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10MR62

Sixth Semester B.E. Degree Examination, June/July 2018
Naval Architecture – II

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. Explain measurement of propeller pitch. (10 Marks)
 b. Define the following : (10 Marks)
 i) Pitch ii) Theoretical speed iii) Apparent slip iv) Wake v) Real slip.
- 2 a. Explain the Blade Element Theory. (10 Marks)
 b. Explain Open Water Experiment. (10 Marks)
- 3 a. Explain Angle of heel when turning the ship. (10 Marks)
 b. A ship with a metacentric height of 0.4m has a speed of 21 knots. The C.G is 6.2m above the keel. While the centre of lateral resistance is 4m above the keel. The rudder is put hard over to port and the vessel turns in a circle 1100m radius. Calculate the angle to which the ship will heel. (10 Marks)
- 4 a. Explain briefly about the types of Rudder. (10 Marks)
 b. Explain with the neat sketch why the rudder is fitted at the aft and not in the bow of a ship? (10 Marks)

PART – B

- 5 a. Write a note on shearing force and bending moment force. (10 Marks)
 b. Explain the following : (10 Marks)
 i) Buoyancy curve ii) Weight curve iii) Load curve
 iv) Shear force curve v) Bending moment curve.
- 6 a. Explain the forces on a ship in still water. (04 Marks)
 b. Write a note on static longitudinal strength approach. (08 Marks)
 c. Write a note on changes to section modulus. (08 Marks)
- 7 a. Explain Trochoidal wave system. (10 Marks)
 b. Write a note on Energy Spectra. (10 Marks)
- 8 a. Explain the forces due to (10 Marks)
 i) Rolling ii) Pitching iii) Heaving.
 b. Draw and explain bilge keel.. (10 Marks)

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