

- Q.27 What are the limitations of first law first law of thermodynamics?
- Q.28 Write short note on heat transfer through conduction.
- Q.29 Explain the law of conservation of energy with suitable example.
- Q.30 Explain single stage compressor. with neat Sketch?
- Q.31 Compare Boilers Mounting & Accessories.
- Q.32 Define dryness fraction, Dry Steam, wet steam, Superheated Steam?
- Q.33 Explain Quasi-static process in brief
- Q.34 Name different type of air compressors.
- Q.35 Explain the use of blow off cock with its diagram.

SECTION-D

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

- Q.36 What is a thermodynamic system? Explain different types of thermodynamic systems.
- Q.37 Explain construction and working of Lancashire boiler with neat sketch.
- Q.38 What is an air compressor? Describe construction and working of a multi stage reciprocating air compressor with neat sketch.

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**2nd Sem / Mech. Engg.(MSIL)
Subject:- Thermodynamics**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Heat transfer in solids takes place by
 a) Conduction b) Convection
 c) Radiation d) None of these
- Q.2 First law of thermodynamics deals with
 a) Conservation of energy.
 b) Conservation of pressure.
 c) Conservation of mass.
 d) Conservation of force.
- Q.3 Which of the followings is a water tube boiler?
 a) Babcock and Wilcox boiler.
 b) Locomotive boiler.
 c) Cochran boiler.
 d) Lancashire boiler.
- Q.4 A wet vapour can be completely specified by its
 a) Pressure
 b) Pressure and dryness fraction
 c) Pressure and temperature
 d) Temperature

- Q.5 Constant pressure process is also known as
a) Isochoric process. b) Isobaric process.
c) Isothermal process d) Relative process
- Q.6 The value of characteristic gas constant (R) for atmospheric
a) 287 J/kg K b) 0.287 J/kg K
c) 2.87 J/kg K d) 28.7 J/kg K
- Q.7 If there is no transfer of mass and energy to and from system, it is a
a) Closed system b) Open system
c) Isolated system d) Constant flow system
- Q.8 The device which supply feed water to the boiler is called.
a) Air preheater. b) Pressure gauge.
c) Super heater. d) Feed pump.
- Q.9 The device which tells Level of water in the boiler is called.
a) Economiser. b) Feed pump.
c) Water level indicator. d) None of the above.
- Q.10 As the temperature increases, thermal conductivity of a gas
a) Decreases b) Increases
c) Remains same d) None of these

SECTION-B

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

- Q.11 Define system.
Q.12 State Boyle's law.
Q.13 What is rotary air compressor?
Q.14 Define boiler.
Q.15 Define latent heat.
Q.16 Define vaporization.
Q.17 What is the function of pressure gauge?
Q.18 Define boiler Mounting.
Q.19 What is economiser?
Q.20 Give any two examples of internally fired boilers.

SECTION-C

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

- Q.21 State Zeroth law of thermodynamic.
Q.22 Define entropy.
Q.23 Define irreversible process with its examples.
Q.24 Classify the steam boilers according to the position of the furnace.
Q.25 Explain uses of compressed steam.
Q.26 Explain universal gas constant.