Q.25 Explain briefly Continuity equation. (CO3)

Q.26 Give classification of air compressors. (CO2)

Q.27 Define Mass density and Specific weight. (CO1)

Q.28 State the applications of pneumatics. (CO2)

Q.29 What are the limitations of 1 law of thermodynamics. (CO3)

Q.30 Differentiate between heat and work. (CO1)

Q.31 What is U-tube manometer? How will you measure vacuum pressure? (CO3)

Q.32 Describe Vander-wall's equation. (CO2)

Q.33 Differentiate between heat pump and refrigerator. (CO2)

Q.34 Explain Second law of thermodynamics. (CO3)

Q.35 Describe the working of Reciprocating Compressor. (CO2)

SECTION-D

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

Q.36 Explain the construction and Working of Hydraulic Accumulator with the help of neat sketch. (CO2)

Q.37 Define construction and working of reciprocating air Compressor with its Application. (CO2)

Q.38 Explain Otto Cycle with P-V and T-S diagrams. (CO3)

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3rd Sem / Auto

Subject:- Basics of Thermodynamics, Hydraulics and Pneumatics

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Hydraulics is related to use of (CO1)

a) Liquid b) Gas

c) Both (a) and (b) d) None of the above

Q.2 The standard value of Atmospheric pressure is (CO2)

a) 760 mm of Mercury b) 50 mm of Mercury

c) 60 mm of Mercury d) 1000 mm of Mercury

Q.3 Which of the following quantity is dimensionless- (CO1)

a) Specific gravity b) Specific Volume

c) Mass density d) Specific weight

Q.4 Auto cycle is known as - (CO1)

a) Constant Pressure cycle

b) Constant Temperature cycle

c) Constant entropy cycle

d) Constant volume cycle

Q.5 Pneumatic system usually do not exceed (CO3)

a) 1 hp b) 1 to 2 hp

c) 2 to 3 hp d) 4 to 5hp

Q.6 Poise is the unit of-

a) Surface tension b) Density

c) Viscosity d) Capillarity

Q.7 Constant pressure process is also known as (CO1)

a) Isobaric process b) Isochoric process

c) Isothermal process d) Adiabatic process

Q.8 First law of thermodynamics deals with (CO1)

a) Conservation of energy

b) Conservation of mass

c) Conservation of force

d) Conservation of momentum

Q.9 Surface Tension of a liquid (CO2)

a) Increases with area

b) Decreases with temperature

c) Increases with temperature

d) Decreases with area

Q.10 Pneumatic is related to -

a) Water b) Air

c) Both A & B d) None of above

SECTION-B

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

Q.11 What is Cycle? (CO1)

Q.12 Specific volume is the reciprocal of mass density. (true/false) (CO1)

Q.13 What do you mean by viscosity. (CO1)

Q.14 Air is compressible. (True/False) (Co1)

Q.15 The otto cycle is known as volume cycle. (True/False) (CO1)

Q.16 What is Zeroth law of thermodynamics? (CO1)

Q.17 Define uniform flow. (CO2)

Q.18 SI unit of Surface tension is Newton per meter (True/False) (CO2)

Q.19 Define isolated system. (CO1)

Q.20 Define universe. (CO2)

SECTION-C

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

Q.21 Define surface tension and Specific gravity. (CO1)

Q.22 Differentiate between Screw pump and gear pump. (CO2)

Q.23 Explain Rate of flow and its unit. (CO1)

Q.24 Explain Bernoulli's theorem. (CO1)