

Q.24 List different mechanical properties of metals.
Explain any four of them,.

Q.25 a) Write the applications of refrigeration and Air
Conditioners in agriculture.
b) Write down the practical applications of
hydraulics.

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M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 The process of heat transfer in which heat flows from a hotter to cold body in the form of electromagnetic waves.

- a) Conduction b) Radiation
- c) Convection d) Thermal radiation

Q.2 The internal resistance per unit area of cross section offered by a body against the deformation

- a) Strain b) Stress
- c) Strength d) None of these

Q.3 The type of flow in which the fluid particles move along well defined paths or streamline and streamline are straight and parallel

- a) Laminar flow b) Compressible flow
- c) Uniform flow d) Unsteady flow

- Q.4 The ratio of tensile stress and tensile strain is
- Young's Modulus
 - Hook's Law
 - Bulk Modulus
 - Poisson's Ratio
- Q.5 Which of the following is not a physical property of metals
- Density
 - Porosity
 - Structure
 - Tensile strength
- Q.6 The ability of material to be drawn from a large section to a small section such as in wire drawing.
- Toughness
 - Ductility
 - Elasticity
 - Plasticity

Section-B

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

- Q.7 Define Bulk Modulus.
- Q.8 Define Malleability.
- Q.9 Define Compressive strain.
- Q.10 Define specific Weight.
- Q.11 Define Gauge Pressure.
- Q.12 Define Surface tension.

Section-C

Note: Short answer type Questions. Attempt any Eight questions out of Ten Questions. (8x4=32)

- Q.13 Describe the principle of refrigeration.
- Q.14 Describe causes, effects and control of corrosion.
- Q.15 Describe different modes of heat transfer.
- Q.16 Enlist the major components of Air Conditioner.
- Q.17 Differentiate potential energy and kinetic energy.
- Q.18 What is the difference between uniform and non-uniform flow?
- Q.19 What is the difference between Shear and volumetric strain.
- Q.20 Describe any four physical properties of metals.
- Q.21 Write a short note on the importance of engineering materials.
- Q.22 Enlist different pressure measuring devices.

Section-D

Note: Long answer questions. Attempt any Two questions out of Three Questions. (2x8=16)

- Q.23 What is meant by Kinematics? Describe any four types of fluid flow in brief.