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Roll No.

180117

1st Year / Agri. Tech.

Subject : Basics of Agricultural Engineering

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 fluid particles move along well defined paths or streamline and streamline are straight and parallel
- a) Unsteady flow b) Compressible flow
 - c) Uniform flow d) Laminar flow
- Q.2 The internal resistance force per unit area is called
- a) Strain b) Stress
 - c) Load d) Poisson's Ratio
- Q.3 The ratio of tensile stress and tensile strain is
- a) Young's Modulus b) Hook's Law
 - c) Bulk modulus d) Poisson's Ratio
- Q.4 The weight per unit volume of a liquid at a standard temperature and pressure.
- a) Specific weight b) Specific gravity
 - c) Weight d) None of these

- Q.5 The ratio of the shear stress to shear strain is
a) Bulk Modulus b) Modulus of Rigidity
c) Young's modulus d) None of these
- Q.6 The capacity of a material to withstand deformation under compression without rupture
a) Fatigue b) Malleability
c) Brittleness d) Ductility

SECTION-B

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

- Q.7 Define Tensile Stress.
Q.8 Define surface tension.
Q.9 Give the unit of pressure.
Q.10 Define Malleability.
Q.11 Define Specific Weight.
Q.12 Define Elasticity.

SECTION-C

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

- Q.13 What is the difference between steady and unsteady flow?

- Q.14 What are the different causes and effects of corrosion?
Q.15 Differentiate potential energy and kinetic energy.
Q.16 Describe Hooke's Law.
Q.17 Describe any four physical properties of metals.
Q.18 What are different factors affecting mechanical properties?
Q.19 Enlist different pressure measuring devices.
Q.20 What are different causes and effects of corrosion?
Q.21 Enlist the major components of air conditioner.
Q.22 Write down the practical applications of hydraulics.

SECTION-D

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

- Q.23 What do you mean by corrosion? What are its causes, effects and how would you control corrosion.
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 difference between uniform and non-uniform flow.