Q.22 Differentiate between variable area flow meter and variable head flow meter. (CO3)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain in detail construction, working and advantages of centrifugal pump. Also draw neat and clean diagram. (CO4)

Q.24 Explain the construction and working of venturimeter with the help of neat diagram. Write the expression for discharge of venturimeter. (CO3)

Q.25 Write short notes on any four of the following.

a) Friction losses in pipes (CO2)

b) Rotameter (CO3)

c) Pascal's law (CO1)

d) Steady and unsteady flow (CO1)

e) Dynamic viscosity (CO1)

f) Differential manometer (CO2)

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2nd Sem / Chemical, Chem P & P

Subject : Fluid Flow

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The continuity equation is based on the Principal of (CO1)

a) Conservation of momentum

b) Conservation of mass

c) Conservation of energy

d) Conservation of force

Q.2 Which of the following is not a Positive displacement pump is (CO4)

a) Reciprocating pump b) Rotary pump

c) Centrifugal pump d) Screw pump

Q.3 For flow through pipes Reynold's number less than 2100 is for (CO2)

a) Turbulent flow b) Transition flow

c) Laminar flow d) All of the above

Q.4 Which of the following property is dimensionless and has no unit? (CO1)

a) Viscosity b) Density

c) Vapour pressure d) Specific Gravity

Q.5 Which of the following is shear- thickening fluid? (CO1)

a) Bingham plastic b) Dilatant

c) Pseudo plastic fluid d) Ideal Fluid

Q.6 The ratio of inertial force to viscous force is caused (CO1)

a) Reynolds number b) Nusselt Number

c) Biot Number d) Peclet Number

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define steady flow. (CO1)

Q.8 Write any two properties of ideal fluid. (CO1)

Q.9 Name any two rotary pumps. (CO4)

Q.10 Write colour code used for Nitrogen Carrying pipes and cooling water pipes in industries. (CO5)

Q.11 Define Density and write its unit. (CO1)

Q.12 Define Cavitation. (CO4)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Differentiate between laminar and turbulent flow. (CO1)

Q.14 Describe the continuity equation and write the expression for Hagen poiseulli's equation. (CO2)

Q.15 Discuss the working of orifice meter. Also write its mathematical expression. (CO3)

Q.16 Explain the term pump priming and NPSH. (CO4)

Q.17 Describe Ball Valve in brief. (CO5)

Q.18 Explain in brief Schedule Number and BWG number. (CO5)

Q.19 Explain in brief Bernoulli's theorem. (CO2)

Q.20 Discuss in brief streamline flow. (CO1)

Q.21 Define efficiency of pump and write the expression for efficiency of centrifugal pump. (CO4)