is not required to explain. Only mention of it.) There are two ways. Waypoint editor and graphical user interface modes. I will use the graphical user interface. In that mode I can draw the way points on the ecdis using the track ball.

23. How would you know whether your passage is safe?
Do a Safety check on the created passage.

24. Ok. When you run the safety check what alarms come?
Safety depth contour, entering precautionary area, entering TSS, entering restricted area, navigation danger, XTE error, etc

25. How to check the status of your ENCs?
Go to chart assistance, then click on the report tab, ENC status tab.

26. How many base CDs you get now?
one DVD

27. If PSC inspector come and ask you to show the latest updates to the ENCs how would you show?
Chart assistance, report tab, all ENC report.

28. How do you know when the ENCs will expire?
When you go to the all ENC status report, it will be shown in that.

29. How do you update ENCs?
It should be done as per manufactures instructions. The vessel will get the updates online or through mail or as a DVD. Some models require the base DVD to be installed prior to updating. Once update is received copy it to a pen or insert the DVD or copy to the network. Then go to chart assistance and click the update tab. Select the required directory and update.

30. What is the latest method of getting updates?
Updating online. The ECDIS directly downloads the updates and update.

31. Tell me the performance standards requirement for ECDIS.
Refer the booklet given during the ECDIS course.

32. What is the latest performance standard of ENC?
ENC is a database. It does not have any performance standard. But the latest ENC been used is S-57.

33. What are ECDIS operator requirements?
Follow a generic ECDIS course and follow a type specific course.

34. How do you select the ENCs required for a voyage?
Use Digital Chart catalogue. Load the pre created passage or create a new one. Then select the ENC tab. And add the list to the cart. It will show the ENC required for that passage.

35. How do you select the charts already in the inventory?
A single operation button is available in the digital chart catalogue. Once you click on it, the ENC which you have already will be selected.

36. What are the differences between Vector charts and Raster charts?
RNC Characteristics
- Looks like paper chart; familiar to paper chart users
- RCDS software integrates real time GPS with chart image
- Can be updated with weekly raster patches
- No inherent safety warning capability
- Does not have the capability to show denser data when zooming in.
- Cannot suppress specific charting features
- Cannot rotate text

ENC Characteristics
- Vector Database
- Each chart feature has attribution
- Has different look and feel than paper chart
- Categories of data can be suppressed by software. For example, just show depth contours and suppress specific text.
- "Zooming in" has capability to show denser data
- Chart image can be rotated and text will remain upright
- Electronic chart systems can issue warnings of impending danger ahead

37. What is the service provided to find the optimum passage? What is the objective of Weather Routine Services?
Weather Routine Services.
Ship weather routing develops an optimum track for ocean voyages based on forecasts of weather, sea conditions, and a ship's individual characteristics for a particular transit. Within specified limits of weather and sea conditions, the term optimum is used to mean maximum safety and crew comfort, minimum fuel consumption, minimum time underway, or any desired combination of these factors. Benefits The benefits of ship weather routing services are primarily in time and cost reductions and increased safety. The savings in operating costs are derived from reductions in transit time, heavy weather encounters, fuel consumption, cargo and hull damage, and more efficient scheduling of dockside activities.

38. Draw and show me a West Cardinal Buoy and explain the characteristics.
Used in conjunction with the compass to indicate where the mariner may find the best navigable water. Placed in one of the four quadrants Bounded by inter cardinal bearings from point marked. It indicates the deepest water in an area is on the named side of the mark.

COLOUR:	Top and bottom Yellow & Black horizontal band in the middle
SHAPE:	Pillar or Spar
TOPMARK:	Two Black Cones apexes towards each other
LIGHT :	White light. 9(Q) 15s or 9(VQ) 10s
RETROREFLECTOR:	Blue and/or Yellow

39. What is a safe water mark? Draw and show me and explain the characteristics.
Safe water mark indicates that there is navigable water all around the mark. Normally used as a centre line, mid channel, or landfall buoy. And also used to indicate the best point of passage under a fixed bridges.

COLOUR	:	Red & White vertical stripes

SHAPE:	Pillar, Sphere or Spar
TOPMARK:	Red Sphere
LIGHT :	White light. Isophase or Occulting or Long Flashing for 10s or Morse Code (A)
RETROREFLECTOR:	Red & White

40. Define quick and very quick flash in buoys lights?
Quick 50 – 60 flashes per min.
Very Quick 100 – 120 flashes per min.

41. What are lights show by a towing vessel of less than 50m in length and length of tow exceeding 200m seen from ahead? What is the fog signal? (Not only the towing vessel also the vessel being towed)
Towing vessel - 3 mast head lights, side lights , stern light and towing light.
One prolong blast followed by two short blasts with an interval of not more than 2 mins.
Vessel been towed – side lights and stern light
at intervals of not more than 2 minutes sound four blasts in succession, namely one prolonged followed by three short blasts. When practicable, this signal shall be made immediately after the signal made by the towing vessel.

42. What are the day and night signal of a minesweeper?
Night –Three all round green lights. One been on top and the other two on the sides.
Day – Three black spheres where it can be best seen. One on top and other two on the sides of the halyard.

43. What do you mean by E-Navigation? What is E-Navigation?
Electronically enhanced navigation.
E-navigation is the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.
For ship borne users e-navigation will:
- Simplify daily work and training;
- Improve human-machine interface, usability, familiarity and navigational safety;
- Improve time-saving and efficiency on board by providing easier access to information, thereby improving the response time/problem solving abilities of bridge personnel;
- Improved navigational safety by reducing the administrative workload;
- Improve confidence in the use of navigational equipment;
- Enhance the quality, accuracy and reliability of information, thereby improving situational awareness and navigational safety;
- Provide easy access to need-to-know information in a user friendly single window;
- Improve familiarity with systems through standardization;
- Improve service and safety in VTS-regulated areas by providing easy access to available services and warnings
- Reduce bureaucracy and thereby support more efficient use of bridge resources;
- Reduce the risk of accidents;

44. What is an Integrated bridge System?
An integrated bridge system (IBS) is defined as a combination of systems which are interconnected in order to allow centralized access to sensor information or command/control from workstations, with the aim of increasing safe and efficient ship's management by suitably qualified personnel.

45. What are the advantages and disadvantages of an Integrated Bridge System?
Advantages :
i. Common display panel

ii. Central preference panel
iii. Central alarm panel and priority of alarms
iv. Multifunctional displays
v. Confidence through internal system checks

Disadvantages :

i. Over reliance on the system could lead to electronically assisted errors
ii. Expensive development costs for manufacturers
iii. A structured and expensive training program is required to familiarize the user
iv. Reduces choice in components

46. What is back up arrangement?
If the primary system fails a secondary system will take over and perform. This is called a backup arrangement.

47. How do you plan training for crew onboard?
The training and drill will be as per the SOLAS or Flag State requirements. Accordingly the drills will be carried out without hampering the rest hours of the crew. Training can be carried out as a Simulated drills, table top discussions, Computer based trainings, showing videos.

48. What are the type of training and drills you got onboard and how you did it?
Simulated drills, table topic, CBT, Videotel

49. What is the SOLAS requirement for carrying out fire drill?
Once a month or if there is a25% crew change within 24hours after departure.

50. What are the LSA maintenance carried out onboard?
Check Attached.

51. How do you check the portable fire extinguishers?
Extinguishers are in their designated places , There are no obstructions to access or visibility, Safety seals are not broken or missing, There is no evidence of physical damage, corrosion, leakage or clogged nozzle, Pressure gauge readings are in the proper range or position, Operating instructions are legible and facing outward, Fullness – confirmed by weighing or lifting

52. How do you weigh the portable CO2 fire extinguishers? When will you replace it?
Using a scale. If 10% of the total weight is less.

53. How often you do inspection on portable fire extinguishers?
Once a month.

54. Imagine one of the portable extinguishers has to be replaced but you don't have any spares. What will you do?
Make a requisition and items to be delivered at the next port and also I will not wait till the last moment to order for spare I will check the inventory and order the spares well in advance.

55. What is the requirement of lowering the lifeboat and rescue boat?
Once a week moved from the stowed position. One a month turning out from the stowed position. One in three months lowered in to the water, hooks released and maneuver in the water.

56. What are the maintenances you do in lifeboat?
Checking on the lifeboat inventory, Keeping the lifeboat clean, The markings and retro reflecting tapes should not be damaged, testing of engine and rudder and lights.

57. You see one of the crew members go overboard. What actions do you take?
Wheel hard over to the side he fell.
Release the MOB marker.
Inform Master.
Sound general emergency alarm.
Mark the position.
Inform engine room and get engines on maneuver.
Send a distress alert to vessels nearby.
Post extra lookouts.
Get the rescue boat ready.
Maneuver the ship and come to a reciprocal course.

58. How do you carry out a Williamson turn?
Rudder hard over (in an "immediate action" situation, only to the side of the casualty)
After deviation from the original course by 60°, rudder hard over to the opposite side.
When heading 20° short of opposite course, rudder to midship position and ship to be turned to opposite course

59. What is the specialty about the MOB marker buoy?
Weight 4kg, SI light and buoyant smoke signal.

60. What is the requirement of muster list and what it contains?
Muster list should be displayed on each deck of the ship and in common spaces and also in the safety plans on either side of the accommodation. It contains the duties assigned to each crew member in emergencies, general alarm, primary and secondary muster points, ships name, call sign, walkie talkie channel, no of crew onboard, who belongs to which team in an emergency.

61. You are been asked to plan a passage to a port which you don't where it is. From where will you find the location of the port?
Norris Tables, Guide to port entry.

62. What is the new amendment to IMDG and what were the changes? (37-14)
- New section for Lamps containing dangerous goods in application and implementation sets out conditions for lamps which are not subject to the provisions of IMDG Code.
- Addition of International Convention for Safe Containers, 1972, as amended covering Regulations for the testing, inspection, approval and maintenance of containers.
- Changes in general provisions concerning radioactive material
- Addition of Adsorbed gas under class 2
- Changes to assignment of packing group of viscous flammable liquids
- Changes to text in Classification of solid substances of class 5.1
- Amendments to exemptions under Infectious substances
- Various changes in chapter 2.7 for radioactive materials
- Changes to proper shipping names for some goods under class 9 and clarification of absence of letter P in column 4 of dangerous goods list. (Airbags, Seat Belts, Capacitors)
- Column 16 stowage and segregation now replaced with column 16a and 16b, Stowage and handling & segregation
- Various changes to dangerous goods entries with respect to packing instructions, marine pollutant, special provisions and complete change of column 16 being replaced by stowage, handling and segregation codes.
- Addition of new UN Numbers from 3507 to 3526
- Changes to many existing and addition of 12 new special provisions
- Amendment of limited quantity marking and placarding
- Amendment to excepted quantity marking
- Amendment to some packing instructions and addition of new packing instructions

- New size requirement of OVERPACK (12mm high) marking from 1st Jan 2016
- Various changes to labels and placards
- Various changes in documentation and fumigation & Coolant/conditioning warning mark
- Changes in construction and testing of packagings
- Addition of stowage, handling and segregation codes

Candidate : W.M.M.T.Wasala
Date : 16th November 2015
Time : 1440 to 1600
Examiner : Capt. S M S Bandara

1. What is RAM and its day & night signal?
   The term 'vessel restricted in her ability to maneuver' means a vessel which from the nature of her work is restricted in her ability to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel.
   The term 'vessel restricted in her ability to maneuver shall include but not be limited to:
   (i) a vessel engaged in laying, servicing or picking up a navigation mark, submarine cable or pipeline;
   (ii) a vessel engaged in dredging, surveying or underwater operations;
   (iii) a vessel engaged in replenishment or transferring persons, provisions or cargo while underway;
   (iv) a vessel engaged in the launching or recovery of aircraft;
   (v) a vessel engaged in mine clearance operations;
   (vi) a vessel engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course.

   Night Signal – Three all round lights in a vertical line. Top and bottom been red and centre been white. Mast head lights, Side lights and Stern Lights.

   Day Signal – Black Ball, Diamond and Ball in a vertical line where it can best be seen.

2. What is NUC and its day & night signal?
   The term 'vessel not under command' means a vessel which through some exceptional circumstance is unable to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel.

   Night Signal – Two all round red lights in a vertical line. When underway and making way Side lights and Stern Lights.

   Day Signal – Two Black Balls in a vertical line where it can best be seen.

3. What is CBD and its day & night signal?
   The term 'vessel constrained by her draught' means a power-driven vessel which because of her draught in relation to the available depth and width of navigable water is severely restricted in her ability to deviate from the course she is following.

   Night Signal – Three all round red lights in a vertical line. Mast head lights, Side lights and Stern Lights.

   Day Signal – Black vertical Cylinder where it can best be seen.

4. What is Fishing Vessel and its day & night signal? Does fishing vessel display mast head lights?
   The term 'vessel engaged in fishing' means any vessel fishing with nets, lines, trawls or other fishing apparatus which restrict maneuverability, but does not include a vessel fishing with trolling lines or other fishing apparatus which do not restrict maneuverability.

   Night Signal – Two all round lights in a vertical line. Top been red and bottom been white. Side lights and Stern Lights. If length of the gear is exceeding 150m, one all round white light in that direction.

Day Signal – Black Two coned with their apexes to gather where it can best be seen. If length of the gear is exceeding 150m, one black cone with apex upward in that direction.

