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Roll No

AU/IP/ME-404-CBGS

B.Tech., IV Semester

Examination, June 2020

Choice Based Grading System (CBGS)

Fluid Mechanics

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

iii) Draw neat sketch, if required.

iv) In case of any doubt or dispute the English version question should be treated as final.

1. a) Define Viscosity. What is law of Newton's Viscosity? 7

b) What do you mean by Compressibility? Explain. 7

2. a) Discuss the effect of shape of vessel on liquid pressure. 7

b) A tank is filled upto 10 m depth by an oil having specific gravity 0.85. Find pressure intensity on bottom surface of tank. 7

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3. Discuss following flow lines. 14
- a) Path line
 - b) Stream line
 - c) Stream tube
 - d) Streak line
4. a) What is Continuity equation? Write conditions for continuity equation. 7
- b) The water flowing in a pipe with velocity 10 m/s. Find Kinetic energy and Kinetic head. 7
5. What is Bernoulli's theorem? What are the limitations of Bernoulli's theorem? 14
6. The water is flowing at 60 litre/s in a tapering horizontal pipe. The diameter at entrance is 25 cm at exit is 15 cm. If water enters at 100 KPa in pipe. Find pressure at exit. 14

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7. What is Reynold's Number? What are the different losses in pipe flow? 14
8. Write short note on any four of following. 14
- a) Specific weight
 - b) Specific volume
 - c) Cohesion
 - d) Adhesion
 - e) Surface tension
 - f) Density

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