Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CE-221 (CBCS)

B.E., III Semester

Examination, December 2017

Choice Based Credit System (CBCS)

Fluid Mechanics

Time : Three Hours

Maximum Marks : 60

Note: i) Attempt any five questions out of eight questions.
ii) All questions carry equal marks.
iii) Assume data, if any missing/required.

1. What do you understand by the term "Specific Weight" and "Capillarity"? Also explain Buoyancy Forces in a static fluid.

2. Find the surface tension in a soap bubble of 40mm diameter when the inside pressure is 2.5N/mm^2 above the atmospheric pressure.

3. Deduce an expression for showing equipotential lines and streamlines are perpendicular to each other.

4. Deduce an expression of Bernoulli's equation with its all assumptions.

5. What do you understand by Boundary Layer Concept? Also deduce an expression for minor pipe loss due to sudden expansion of a pipe.

6. A 8cm diameter pipe has a discharge of 450lit./min. At a section the pipe has a sudden expansion to a size of 10cm diameter. If the pressure just upstream of the expansion is 20kN/m^2, calculate the pressure just after the expansion. Assume the pipe to be horizontal at the expansion region.

7. What are different basic conditions for an economical channel sections? Also explain Hydraulic Jump.

8. Write short notes on any four of following:
   a) Specific Energy Curve
   b) Aging of pipe
   c) Streamlines and Path line
   d) Manometers and Gauges
   e) Surface Tension

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(9)