5. You see 4 white lights in a vertical line. Identify the vessel?
   Vessel engaged in towing, length of the vessel is 50m or more and length of the two is exceeding 200m. Side lights are out of the visible range.

6. You see a white light. Tell me all the possibilities of it.
   A power driven vessel length less 50m and side lights out of range, Stern light of a power driven vessel, Stern light of a sailing vessel, A power driven vessel of length less than 12m and side lights out of range, a power-driven vessel of less than 7m in length whose maximum speed does not exceed 7 kts, A sailing vessel of less than 7 metres in length, A vessel under oars, A buoy, A shore light, A navigation mark light, A fishing net marker.

7. What is safe speed?
   It is the safe at which a vessel can take proper and effective action to avoid collision and to be stopped within an appropriate distance to the prevailing circumstances and conditions.

8. In clear visibility, you see a vessel, 3 points on your starboard bow at 12 miles range. What action do you take?
   I will first acquire the target on the radar. I will identify the vessel visually. I will take a series of bearings and if there is no appreciable bearing change and the range is reducing the risk of collision exists. Considering this vessel is a power driven vessel this situation is a crossing situation. I will be the give way vessel and she will be the stand on vessel. I can either alter my course or reduce speed or do both. If there is enough navigable waters available I will prefer the alteration of course as it will be readily apparent and instantly effective. I will sound one short blast and make a large alteration to starboard and pass the stern of the other vessel. I will monitor the effective of my action until she is finally past and clear.

9. In clear visibility, you see a vessel, 3 to 4 points on your port bow at 7 miles range. What action do you take?
   I will first acquire the target on the radar. I will identify the vessel visually. I will take a series of bearings and if there is no appreciable bearing change and the range is reducing the risk of collision exists. Considering this vessel is a power driven vessel this situation is a crossing situation. I will be the stand on vessel and she will be the give way vessel. In this situation I can maintain my speed and course and the other vessel has to take action. If she is not taking any action I will sound 5 or more rapid blasts to get her attention and to indicate my doubt to her. If she is still not taking any action I will take action to avoid collision by sounding one short blast and making a large alteration. Take full round turn and pass the stern of the other vessel. I will monitor the effectiveness of my action until she is finally past and clear.

10. How do you determine risk of collision? Is no appreciable bearing change is sufficient for risk of collision to exist?
    (i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change;
    (ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.
    The range also has to reduce, not only no appreciable bearing change.

11. How do you determine the action required to maintain a certain CPA?
    By Radar plotting or Trial Maneuver in the radar.

12. You are a RAM vessel and you are overtaking another vessel. How would you do that?
    In this situation my vessel will be the overtaking vessel. I shall keep out of the way of the vessel being overtaken at all times. Any subsequent alteration of the bearing between the two vessels shall

not make the overtaking vessel a crossing vessel within the meaning of these Rules or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

13. At what range would you take action in clear visibility and restricted visibility?
In clear visibility 3 to 4 miles & restricted visibility 4 to 5 miles.

14. Explain rule no. 19.
(a) This Rule applies to vessels not in sight of one another when navigating in or near an area of restricted visibility.
(b) Every vessel shall proceed at a safe speed adapted to the prevailing circumstances and conditions of restricted visibility. A power-driven vessel shall have her engines ready for immediate maneuver.
(c) Every vessel shall have due regard to the prevailing circumstances and conditions of restricted visibility when complying with the Rules of Section I of this Part.
(d) A vessel which detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing and/or risk of collision exists. If so, she shall take avoiding action in ample time, provided that when such action consists of an alteration of course, so far as possible the following shall be avoided:
(i) an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken;
(ii) an alteration of course towards a vessel abeam or abaft the beam.
(e) Except where it has been determined that a risk of collision does not exist, every vessel which hears apparently forward of her beam the fog signal of another vessel, or which cannot avoid a close-quarters situation with another vessel forward of her beam, shall reduce her speed to the minimum at which she can be kept on her course. She shall if necessary take all her way off and in any event navigate with extreme caution until danger of collision is over.

15. In restricted visibility you detect a target on the radar ahead of your beam on starboard side. What action you would take?
I will acquire the target on the radar and wait for the full processing time to get the details. If there is risk of collision existing I shall avoid altering my course toward a vessel abeam or abaft the beam. Therefore, I will alter my course to port and pass stern of the other vessel. I will monitor the effectiveness of my action throughout until she is finally past and clear.

In restricted visibility you detect two targets on radar. One about 4 points on your port bow and other abeam on your starboard side. What action would you take?
I will acquire the targets on the radar and wait for the full processing time to get the details. As per the CPA and TCPA I will prioritize the targets and take actions. If there is risk of collision existing I shall avoid altering my course toward a vessel abeam or abaft the beam and avoid alteration of course to port for a target forward of the beam. Therefore, I will reduce my speed to a minimum where I can maintain my course and let both the vessels pass ahead of me. I will monitor the effectiveness of my action throughout until she is finally past and clear.

16. What are the fog signals of PDV making way and not making way? When going astern what is the sound signal?
A power-driven vessel making way through the water shall sound at intervals of not more than 2 minutes one prolonged blast.
A power-driven vessel underway but stopped and making no way through the water shall sound at intervals of not more than 2 minutes two prolonged blasts in succession with an interval of about 2 seconds between them.
A power-driven vessel when going astern in fog shall sound at intervals of not more than 2 minutes one prolonged blast.

17. What is the sound signal range?
Length of ship 200m or more – Range 2NM

Length of ship 75m & less than 200m – Range 1.5NM
Length of ship 20m & less than 75m – Range 1NM
Length of ship less than 20m – Range 0.5NM

18. You are on bridge and on duty. You get a reporting saying that one person has fallen down in a tank after making an entry in to the tank. What action would you take?
Raise the general alarm and muster the crew, Call master and inform him, Make a PA system announcement, Keep in contact with the person at the manhole.

19. How would you recover the person from the tank?
Get two persons downed the SCBA to enter into the tank with an extra SCBA set or and oxygen resuscitator. Stand by the medical party and the stretcher, life line to pull the stretcher up and a block. Place the block right above manhole and pass the rope through it with one end attached to the stretcher. The rescue party two members should check on the person. If conscious get the person out of the space as fast as possible but not damaging him. If the person is unconscious check for his breathing and administrate oxygen mixed with air. And then evacuate him from the space to the hospital. And if required get the radio medical advice and if required evacuate him from the ship to shore.

20. How many SCBA sets were available onboard and where were they located?
Four Sets. Two in the Emergency Head Quarters and two in the forecastle store.

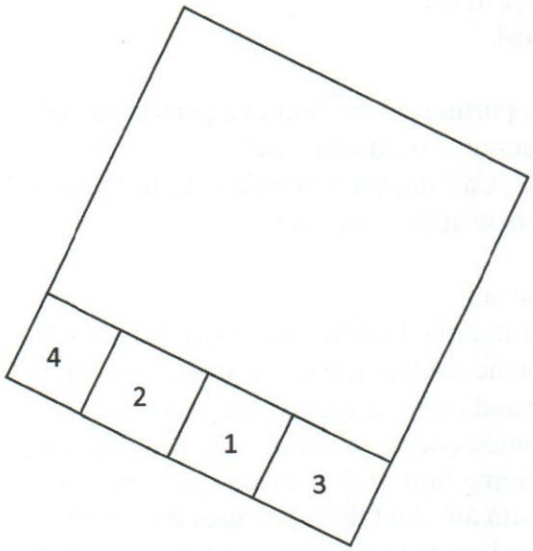
21. What precautions and action do you take when loading IMDG cargo?
First get the IMDG loading list and the plan from the chief officer. Check with the IMDG code. Loading shall be only as per the plan. Any changes inform the chief officer and the cargo foreman. No person allowed to smoke or do hot work. Keep a fire horse and a nozzle ready for fire fighting in case. Check the container for damages and leakages at the jetty. Check for the placards. All four sides should have the UN no, class and other placards. Check the container no and the location to be loaded. It should be loaded exactly to the position given on the plan. Once loaded check for damages and leakages. Log down the entry of loading of IMDG cargo.

22. If there is a spillage of IMDG cargo how do you handle it?
Raise the alarm and muster the crew. Barricade the area and do not allow any one in to that area. Do not touch the spillage. Inform the Master and chief officer. Check the container no of the leaking container. Check the manifest and find out what IMDG inside it. Cleaning to be carried ous as per the EMS.

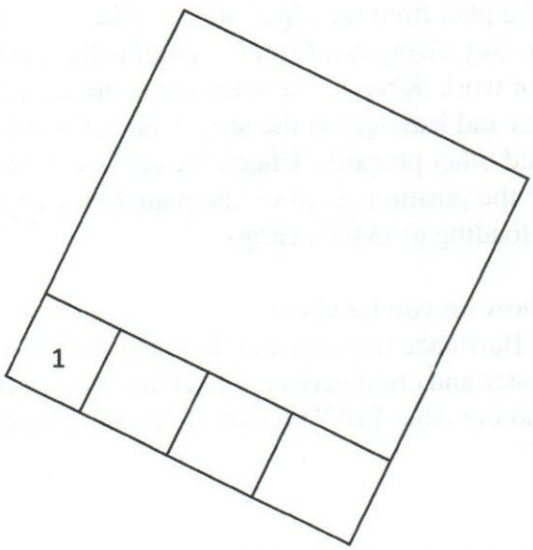
23. What is GM?
It is the vertical height between the Metacentre and the COG. It determines the vessels stability condition.

24. What happens if the GM is very high?
The ship is said to be a Stiff ship. When heeled she will come back to upright very fast as there will be high righting lever.

25. What is angle of lol and how do you correct it?
It is the angle at which the GM becomes zero in an unstable condition.
To correct it the ballast tanks to be filled in the following sequence.



26. What happens instead of following the sequence of filling the tanks and directly fill the corner most tank which is at the opposite side to the list?
The vessel is at angle of lol. It will give a sudden movement towards the opposite side to the list and that could capsize the vessel.



27. What are the content of a Stability booklet?
Ship particulars, Tank arrangement, Tank Capacity, GZ curves, KN curves, Hydrostatic Particulars, Worked calculations, Methods of calculation, Cargo spaces plans, Free Surface Effect and moments, COG of cargo spaces, tanks and stores, Deadweight scale.

28. What information will be given in a capacity plan?
Gross tonnage; net register tonnage; deadweight capacity on winter, summer and tropical loadline; deadweight and displacement scale on varying draught; this scale also shows the moment to change trim 1 cm and the TPC for each draught; a diagram with measurements of winter, summer, tropical and fresh water loadlines with a diagram of the position of the deck line; this is usually placed alongside the deadweight and displacement scale so that the deadweight or displacement can be found for any loadline at a glance; grain and bale capacity of all cargo spaces in cubic feet or cubic metres and the position of the centre of gravity of the space; bale capacity of all cargo spaces in cubic feet or cubic metres; capacity in cubic metres and tonnes of double bottom tanks, peaktanks,

deeptanks and fuel tanks and the positions of the centre of gravity of these spaces; capacity of all stores and refrigerating chambers.

29. You want to find a location of a portable extinguisher. How do you find the location? Where will you find the fire plans onboard?
Fire and Safety Plan. Upper Deck, G deck and sides of the accommodation.

30. Why two fire plans are available on either side outside the accommodation?
In case if you are unable to go inside the accommodation this can be used. And also for the shore fire fighters usage.

31. What is the best extinguishing medium to be used in the galley and why?
CO2. Mostly oily fire and electrical fire is expected.

32. What is the usage period of an EEBD?
10 minutes.

33. What are the equipments available in SOPEP Locker?
Goggles, 200L drums, buckets, Weldon pump, hoses, brooms, squeegees, non sparking shovels, rags, saw dust, garbage bags, absorbent pads, absorbent booms, absorbent pillows, boots, rubber gloves, oil dispersant chemical, masks with filters.

34. How do you identify a TRS is encountering or expected to encounter?
Long swells, Increase in wind speed and change of wind direction, Dropping of pressure, Weather warnings, Long cirrus clouds pointing towards the low.

35. What are the equipments on bridge gives you weather reports? What weather software you had onboard?
wx facsimile, navtex, sat c, weather routine and computer software via the internet.

36. You are in southern hemisphere. And the wind is backing. Which semi circle are you in and what is the action to get out of the danger?
You are in the dangerous semi circle. Keep the wind on the port bow and alter course to port as the wind backs.

37. How would you know that you are out of the TRS?
The pressure will rise, swell will reduce and wind speed and direction will be steady.

38. What types of clouds do you see when approaching a TRS and encountering a TRS?
Cumulonimbus, Nimbostratus, Altostratus and Cirrus.

39. What is monsoon?
There are two monsoons. North east and south west. North east monsoon is from December to April and South west monsoon is from June to October.
North east monsoon forms - during north winter, areas near Siberia get really cold. This increase the pressure in that area. Therefore the wind will blow from those regions to equatorial low. This has less precipitation as it comes over land.
South west monsoon forms – during northern summer asian continent get very warm. Specially around Thar desert and this creates a low pressure region in that area. So the wind will blow from trade winds in a South West direction as they passes the equator. This gives lot of precipitation as it comes over the Indian ocean.

40. How would you plan a great circle track voyage?
Take the gnomonic chart required. Mark two points closer to the arrival and departure ports but well away from any navigation hazards. Draw a straight line connecting to two marks. For every 10

degree of longitude write down the latitude. Take out the Mercator charts. Mark the way points you wrote down earlier. It will be a series of straight lines. (gnomonic charts used for polar region is named as polar gnomonic)

41. If you don't have a gnomonic chart onboard, how would you plan it?
    Use of great circle formula

42. What information do you get by applying the formula?
    Initial co, final co, vertex, mid latitudes, great circle distance.

