

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)  
**End Semester Examinations- JUNE-JULY 2019**  
**POST GRADUATE DIPLOMA IN MARINE ENGINEERING (PGDME)**  
**SEMESTER –I**  
**SHIP CONSTRUCTION (PD11T3106)**

**Time : 3 Hours**

**Date :29.06.2019**

**Max Marks: 100**

**Pass Marks: 50**

**PART- A**

Q.1 (a) Compulsory -Short answer questions –

Define the following terms - (5x2=10 Marks)

- (i) Gross tonnage, net tonnage
- (ii)Cofferdam
- (iii) Web frames
- (iv)Margin plate
- (v) Swash bulkhead

(b) What are shear strakes and garboard strakes in ship construction? (5 Marks)

(c) What are the stresses to which ship is subjected? (5 Marks)

(d) Briefly describe welding defects in ship building. What are the various testing methods used to detect them? (5 Marks)

(e) What are the regulations for retention/ suspension of class of a ship? (5 Marks)

**PART – B**

**Answer any five out of the following eight questions.**

**(5x14=70 Marks)**

Q.2 Briefly describe the functions of ship Classification Societies? (14 Marks)

Q.3 Describe the construction of a watertight bulkhead, explaining how it is stiffened and made watertight. What is the purpose of watertight bulkheads? (14 Marks)

Q.4 Describe the construction of double bottom of a ship. What is transversely and longitudinally framed double bottom? (14 Marks)

- Q.5 Draw transverse section of a typical double hull tanker showing various structural members. (14 Marks)
- Q.6 (a) What are different types of ship sterns? (6 Marks)  
(b) Describe and sketch a stern tube as fitted in a single screw steel vessel. What materials are used? Show how the stern tube is fitted in place. (8 Marks)
- Q.7 (i) What is the function of deck beams? (6 Marks)  
(ii) What is Kort nozzle? (4 Marks)  
(iii) Draw four standard sections used in ship construction. (4 Marks)
- Q.8 (a) Briefly describe construction of double plate rudder. (4 Marks)  
(b) What are different types of rudders used in ship construction? (10 Marks)
- Q.9 (a) What are the structural arrangements to resist panting and pounding stresses in a ship? (4 Marks)  
(b) What are various surveys carried out on merchant ships? List six statutory certificates. (10 Marks)

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