Q.26 Explain gauge pressure. (CO2)

Q.27 Write the advantages of manometer. (any five)(CO2)

Q.28 Draw a neat sketch of venturimeter. (CO2)

Q.29 State the limitations of Bernoulli's theorem. (CO2)

Q.30 Explain different types pneumatic valve. (CO3)

Q.31 Explain pneumatic circuit. (CO3)

Q.32 Explain loss of head due bend in pipe. (CO3)

Q.33 What is pneumatic air compressor? Explain with the help of neat sketch. (CO4)

Q.34 Differentiate between centrifugal pump and reciprocating pump. (CO5)

Q.35 Write the advantages of pneumatic system. (CO6)

SECTION-D

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

Q.36 A pipe contains an oil of specific gravity 0.9. A differential manometer connected at the two points A and B of the pipe shows a difference in mercury level as 30cm. Find the difference of pressure at the two points. (CO1)

Q.37 Explain construction and working of hydraulic pump with the help of neat sketch. (CO4)

Q.38 Explain the construction and working of pneumatic cylinder with the help of neat sketch. (CO5)

No. of Printed Pages : 4 202441

Roll No. .....

4th Sem /Mechatronics

Subject:- Hydraulic and Pneumatic Systems

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 N/m is the unit of (CO1)

a) Viscosity b) Capillary

c) Surface tension d) None of these

Q.2 Which of the following substances has the highest viscosity ? (CO1)

a) Hydrogen b) Mercury

c) Air d) Water

Q.3 Rain drops are spherical due to (CO2)

a) Surface tension

b) Air resistance

c) Viscosity

d) Atmoshperic pressure

Q.4 The density of water is maximum at (CO2)

a) 4°C b) 0°C

c) 273K d) 300K

Q.5 1 Ns/m^2 = _____ poise. (CO2)

a) 1 b) 10

c) 100 d) 1000

Q.6 The specific gravity of water is (CO3)

a) 2 b) Zero

c) 9.81 d) 1

Q.7 Bourden's tube is generally made of (CO3)

a) Phosphor bronze or Nickle steel

b) Tin

c) Copper

d) Mild steel

Q.8 Atmospheric pressure is also called (CO4)

a) Barometric pressure b) Absolute pressure

c) Gauge pressure d) None of these

Q.9 The nozzle fitted at the end of water pipe discharge water at (CO4)

a) High pressure b) Low velocity

c) High velocity d) None of these

Q.10 Continuity equation deals with the law of conservation of (CO5)

a) Energy b) Mass

c) Momentum d) All of these

SECTION-B

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

Q.11 The unit of kinematics viscosity is_____ (CO1)

Q.12 Name types of fluids . (CO1)

Q.13 The S.I. unit of mass density is_____ (CO1)

Q.14 1 Ns/m^2 = _____poise. (CO2)

Q.15 Write the S.I unit of discharge is_____ (CO2)

Q.16 Define potential energy of a liquid . (CO2)

Q.17 Orifice meter is used to measure _____ (CO3)

Q.18 The energy possessed is based upon the principle of _____ (CO3)

Q.19 Reynold's number, Re = _____ (CO5)

Q.20 Hydraulic jack is the practical application of _____ law. (CO5)

SECTION-C

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

Q.21 Write the scope of hydraulic and pneumatic. (CO1)

Q.22 State Newton's law of viscosity. (CO1)

Q.23 Explain compressibility. (CO1)

Q.24 Write properties of compressible fluid. (CO2)

Q.25 Explain absolute pressure. (CO2)