43. What are the gases detected by multi gas meter?
    Oxygen, Carbon Monoxide, Hydrogen Sulfide.

1 Life Saving Appliances

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
Means of **Embarkation on and Disembarkation from ships** (Gangways, accommodation ladders incl. winch and fittings as well as use for pilot transfer)	Maintenance and inspection	SOLAS II-1/3-9.3 SOLAS III/20.4 SOLAS III/20.7.2 MSC.1/Circ.1331, Annex, para. 4	All	Monthly	Crew	In accordance with manufacturer's instructions. Maintenance of wires acc. to SOLAS III/20.4.
	Examination	SOLAS II-1/3-9.3 MSC.1/Circ.1331, Annex, para. 5	All	Annually	Crew + GL	
	Examination and operational test with specified max. operational load	SOLAS II-1/3-9.3 MSC.1/Circ.1331, Annex, para. 5	All	5-yearly	Crew + GL	Suitable test weights are to be provided.
Emergency escape breathing devices (EEBDs)	Examine cylinder gauges to confirm they are in the correct pressure range	MSC.1/Circ.1432, para. 4.5	All	Weekly	Crew	
	Check according to maker's instructions	MSC.1/Circ.1432, para. 7.8.3	All	Annually	Crew	
	Hydrostatic test and internal inspection of cylinders	IACS Rec. No.88	All	As specified by the manufacturer	SER or ALS	Intervals specified in recognized international standards (e.g. ISO, EN) are to be observed.
Testing of **emergency lighting**		SOLAS III/19.3.3.9	All	At each abandon ship drill	Crew	
Falls used in launching appliances	Maintenance	SOLAS III/20.4 MSC.1/Circ.1206/Rev.1	All	Weekly Monthly Annually	SER (or Crew)	Inspections according to makers maintenance guidelines; Special concern to hidden areas and areas of end terminations; Ships crew only if properly trained and familiar with these works.
	Renewal	SOLAS III/20.4	All	Latest after 5 years or earlier when necessary due to deterioration	Maker or MTP or SPF or SP + GL	
Replacement of **first-aid outfit** and anti-seasickness medicine of lifeboat equipment		LSA Code, para. 1.2.3	All	Maker's expiry date	Crew	
Replacement of **food rations** of lifeboat equipment		LSA Code, para. 1.2.3	All	Maker's expiry date	Crew	

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
Maintenance of **hydrostatic release units** (non-disposable)		SOLAS III/20.9.1	All	Annually	SER	Administration may extend this period to 17 months.
Immersion suits and **anti-exposure Suits**	Inspection	SOLAS III/20.7.2 SOLAS III/36.1 MSC/Circ.1047	All	Monthly	Crew	
	Air pressure test (seams and closures)	MSC/Circ.1114	All	3-yearly	SBM or Crew	By crew provided suitable equipment is available on board. Tests more frequently for suits older than 10 years.
Maintenance of **inflatable liferafts, lifejackets**		SOLAS III/20.8.1.1	All	Annually	SER	Administration may extend this period to 17 months. **Inflatable liferafts**: Administration can accept specific liferafts for extended service intervals acc. to SOLAS III/20.8.3 and MSC.1/Circ.1328.
Launching appliances	Launching appliance annual thorough examination	SOLAS III/20.11.1.2 MSC.1/Circ.1206/Rev.1/Appendix of Annex 1, para. 2.8 and 2.9 as applicable	All	Annually	Maker or MTP or SPF or SP + GL	
	Dynamic test of the winch brake	SOLAS III/20.11.1.3 MSC.1/Circ.1206/Rev.1/Appendix of Annex 1, para. 3.1 and 3.3 as applicable				Applicable load: Weight of survival craft without persons on board.
	On-load release gear/automatic release hooks thorough examination and operational test incl. free-fall lifeboat release system	SOLAS III/20.11.2..2 + 20.11.3.2 MSC.1/Circ.1206/Rev.1/Appendix of Annex 1, para. 2.4 / 2.5 / 2.6 and 2.7				
	Dynamic test of the winch brake	SOLAS III/20.11.1.3 MSC.1/Circ.1206/Rev.1/Appendix of Annex 1, para. 3.2 and 3.3 as applicable	All	5-yearly	Maker + GL or MTP + GL or SP + GL or SPF	Applicable load: 1.1 x Weight of fully equipped survival craft with equivalent weight of max. permitted number of persons. To be performed in connection with the annually required thorough examination.
	On-load release gear/automatic release hooks five yearly overhaul and operational test incl. free-fall lifeboat release system.	SOLAS III/20.11.2.3 + 20.11.3.3 MSC.1/Circ.1206/Rev.1/Appendix of Annex 1, para. 4				

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
Examination of **lifeboats**		MSC.1/Circ.1206/Rev.1	All	Yearly	Crew + Maker	Engine, propulsion, manoeuvring and power supply system.
Lifeboats (except free-fall lifeboats)	Moving from stowed position	SOLAS III/20.6.3	All	Weekly	Crew	
	Turning out from stowed position	SOLAS III/20.7.1	All	Monthly	Crew	
Inspection of **lifeboat** equipment		SOLAS III/20.7.2	All	Monthly	Crew	
Test run of **life- and rescue boat engines**		SOLAS III/20.6.2 MSC.1/Circ.1206/Rev.1	All	Weekly	Crew	
Lifeboats with self-contained air support system	Examination	MSC.1/Circ.1206/Rev.1	Tanker (chem/gas)	Yearly	Crew + Maker	Incl. external inspection of air cylinders.
	Hydrostatic test of air cylinders	IACS Rec. No.88	Tanker (chem/gas)	5-yearly	SER or ALS	
Examination of **lifeboats with sprinkler system**		MSC.1/Circ.1206/Rev.1	Tanker (oil)	Yearly	Crew + Maker	
Battery replacement of **lifebuoy lights**		LSA Code, para. 1.2.3	All	Maker's expiry date	Crew	Annually, if not marked with expiration date.
Marine evacuation systems (MES)	Service	SOLAS III/20.8.1.1	Passenger ships	Annually	SER	Administration may extend this period to 17 months.
	Test	SOLAS III/20.8.2	Passenger ships	6-yearly	SER	Deployment on rotational basis at intervals to be agreed by Administration, however each system to be deployed at least once every six years.
Testing of **public address systems** and **general alarm systems**		SOLAS III/20.6.4 MSC.1/Circ.1432, para. 4.4	All	Weekly	Crew	
Replacement of **rocket parachute flares** and **rockets line throwing appliances**		LSA Code, para. 1.2.3	All	Maker's expiry date	Crew	
Replacement of **smoke signals**		LSA Code, para. 1.2.3	All	Maker's expiry date	Crew	
Visual inspection of **survival craft, rescue boats** and **launching appliances**		SOLAS III/20.6.1	All	Weekly	Crew	

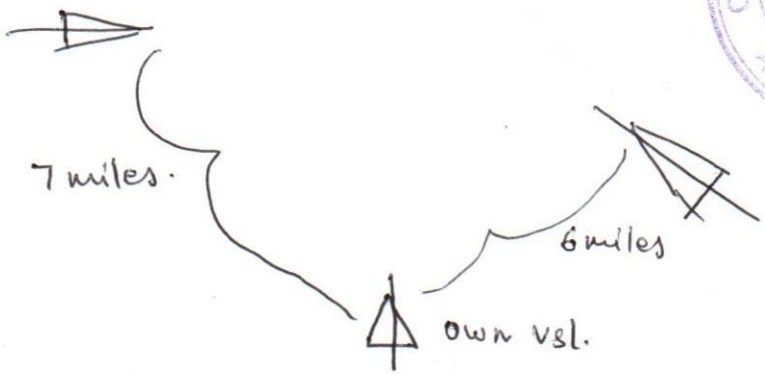
2 Fire Protection and Fire Fighting Equipment

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
Air recharging system for SCBAs	The compressed air equipment shall be inspected.	BCH Code, para. 3.16.8 IGC Code, para. 14.2.6	Tanker (chem/gas)	Monthly	Crew	By a responsible officer.
	The equipment shall be inspected and tested.			Annually	Maker	
	Check breathing apparatus air recharging systems, if fitted, for air quality.	MSC.1/Circ.1432, para. 7.8.1	All	Annually	ALS or Crew	By crew provided a suitable measurement device is available on board. The test device is to be agreed with the maker of the air recharging system.
Self-contained **breathing apparatuses** (SCBAs)	The breathing apparatus shall be inspected.	BCH Code, para. 3.16.8 IBC Code, para. 14.2.6 IGC Code, para. 14.2.6	Tanker (chem/gas)	Monthly	Crew	By a responsible officer.
	The equipment shall be inspected and tested.			Annually	SER or Maker	
	Check all breathing apparatus face masks and air demand valves are in serviceable condition.	MSC.1/Circ.1432, para. 7.8.2	All	Annually	Crew	
	Perform hydrostatic testing of all self-contained breathing apparatus cylinders.	MSC.1/Circ.1432, para. 9.4	All	5-yearly	SER or ALS	Aluminium and composite cylinders shall be tested to the satisfaction of the Administration.
Fixed **fire detection and alarm systems**	Verify all fire detection and fire alarm control panel indicators are functional by operating the lamp/indicator test switch.	MSC.1/Circ.1432, para. 4.1	All	Weekly	Crew	
	Test a sample of detectors and manual call points so that all devices have been tested within five years.	MSC.1/Circ.1432, para. 5.10	All	Monthly	Crew	For very large systems the sample size shall be determined by the Administration.
	Test all fire detection systems and fire detection systems used to automatically release fire-extinguishing systems for proper operation, as appropriate.	MSC.1/Circ.1432, para. 7.2.1	All	Annually	Crew	
	Visually inspect all accessible detectors for evidence of tampering obstruction, etc., so that all detectors are inspected within one year	MSC.1/Circ.1432, para. 7.2.2				
	Test emergency power supply switchover.	MSC.1/Circ.1432, para. 7.2.3				
Fire dampers	Test all fire dampers for local operation.	MSC.1/Circ.1432, para. 6.3	All	Quarterly	Crew	
	Test all fire dampers for remote operation.	MSC.1/Circ.1432, para. 7.6	All	Annually	Crew	

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
Fire doors	Verify that all fire door control panel indicators, if provided, are functional by operating the lamp/indicator switch.	MSC.1/Circ.1432, para. 4.3	All	Weekly	Crew	
	Test all fire doors located in main vertical zone bulkheads for local operation.	MSC.1/Circ.1432, para. 6.4	Passenger ships	Quarterly	Crew	
	Test all remotely controlled fire doors for proper release.	MSC.1/Circ.1432, para. 7.7	All	Annually	Crew	
Portable **fire extinguishers**	Inspection in accordance with the manufacturer's instruction and based on inspection guide in Res.A.951(23), table 9.1.3.	Res.A.951 (23), para. 9.1	All	Annually	Crew or SER	By, or under supervision of, a person with demonstrable competence (e.g. advanced fire-fighting training course according to STCW Code, para. A-VI/3).
	At least one fire extinguisher of each type manufactured in the same year and kept on board a ship shall be test discharged as part of a fire drill.	Res.A.951 (23), para. 9.1.1	All	5-yearly	Crew	
	All fire extinguishers together with propellant cartridges shall be hydraulically tested in accordance with the recognized standard or the manufacturer's instruction.	Res.A.951 (23), para. 9.1.2	All	10-yearly	SER or ALS	
Wheeled (mobile) **fire extinguishers**	Verify that all are in place, properly arranged, and are in proper condition.	MSC.1/Circ.1432, para. 5.9	All	Monthly	Crew	
	Inspection in accordance with the manufacturer's instructions.	MSC.1/Circ.1432, para. 7.12.1	All	Annually	Crew	
	Wheeled (mobile) fire extinguishers shall be visually inspected to check that all accessible components are in proper condition.	MSC.1/Circ.1432, para. 7.12.2				
	The hydrostatic test date of each cylinder is to be checked.	MSC.1/Circ.1432, para. 7.12.3				
	Dry powder wheeled (mobile) fire extinguishers are to be inverted to ensure that the powder is agitated.	MSC.1/Circ.1432, para. 7.12.4				
	Visually examination of at least one wheeled (mobile) extinguisher of each type manufactured in the same year and kept on board.	MSC.1/Circ.1432, para. 9.6	All	5-yearly	Crew	

