

VTU B.E/B.TECH QUESTION PAPER SET

CBCS SEMESTER VIII

MARINE ENGINE PRACTICE

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15MR833

Eighth Semester B.E. Degree Examination, June/July 2019

Marine Engine Practice

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain the removal of main engine cylinder liner. (10 Marks)
b. Explain the various defects in liner. (06 Marks)

OR

- 2 a. Explain the maintenance on Turbocharger. (08 Marks)
b. Explain the procedure for water washing and grit washing of Turbocharger. (08 Marks)

Module-2

- 3 a. Explain the routine/hourly maintenance of auxiliary engine. (10 Marks)
b. What is Tappet clearance? Explain the procedure to take Tappet clearance. (06 Marks)

OR

- 4 a. Draw a neat sketch of Fuel Injector and label the parts. (08 Marks)
b. Explain the tests done on Fuel Injector. (08 Marks)

Module-3

- 5 a. What is Bumping clearance? Explain the methods of checking Bumping clearance. (08 Marks)
b. Explain Air compressor plate type valves. Mention the maintenance done on the same. (08 Marks)

OR

- 6 a. Explain the procedure for selection of gravity disc using NOMOGRAM. Explain the consequence of selecting gravity disc of wrong inside diameter. (08 Marks)
b. Explain the maintenance on Fuel oil purifier. (08 Marks)

Module-4

- 7 a. With a neat sketch, explain Stern tube sealing arrangement. (08 Marks)
b. Explain the procedure to check Propeller Drop. (08 Marks)

OR

- 8 a. Name the different methods of mounting propellers. Explain any one method. (10 Marks)
b. Explain controllable pitch type propeller. (06 Marks)

Module-5

- 9 a. With a neat sketch, explain marine sewage treatment plant. (10 Marks)
b. Explain Marpol requirements for discharge of sewage overboard. (06 Marks)

OR

- 10 a. With a neat sketch explain simplex-turbulo oily water separator. (10 Marks)
b. Explain the MARPOL criteria for discharge of oily water from machinery space. (06 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.

CBCS SCHEME

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15MR833

Eighth Semester B.E. Degree Examination, Aug./Sept.2020
Marine Engineering Practice

Time: 3 hrs.

Max. Marks: 80

*Note: i) For Regular Students: Answer any FIVE full questions irrespective of modules.
 ii) For Arrear Students : Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

- 1 a. Explain the procedure for liner overhauling (Removal) of one Unit of Main engine. (08 Marks)
- b. Explain cleaning and calibration of liner, piston and piston rings for Q1(a). (08 Marks)
- 2 a. With aid of neat sketch explain briefly the M.E. scavenging system. (08 Marks)
- b. Show cross head bearing and guide clearances. How those clearances are taken. (04 Marks)
- c. Explain water washing of Turbocharger Turbine during sailing. (04 Marks)

Module-2

- 3 a. Explain the procedure of cylinder head overhauling for Auxiliary diesel engine. (08 Marks)
- b. How Auxiliary diesel engine air cooler is cleaned? (04 Marks)
- c. Explain the procedure of fuel valve testing. (04 Marks)
- 4 a. Draw the Lubricating oil system of auxiliary diesel engine. (08 Marks)
- b. Explain the importance of prelubrication and how it is done. (04 Marks)
- c. Draw fuel oil leaky system of Auxiliary diesel engine. (04 Marks)

Module-3

- 5 a. With the help of a neat sketch, explain briefly the operation of 3 stage main air compressor. (08 Marks)
- b. Write down difference between main, service and control air compressors. (04 Marks)
- c. What are the SOLAS and class requirements for main air bottle? (04 Marks)
- 6 a. With the aid of a neat simple sketch explain briefly the operation of self cleaning HFO purifier. (12 Marks)
- b. State different types of purifiers and their operation (Means when they are run). (04 Marks)

Module-4

- 7 a. Draw muff coupling and state its advantages. (08 Marks)
- b. With the aid of sketch, write down in brief the procedure for hydraulically mounting keyless propeller. (08 Marks)
- 8 a. Draw water cooled stern tube and its sealing arrangements and explain. (10 Marks)
- b. What is jumping clearances? What are the clearances checked in the Drydock (for Rudder, Rudder Strek and Propeller.) (06 Marks)

Module-5

- 9 a. With a neat sketch explain briefly the operation of Sewage Treatment Plant. (12 Marks)
b. What are the MARPOL requirements for sewage? (04 Marks)
- 10 a. Draw 15 PPM oily water separator and explain briefly the operation. (12 Marks)
b. What is Annex 1 of MARPOL? State Annex 1 requirement for E/R bilges and sludge. (04 Marks)

CBCS SCHEME

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15MR833

Eighth Semester B.E. Degree Examination, November 2020
Marine Engineering Practice

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions irrespective of modules.

Module-1

- 1 Explain the procedure for Turbocharger overhaul and the checks on Turbocharger while overhauling. What is the function of labyrinth seal on turbocharger? (16 Marks)
- 2 Explain the procedure for pressure testing of piston and explain piston ring installation on a 2 – stroke marine diesel engine. (16 Marks)

Module-2

- 3 What is charge Air cooler? Explain the Air cooler cleaning procedure and its inspection on a 4 – stroke marine diesel engine. (16 Marks)
- 4 Explain the piston drawing out procedure of 4 – stroke engine and give details on the four – stroke engine piston ring arrangement. (16 Marks)

Module-3

- 5 What is the procedure for purifier disc stack overhaul? (16 Marks)
- 6 What is a Discharge unloader and describe its operation. What is bumping clearance? How to adjust the bumping clearance? What are the significance of bumping clearance? (16 Marks)

Module-4

- 7 Explain the Oil Injection System of Propeller Mounting in detail, with diagram. (16 Marks)
- 8 Write the general guidelines involved during routine checks of a propeller shafts with load check on bearing by Jacking method. (16 Marks)

Module-5

- 9 Explain with neat sketch, the working of Simplex – Turbulo Oil – Water separator. (16 Marks)
- 10 What are the Routine checks and maintenance of STP? (16 Marks)
