USN | | | | | | | | | | **18MR62**

Sixth Semester B.E. Degree Examination, June/July 2023
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.   Sketch and explain jerk type fuel pump.   **(10 Marks)**
    b.   Explain static and dynamic balancing.   **(10 Marks)**

OR

2   a.   Why VIT is required in marine diesel engine? Justify elaborately. **(10 Marks)**
    b.   Give details of how primary disturbing forces can be balanced on single cylinder engine.
                                                                          (10 Marks)

Module-2

3   a.   Explain with simple slash of maneuvering diagram.   **(10 Marks)**
    b.   Draw the diagrams for following faults and explain their causes, indication and effects:
         i)   Early Ignition
         ii)   Late Ignition.   **(10 Marks)**

OR

4   a.   What is clash maneuvering? Explain the procedure of crash maneuvering operation.
                                                                          (10 Marks)
    b.   What are interlocks? Mention the safety interlocks on marine diesel engine.   **(10 Marks)**

Module-3

5   a.   Explain different types of cylinder linear wear.   **(10 Marks)**
    b.   Draw and explain lubrication arrangement in diesel engine including cooler and filter.
                                                                          (10 Marks)

OR

6   a.   Explain with a neat sketch, gas turbine which includes intercooler and re-heat arrangement.
                                                                          (10 Marks)
    b.   Give the advantages and disadvantages of gas turbine.   **(10 Marks)**

Module-4

7   a.   State the minimum requirement of automation for UMS operation.   **(10 Marks)**
    b.   Explain the bearing faults and defeats.   **(10 Marks)**

OR

8 a. Define the following terms related to speed control governor:
   i)   Sensitivity
   ii)   Stability
   iii) Governor effort
   iv)   Droop
   v)   Hunting.   (10 Marks)

   b. What material does a piston rings are manufactured? Explain the different type of piston rings.   (10 Marks)

Module-5

9 a. Explain hot and cold corrosion on marine diesel engine.   (10 Marks)
   b. Write a short note on new development in BXW, CMC and SMC engine. (10 Marks)

OR

10 a. Explain the principle camless concept for marine diesel engine.   (10 Marks)
    b. Write a note on regulation for concept of NO_x.   (10 Marks)

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