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
	All fire extinguishers together with propellant cartridges shall be hydraulically tested in accordance with the recognized standard or the manufacturer's instruction.	MSC.1/Circ.1432, para. 10.5	All	10-yearly	SER or ALS	
Fire-fighter's outfits	Verify lockers providing storage for fire-fighting equipment contain their full inventory and equipment is in serviceable condition.	MSC.1/Circ.1432, para. 5.5	All	Monthly	Crew	
Fire mains, fire pumps, hydrants, hoses and nozzles	Verify that all fire hydrants, hose and nozzles are in place, properly arranged, and are in serviceable condition.	MSC.1/Circ.1432, para. 5.1.1	All	Monthly	Crew	
	Operate all fire pumps to confirm that they continue to supply adequate pressure.	MSC.1/Circ.1432, para. 5.1.2				
	Verify that emergency fire pump fuel supply is adequate and heating system in satisfactory condition, if applicable.	MSC.1/Circ.1432, para. 5.1.3				
	Verify that international shore connection(s) is/are in serviceable condition.	MSC.1/Circ.1432, para. 6.1	All	Quarterly	Crew	
	Visually inspect all accessible components for proper condition.	MSC.1/Circ.1432, para. 7.1.1	All	Annually	Crew	
	Flow test all fire pumps for proper pressure and capacity. Test emergency fire pump with isolation valves closed	MSC.1/Circ.1432, para. 7.1.2				
	Test all hydrant valves for proper operation.	MSC.1/Circ.1432, para. 7.1.3				
	Pressure test a sample of fire hoses at the maximum fire main pressure, so that all fire hoses are tested within five years.	MSC.1/Circ.1432, para. 7.1.4				
	Verify all fire pump relief valves, if provided, are properly set.	MSC.1/Circ.1432, para. 7.1.5				
	Examine all filters/strainers to verify they are free of debris and contamination.	MSC.1/Circ.1432, para. 7.1.6				
	Verify that the nozzle size/type is correct, maintained and working.	MSC.1/Circ.1432, para. 7.1.7				

Equipment / Requirement		Regulation	Ship Type	Interval	By (see page 19)	Remark
Galley exhaust ducts	Verify galley exhaust ducts and filters are free of grease build-up.	MSC.1/Circ.1432, para. 7.6.2	All	Annually	Crew	
Portable foam applicator units	Verify all portable foam applicators are in place, properly arranged, and are in proper condition.	MSC.1/Circ.1432, para. 5.8	All	Monthly	Crew	
	Verify that all portable foam applicators are set to the correct proportioning ratio for the foam concentrate supplied and the equipment is in proper order.	MSC.1/Circ.1432, para. 7.11.1				
	Verify that all portable containers or portable tanks containing foam concentrate remain factory sealed, and the manufacturer's recommended service life interval has not been exceeded.	MSC.1/Circ.1432, para. 7.11.2				
	Portable containers or portable tanks containing foam concentrate, excluding protein based concentrates, less than 10 years old, that remain factory sealed can normally be accepted without the periodical foam control tests required in MSC.1/Circ.1312 being carried out.	MSC.1/Circ.1432, para. 7.11.3				Foam control tests are to be conducted by an approved service supplier or an accredited laboratory.
	Protein based foam concentrate portable containers and portable tanks shall be thoroughly checked and, if more than five years old, the foam concentrate shall be subjected to the periodical foam control tests required in MSC.1/Circ.1312, or renewed.	MSC.1/Circ.1432, para. 7.11.4				
	The foam concentrates of any non-sealed portable containers and portable tanks, and portable containers and portable tanks where production data is not documented, shall be subjected to the periodical foam control tests required in MSC.1/Circ.1312.	MSC.1/Circ.1432, para. 7.11.5				
Ventilation systems	Test all ventilation controls interconnected with fire-protection systems for proper operation.	MSC.1/Circ.1432, para. 7.6.3	All	Annually	Crew	



Restricted Visibility.

17 You are on the watch, there are two vessels crossing, collision course. Master is doing some work there on his computer. What will you do? Explain.
18 You are on the watch, pilot on board, master is not present on the bridge, what will you do?
19 What is a crossing situation?
20 You are going to the bridge for your watch, what will you do after entering in the bridge in night time?
21 How will you perform your watch at night?
22 When will call master?
23 Do you know about your radar errors, what are these errors?
24 What are the limitations of the radar?
25 What is the difference between RADAR and ARPA?
26 What is LRIT? What is its purpose?
27 Who can get data of LRIT?
28 Have you seen LRIT on Board?
29 If you have power failure, will you LRIT work?
30 What is VDR? What are the data we can from VDR?
31 What is purpose of VDR and who can have access?
32 Back up arrangement of VDR?
33 How much data can it record?
34 How to get data from VDR?
35 How we can get the speed of the vessel? What are the instruments we have on board?
36 What is ECDIS? What is ENC?
37 How will you know that your ENC is expired without knowing its expiry date?
38 What is isolated danger mark and its purpose, draw and tell its characteristics?
39 How will you plan a passage from A to B?
40 What are the sources we have on board for the correction of the charts and publications?
41 Which regulation says about "berth to berth "passage plan?
42 What is T& P?
43 Maintenance of LSA and FFA on board?
44 What is LSA and FSS code?
45 What information we get from muster list?
46 What is General Emergency Alarm?
47 What is the difference between alarm and indication?
48 What is SOLAS training manual? And it's content?
49 How will you perform the operation at aft mooring station if you are the in charge of the station?
50 What is COSWP?

* Remark →

Please go through the Codes-

1. SOLAS
2. FSS
3. LSA
4. SOLAS TRAINING MANUAL
5. IMDG CODE

And refer the checklist before going for examination.

Checklist means the class III exam checklist.

51 What are the Imo stability criteria?
52 According to SOLAS what are the mandatory reporting, master has to report? {explain the examiner SOLAS CHAPTER 5 ,REG NO. 31 }
53 You are on the watch, you heard the sound from your deck working crew "man overboard ". What is your action and explain? {Please mention all step must include note down all timing and press the button of VDR to save }
54 To whom will you report this incident and how? { send distress alert to all the vessels in the vicinity}
55 What is official log book? And it's content?
56 What is GMDSS log book? What are the entries to be made in this log book?
57 How will you dispose garbage in sea?
58 What is garbage management plan?
59 What is SSP?
60 What is SOPEP and SMPEP?
61 What are the documents required for loading IMDG on board?
62 During IMDG loading, what are your duties? What supervision will you make before loading?
63 What kind of inspections will you carry when carrying IMDG cargo?
64 Special precautions to be taken when carrying and loading IMDG class 1 cargo?
65 Can you do bunkering during loading?
66 What is the class of IMDG cargo that passenger ship can carry? And quantity?
67 Difference between short turn and full turn?
68 What is shallow water?
69 What is stiff and tender ship?
70 What is CPR?

[Please Note that you must have the reference of your answer, whatever you are answering to the examiner.]

Q-61 - Please get reference from IMDG code chapter 5.4, and give your answer.
⇨ DOC (Document of compliance is a important Docs)

⇨ Bunkering During loading IMDG cargo -

IMDG code says while loading IMDG CLASS 1 cargo it is not advisable. means you can not do bunkering in that ⇒ [CLass 1.4 only] during loading you can do.

[Means CLASS 1 except 1.4S you cannot do bunkering while loading IMDG Cargo]

Q 66 → Only Class 1.4 max. quantity 10 kg.

* Please go through the IMDG Code. Before going to ORAL EXAM.

- **Candidate - D/C Sanju Aeshmantha Peiris (CLASS iii)**
- **Examiner - Capt. Sunil Jayaweera**
- **Date - 29/12/2015**
- **From 1340 To 1530**
- **Status - Pass**

1. **What are the types of ship you sailed**
2. **List down the LSA**
3. **What are the maintenances of life boat/ what is on load & off load release**
4. **How do u carry out lifeboat inventory**
5. **What is the lifeboat skate and its purpose**
6. **Equipment in lifeboat**
7. **Describe IMDG code & how to refer it**
8. **You are on cargo watch, they are going to load IMDG, what are the action you should take**
9. **Minimum stability criteria for a cargo ship**
10. **How much is the minimum GM for a timber carrier??**
11. **Why it is lower than normal cargo ship**
12. **How much is the minimum GM for a grain carrier??**
13. **Why it is higher than normal cargo ship**
14. **How do you secure grain**
15. **What is angle of lol and how do you correct it??**
16. **When correcting angle of lol why do you first fill the tank in listed side**
17. **What is damage control booklet & its contents, how do you refer it**
18. **What are the limitations of RADAR**
19. **What are the errors in RADAR**
20. **Explain range discrimination and bearing discrimination**
21. **Your vessel is fully loaded with containers , how it is going to affect your RADAR**
22. **Explain shadow sector and blind sector, from where u can find it? , if it is not posted on radar from where you can find it?? , who makes it??**
23. **How do u carry out manual radar plotting**
24. **What is LRIT**
25. **Definition of vessel**
26. **Definition of fishing vessel/light and shapes/sound signal**
27. **Definition of mast head light and side light**
28. **Explain rule No 7**
29. **You see a red light on your STBD beam, range 4 nm, what is your action**
30. **You see a single white light, what is that? (all possibilities)**
31. **You are going to drop the anchor in two hours, as a 3/O what are your duties?? How do you prepare the vessel??**

32. How do you carry out anchor watch??
33. You are experiencing heavy weather in anchorage , what are the precautions you should take
34. What is swinging circle & dragging circle?? , purpose of those, how do you construct those?? And what is more important??
35. What is a tornado
36. What is the different between tornado & TRS
37. What is tropical depression
38. What is frontal depression, how does it form, what are the effect of it
39. What is TRS & how does it foam
40. Signs indicating approach of TRS
41. Avoiding actions in TRS
42. How do you obtain reading from aneroid barometer, what are the corrections and how do u apply it?

34. What is official log book? (Not the deck log book)

35. How you maintain a compass error log book and chronometer record book?

36. What are the contents of stability booklet?

37. What is transverse thrust?

38. What is Squat?

39. Explain tender vessel and stiff vessel?

40. Explain the checks carried on mooring winches and windlass?

41. Explain oily water separator?

THANK YOU!!!

Navigation Class 3

Candidate :- M.M.B. Muhandiram (Batch 25)

Examiner :- Capt. Sunil Jayaweera and 2 observation examiners Capt. S.M.S. Bandara and Capt. Gamini Wilson

*Questions were *mostly asked by the observation examiners*. They were using the NWKO oral Examination checklist used by the examiners. According to that order they were asking the questions.

1. How do you take over a navigational watch as a 2/O.

2. How you carry out an anchor watch? How you identifying anchor dragging? What is dragging circle and swinging circle? How you prepare the anchor for letting go as the Duty officer at the anchor station? Why you slip the anchor?

3. How you carry out a cargo watch? (Security watch and C/O night orders to be mentioned in the answer)

4. How you receive a pilot at the pilot station?

5. What is ARPA? What are the information you can obtain? What is processing time?

6. What is AIS?

7. What is LRIT?

8. In a failure of Auto Pilot what actions to be carried out?

9. Basic Idea of Speed logs and Barograph?

10. Should be able to explain the rules in your own word. What is the range to take action in Clear visibility and restricted visibility?

11. What is safe speed?

12. Avoiding actions in restricted visibility?

13. Should be able to explain rule No 9 and 10.

14. What is south cardinal buoy? Isolated danger mark? Safe water mark?

15. How you plan a passage? Explain the 4 elements?

16. What information to be obtain from Ocean passages of the world?

17. Where can you find the mandatory reporting information?

18. What are the contents of ASD?

19. Contents of WNTM? How you correct a nautical chart?

20. What is T&P correction? Cumulative List?

21. How you lower a life boat? Life boat equipments?

22. What is SOLAS drill requirements for Boat drill, Fire drill, Security drill?

23. Enclosed space entry. What you do when you see a person lying on the bottom of the tank?

24. How do you identify anchor is brought up?

25. How you remove an air bubble from the magnetic compass?

26. When you see a single white light what can it be? (All Possibilities)

27. What is GM? How to correct a negative GM?

28. What is angle of loll?

29. How you prepare for Dry docking? (standard list, repair list, modification list)

30. AS an OOW what is you action when man overboard?

31. How you carry out an oil spill drill?

32. Explain SART?

33. What are the GMDSS equipments carrying onboard?

NAVIGATION CLASS 3

CANDIDATE: R.M.PUBUDU CHANAKA DASANAYAKE.

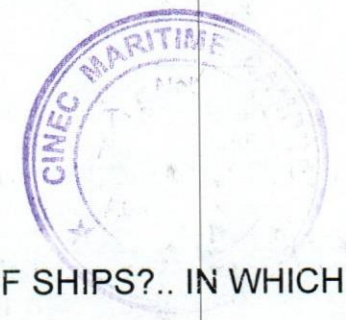
EXAMINAR: CAPT. GAMINI WILSON AND CAPT S.M.S.BANDARA UNDER THE OBSERVATION OF CAPT ASIRI HERATH

DATE: 27.11.2015

DURATION: 4.5 HOURS.

STATUS: PASS

QUESTIONS WERE MOSTLY BASED ON NWKO CHECK LIST, BUT THERE WAS NO ORDER.



