Indian Maritime University

(A Central University, Govt of India)

B.SC (Nautical Science)

May/June 2018 End Semester Examinations

Semester VI

Naval Architecture-VI-UG21T2604

Time: 3 Hours | Max Marks: 70

Date: 11.06.2018 | Pass Marks: 35

Section A

Q.NO 1 is compulsory. Attempt any other 2 out of the remaining 3.

Q1) Write short notes on the following. (4 x 2.5=10 marks)

a) Net Tonnage

b) loadline of ship

c) A-Class Fire subdivision

d) Harmonised Surveys of ships

Q2) What is the role and function of classification society. (10 marks)

Q3) a)Explain the items to be checked in preparation for load line survey. (5 marks)

b) While assigning freeboard explain correction of Block Co-efficient. (5 marks)

Q4) a)Define the following (5 marks)

i) Standard fire test

b)Define Floodable length and factor of sub division. (5 marks)

Section B

Question 5 is compulsory.Attempt any 3 out of the 4 other questions.
Use of M.VHindship stability particulars booklet.
Non programmable scientific calculator are permitted.
Graph paper to be provided by institute if required.

Q5) explain the following in brief (4 x 2.5=10 marks)

a) Dynamic stability
b) Angle of loll
c) Inclining experiment
d) Roll period of the vessel

Q6) a)Derive the formula for FWA . (4 + 4 + 2) marks

b) Describe the process of inclining experiment

c) How loadicator works online.

Q7) a) explain how dynamical stability is calculated fronstatical stability Curve. (5 + 5) marks

b) Discuss the reasons of synchronous rolling.

Q8 a)A ship of 4000 tonnes displacement,126m long, has KM=6.7m and KG=6.1m.the centre of flotation is 3m aft of amidships,MCTC=120 tm.Find the maximum trim at which the ship may enter a dry dock if the minimum GM at the critical instant is to be 0.3m. (5 marks)

b) A light beam 8 m long is supported at its ends. If a mass of 10.1937 kg is placed at its centre, draw the diagram SF to scale. (5 marks)

Q9 M.V.Hindship is floating at a displacement of 16875.5 tonnes, KG 8.158m,FS Moment 1798 mt. Assuming her to be wall sided calculate her angle of loll. Also calculate her GM at the angle of loll. (5 marks)