

**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 Possion'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 criterial 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.