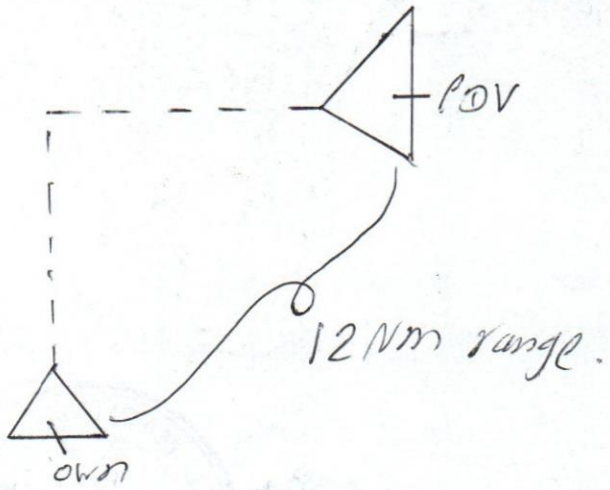
-----QUESTIONS-----

- CAPT. GAMINI WILSON-

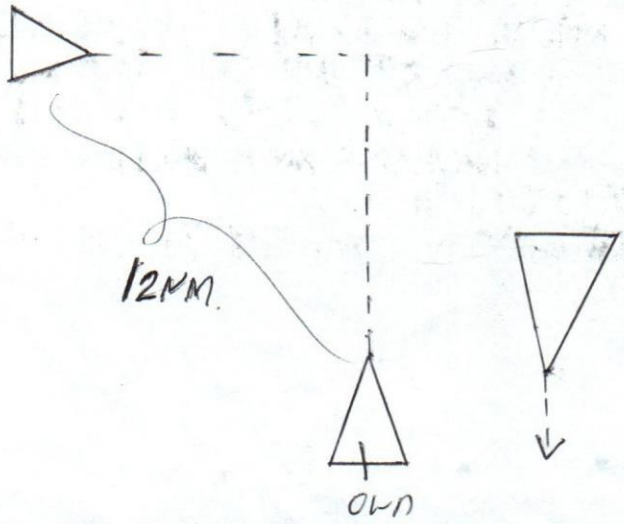
GIVE ME YOUR CDC AND THE EVALUATION LETTER...
HOW MANY VESSELS YOU SAILED ON?..WHAT TYPE OF SHIPS?.. IN WHICH COMPANY?.....

1) FROM WHICH CONVENTION COLREG WAS INTRODUCED?
2) COLREG STANDS FOR WHAT? HOW MANY RULES AND ANNEXES ARE THERE?
3) DEFINITION-
FISHING VESSEL, PDV, RAM,RESTRICTED VISIBILITY,CBD.
4) WHAT IS RISK OF COLLISION? (EXPLAIN RULES IN YOUR OWN WAY, TELL HIM THAT WHEN THE RANGE IS REDUCING RISK OF COLLISION EXIST TOO)
5) EXPLAIN ME WHAT IS SAFE SPEED?
6) EXPLAIN ACTIONS TO AVOID COLLLISIONS?
7) EXPLAIN THE NARROW CHANNEL RULE?
8) HOW YOU CROSS A TSS?
9) HOW YOU JOIN A TSS?
10) IN WHAT CIRCUMSTANCES YOU CAN CROSS SEPERATION LINES AND ZONES?
11) HOW DO YOU KNOW THAT YOU ARE OVERTAKING A VESSEL? (AS PER RULE 13)

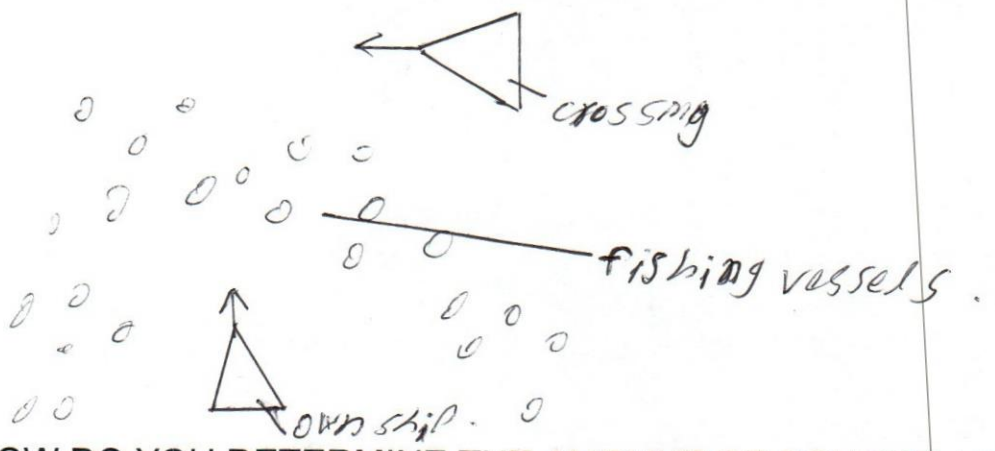
12) RANGE 12 MILES,CROSSING,WHAT IS YOU ACTION? AT WHAT RANGE YOU WILL INITIATE THE ACTION?(AROUND 6 MILES)
(CAPT WILSON EXPECT DETAILED ANSWERS IN SITUATIONS)



13) HOW DO YOU KNOW THAT A VESSEL IS COMING HEAD ON?... WHAT IS YOUR ACTION? (EXPALIN AS PER RULE 14)
14) IN RESTRICTED VISIBILITY WHAT ACTIONS YOU SHOULD AVOID?
15) RESTRICTED VISIBILITY --- RISK OF COLLISION EXIST WITH THE PORT BOW TARGET RANGE IS 12 NM.. THERE IS A NOTHER SHIP IS YOUR STBD BEAM.. WHAT IS YOUR ACTION?... TELL HIM TO AQUIRE TARGETS ON ARPA AND PRIORITIZE AS PER CPA... BEST ACTION IS TO REDUCE SPEED TO MINIMUM AND ALLOW STBD BEAM SHIP TO PASS AND STOP OR IF NEED OPERATE ASTERN PROPULSION AND ALLOW PORT BOW TARGET TO PASS.. THEN SPEED UP AND RESUME YOUR VOYAGE.



16) IN RESTRICTED VISIBILITY YOU ARE SAROUNDED BY FISHING TRAFFIS AND A SHIP IS GOING TO CROSS YOUR BOW FROM THE STBD, NO SEA ROOM TO ALTER, WHAT IS YOUR ACTION?.. (REDUCE SPEED TO MINIUMUM IF NECESSARY ASTERN PROPULSION AND CALL MASTER IMMMIDIETLY)

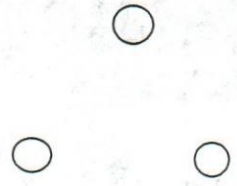


17) HOW DO YOU DETERMINE THE AMOUNT OF COURSE ALTERATION REQUIRED?(RADAR PLOTTING AND ARPA)
18) WHAT OCCATIONS YOU WILL CALL MASTER?
19) TELL ME ABOUT RADAR ERRORS?(TELL HIM AROUND 6 RADAR ERRORS)
20) YOU ARE GETTING A ECHO ON YOUR FWD AT NIGHT HOW DO YOU IDENTIFY ITS A REAL ECHO? (SEE IT VISUALLY USING A BINOCULAR) CANNOT SEE A TARGET VISUALLY BT STILL GETTING THE ECHO? (EXPLAIN HIM ABOUT SWITCH THE RANGE SCALE AND CHECK OR ALTER COURSE AND SEE WHETHER THE ECHO IS MOVING RELATIVE TO US OR STEADY)

❖ CAPT S.M.S.BANDARA AND CAPTAIN ASIRI HERATH
QUESTIONS WERE MOSTLY ASKED BY CAPTAIN S.M.S BANDARA,HE EXPECT PRACTICLE ANSWERS.

21) HOW DO YOU USE TRIAL MANOUVRE FUNCTION?
22) YOU SEE A WHITE LIGHT,, WHAT ARE ALL THE POSSIBILITIES?
23) IF IT IS A STERN LIGHT OF A SAILING VESSEL WHAT YOU SHOULD DO?
24) HOW DO YOU KNOW WHETHER IT IS OVERTAKING OR NOT?(I TOLD HIM ABOUT COMING UP WITH 22.5 ABAFT THE BEAM BUT HE DIDNT ACCEPT THAT ANSWER THEN I TOLD HIM THAT IF MY SPEED IS MORE THAT HIM THEN IM OVERTAKING, HE ACCEPTED THAT ANSWER)
25) WHAT IS FINALLY PASSED AND CLEAR? (WHN THE TARGET IS 3 POINTS ABAFT MY BEAM)

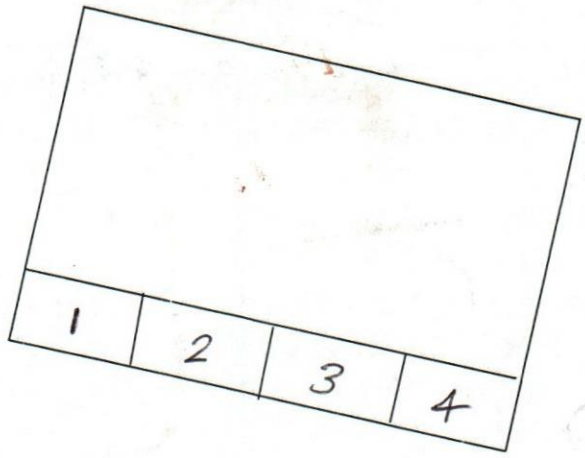
26) YOU ARE THE DUTY OFFICER AND YOU SEE THREE GREEN LIGHTS LIKE THIS RIGHT AHEAD? WHAT IS THIS VESSEL?.. AND WHAT IS YOUR ACTION?(1000M CLEARENCE)



27) FOG SIGNAL OF A PDV MAKING WAY?
28) FOG SIGNAL OF A PDV NOT MAKING WAY?
29) FOG SIGNAL OF A ANCHOR VESSEL?
30) WHT IS A GONG?(SOUND GENERATING EQUIPMENT)
31) RANGE OF THE FOG SIGNAL?
32) LIGHTS OF A SAILING VESSEL?
33) VISIBILITY ARCS OF MAST,SIDE AND STERN LIGHTS?
34) HOW YOU SET UP A RADAR?
35) HOW YOU TUNE A RADAR?
36) WHAT IS ISOLATED DANGER MARK?(COMPLETE ANSWER AS PER IALA)
37) HOW DO YOU PASS A ISOLATED DANGER MARK? (CAN PASS FROM ANY DIRECTION BUT ITS GOOD PRACTICE TO KEEP A WIDER BERTH)
38) WHAT IS SAFE WATER MARK?(COMPLETE ANSWER)
39) HOW DO YOU PASS A SAFE WATER MARK?
40) EXPLAIN EAST CARDINAL MARK?
41) YOU ARE COMING 090 AND YOU SEE A EAST CARDINAL BUOY RIGHT AHEAD WHAT IS YOUR ACTION?...
42) YOU ARE JOINING AS A THIRD OFFICER IN YOUR FIRST SHIP HOW DO YOU TAKE OVER?
43) HOW DO YOU TAKE OVER A NAVIGATION WATCH AT NIGHT?
44) HOW YOU CARRY OUT A CARGO WATCH?
45) HOW DO YOU LOAD A IMDG CONTAINER?
46) WHAT IS ANCHOR BROUGHT UP? HOW YOU IDENTIFY IT?
47) HOW DO YOU KNOW THAT YOUR ANCHOR IS DRAGGING?
48) HOW TO DRAW A DRAGGING CIRCLE?
49) WHY DID YOU ADD THE LENGTH BRIDGE TO BOW? (EXPLAIN THAT THE GPS IS GIVING THE ANTENNA POSITION AND IN ORDER TO FIND THE EXACT POSN OF THE ANCHOR YOU ARE DOING THAT)
50) WHEN YOU ARE GOING TO PICK UP THE PILOT WHAT YOU SHOULD CHECK FOR?... (LIFE BUOY WITH A SELF IGNITING LIGHT IS A IMPORTANT POINT SO DONT FORGET TO MENTION THIS)
51) WHAT IS THE REASON FOR INDIRECT ECHO?
52) WHAT IS THE REASON FOR MULTIPLE ECHO?

53) WHAT ARE THE MAINTENANCE YOU DO IN THE MAGNETIC COMPASS? (EXPLAIN THAT WE ARE NOT AUTHORISED TO DO ANY MAINTENANCE ITS DONE BY AN AUTHORISED PERSON, IF THERE ARE ANY OTHER MAINTENANCE I WILL CHECK THE INSTRUCTION MANUAL FIRST, NORMALLY ON BOARD WE ONLY CLEAN IT FROM THE OUT SIDE AND IF THE BULB IS BUSTED WE REPLACE IT)
54) WHAT IS ECDIS?
55) HOW DO YOU TAKE A READING FROM BAROMETER?
56) WHERE IS THE BARROMETER INDEX ERROR? HOW TO CALCULATE INDEX ERROR?
57) HOW DO YOU CALCULATE COMPASS ERROR?(EXPLAIN THE COMPLETE METHOD)
58) WHAT IS YOUR DUTY AS A THIRD OFFICER IN CASE OF A FIRE?
59) LOCATION OF FIRE PLAN? AND WHY IT'S USED?
60) WHAT IS THE IMPORTANT OF FIRE PLANS WHICH ARE OUTSIDE THE ACCOMODATION?
61) IF YOU ARE IN THE CABIN AND YOU HEAR THE FIRE ALARM. WHAT IS YOUR ACTION?
62) YOU ARE ON BRIDGE AND SOMEONE SHOUT MAN OVERBOARD, WHAT YOU ARE GOING TO DO?
63) EXPLAIN HOW TO CARRY OUR WILLAIMSON TURN?
64) EXPALIN HOW YOU DO A PASSAGE PLAN?(BERTH TO BERTH, CONCEPT, ESPECIALLY DESCRIBE ABOUT APPRAISEL AND PLANING)
65) HOW DO YOU PLAN A PASSAGE FROM SOUTH AMERICA TO SOUTH AFRICA?
(GC, MENTION ABOUT <u>POLAR GNOMONIC CHART</u>)
66) IF THERE IS LIMITING LATITUDE WHAT YOU ARE GOING TO DO?
67) IF YOU DONT HAVE A GNOMIC CHART HOW YOU PLAN THAT PASSAGE?
68) CONTENTS OF SHIPS ROUTENING?
69) WHERE DO YOU FIND T AND P?
70) HOW DO YOU CORRECT PAPER CHART?
71) CONTENTS OF NTM? (WNTM,ANNUAL,CUMULATIVE)
72) WHAT IS T AND P ?
73) WHAT LSA MAINTENANCE YOU DO? (DETAILED ANSWER, EXPLAIN ABOUR LIFE JACKET, IMMERSION SUITS, LIFE BOAT..ETC)
74) WHAT FFA MAINTENANCE YOU DO?(DETAILED ANSWER)
75) HOW TO CARRY OUT THE TESTING OF STEERING GEAR ?(AS PER SOLAS)
76) LOACAIONS OF SOLAS TRAINING MANUAL AND CONTENTS OF IT?
77) WHAT IS 3+2+2? (MOORING)
78) WHAT IS HOT WORK PERMIT?
79) HOW TO CARRY OUT A HOT WORK? PRECAUTIONS?
80) WHO CAN ISSUE HOT WORK PERMIT?

