

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

Fourth Semester B.E. Degree Examination, June/July 2014
Ship Structure and Construction

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Define the following terms with the help of a neat sketch :
 - i) Length between perpendiculars (LBP) (10 Marks)
 - ii) Length overall (LOA)
 - iii) Length on waterline (L WL). (10 Marks)
- b. Explain following stresses produced in ship structure & precautionary measure to counteract those stresses with the help of neat sketches
 - i) Hogging & sagging (10 Marks)
 - ii) Pounding. (10 Marks)
- 2 a. Explain with a neat sketch the basic working principle of electric arc welding. What are the advantages & disadvantages of employing welding over riveted construction in marine industry? (08 Marks)
- b. What are angles and bar sections? With the aid of a sketch describe bulb angles and tee bars (08 Marks)
- c. Describe the destructive and non-destructive tests which may be carried out on, welding material or welded joints. (04 Marks)
- 3 a. Sketch and describe transversely framed double bottom & mention its merits & demerits (10 Marks)
- b. Sketch & describe about shell & deck plating and with example explain how it is identified? (10 Marks)
- 4 a. What are bulkheads? Explain function of bulkheads. (04 Marks)
- b. Explain the construction of watertight & collision bulkheads? How the testing of watertight bulkheads carried out? (06 Marks)
- c. Explain briefly about water tight doors and its types. Listing the hazardous condition for the ship when the doors need to be closed? (10 Marks)

PART – B

- 5 a. Explain in detail the Panting forces acting on the fore end of a vessel. Sketch the arrangements made to withstand its effects. (06 Marks)
- b. Explain the functions of a rudder. Sketch and describe semi balanced type of modern rudder. (10 Marks)
- c. Explain the construction of a transom stern fitted to a single screw ship and discuss its advantages. (04 Marks)

- 6 a. Sketch the Plimsoll load line marking carved on a ship indicating its dimensions. Explain how a vessel is prepared for a load line survey? (10 Marks)
- b. Explain the launching sequence of a vessel from shipyard considering the launch of a 75 000 -tonne bulk carrier. (06 Marks)
- c. List the things that need to be taken into consideration while planning a new shipyard or re-planning an existing one? (04 Marks)
- 7 a. Explain the essential constructional differences between the following types of vessels:
i) container ship
ii) dry bulk carrier
iii) bulk oil carrier. (10 Marks)
- b. List the various fixed & portable type of fire fighting arrangement on board a ship. Explain with a simple line diagram fixed carbon dioxide type flooding system. (10 Marks)
- 8 a. Write a Short Note on Enhanced Survey Requirements. (08 Marks)
- b. Define a classification society, listing some of the major different societies across the world. Discuss the statutory requirements to issue certificate to a ship (06 Marks)
- c. List the statutory Certificates to be carried on board ships. (06 Marks)
