Q.28 What is difference between steady & unsteady flow?

Q.29 What are the advantages and disadvantages of a globe valve?

Q.30 Explain working of the pitot tube?

Q.31 What is Reynolds number? Discuss its significance?

Q.32 What is cavitation? Write its two harmful effects?

Q.33 Explain the construction of rotameter?

Q.34 What is difference between centrifugal and reciprocating pump?

Q.35 Describe working of rotary pump in brief?

SECTION-D

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

Q.36 Explain the principle, construction and working of a centrifugal pump with the help of neat diagram?

Q.37 Describe different types of frictional losses for flow of fluid through pipes in detail?

Q.38 Describe the construction, working & advantages of a venturimeter with the help of a neat diagram?

3rd Sem / Chem, P&P, Chem Engg.
(Spl. Paint Tech.), Chem Engg. (Spl. Polymer Engg.)
Subject:- Fluid Flow

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following flow measuring devices consists of a converging part, throat and diverging part?

a) Ventrimeter b) Rotameter
c) Pitot Tube d) Orificemeter

Q.2 Polymer dispersions which exhibit shear thickening are grouped into which particular class of fluids?

a) Thixotropic fluid b) Newtonian fluid
c) Pseudoplastic fluid d) Dilatant fluid

Q.3 What is value of viscosity for ideal fluid?

a) 0 Pa s b) 1 Pa s
c) 10 Pa s d) 100 Pa s

Q.4 What is S.I. unit of pressure?

a) J b) N
c) Pa d) W

Q.5 The friction loss in uniform straight sections of pipe, due to unseparated boundary layer is known as?

a) Skin friction b) Form friction

c) Static friction d) Rolling friction

Q.6 The fluid for which the shear stress is proportinal to the shear rate is called?

a) Thixotropic fluid b) Newtonian fluid

c) Pseudoplastic fluid d) Dilatant fluid

Q.7 The value by which the pressure at the pump inlet must exceed the vapor pressure is called?

a) Suction Pressure b) Partial Pressure

c) NPSHR d) NPSH

Q.8 Which of the following devices is grouped under the category of variable area meter?

a) Ventrimeter b) Rotameter

c) Anemometer d) Orificemeter

Q.9 The cavitation can be avoided by which of the following means ?

a) Priming b) Impeller design

c) Check value d) NPSH

Q.10 The high speed rotary device that develops a maximum pressure of about 2 atm is called?

a) Pump b) Fan

c) Blower d) Compressor

SECTION-B

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

Q.11 Write one example of non-Newtonian fluid?

Q.12 What is real fluid?

Q.13 What is S.I. unit of density?

Q.14 Define the path line?

Q.15 Write one application of gate valve?

Q.16 What is steady flow?

Q.17 What is schedule number?

Q.18 Write one advantage of rotameter?

Q.19 Define the fluid?

Q.20 What is vena contracta?

SECTION-C

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

Q.21 What is difference between real fluid & ideal fluid?

Q.22 Describe surface tension & compressibility in brief ?

Q.23 Explain laminar and turbulent flow in brief?

Q.24 State and explain equation of continuity in brief?

Q.25 What is difference between rotational & irrotational flow?

Q.26 Describe the concept of viscosity in brief?

Q.27 Discuss Newtonian fluids in brief?