81) WHAT IS GM?
82) WHAT IS NEGATIVE GM?
83) WHAT IS ANGLE OF LOL?
84) HOW TO CORRECT ANGLE OF LOL?.. IF YOU ARE BALLSTING WHAT IS THE ORDER OF THE TANKS?



85) WHAT IS STIFF SHIP? HOW YOU OVERCOME IT?
86) CONTENTS OF STABILITY BOOKLET?
87) WHAT SIGNS YOU OBSERVE WHEN A TRS IS COMING?
88) AVOIDING ACTION IN NOTHERN HEMISPHERE DANGER SEMICIRLCE?
89) HOW YOU KNOW THAT YOU HAVE PASSED A TRS?
90) EXPLAIN ABOUT NE MONSOON?
91) WHAT DO YOU DO IF GYRO FAILS?
92) HOW MANY PYROTECHNICES ARE THERE IN THE LIFEBOAT?
93) HOW MANY LTA YOU MUST CARRY?... WHAT IS THE USE OF IT?
94) EXPLAIN ABOUT IAMSAR VOLUME3?
95) CONTENTS OF GMDSS BOOK?
96) WHAT ARE THE GMDSS TESTS YOU CARRY OUT?(DAILY ,WEEKLY,MONTHLY)
97) EXPLAIN ME ABOUT DRILL REQUIREMENTS AS PER SOLAS?
98) WHAT LIFE BOAT MAINTENANCE YOU DO?(WEEKLY,MONTHLY, ONCE IN THREE MONTHS)
99) WHAT ARE THE CONTENTS OF A SHELL EXPANTION PLAN?
100) WHAT IS SINGLE GEAR AND DOUBLE GEAR?
101) EXPLAIN TRANVERSE THRUST?
102) HOW TO DO A SHORT TURN? ..FPP RIGHT HAND..
103) WHST IS ROLLING SYNCHRONIZASTION? HOW DO YOU AVOID IT?
104) WHAT IS TRANSFER OF A SHIP?
105) WHAT DO YOU DO IF SOME ONE COMPLAINS THAT HE IS HAVING A CHEST PAIN RIGHT SIDE?
106) EXPLAIN ABOUT FRESH WATER GENERATOR?

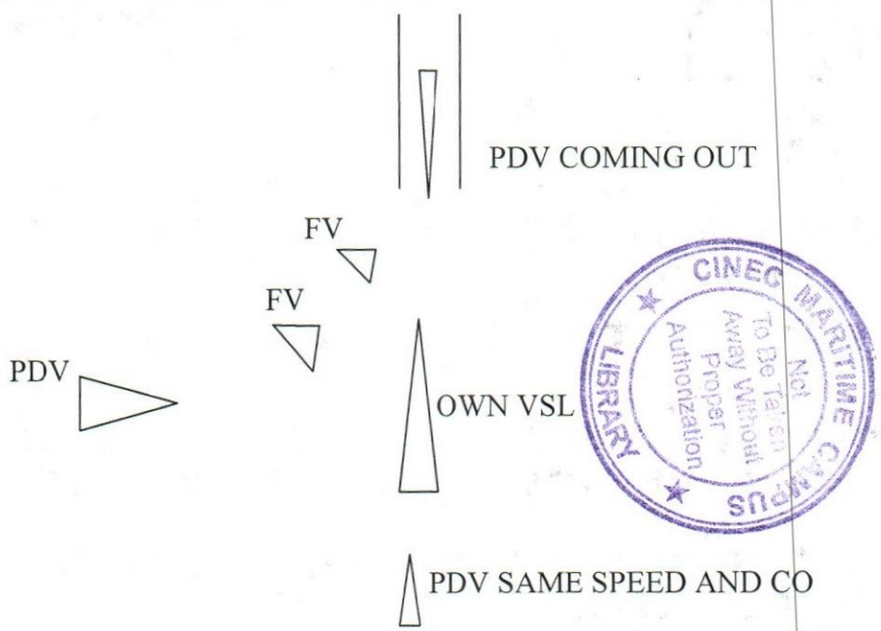
My gratitude to all Nav dept,simulator,GMDSS lecturers, navi batch 25 colleagues, and all staff at cinec,specially the library staff. GOOD LUCK TO ALL FUTURE CANDIDATES....

107) You are on a TSS, from the stbd a CBD V/L is crossing. ~~What~~ risk of collison exists. What is your action

NP Class III

CANDIDATE: DURGESH PRATAP SINGH
EXAMINER: CAPT. GAMINI WILSON
ATTEMPT: 1ST
DATE: 22-DEC-2015
TIME: 1010 – 1140 LT
STATUS: PASSED

1. GENERAL ENQUIRY OF SEA SERVICE, TYPE OF SHIPS SAILED, WRITTEN EXAMINATION ATTEMPTS ETC.
2. WHAT IS SAFE SPEED? (AS PER RULE NO.6)
3. HOW THE DRAFT AFFECTS SAFE SPEED?(SQUAT)
4. WHAT IS SQUAT?(MENTION FORMULA)
5. HOW SQUAT HAPPENS?
6. HOW TO COUNTERACT SQUAT?
7. HOW TO NAVIGATE IN NARROW CHANNEL?(COMPLETE RULE NO.9 IN OWN WORDS)
8. HOW YOU OVERTAKE A VESSEL IN NARROW CHANNEL?(SOUND SIGNAL AND DON'T FORGET TO MENTION FLASH)
9. WHAT IS BANK EFFECT?HOW DOES IT HAPPEN?(BOW CUSHIONING & STERN SUCTION)
10. RULE NO. 10 IN OWN WORDS.
11. WHAT IS TRANSVERSE THRUST?
12. YOU ARE GOING TO ENTER A BOUYED CHANNEL AT FAIRWAY.AT SAFE SPEED. IN SIGHT OF ONE ANOTHER, FOLLOWING SITUATION. WHAT IS YOUR ACTION?

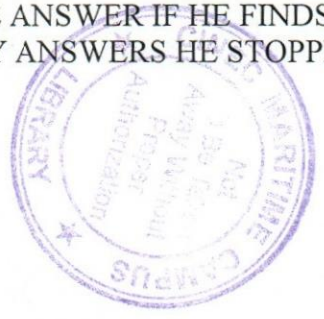


(NOT HAPPY WITH FULL ROUND TURN. TAKE A BROAD ALTERATION TO STBD. USE ENGINE AND WAIT FOR TRAFFIC TO CLEAR)

13. YOU ARE SEEING A WHITE LIGHT ON PORT BOW. ACTION?(MENTION ALL POSSIBILITIES FIRST. ACTION FOR PDV AND SV/ANCHOR CLEARLY EXPLAIN.)
14. WHAT IS FINALLY PAST AND CLEAR?(MORE THAN 2 POINT ABAFT THE BEAM)
15. RULE NO. 19 IN OWN WORDS.
16. FOLLOWING SITUATION IN RESTRICTED VISIBILITY. RANGE REDUCING COLLISION COURSE.ACTION??

48. WHAT IS BLIND SECTOR AND SHADOW SECTOR?
49. WHAT ARE ERRORS? WHAT IS MULTIPLE ECHO?
50. HOW YOU TAKE OVER NAVIGATIONAL WATCH?
51. YOU ARE AT SEA. GYRO FAILS. A LOT OF ALARMS ARE BLOWING AT BRIDGE. WHAT IS YOUR ACTION? WHAT IS YOUR FIRST ACTION?(CHANGE OVER TO HAND STEERING AND NAVIGATE WITH MAGNETIC,OTHER THINGS AFTER THAT).
52. WHAT ARE THESE ALARMS?(MANY NAV EQUIPMENTS ARE HAVING GYRO INPUT. THIS IS BECAUSE OF GYRO FAILURE.)
53. WHAT YOU DO FOR THOSE ALARMS?(IF AVAILABLE I WILL CHANGE THEM TO MAGNETIC. NOW A DAYS THIS OPTION IS PROVIDED)
54. TELL ME ABOUT RECORDKEEPING AS SECOND OFFICER? (MENTION ALL LOG BOOKS INCLUDING MEDICAL LOG)
55. WHAT YOU WRITE IN RADAR LOG?
56. YOUR ONE OF CREW MEMBER IS COMPLAING ABOUT SEVERE ABDOMEN PAIN. YOUR ACTION?(MENTION RADIO MEDICAL ADVICE/CIRM)
57. WHAT IS CIRM STANDS FOR?(INTERNATIONAL RADIO MEDICAL CENTER).
58. CIRM ASK YOU TO GIVE OXYGEN TO PATIENT?WHAT EQUIPMENT YOU WILL USE?(O2 RESUCIATOR)
59. HOW YOU LOAD IMDG CARGO?
60. WHAT IS PROCEDURES OF LOADING CONTAINER?
61. WHAT IS COW? WHAT IS REQUIREMENTS?
62. WHAT IS INERT GAS SYSTEM? REQUIREMENTS? NEW AMENDMENTS?(FROM 1 JAN 2016 ALL OIL AND CHEMICAL TANKERS OVER 8000 DWT SHALL HAVE IG)
63. WHERE YOU WILL FIND WHAT ADDITIONAL SAFETY EQUIPMENTS TO BE PROVIDED FOR SHIPS CARRYING IMDG?(IMDG CODE AND DOC)
64. WHAT IS OWS? (MENTION MARPOL ANNEX 1)
65. WHAT IS AIS? STATIC AND DYNAMIC DATA
66. HOW YOU TEST STEERING GEAR?(REGULATION AND PROCEDURE)
67. WHAT IS VARIATION? WHERE YOU FIND IT?(COMPASS ROSE AND VARIATION CHARTS)
68. HOW TO FIND DEVIATION?(MENTION TRANSIT BEARING AS WELL AS AZIMUTH)
69. WHERE YOU FIND MANOEUVERING CHARECTERSTICS OF SHIP?(WHEEL HOUSE POSTER)
70. STABILITY CRITERIA FOR GRAIN ?
71. DRAW AND SHOW SAME ON GZ CURVE
72. WHAT IS DECK EDGE IMMERSION?
73. YOU ARE ON WATCH. OIL SPILL TAKES PLACE DURING LOADING OIL. YOUR ACTION.(MENTION STOPPING CARGO IMMEDIATELY,USE OF SOPEP, AVOIDING SPILLAGE OVERBOARD, SCUPPERS,ALARM TO BE RAISED ETC)
74. WHAT IS SOLAS REQUIREMENT FOR OIL SPILL DRILL?

HE LIKES THE ANSWER IF YOU USE PROPER REGULATIONS AND PUBLICATIONS IN YOUR ANSWERS. VERY KEEN TO LISTEN SOLAS REGULATIONS AFFECTING YOUR ANSWER,IF ANY.HE DOESN'T WAIT YOU TO COMPLETE THE ANSWER IF HE FINDS YOU ARE ANSWERING USING SOLAS OR ANY CODE REFERENCE. MANY ANSWERS HE STOPPED ME IN MID WAY THROUGH.



Exam: Navigation Watchkeeping Officer on ships of 500 GT or More ORALS.

Candidate: Mevan Banagala

Examiner: Capt.Nick Senanayake

Date: 03.11.2015

Duration 04 hours

Status Pass

Getting Ready for orals:

Take your CDC, GOC, Original certificates, Cadet training book (Ship particulars filled properly), Letter from Cinec on certification of record book, Letter of Eligibility, Completed Projects, Sea Service letters.

Photocopy All new Certificates (ex:radar courses, Aff,course completion.. etc) and GOC and hand them over to the exam dept of the Ministry of Shipping.

Attire shall be a WHITE long sleeves shirt, with tie, Black trousers.

A Wrist Watch must be worn. Take a pen and Rough sheets in case you have to explain.

He will take you in and will systematically go through your file. He will question you about your voyages during the cadet period. Make sure you know what you're talking about. And the measures you took to properly stow and carry the particular cargoes you say.

YOU MUST BE FAMILIAR WITH ALL QUESTIONS IN PUBUDU CHATHURANGA's and O.D PATHINAYAKE'S TUTE, Other than those questions the examiner asked me these queries.

Questions:

- **Definitions**

NUC, RAM
CBD, Underway
In Sight of One Another
Fishing Vessel, Sailing Vessel
(State definitions as per rule number 3, Do not miss even a single letter, If he feels you are not confident he will continue to ask Definitions.)

R/V

- The actions to be avoided in Restricted Visibility as per rule 19?

