

USN

--	--	--	--	--	--	--	--	--	--

17MR44

Fourth Semester B.E. Degree Examination, June/July 2019 Ship Structure and Construction

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Draw the longitudinal and transverse cross section of a ship and mark the following:
i) LBP ii) LOA iii) LWL iv) Moulded beam v) Camber vi) Rise of floor
vii) Amid ships viii) Shear forward ix) Shear aft x) Depth. (15 Marks)
- b. Define the following i) Displacement ii) Buoyancy iii) Reserve buoyancy iv) Lightweight
v) Dead weight. (05 Marks)

OR

- 2 a. What are the grades of steel used in ship construction and why. (06 Marks)
- b. Draw and explain the 3 types of keels used in ship construction. (14 Marks)

Module-2

- 3 a. Draw and explain a transverse framed double bottom with i) plate floor ii) open floor. (12 Marks)
- b. What is shell plating? How are the shell plating numbered? Explain with a neat diagram. (08 Marks)

OR

- 4 Draw and explain the general arrangement of the aft end structure showing the following :
i) Fresh water tank ii) Upper flat iii) Lower flat iv) aft peak tank
v) Rudder and Rudder post vi) Propeller and shaft. (20 Marks)

Module-3

- 5 a. Explain with a neat schematic the classification of merchant vessels. (10 Marks)
- b. Draw the Midship section of a general cargo vessel marking its parts. (10 Marks)

OR

- 6 a. Explain any 5 key constructional features of a dry bulk carrier. (10 Marks)
- b. Draw a neat labeled diagram of the midship section of a dry bulk carrier with a pipe tunnel marking its parts. (10 Marks)

Module-4

- 7 a. Draw and explain the load line marking with its dimensions. (16 Marks)
- b. What is freeboard? Why is it important? (04 Marks)

OR

- 8 Explain with the help of a neat schematic the layout of a ship yard with respect to movement of materials in ship building. (20 Marks)

Module-5

- 9 Explain with simple diagrams the evolution of an oil tanker Frompre-Marpol to the present double hull ships. (20 Marks)

OR

- 10 a. What are the different types of gas carriers? Explain. (10 Marks)
- b. Draw the midship section of an LNG Vessel and explain its constructional features. (10 Marks)

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.