3rd Sem. / Chemical Engineering (Spl. Poly. Engg.)

Subject : Fluid Flow

Time : 3 Hrs.   M.M. : 100

SECTION-A

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

Q.1   The force per unit area is called _____.

Q.2   For a fluid at rest the shear stress is _____.

Q.3   The viscosity of Liquids _____ with increases in temperature.

Q.4   _____ possesses no definite volume and is compressible.

Q.5   Absolute Pressure = Atmospheric Pressure + _____.

Q.6   Expand "NPSH".

Q.7   For Laminar Flow Reynolds Number = $\dfrac{\text{Inertia Force}}{?}$

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions.   3x10=30

Q.33 Explain the principle, construction and working of orifice meter with the help of a neat diagram.

Q.34 Explain the principle, construction and working of a reciprocating pump with the help of a neat clean diagram.

Q.35 Drive the expression of Hagen-Poiselli's equation. Explaining each variables.

Q.36 Drive the expression for finding out discharge through a venturimeter.

Q.8 Cd = _____

Q.9 Compressibility is the Reciprocal of _____.

Q.10 The devices used to increase the pressure energy of a fluid are called _____.

SECTION-B

Note: Very short answer type questions. Attempt any ten questions out of twelve questions. 10x2=20

Q.11 What is Fluid.

Q.12 State Pascal Law.

Q.13 What is priming.

Q.14 Name any two pumps.

Q.15 Define specific weight?

Q.16 Define Turbulent Flow?

Q.17 What is Streamline Flow?

Q.18 Define surface tension.

Q.19 Define the term "Pressure head".

Q.20 Define critical velocity.

Q.21 Define discharge.

Q.22 Write two examples of open channels.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

Q.23 What is difference between ideal and real Fluids?

Q.24 What is difference between rotational and Irrotational Flow?

Q.25 State is Bernoull's theorem and give its applications.

Q.26 Give labelled diagram of venturimeter.

Q.27 State hydrostatic Law and give its applications.

Q.28 Write differences between Flow through open channel and Flow through Pipes?

Q.29 What is difference between compressible and incompressible Flow?

Q.30 Draw the neat clean diagram of rotary pump?

Q.31 Define various heads of centrifugal pump.

Q.32 Describe globe value in brief.