Answer as per P.C's Tute

- Restricted Visibility Situations as mentioned in PUBUDU CHATHURANGAS TUTE:

(Answer as per the responses given on Pubudu Chathuranga's tute. When you are giving answers be animated and show the situation with your hands. So as to convince him, that you are thorough about the situations. If the examiner thinks that you have memorized answers he will ask to explain the answer in a different approach.

Cross Questions:

- What is FINALLY PAST AND CLEAR?

Answer : Sir, It is when the target vessel is abaft my beam. And show the area abaft the beam.

- What do you mean Abaft the beam? How many degrees? Is 1 Degree abaft the beam okay?

Answer : No Sir, She will be deemed to be Finally past and clear when she is at least 3 pts abaft my beam.

- In the Situation Of hearing a fog signal FWD of my Beam, Vessel not detected on the radar. The answer states That I will inform the master.

He Questioned as to why I will call master. His expected answer is that Because the target is not detected on the RADAR it poses as a danger to navigation, Therefore I will call master.

➢ Situations in Clear Visibility:

Same Situations as given In Pubudu Chaturangas tute.

- Your Vessel is being Overtaken, What is your Action?

Sir I will proceed with my course and speed. It is the responsibility of the overtaking Vessel to keep clear of me.

- How do you know that it is an Overtaking vessel?

Sir if the Target Is coming up with an angle 22.5 Degrees abaft my beam on either side of my vessel, she shall be an overtaking vessel.

- When He asks the question "You see two white lights nearly in a vertical line forward of your beam What can those lights indicate and what is your action?"

Tell him all 3 possibilities, and when giving the action mention, Sir since all three options are Power driven vessels and since the lights are in sight of one another This is a Head on Situation. And tell the answer as per the answer on the P.C's tute.

LIGHTs SHAPEs And Sound Signals.

- Same Vessels as mentioned in P.C's Tute.

When He asks About Light and shapes of a towing vessel it is:

Vessel engaged in towing, Towing Vessel MORE than 50m in length and length of tow EXCEEDING 200m.

- Definitions of lights :

Study ALL!! I was asked Masthead Light, Stern Light, Sidelights

- What do you mean Over the arc of the horizon of 225 Degrees?

It Means sir, If you view the light from a bird's eye view It will Display and angle of 225 degrees.

Buoyage:

- Same Questions as P.C's Tute.
- Additionally He Asked me to describe Reigon B Lateral Marks.

Sir, Reigon B Lateral Marks

Port Side: Shape Can/Cylinder, Pillar, Spar

Colour Green

Topmark If Any A Green can/Cylinder

Light: Green light Other than Composite group flashing 2+1 Any rhythm

STBD Side:

Shape Cone Pillar or Spar

Colour Red

Top mark if any Red Cone

Light Red light any other rhythm than composite GF 2+1

➢ MET:

Same as P.C's Tute. Additionally he asked me;

- How do you use a Hydrometer? What is the purpose?

Sir I will wash the hydrometer with fresh water thoroughly, then I will wipe it clean with a clean cloth. Then I will carefully immerse the hydrometer in the liquid as just before letting it float freely I will Give a small twist as I let it go. Once the spinning stops I will take the reading at eye level.

Purpose A hydrometer is an instrument used to measure the specific gravity (relative density) of liquids

- How do you Use a Sea Water Bucket?

Sir I will make sure that the sea water bucket is clean and ready to use. If not clean by using freshwater and dry it. Make sure the vessel is going at a speed appropriate for me to lower the bucket in the water. Make sure that I take the sea water sample far away from any water outlets of the ship, ex: Engine room cooling water etc.(Best place to take the reading is midship) Also take the sample from about 1.5m to 2m below the sea surface, as surface currents may affect the sample.

- If The temperatures of the dry thermometer and wet thermometer are nearly same what does that mean? Why can that be?

Sir if the temperatures are same it means that the relative humidity is 100% or Near 100%. You must refer the table to get the correct R.H

It can be that the atmosphere is actually that humid, But for 100% R.H it means that the thermometers must be underwater!!

So it may be an error caused because the muslin of the wet thermometer is unclean, Maybe dust particles or oil, carbon from funnel ashes is making an error,

VESSEL 

OWN VESSEL 

17. WHAT ARE THE FOG SIGNALS OF PDV MAKING WAY, PDV UNDERWAY NOT MAKING WAY?
18. SOUND SIGNAL FOR VESSEL NOT UNDER COMMOND?
19. WHAT IS NOT UNDER COMMOND?(SAME AS RULE NO. 3)
20. WHAT IS CBD?(SAME AS RULE NO.3)
21. LIGHTS AND SHAPES?
22. ARE THESE MANDATORY?
23. WHAT IS RAM?(SAME AS RULE NO.3)
24. FOG SIGNAL FOR RAM?
25. LIGHTS FOR VESSEL AGROUND?
26. FOG SIGNAL FOR VESSEL AGROUND?(TELL FOR BOTH VESSEL LESS THAN 100 M & FOR MORE THAN 100 M)
27. LIGHTS AND SHAPES FOR TOWING VESSEL. VESSEL MORE THAN 50 MTR AND TOW LENGTH MORE THAN 200 M.
28. FOG SIGNAL FOR TOWING VESSEL. SAME CONDITION.
29. WHAT IS LIGHT OF PILOT VESSEL?(AT ANCHOR AND UNDERWAY)
30. WHAT IS DIFFERENCE BETWEEN PILOT VESSEL LIGHT AND FISHING VESSEL LIGHTS?
31. HOW YOU CONSIDER THAT YOU ARE OVERTAKING VESSEL? DRAW AND SHOW
32. WHAT IS ISOLATED DANGER MARK? CHARECTERSITICS
33. WHAT IS THE USE OF THIS MARK?
34. WHAT IS SAFE WATER MARK? LIGHT CHARECTERISTICS
35. WEST CARDINAL MARK .. CHARECTERISTICS
36. YOU ARE ON A COURSE OF 180, YOU SEE WEST CARDINAL MARK. WHAT IS YOUR ACTION?
37. WHAT SAFE DISTANCE YOU WILL PASS?(IF SEA ROOM AVAILABLE I WILL PASS AT MASTER'S CPA.THOUGH NAVIGABLE WATER IS AVAILABLE JUST AFTER THE BOUY).
38. IF YOU ARE TOLD TO FIND A PORT ONLY PORT NAME IS GIVEN. NO COUNTRY NAME. WHICH PUBLICATION YOU REFER?(NOORIES TABLE LAST PAGES)
39. TELL ME ABOUT PASSAGE PLANNING?
40. HOW YOU PLAN A PAASAGE FROM SINGAPORE TO AUTRALIA?
41. GREAT CIRCLE TRACK? GNOMONIC CHARTS NOT AVAILABLE. SHOW ME THE CALCULATIONS?(INITIAL CO/FINAL CO/DIST/NAPIER RULE/VERTEX/INTERMEDIATE POSN/SMALLER INTERVAL LESS DISTANCE)
42. YOU ARE AT OPEN SEA. YOUR GPS NOT WORKING. HOW YOU PLOT YOUR POSN? AVAILABLE METHODS?STEPS FOR ANY ONE (AS I DID CHRONOMETER TIME TO GMT CALCULATION HE SAID TO STOP).
43. WHAT ARE THE LOW PRESSURE SYSTEMS AT SEA?(TRS/FRONTAL DEPRESSION/TLD)
44. ACTION FOR TRS WHEN ON THE PATH? NORTHERN HEMISPHERE
45. ACTION WHEN IN DANGEROUS QUADRANT?SOUTHERN HEMISPHERE
46. WHAT IS VEERING? DRAW AND SHOW
47. LIMITATIONS OF RADAR?

Also it maybe, because the Muslin is not properly wet.

Reading of the Hygrometer should be taken from the windward side, Accurate readings are given in winds exceeding 7 kts.

- Steering Gear Requirements and method of testing.

Answer as per P.C's Tute

- Single Gear And Double Gear?

Answer as per P.C's Tute

- Short Turn? Answer as per P.C's Tute

- **Great Circle Planning Passage? From New York to Gibraltar.**

  Answer as per P.C's Tute

- He Cross Questioned and Asked Why do you select two points Well away from land but not close to port? Why not Use coordinates of ports?

Ans: Because the great circle track on a gnomonic chart will appear as a straight line. If there are any obstructions It cannot be made properly.

Sextant

- What Are the Correctable Errors of the Sextant?
- Easiest Method of correcting the Index Error of the Sextant? Answer as per P.C's Tute
- When You add Index error to sextant Altitude what is the observation you get? Ans: observed Altitude.

- **Prepare STBD Anchor for letting go?**

Answer as per P.C's Tute

Finally say STBD Anchor Ready to let go, Clear of Hawse Pipe, Anchor Off the gear and Brakes on.

Watch-keeping

- How do you Take over Watch at Night?

Answer as per P.C's Tute

- Cross questioned Why do you check the planned track for 6 Hours? Are you on watch for 6 hrs?

No sir, If my Reliving officer is late to come on the bridge, Or if he is not fit for Duty, I will have keep watch. So for safety Reasons. Also If the Vessels Speed is increde enroute She will go further than the planned Four hours. Example if I go at 10 kts I will cover 40 miles if speed increases to 15 knots because of currents or ships engine I will cover 60 miles.

- You said you will check the planned track for dangers? What are the dangers?

Shallow patches, Buoys, Fishing Areas, High density Traffic areas, Coastal regions, Military exercise areas, TSS entrance and exit Areas,..

Definitely Mention the following point in your answer!!!

" I will go to the bridge wing, Check the funnel for black smoke, sparks, Any unusual sounds emitting from the vessel, Check Navigation lights, Check the blind sector of radars to see whether there are any vessels, Assume Range of visibility by comparing targets on Radar, Check wind direction, Check sea state and compute wind direction and speed."

- Why do you Check the Difference of the Gyro and standard compasses?
- How do you take Compass error?

Mention that you can compute the true azimuth of celestial bodies and compare against the compass bearing. Also You can use leading lights to check Compass error.

- What is Deviation?
- From where can you get Variation?
- Tell me how do you Obtain the altitude of a celestial body with a sextant?
- Is Deviation constant?
- What is the frequency of taking Compass error?

Sir Once every watch and as soon as possible After a major alteration of course, because our heading will change and therefore the deviation value will change.

- Gyro 2 Degrees High True course 150 What is gyro course?

152 degrees.

- Wind coming from stbd Bow 5 degrees leeway, What is the gyro course to steer?

157 degrees.

- What is Squat? And Formulae?

Answer as per Pubudu Chathuranga's Tute

Okay... You Can Go Now!

Capt Nick Senanayake is a reasonable and Composed person, Do not get on his bad side by disremembering your **definitions, Rules, Actions to avoid Collison, Lights, Buyoage.** If in Any doubt you can Draw the situation, Lights, or buoys and explain it to him.

I would like to take this opportunity to thank:

- All my Lecturers in all departments,
- Batch Mates of Navi 25,
- And all Staff At Cinec Campus, particularly the kind staff at the library.
- A special Thank you goes out to Thilak Sir for Orals prep, Mr Shane, Capt A.B Herath, Capt Ranjith, Capt Kothalawala, Captain Krishan, Captain Prasad, Capt Dolaphilla, Mr Oshada

GOOD LUCK!!!

Exam: Navigation Watch Keeping Officer on Ships of 500GT or More (Class III)

Candidate: W.S.S. Mendis Abeysekara (Batch 25)

Examiner: Cpt. Sunil Jayaweera and Cpt. S.M.S. Bandara

Date: 27.11.2015

Duration: 11:20 to 12:40
13:15 to 14:00

Status: Pass

Questions

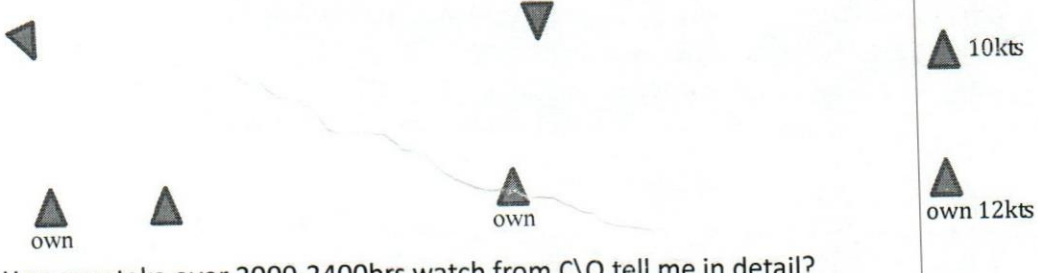
Definitions

- Sailing vessel
- NUC
- RAM
- CBD
- Fishing vessel

- Rule no. 07 risk of collision
- Rule no. 08 action to avoid collision
- Rule no. 19 restricted visibility
- You should able to tell the definitions by-hard as it is on the book. But for the rest of rules you can use your own words to explain it.

