

- Q.26 Differentiate between open system and closed system. (CO-5)
- Q.27 Explain characteristics gas equation. (CO-6)
- Q.28 Define fuel and write its constituents. (CO-9)
- Q.29 Write the advantages of single stage compression. (CO-10)
- Q.30 Explain the working of Supercharger. (CO-10)
- Q.31 Explain multistage reciprocating air compressor with help of suitable example. (CO-10)
- Q.32 Explain two types of air compressor.
- Q.33 Explain Pascal's law.
- Q.34 Explain First and Second Law of thermodynamics.

SECTION-D

- Note:** Long Answer type question. Attempt any two questions. (2x10=20)
- Q.35 Explain Diesel cycle with PV and TS diagram and write different operations involved in it. (CO-8)
- Q.35 Explain construction and working of centrifugal pump with neat diagram. (CO-4)
- Q.36 If 71 of an petrol weighs 4.5N, calculate Specific weight, Mass density & specific volume. (CO-1)

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3rd Sem./Automobile Engg Subject : Elements of Mechanical Engineering

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 An envelope which separates the system from surroundings is called as (CO-5)
A) Merge b) Limit less
C) Boundary d) None of these
- Q.2 Write the SI unit of specific weight (CO-1)
A) Newton per metre cube
b) Newton metre
C) Newton
D) All of these
- Q.3 Entropy of the universe remains _____ (CO-1)
a) Variable b) Not constant
c) Constant d) All of these
- Q.4 The pressure below gauge pressure is known as _____. (CO-2)
A) Absolute pressure b) Vacuum pressure

- c) Both A & B d) Atmospheric pressure
- Q.5 Bourdon tube pressure gauge is used for measuring _____ pressure. (CO-2)
- a) Gauge & Vacuum pressure
b) Vacuum pressure
c) absolute pressure
d) Gauge pressure
- Q.6 Turbulent flow is non _____ (CO-3)
- a) Steady flow b) Uniform flow
c) stream line flow d) all of these
- Q.7 Centrifugal pump convert pressure through _____ force. (CO-4)
- a) Centrifugal force b) Centripetal force
c) Both A & B d) None of these
- Q.8 Loss of heat occurs in _____ process. (CO-5)
- a) Constant pressure b) Reversible
c) Constant volume d) irreversible
- Q.9 In Isobaric process pressure remains _____ (CO-7)
- a) Constant b) Variable
c) Both A & B d) None of these
- Q.10 Carnot cycle is an _____. (CO-8)
- a) Variable cycle b) Constant process
c) Ideal cycle d) All of these

SECTION-B

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

- Q.11 Define specific mass. (CO-1)
- Q.12 Define surface tension. (CO-1)
- Q.13 Name any two pressure measuring devices. (CO-2)
- Q.14 Define pressure head. (CO-2)
- Q.15 Define Non uniform Flow. (CO-3)
- Q.16 Define Turbulent flow. (CO-3)
- Q.17 Write main components of reciprocating pump. (CO-4)
- Q.18 Define hydraulic Ram. (CO-4)
- Q.19 Define Entropy. (CO-5)
- Q.20 Define Charle's law. (CO-6)

SECTION-C

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

- Q.21 Explain the relation between specific weight and mass density. (CO-1)
- Q.22 Explain about mechanical pressure gauge. (CO-2)
- Q.23 Differentiate between Steady and Un-Steady flow. (CO-3)
- Q.24 Explain Bernoulli's equation. (CO-3)
- Q.25 Explain hydraulic brake. (CO-4)