Q.24 Explain:

a) Venturimeter with neat sketch.

b) Piston valve and butterfly valves.

Q.25 Write short note on:

a) Jaw crusher b) Concept of manometer

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3rd Sem / Plastic Technology

Subject : Basics Of Chemical Engineering

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 Which of the following is a method of heat transfer?

a) Convection b) Radiation

c) Conduction d) All of the mentioned

Q.2 Which of the following is a type of Mechanical operations generally used in industries?

a) Size reduction b) Clarification

c) Screening d) All of these

Q.3 LMTD in case of counter flow heat exchanger as compared to parallel flow heat exchanger is _____

a) Higher b) Lower

c) Same d) Depends on area

Q.4 Newtonian fluid is defined as the fluid which

a) Obeys Hook's law

b) Is compressible

c) Obeys Newton's law of viscosity

d) Is incompressible

Q.5 What is the unit of flow rate?

a) Kg.m b) kg/m

c) m^3/s d) m/s

Q.6 Bernoulli's equation in fluid dynamics is valid for _____

a) Compressible flows

b) Transient flows

c) Continuous flows

d) Viscous flows

SECTION-B

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

Q.7 Venturimeter is used to measure _____.

Q.8 Notch is device used in measuring _____ through small channel.

Q.9 Define isolated system.

Q.10 Define isothermal process.

Q.11 Define thermal conductivity.

Q.12 Reynold's number is given by _____ .

SECTION-C

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

Q.13 State Newton's law of viscosity

Q.14 Explain various types of losses in pipes

Q.15 Explain screening and name any two screening equipments.

Q.16 Write short note on cyclone separator.

Q.17 Discuss concept of Gibbs free energy.

Q.18 Give difference between homogeneous and heterogeneous system.

Q.19 Discuss Fourier law of heat conduction.

Q.20 Explain working of solenoid valve.

Q.21 Explain shell and tube heat exchanger.

Q.22 Define all three laws of thermodynamics.

SECTION-D

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

Q.23 Discuss with neat sketch, the construction and working of Reciprocating pump.