

Total number of printed pages – 4 **B. Tech**
CPMR 8407

Eighth Semester Examination – 2008

MARINE AUXILIARY MACHINERY – III

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory
and any **five** from the rest.*

*The figures in the right-hand margin
indicate marks.*



1. Answer the following questions : 2 × 10
- (a) Why sacrificial anodes are used on ship's hull ?
 - (b) Write all the contents of ISM code.
 - (c) Derive the mechanical advantage in rapson slide steering system.

- (d) Why hunting gear is used in steering system ?
 - (e) Differentiate between mooring and towing winches.
 - (f) How the CO₂ room and battery rooms are ventilated on a chemical tanker ?
 - (g) Explain the term critical speed and resonance.
 - (h) How you will measure and analyse vibration on board ship ?
 - (i) Differentiate between a crane and derrick system.
 - (j) What are the noise protection devices used in engine room by watch keeper ?
2. (a) Explain the different types of corrosion and its prevention on a dry cargo ship. 5
- (b) Explain with sketch the impressed current cathodic protection system. 5

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Contd.

3. (a) What are the different types of hatch covers and how they are operated on different types of vessel ? 5
- (b) Explain with sketch how the stern loading of vehicles are carried out on a RORO ship. 5
4. (a) How the cargo holds and engine room are ventilated on a bulk carrier ? 5
- (b) How the blowers are installed and what are the maintenance work carried on ventilation system ? 5
5. (a) What are the causes and remedies for machinery and hull vibration in a chemical tanker ? 5
- (b) Explain with sketch a vibration damper used on a medium speed engine. 5
6. (a) Explain with sketch the anchoring arrangement showing all fittings on forward part of the ship. 5

- (b) What are the different types of motion stabilization system used and how they are used in order to reduce rolling and pitching movement of ship ? 5
7. (a) Explain with sketch a Rotary vane steering gear system from bridge to steering room. 8
- (b) What are the safety devices fitted in a 4-ram steering gear system ? 2
8. (a) Explain how a swash plate type hydraulic pump is used in hydraulic system with sketch. 5
- (b) Differentiate between performance monitoring and condition monitoring in a Planned Maintenance System (PMS). 5