



**MERCHANT SHIPPING SECRETARIAT**  
**GOVERNMENT OF SRI LANKA**  
**CERTIFICATE OF COMPETENCY EXAMINATION**

GRADE : MASTER ON SHIPS OF 500 GT OR MORE (UNLIMITED)  
SUBJECT : GENERAL SHIP KNOWLEDGE  
DATE : 30<sup>th</sup> April 2024

Time allowed THREE hours

Total marks : 150

ANSWER ALL QUESTIONS

Pass marks : 60%

Formulae and all intermediate steps taken in reaching your answer should be clearly shown. You may draw sketches wherever required. Electronic devices capable of storing and retrieving are **not** allowed.

- 1) a) Answer the following questions with regards to PSC inspections;
    - i. Describe the objective of PSC inspections.  
(05 marks)
    - ii. Describe what Concentrated Inspection Campaign (CIC) of PSC is and the purpose of this campaign with a suitable example.  
(10 marks)
  - b) You are on a passage from Shanghai, China to Melbourne, Australia on the passage due to heavy weather conditions your SAT-C antenna got damaged beyond crew repair and SAT-C unit was out of operation. Explain your actions in detail.  
(15 marks)
- 2) You are the Master on board a container vessel, on a passage from Darwin, Australia to Hong Kong. You received instructions from Charterers to proceed via Great Barrier Reef, Torres Strait.
    - a) Name the sources of information available to master in coral regions.  
(05 marks)
    - b) Explain in detail your actions in preparing the vessel prior entering the Reef region.  
(20 marks)
    - c) What is PSSA and briefly describe reasons for naming these areas as PSSA.  
(05 marks)

- 3) Master of a vessel may expect various unexpected incidents. If, you are appointed as master of a Cargo vessel, explain in detail your initial actions and subsequent actions in case of the following situations:
- One day before departure from port, 2<sup>nd</sup> mate has to be hospitalized for a long period. According to your safe manning certificate, you are required to have three watch keeping officers. As per crewing agency, it is impossible to find and arrange a 2<sup>nd</sup> mate in a very short time frame. (10 marks)
  - During loading operation no. 1 crane crashed on to the tank top holing the tank top. During the incident a stevedore and one AB on duty were seriously injured. (15 marks)
  - On arrival of a discharging port one AB has to be signed off and one AB has to be signed on. (05 marks)
- 4) Nowadays, new vessels are being built frequently using modern technology. Example Triple E class vessels. If you are appointed as the master on such a brand-new container carrier, explain in detail how you are going to implement Safety Management System on board this vessel and describe the details of Safety Management Certificate, validity period and how do you obtain it. (30 marks)
- 5) a)
- With regards to ship's magnetic compass, explain what coefficient C and E are, and, how they could be corrected? (05 marks)
  - Explain what Lambda and Mu are, and their use. (05 marks)
  - When correcting or adjusting a ship's magnetic compass, explain why the final correctors recommended are permanent horizontal magnets? (05 marks)
- b) Analyze the following deviations observed on ship's head by compass when in North magnetic latitude.
- |       |     |      |      |      |     |      |      |
|-------|-----|------|------|------|-----|------|------|
| N     | NE  | E    | SE   | S    | SW  | W    | NW   |
| 15° W | 1°W | 11°E | 13°E | 15°E | 3°E | 12°W | 14°W |
- (10 marks)
- c) List down 8 precautionary points to be taken prior to and during swinging the ship for standard compass adjustment. (05 marks)