

No. of Printed Pages : 4

Roll No.

180332

**6th Sem / Automobile Engineering
Subject:- B T H P**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

Q.1 Boyle's law is applied when _____ is constant. (CO2)

- a) Temperature
- b) Pressure
- c) volume
- d) none of above

Q.2 2nd law of thermodynamics defines- (CO3)
a) Internal energy b) entropy
c) temperature d) heat

Q.3 Enthalpy is the heat supplied to a system at- (CO1)
a) Constant pressure b) Constant temperature
c) Constant entropy d) Constant volume

Q.4 Diesel cycle is also known as- (CO4)
a) Constant pressure cycle
b) Constant temperature cycle
c) Constant entropy cycle
d) Constant volume cycle

Q.5 For same compression ratio, efficiency of otto cycle is _____ than diesel cycle. (CO4)

- a) greater than
- b) less than
- c) equal to
- d) None of above

Q.6 Real fluids- (CO5)

- a) are viscous
- b) posses surface tension
- c) are compressible
- d) all of above

Q.7 Atmospheric pressure is also called- (CO6)

- a) absolute pressure
- b) barometric pressure
- c) gauge pressure
- d) None of above

Q.8 Kinetic head in Bernoulli's theorem is given as- (CO7)

- a) p/w
- b) $v^2/2g$
- c) z
- d) $2g/v^2$

Q.9 S.I unit of discharge is- (CO7)

- a) m/s
- b) m^2/s
- c) m^3/s
- d) m^4/s

Q.10 In a reciprocating compressor, air is generally compressed - (CO9)

- a) adiabatically
- b) isothermally
- c) polytropically
- d) none of these

SECTION-B

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

Q.11 Define open system. (CO1)

(1)

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(2)

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- Q.12 Define boundary of a system. (CO1)
 Q.13 Explain Boyle's law. (CO2)
 Q.14 What is enthalpy? (CO3)
 Q.15 Is the efficiency of carnot cycle maximum ? (CO4)
 Q.16 Define fluid. (CO5)
 Q.17 Write the S.I unit of intensity of pressure of liquid? (CO6)
 Q.18 Define pressure head of liquid. (CO6)
 Q.19 Name three components of centrifugal pump. (CO8)
 Q.20 Define hydraulic pump. (CO8)

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Differentiate between pneumatic screw driver and pneumatic wrenches. (CO10)
 Q.22 Explain hydraulic press. (CO8)
 Q.23 Write down the advantages and disadvantages of pneumatic system. (CO9)
 Q.24 The total pressure of water acting on a surface of area 250 mm² is found to be 100N. Find the intensity of pressure acting on the surface. (CO6)
 Q.25 Define - (Co7)
 a) uniform flow b) non-uniform flow
 Q.26 Explain closed and isolated systems. (CO1)

- Q.27 Prove that Cp-Cv=R (CO2)
 Q.28 Explain Clausius statement. (CO3)
 Q.29 Write a short note on diesel cycle. (CO4)
 Q.30 Explain capillarity in brief? (CO5)
 Q.31 Define-
 a) adhesion b) cohesion
 Q.32 Write a short note on single tube manometer? (CO6)
 Q.33 Define- (CO1)
 a) State b) system
 Q.34 Explain first law of thermodynamics. (CO3)
 Q.35 Define Vander-Wall's equation. (CO3)

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Briefly explain 2nd law of thermodynamics with neat sketch. (CO3)
 Q.37 What is hydraulic brake? Explain its construction and working with neat sketch. (CO8)
 Q.38 Define construction and working of rotary compressor with its types. (Co9)
(Note: Course outcome/CO is for office use only)