

# CBCS SCHEME

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18MR62

**Sixth Semester B.E. Degree Examination, June/July 2024**

## **Marine Internal Combustion Engine – II**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

### **Module-1**

- 1 a. Explain the forces acting in a single cylinder engine with a neat sketch. (12 Marks)  
b. What are the different types of engine vibration? Explain the reduction of engine vibration. (08 Marks)

**OR**

- 2 a. Explain the different fuel injection systems. (10 Marks)  
b. What is VIT? Explain. (10 Marks)

### **Module-2**

- 3 a. Explain reversing procedure of main engine. (08 Marks)  
b. What is crash maneuvering? Explain. (06 Marks)  
c. What are interlock? Mention safety interlocks on marine diesel engine. (06 Marks)

**OR**

- 4 a. Explain the types of indicator diagram with neat sketches. (12 Marks)  
b. Draw the diagrams for following faults and explain their causes, indication and effects.  
i) Early ignition ii) Late Ignition iii) After Burning. (08 Marks)

### **Module-3**

- 5 a. With a neat sketch, explain Alpha lubrication system in MAN B and W engines. (12 Marks)  
b. Explain the types of cylinder linear wear. (08 Marks)

**OR**

- 6 a. Draw a neat sketch of schematic layout of intercooled – reheat cycle type gas turbine and explain. (14 Marks)  
b. Give advantages and disadvantages of marine gas turbine over marine diesel engine. (06 Marks)

### **Module-4**

- 7 a. Mention the essential requirements of unattended machinery space. (10 Marks)  
b. Write a note on sensitivity, stability, governor effort, droop, hunting in governors. (10 Marks)

**OR**

- 8 a. Describe how crank shaft deflections are taken, how they are recorded and how it is ascertained that alignment is acceptable. (12 Marks)  
b. Explain main engine piston removal and piston inspection (08 Marks)

### **Module-5**

- 9 a. What do you understand by microbiological degradation? Explain in detail. (10 Marks)  
b. Explain hot corrosion and cold corrosion on marine diesel engine. (10 Marks)

**OR**

- 10 a. Explain about the basic concepts of intelligent engine. (10 Marks)  
b. With the help of neat diagram, explain the key features of a RT-flex common rail fuel system. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.