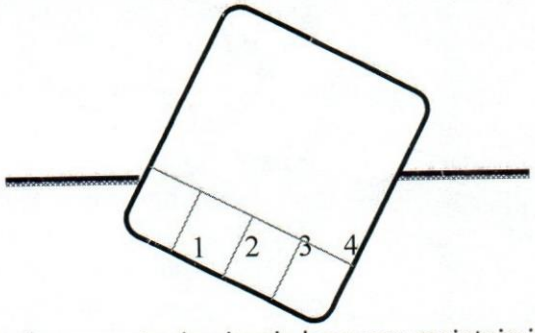
- Once you have taken action to avoid collision when you will come back to your original course. What is finally **passed and clear** your answer should be when the **target vessel is 3 points abaft your abeam**.
- In restricted visibility your duty AB reports you of a fog signal around 3 points on your stbd bow, you don't see the target on your RADAR. What is your action?
- Buoyage system, isolated danger, safe water mark, north cardinal mark
- Description of the buoy, top mark, retro reflective, light color and rhythm, meaning of the buoy.
- You see one white light what are the possibilities.

The examiner is more concern about candidate's knowledge on ROR, buoyage system and your application of COLREGS in actual situations. When a situation is given start with "first I will acquire the target on ARPA, let the ARPA allow time to process the data..." The following situations were asked in restricted visibility.



1) How you take over 2000-2400hrs watch from C\O tell me in detail?
2) How you receive pilot? What are the things you concern most during this operation?
3) You are on watch a person informs you about a man overboard situation, what will you do?
4) How you carry out anchor watch?
5) What is anchor brought up?
6) How you read out the barometer?
7) You are receiving a gale warning while on watch. What will you do? How this affect your department (LSA/FFA and safety) what will you do, Heavy weather precautions?

8) What is the barometric tendency?
9) What is the different between Hydrometer and hygrometer?
10) What are the warning signs of a TRS?
11) Your next intended voyage is from Japan to Canada how you plan your passage? Using Gnomonic charts, great circle formula or using ECDIS. You should be able to explain the Gnomonic method very well.
12) What is limiting latitude, what will you do if a limiting latitude is giver to you?
13) Tell me in detail the basic way of passage planning..?
14) What is T&P and what you do with it and how?
15) How you lower life boat in a drill?
16) You are on watch. You get a call from crew that someone is lying down in a opened up manhole. What is your action?
17) How to remove an air bubble from the magnetic compass?
18) Sextant and its errors, what are they? How to identify them? How to correct them?
19) What are the daily checks you done in RADAR?
20) How you start up the RADAR?
21) What is SOLAS training Manuel? Its content and their locations?
22) You find a fire extinguisher lying on a side inside the accommodation. How you know its actual location?
23) What is fire plan, its content and where you find them?
24) What are the content of stability booklet?
25) What is GM?
26) What is negative GM?
27) What is angle of LOL, how you correct it? You should be able to explain it with the below diagram.



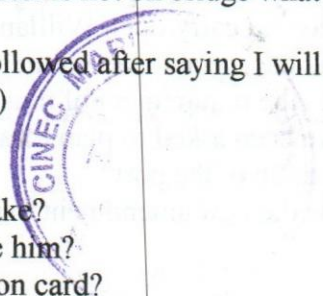
28) What is chronometer log book, how you maintain it?
29) What is transverse thrust?
30) What is squat?
31) What is stiff and tender vessel, how you correct both above conditions?
32) What is the different between winches and windless?
33) What are the maintenance you carried out on winches?
34) What are fire hazards associated with galley, how to overcome them? (Galley fire extinguishing means)
35) What are the contents of SOPEP?
36) You are off duty, you are inside the cabin. Suddenly you hear the fire alarm. What is your action?

Good luck...

Many thanks to my parents, my family, all lectures from Navigation dep./ Simulation dep./ Survival dep./ Radio comm. Dep./ library staff... and to all my friends from batch 25.
Thank you all....

Candidate : W.M.M.T.Wasala
Date : 12th November 2015
Time : 1230 to 1430
Examiner : Capt. Asiri Herath

1. How many vessels you sailed on? What type of vessels? What were the sizes of the vessel? How many hours of watch you kept daily onboard?
2. How would you take over duty as a second officer? (Not a navigation watch, a total taking over of duties after joining)
3. How do you keep an anchor watch?
4. How would you know whether the anchor is dragging?
5. How do you check the vessel position by two ranges?
6. How would you check vessel position by two bearings?
7. How do you calculate the dragging circle?
8. What would you do if the anchor is dragging?
9. Your vessel is dragging anchor toward another vessel. What action would you take? (Was not happy with the answer of paying out more cable. He was happy with Drop the other anchor or use engines and move away)
10. What are your duties when pilot is onboard?
11. The pilot is taking a wrong action. When he has order harder port instead of so he ordered harder starboard. (I will inform the master regarding the wrong order) Master is not on bridge what would you do?
12. If the pilot is not listening to you what would you do? (Question followed after saying I will inquire the pilot regarding his order and also would advice him to alter to port)
13. How do you carry out a cargo watch?
14. You are loading IMDG containers. What things will you do?
15. A loaded IMDG container is having a spill. What actions do you take?
16. Someone has touched the spilled IMDG cargo. How do you handle him?
17. Your vessel is at anchor. Tell me how would you prepare a deviation card?
18. Draw and show me a deviation curve.
19. What is the maximum deviation allowed? Where it is mentioned?
20. What are the principles of passage planning (Appraisal, Planning, Execution and Monitoring)
21. Tell me in detail about the appraisal and planning?
22. You are in a vessel with full ECDIS complied. How would you plan the passage (Since the vessel is paperless the waypoint editor method is not required to explained. Only mention of it)
23. How would you know whether your passage is safe? (Safety check)
24. Ok. When you run the safety check what alarms come?
25. How to check the status of your ENCs?
26. How many base CDs you get now? (one DVD)
27. If PSC inspector come and ask you to show the latest updates to the ENCs how would you show?
28. How do you know when the ENCs will expire?
29. How do you update ENCs?
30. What is the latest method of getting updates?
31. Tell me the performance standards requirement for ECDIS.
32. What is the latest performance standard of ENC?
33. What are ECDIS operator requirements?
34. How do you select the ENCs required for a voyage? (Digital Chart catalogue)
35. How do you select the charts already in the inventory?
36. What are the differences between Vector charts and Raster charts?
37. What is the service provided to find the optimum passage? What is the objective of Weather Routine Services?
38. Draw and show me a West Cardinal Buoy and explain the characteristics.
39. What is a safe water mark? Draw and show me and explain the characteristics.
40. Define quick and very quick flash in buoys lights?

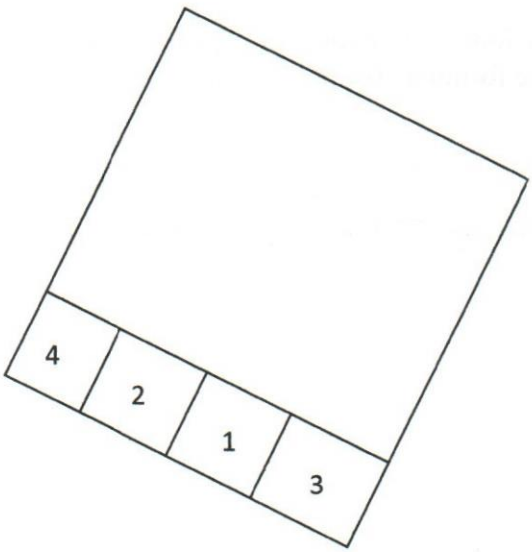


41. What are lights show by a towing vessel of less than 50m in length and length of tow exceeding 200m seen from ahead? What is the fog signal? (Not only the towing vessel also the vessel being towed)
42. What are the day and night signal of a minesweeper?
43. What do you mean by E-Navigation? What is E-Navigation?
44. What is an Integrated bridge System?
45. What are the advantages and disadvantages of an Integrated Bridge System?
46. What is back up arrangement? (Tell what you mean by a backup arrangement)
47. How do you plan training for crew onboard? (Drills and Training)
48. What are the type of training and drills you got onboard and how you did it? (Simulated drills, table topic, CBT, Videotel)
49. What is the SOLAS requirement for carrying out fire drill?
50. What are the LSA maintenance carried out onboard?
51. How do you check the portable fire extinguishers?
52. How do you weigh the portable CO2 fire extinguishers? When will you replace it?
53. How often you do inspection on portable fire extinguishers?
54. Imagine one of the portable extinguishers has to be replaced but you don't have any spares. What will you do? (make a requisition and items to be delivered at the next port and also I will not wait till the last moment to order for spare I will check the inventory and order the spares well in advance)
55. What is the requirement of lowering the lifeboat and rescue boat?
56. What are the maintenances you do in lifeboat?
57. You see one of the crew members go overboard. What actions do you take?
58. How do you carry out a Williamson turn?
59. What is the specialty about the MOB marker buoy? (weight, SI light and buoyant smoke signal)
60. What is the requirement of muster list and what it contains?
61. You are been asked to plan a passage to a port which you don't where it is. From where will you find the location of the port?
62. What is the new amendment to IMDG and what were the changes? (37-14)

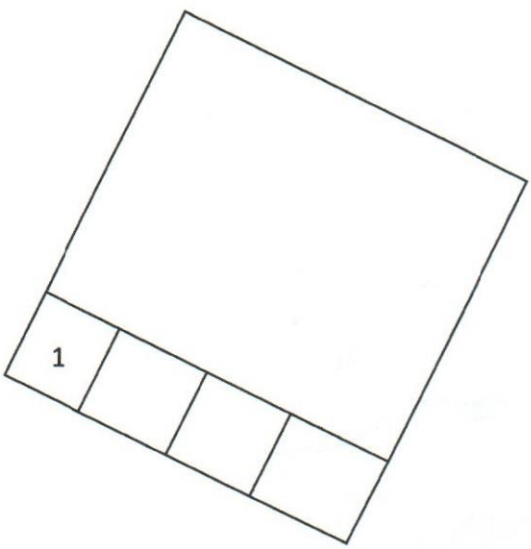
Candidate : W.M.M.T.Wasala
Date : 16th November 2015
Time : 1440 to 1600
Examiner : Capt. S M S Bandara

1. What is RAM and its day & night signal?
2. What is NUC and its day & night signal?
3. What is CBD and its day & night signal?
4. What is Fishing Vessel and its day & night signal? Does fishing vessel display mast head lights?
5. You see 4 white lights in a vertical line. Identify the vessel? (mention that the side lights are out of the visible range)
6. You see a white light. Tell me all the possibilities of it. (Not only the vessels also mention about shore lights, buoys and any navigation mark)
7. What is safe speed?
8. In clear visibility, you see a vessel, 3 points on your starboard bow at 12 miles range. What action do you take?
9. In clear visibility, you see a vessel, 3 to 4 points on your port bow at 7 miles range. What action do you take?
10. How do you determine risk of collision? Is no appreciable bearing change is sufficient for risk of collision to exist? (Range reducing)
11. How do you determine the action required to maintain a certain CPA? (Radar plotting or Trial Maneuver)
12. You are a RAM vessel and you are overtaking another vessel. How would you do that? (explain Rule 13)
13. At what range would you take action in clear visibility and restricted visibility? (clear vis 3 to 4 miles & restricted vis 4 to 5 miles)

14. Explain rule no. 19.
15. In restricted visibility you detect a target on the radar ahead of your beam on starboard side. What action you would take?
16. In restricted visibility you detect two targets on radar. One about 4 points on your port bow and other abeam on your starboard side. What action would you take? (Tell about target prioritizing)
17. What are the fog signals of PDV making way and not making way? When going astern what is the sound signal?
18. What is the sound signal range?
19. You are on bridge and on duty. You get a reporting saying that one person has fallen down in a tank after making an entry in to the tank. What action would you take? (mentions about PA system announcement)
20. How would you recover the person from the tank (Mention about an extra SCBA set or Oxygen resuscitator and also when saying giving oxygen mention that it will be given after mixing with air)
21. How many SCBA sets were available onboard and where were they located?
22. What precautions and action do you take when loading IMDG cargo?
23. If there is a spillage of IMDG cargo how do you handle it?
24. What is GM?
25. What happens if the GM is very high?
26. What is angle of lol and how do you correct it?



27. What happens instead of following the sequence of filling the tanks and directly fill the corner most tank which is at the opposite side to the list? The vessel is at angle of lol. (It will give a sudden movement towards the opposite side to the list and that could capsize the vessel)



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② DOC 040918 - NEW (First papers)
① DOC 010319 " 580/-

28. What are the content of a Stability booklet? A4 - A4
29. What information will be given in a ~~stability booklet?~~ capacity plan?
30. You want to find a location of a portable extinguisher. How do you find the location? Where will you find the fire plans onboard?
31. Why two fire plans are available on either side outside the accommodation?
32. What is the best extinguishing medium to be used in the galley? (CO2) why?
33. What is the usage period of an EEBD?
34. What are the equipments available in SOPEP Locker?
35. How do you identify a TRS is encountering or expected to encounter?
36. What are the equipments on bridge gives you weather reports? What weather software you had onboard? (wx facsimile, navtex, sat c, weather routine and computer software via the internet)
37. You are in southern hemisphere. And the wind is backing. Which semi circle are you in and what is the action to get out of the danger?
38. How would you know that you are out of the TRS?
39. What types of clouds do you see when approaching a TRS and encountering a TRS?
40. What is monsoon?
41. How would you plan a great circle track voyage? (gnomonic charts used for polar region is named as polar gnomonic)
42. If you don't have a gnomonic chart onboard, how would you plan it? (using great circle formula)
43. What information do you get by applying the formula? (Initial co, final co, vertex, mid latitudes, great circle distance)
44. what GMDSS test do you carry out? (Daily, weekly & monthly).
45. What are the gases measured by a multigas detector? (Oxygen, CO, H_2S, NO)