

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
December 2017 End Semester Examinations
Diploma in nautical science-First Semester

Ship construction & ship stability-I (UD11T3103)

Time: 2 hours

Maximum marks: 70

Date: 06.12.2017

Pass marks:35

Part-A

Q1 is Compulsory. Attempt any 2 questions from the rest

1. Sketch the profile view of an bulk carrier. (15 marks)
2. Sketch and label any two of the following. (5 x 2 marks)
 - a) Starboard side loadline mark of a ship
 - b) Fore peak tank
 - c) Aft peak tank
 - d) Double bottom tank
 - e) i) Ford perpendicular ii) After perpendicular iii) Draft IV) Freeboard v) LBP.
3. a)Sketch and label the Air pipe. (5 x 2 marks)
b) Sketch and label sounding pipe.
4. Sketch and label the following parts in a cargo hold. (2 x 5 marks)
 - a) Hatch cover b) Hatch coaming c) Tween deck d) Bilges e)Bulkhead.

Part-B

Q5 is Compulsory. Attempt any 2 questions from the rest.

5. Explain the following (5 x 3 marks)
- a) tonnes per centimeter
 - b) deadweight
 - c) FWA
 - d) load displacement
 - e) Reserve buoyancy.
6. A tank has a rectangular bulkhead 20m wide and 10m high. find the thrust Experienced by the bulkhead when the tank is full of oil of RD 0.9. (10 marks)
7. A Ship is floating in FW at a draft of 6.8m. if her maximum FW draft is 7.0m, and her SW TPC is 40, find the DWT available. (10 marks)
8. A vessel floats in DW RD 1.016 with her winter loadline 100mm below water On the port side and 180 mm below water on the starboard side, if her FWA Is 200mm TPC is 24 and summer load draft is 9.6m, find the DWT available. (10 marks)