Q.27 Explain Bernoulli's theorem and its applications.

Q.28 Write continuity equation. Also give its significance.

Q.29 Explain gauge and absolute pressure.

Q.30 Explain manometer and its types

Q.31 Write short note on Bourdon's tube pressure gauge.

Q.32 Write difference between Newtonian and non Newtonian fluids.

Q.33 Derive an expression of Darcy's formula.

Q.34 State and prove Pascal's law.

Q.35 Explain U-tube differential manometer.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 A horizontal water pipe of diameter 20 cm coverages to 10 cm. if the pressure at two sections are 50N/cm^2 and 40N/cm^2 respectively. Calculate the flow rate of water.

Q.37 Derive an expression for flow rate or discharge through a venturimeter with the help of neat sketch.

Q.38 Explain :

a) Construction and working of centrifugal pump

b) Piston valve and butterfly valves.

3rd Sem / Plastic Tech.
Subject:- Fluid Flow / Viscous Flow of Fluids / Unit OP.-1

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The device which is used for making temporary measurements of flow is_____.

a) Venturimeter b) Dull flow tube

c) Orifice plate d) Pitot static tube

Q.2 Which among the following control the flow rate?

a) Valve b) Pump

c) Head d) Tank pipe

Q.3 A gear pump uses_____.

a) Petrochemical pumps

b) Meshing of gears

c) Froth pumps

d) Airlift pumps

Q.4 A one dimensional flow is also called as_____.

a) A steady flow

b) A flow which involves zero transverse component

c) Uniform Flow

d) Zig-Zag flow

Q.5 A manometer is used to measure_____.

a) Atmospheric pressure
b) pressure in pipes and channels
c) Pressure in Venturimeter
d) Difference of pressures between two points in a pipe

Q.6 Property of fluid that describes its internal resistance is known as_____.

a) viscosity b) friction
c) resistance d) internal energy

Q.7 If the Reynolds number is less than 2000, the flow in a pipe is _____.

a) turbulent b) laminar
c) transition d) none of the above

Q.8 The unit of pressure one bar is _____.

a) 1 Pascal b) 1 kilo Pascal
c) 100 kPascal d) 1000 kPascal

Q.9 For pipes, laminar flow occurs when Reynolds number is

a) Less than 2000
b) Between 2000 and 4000
c) More than 4000
d) Less than 4000

Q.10 When a fluid is subjected to resistance, it undergoes a volumetric change due to_____.

a) Strain b) Cohesion
c) adhesion d) Compressibility

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 What is vena - contracta?

Q.12 Define weir.

Q.13 Pitot tube is used to measure_____.

Q.14 Loss of heat at entrance of a pipe is given by_____.

Q.15 Reynold's number is given by_____.

Q.16 Poise is the unit of _____.

Q.17 Name two types of fluids.

Q.18 Give expression for pressure head of a liquid.

Q.19 The inlet length of Venturimeter is _____ the outlet length

Q.20 Give main components of centrifugal pump.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Give relation between coefficient of discharge, coefficient of velocity and coefficient of contraction.

Q.22 Draw construction and working of Pitot tube.

Q.23 Explain Orifice meter with the help of neat sketch.

Q.24 Explain loss of head due to sudden enlargement of pipe.

Q.25 Write working principle of Reciprocating pump.

Q.26 Explain Orifice and its types.