

**Indian Maritime University**

**(A Central University, Govt of India)**

**Supplementary Examinations – March/April 2025**

**B Tech (ME)**

**UG11T3705**

**Engine Room Management**

<b>Date – 11.03.2025</b>	<b>Pass Marks – 35</b>
<b>Duration – 03 Hours</b>	<b>Max Marks - 70</b>

**Part A, Q.No.1; ( 10 MCQs x 01 mark)**

- (i) The art of correctly conveying orders, have them understood and complied with is
- (a) Effective communication
  - (b) Leadership
  - (c) Command and control
  - (d) Company policy
- (ii) The test for testing the functioning of steering gear before departing from port is
- (a) Propulsion test
  - (b) Control Test
  - (c) Checklist test
  - (d) Hydraulic test
- (iii) The Main Engine before trying out must be tuned by the turning gear With indicator cocks open to check
- (a) Free movement of parts and emission of fluids from indicator cock

- (b) Current drawn by the turning gear motor
  - (c) Performance of the engine
  - (d) To comply with port regulations
- (iv) Air compressors are fitted with intercoolers
- (a) To cut down maintenance costs
  - (b) To prevent over lubrication
  - (c) To reduce final delivery temperature and increase efficiency
  - (d) To prevent corrosion
- (v) Planned Maintenance System (PMS) is
- (a) Random Overhaul of Machinery
  - (b) Conditional monitoring of machinery
  - (c) Systematic overhaul of machinery as per a fixed schedule
  - (d) A regulatory requirement
- (vi) If while under way a unit of the Main Engine is misfiring and its not possible to stop for a long period
- (a) Should proceed at same load
  - (b) Proceed at reduced load
  - (c) Proceed to cut out one unit and proceed at reduced load
  - (d) Inform office and wait for instructions
- (vii) The diagrammatic representation of the combustion and scavenging process is called
- (a) Draw card
  - (b) Planimeter
  - (c) Peak pressure diagram
  - (d) Cycle diagram
- (viii) Watchkeeping in an Engine Room is
- (a) Surveillance and monitoring of all engine room machinery in the watchkeeping period

- (b) Monitoring time and taking readings
  - (c) An optional operation
  - (d) A routine exercise
- (ix) Bunkering of fuel and lubricating oil is
- (a) A normal operation
  - (b) A critical operation
  - (c) An abnormal operation
  - (d) A non-critical operation
- (x) The movement of the Engine Order Telegraph is recorded in the Engine Room in
- (a) The Bell book
  - (b) Engine Log Book
  - (c) Scrap book
  - (d) Oil Record book

**Part B short Questions ( 02 marks each), Q.No.2;**

- (i) What is Situational Awareness with respect to ERM?
- (ii) Why is frequent Piston Ring and liner inspection of Main Engine necessary while using fuel of unknown quality?
- (iii) Why is planning so important for carrying out Major Overhauls on board?
- (iv) What could be the main cause of crankcase explosion and how can it be anticipated?
- (v) What is ABC Inventory and JIT system ?

**Part C -Attempt any Five Questions ( 10 marks each)**

3. How is workload management effectively managed on board ships?
4. List the procedures and steps involved in preparing a Ship's propulsion system once notice is received to prepare for departure?
5. What are Emission Control Areas (ECA) and what are the special requirements with respect to NO<sub>x</sub> and SO<sub>x</sub> emissions?
6. What is the procedure for handing over and taking over Engine Room Watch at sea?
7. What are the consequences of "blowpast" in the main engine and scavenge fire. What are the measures taken?
8. What is meant by turbocharger surging and what steps will you take in the event of Main Engine Turbocharger surging?
9. Describe the process of running in an Auxiliary Engine after a major overhaul involving replacement of piston rings.