



Roll No.

**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

SUMMER TERM / MAKE UP END TERM EXAMINATION

Semester: Summer Term 2019

Date: 23 July 2019

Course Code: PET 205

Time: 2 Hours

Course Name: Momentum Transfer

Max Marks: 80

Program& Sem: B.Tech & IV Sem (2016 Batch)

Weightage: 40%

Instructions:

(i) **Answer all questions**

Part A

Answer **all** the Questions. **Each** question carries **two** marks.

(5Qx2M=10)

1. Define shear stress and shear strain?
2. What are the different types of valves?
3. What do you mean by Newtonian and non-newtonian fluids? Give examples?
4. Define Fluidization and its types?
5. Explain rheopectic and Thixotropic fluids?

Part B

Answer **all** of the Questions. **Each** question carries **ten** marks.

(5Qx10M=50)

6. Explain the boundary layer concept for
 - i) Flat Plate
 - ii) Circular Pipe
7. Derive the the equation by which we can find out the major losses in pipes?
8. Explain are the instruments for measuring of flowing fluids?
9. Explain with suitable diagram
 - i)Centrifugal Pump
 - ii)Reciprocating Pump
10. Derieve the bernoulli's equation and express the final equation in terms of head?

Part C

Answer **any one** of the Questions. **The** question carries **twenty** marks. (1Qx20M=20)

11. The resistance R experienced by a partially submerged body depends upon the velocity – v , length – l , viscosity of fluid – μ , density of fluid – ρ , and gravitational acceleration – g . Obtain a dimensionless expression for resistance R by Buckingham pi theorem?

OR

12. From the laminar flow through circular pipe, derive the following

- i) Velocity Distribution
- ii) Ratio of maximum velocity to average velocity
- iii) Drop of Pressure for a given length(L) of a pipe