SECTION-D

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

Q.23 Explain Bernoull's theorem with its application. (CO4)

Q.24 What is hydraulic brake ? Explain its construction and working with neat sketch. (CO4)

Q.25 Explain the construction and working of pneumatic gun with neat sketch. (Co4)

3rd Sem. / Automobile
Subject : Basics of Thermodynamics, Hydraulics and pneumatics

Time : 3 Hrs.   M.M. : 60

SECTION-A

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

Q.1 2nd law of thermodynamics defines (CO-1)
   a) Internal energy   b) Entropy
   c) Temperature   d) Heat

Q.2 Diesel cycle is also known as (CO-2)
   a) Constant pressure cycle
   b) Constant temperature cycle
   c) Constant entropy cycle
   d) Constant volume cycle

Q.3 Poise is the unit of (CO-1)
   a) Surface tension   b) Density
   c) Viscosity   d) Capillarity

Q.4 Pneumatic is related to (CO-1)
   a) Water   b) Air
   c) Both A & B   d) None of above

Q.5 Real fluids (CO-2)

a) Are viscous

b) Posses surface tension

c) Are compressible

d) All of above

Q.6 In a reciprocating compressor, air is generally compressed (CO-1)

a) Adiabatically   b) Isothermally

c) Polytropically   d) None of these

SECTION-B

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

Q.7 Density of water in S.I unit is equal to_____(CO1)

Q.8 S.I unit of surface tension is_____ (CO1)

Q.9 Name the different temperature scales in common use. (CO1)

Q.10 A hydraulic device which works on the principle of water hammer is_____ (CO2)

Q.11 Which types of motors used in fans? (CO1)

Q.12 Name three components of centrifugal pump.(CO2)

(2)

SECTION-C

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

Q.13 Write a short note on various thermodynamic processes. (CO3)

Q.14 Differentiate between open system and closed system. (CO2)

Q.15 Explain bourdon tube pressure gauge with the help of neat sketch. (Co3)

Q.16 A barometer reading is 755mm of mercury. The specific gravity is 13.6 and intensity of pressure is 50 kPa. Calculate the gauge and absolute pressure. (CO4)

Q.17 Give classification of air compressors (CO2)

Q.18 What are the limitations of 1st law of Thermodynamics? (CO2)

Q.19 Differentiate the uniform and non-uniform flow. (CO2)

Q.20 Draw the line diagram of Hydraulic system. (CO3)

Q.21 Explain the vane type pump with the help of neat sketch. (CO4)

Q.22 State the applications of pneumatics. (CO2)

(3)