

- 3 a) Describe **possible faults** which may be found during a dry dock inspection of the following **and the remedial actions taken**.
- i) Hull indentations (03 marks)
 - ii) Anchor and chain (03 marks)
 - iii) sea chest (02 marks)
- b) Describe EACH of the following, stating what component parts of the ships.
- i) panting (05 marks)
 - ii) pounding (05 marks)
 - iii) dry docking stresses (02 marks)
- 4) a) Sketch and describe a transverse section of a cargo tank of double hull tanker with the arrangement of web frame and longitudinals (half of the view web frame and the other half longitudinals) (14 marks)
- b) Indicate areas of corrosion in a cargo space of above tanker and the reasons for such corrosion (06 marks)
- 5) a) A ship can be broadly divided into three areas, such as:
- i) continually immersed;
 - ii) alternating between immersed and above water (boot topping).
 - iii) continually above water;
- Reference to above discuss in **detail** the regions of localized corrosion in each location with corrosion preventive methods (08 marks)
- b) Discuss the reasons for a coating failure in a DB tank (06 marks)
- c) What are the rules and regulations related to antifouling coatings (06 marks)

- 6) a) Explain the two types of stern constructions (06 marks)
- b) Sketch stern construction arrangement of a ship and describe (14 marks)
- 7) With reference to large container carriers
- a) Sketch a transverse section of a modern container carrier (14 marks)
- b) Explain how the stresses raised due to large hatch openings are compensated (06 marks)
- 8) a) Discuss the advantages and disadvantages of sacrificial anodes and ICCP (impressed current cathodic protection system) (05 marks)
- b) make a simple diagram of ICCP system and describe (10 marks)
- c) What are the circumstances that a ICCP system is kept switched off (05 marks)
- 9) a) Name the types of rudders (03 marks)
- b) Sketch and name a rudder pintle bearing arrangement indicating important details (12 marks)
- c) How to carry out a pressure test of a rudder after a repair and indicate the pressure applied (05 marks)