GANPAT UNIVERSITY
B. TECH SEM- IV (Marine) REGULAR EXAMINATION– APRIL-JUNE 2016
2MR406: Fluid Mechanics and Hydraulics

TIME: 3 HRS   TOTAL MARKS: 60

Instructions: (1) This Question paper has two sections. Attempt each section in separate answer book.
  (2) Figures on right indicate marks.
  (3) Be precise and to the point in answering the descriptive questions.

SECTION: I

Q.1 (a) Explain the Following Terms: 1) Capillarity 2) Surface Tension   (05)

  (b) Explain the pitot tube in detail with neat sketch.   (05)

OR

Q.1 (a) List the Different types of Pressure measurement devices and explain Differential U tube   (05)
  manometer with neat sketch.

  (b) Explain the types of Fluid Flow.   (05)

Q.2 Conditions of Equilibrium of a Floating and Sub- Merged bodies with neat sketch.   (10)

OR

Q.2 The right limb of a simple U- tube manometer containing mercury is open to the atmosphere   (10)
  while the left limb is connected to a pipe in which a fluid of SP. Gravity 0.9 is flowing. The
  center of the pipe is 12 cm below the level of mercury in the right limb. Find the pressure of
  fluid in the pipe if the difference of mercury level in the two limbs is 20 cm.

Q.3 State and Derive the Bernoulli's Theorem with its limitation, Advantages and Application in   (10)
  Detail.

SECTION: II

Q.4 (a) Derive the Force equation for the Curved Moving Plate in the Direction of the Jet.   (05)

  (b) Explain the Following Fluid Number : 1) Reynold's Number 2) Froude's Number   (05)

OR

Q.4 A Horizontal Venturimeter with inlet and throat diameters 30cm and 15 cm respectively is   (10)
  used to measure the flow of water .The reading of differential manometer connected to the
  inlet and the throat is 20cm of mercury. Determine the rate of flow. Take C_d=0.98.

Q.5 (a) Give the difference between Impulse and reaction Turbine.   (05)

  (b) Write a Short note on Kaplan Turbine.   (05)

OR

Q.5 Write a Short note on Specific speed of turbine.   (10)

Q.6 Explain the Pelton Turbine with Suitable Neat Sketch.   (10)

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