

GANPAT UNIVERSITY

B. Tech. Semester: III - Marine Engineering

Regular Examination Nov – Dec 2015

02MR-303 Ship Structure & Construction

Time: 3 Hours

Total Marks: 60

- Instruction:**
1. Attempt all questions
 2. Assume suitable data if necessary
 3. Figures to the right indicate full marks

Section - I

- Que. – 1**
- (a) Describe Registration procedure of a merchant ship. (5)
 - (b) Why Periodical Surveys of ships are carried out? What items are checked during each survey? (5)

OR

- Que. – 1** Describe following: (any two) (10)
- (a) Harmonized System of survey and Certification
 - (b) Constructional features and rule guidelines for a merchant vessel as per SOLAS and IBC code
 - (c) Validity of class of a ship

- Que. – 2** Sketch and Describe Midship Section of a Welded Ship showing Main Deck, Underdeck along with other strengthening members. (10)

OR

- Que. – 2**
- (a) Explain in brief with Sketch Watertight Bulkhead. Why the thickness of Plate increases towards the lower side of bulkhead. (5)
 - (b) How the water tightness is maintained in Hatch Covers of both wooden type and Steel Hatch Covers? (5)

- Que. – 3** Draw and explain bilge and ballast piping system. What are the minimum statutory requirements of bilge and ballast pumping for cargo and passenger ships? (10)

Section – II

- Que. – 4** Answer the following Questions:
- (a) What are main stresses a ship undergoes based on which the construction of ship is designed (4)
 - (b) Assuming yourself in redesign team of the ship 'Titanic', what are the three alterations you would suggest considering the mishap that took place in 1912. (6)

OR

Que. – 4 (a) How Normal Keel, Duct Keel and Keel of a Tanker are supported in dry dock? Explain by Sketch. (5)

(b) What are the grades of Mild Steel? Mention their significance and use accordingly. (5)

Que. – 5 (a) Explain in brief with Sketch one of following showing various strengthening members: Watertight Floor, Solid Floor, and Bracket Floor. (5)

(b) How the end of anchor chain is connected to the ship's structure? (5)

OR

Que. – 5 (a) What is the arrangement made in forward section of a ship to resist pounding stresses? (5)

(b) Sketch a Collision Bulkhead mentioning its importance in a ship? (5)

Que. – 6 Sketch and Describe any kind of Rudder with Stern frames. (10)

END OF PAPER