

Roll No.

180117

1st year

Branch : Agriculture Engg.

Subject : Basics of Agriculture Engg.

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

- Q.1** A flow in which the velocity of flow at a given instant of time changes from one point to other.
- a) Steady b) Unsteady
c) Uniform d) Non-Uniform
- Q.2** The property of a material by which it undergoes slow plastic deformation under prolonged loading
- a) Wear resistance b) Fatigue
c) Hardness d) Creep
- Q.3** The internal resistance per unit area of cross-section offered by a body against the deformation
- a) Strain b) Stress
c) Elasticity d) Poisson's Ratio
- Q.4** It is the ability of a material to regain its original shape.
- a) Elasticity b) Malleability
c) Plasticity d) Hardness

- Q.5 The property of liquid by virtue of which it adheres to the solid body with which it is in contact.
- a) Surface Tension b) Adhesion
c) Cohesion d) Capillarity
- Q.6 The transfer of heat by actual movement of particles due to difference resulting from temperature
- a) Conduction b) Thermal conductivity
c) Electrical conductivity d) Convection

Section-B

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

- Q.7 Define Fatigue.
- Q.8 Define Poisson's Ratio.
- Q.9 Enlist different types of strains.
- Q.10 Define Surface tension.
- Q.11 Define Vapour pressure.
- Q.12 Give the unit of heat energy.

Section-C

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

- Q.13 What is the difference between Laminar flow and turbulent flow?

- Q.14 What is the difference between Shear and volumetric strain?
- Q.15 Describe the major components of refrigerator.
- Q.16 Describe any four types of fluid flow in brief.
- Q.17 Describe applications of refrigeration and air conditioners in agriculture.
- Q.18 Describe causes, effects and control of corrosion.
- Q.19 Describe any four physical properties of metals.
- Q.20 What are different types of stresses?
- Q.21 Describe different pressure measuring devices.
- Q.22 Write a short note on the selection criteria of engineering materials.

Section-D

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

- Q.23 How the engineering materials are classified? Give examples.
- Q.24 a) List different mechanical properties of metals. Explain any two of them.
b) Describe hydraulic energy and its types.
- Q.25 What are different modes of heat transfer? Explain with examples.