B. Tech.

(SEM. IV) EXAMINATION, 2006-07

BASIC SHIP STRUCTURE & CONSTRUCTION

Time : 3 Hours] [Total Marks : 100

Note : (1) Attempt all questions.
(2) All questions carry equal marks.
(3) In case of numerical problems assume data wherever not provided.
(4) Be precise in your answer.

1 Attempt any two parts : 10×2=20
(a) Define the following terms: Length overall, Breadth mounded, Draught, Sheer, main deck, Ballast, Beams, Hawse pipe, Scupper, Stem.
(b) Enumerate the fabricated component of a ship and explain why these are fabricated?
(c) What are the materials used, for keel, side platting, stem, stern tube propeller. Also explain the type of stresses induced in these components.

2 Attempt any two parts : 10×2=20
(a) Through a transverse sectional sketch explain the construction of double-bottom tank.
(b) Sketch and describe the manhole door of a double bottom tank? What precautions are taken before entering a double bottom tank?

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(c) What you understand by longitudinal framing? Explain by means of a sketch.

3 Attempt any two parts: \(10 \times 2 = 20\)
(a) Explain by means of a sketch the fore-end structure of a ship. What are breast hook panting stringers and how are these interconnected?
(b) What is sole piece and when it can be inspected for cracks? What repair can be done if cracks are found?
(c) Explain the construction of a stern tube and its sealing arrangements.

4 Attempt any two parts: \(10 \times 2 = 20\)
(a) Draw to the scale a freeboard marking on a ship and explain the various symbols. Viz. TF, F, T, S, W, WNA and LR.
(b) How is gross tonnage and net-tonnage of a ship determined?
(c) How is a ship classed? Describe briefly.

5 Attempt any two parts: \(10 \times 2 = 20\)
(a) Name the classification societies of following Nations: UK, USA, FRANCE, NORWAY, GERMANY, JAPAN, ITALY and INDIA.
(b) What do you understand by continuous machinery survey? Explain in detail by example?
(c) A ship is in drydock for its annual survey what inspection and works to be carried out on outer side of ships hull?
(d) What you understand by suspension of class of a ship? Who is authorized to do it and under what conditions?