

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
End Semester Examination Dec 2019
DIPLOMA IN NAUTICAL SCIENCE (DNS)
Semester : II
Ship Operations (UD11T1204)

Date: 12-12-2019
Time: 2 Hrs

Max Marks: 70
Pass Marks: 28

PART – A

Note:- Answer any 4 of the 5 questions in this section. All questions carry 10 marks each.

Use of non-programmable calculator is permitted. Use of Hindship table is permitted.

Q1. A ship of displacement 10,000 mt of KM 7.0 m, KG 6.0 m works cargo as follows :-
Loads 800 mt in No.2 LH (KG 3.75 m) 4 m to port of the centreline
Loads 600 mt in No.4 LH (KG 6.0 m) 8 m to stbd of the centreline
Discharges 400 mt from Upper deck (KG 10.0 m) 2 m to port of the centreline
If the FSM is 4400 tm, find the final list.

(10 marks)

Q2. M.V. Hindship arrives at a port where the density of water is 1.014 t/cu.m at an even keel draft of 6.72 m. She sails at a draft of Fwd/7.20 m and Aft/7.30 m. 120 mt of FW was received and 40 mt of fuel was consumed in port. Calculate the weight of cargo loaded at that port.

(10 marks)

Q3. (2x5=10 marks)

- (a) Write five differences between Stiff and Tender vessels.
- (b) Define Righting Lever. Draw a diagram to show it.

Q.4. Draw and label the profile view of a General cargo vessel. (10 Marks)

Q.5. Define the following: (5 x 2=10 Marks)

- (a) Camber
- (b) Sheer
- (c) Rise of floor
- (d) Tumblehome
- (e) Rake

PART – B

Note:- Answer any 3 questions in this Part

Q.6. Under MARPOL 73/78, define following: (5 x 2 = 10 marks)

- a) Oil
- b) Oil tanker
- c) Special Area
- d) Instantaneous rate of discharge of oil content
- e) Sewage

- Q.7. State the purpose of following E/R machinery (5 x 2 = 10 marks)
- a) Ballast Pump
 - b) Main Sea Water Pump
 - c) Oily Water Separator
 - d) FO Purifier

- Q.8. (2 x 5 = 10 marks)
- a) Sketch and describe a globe valve
 - b) Write the advantages of hydraulic system

- Q.9. During rounds, you notice smoke coming out of the Cadets cabin, describe the sequence of actions for Firefighting. (10 marks)
