**APPLIED PHYSICS**

**SECTION – I**

(Use separate answer book)

**Q.1.** Attempt any TEN of the following. (20)

a. What is unit? Give the different systems of unit.

b. State Hook’s law.

c. The change in direction of light when it enters from one medium to another medium is .

d. Give the types of lens.

e. The angle of contact of mercury is .

f. Give some characteristics of X-rays.

g. Give the dimension of momentum.

h. Enlist the fundamental units.

i. What do you mean by Reynolds no.?

j. What is angle of prism?

k. Define photoelectric effect.

l. Define strain and give its types.

m. Define modulus of rigidity.

**Q.2.**

a. Obtain an expression for rise of liquid in a capillary tube. (05)

b. Explain in brief moisture meter.

c. What is angle of contact? Explain.

**Q.3.**

a. Explain the concept of polarization and diffraction. (10)

b. Give the applications of X-rays.

c. Give the dimensions of – velocity, acceleration, pressure.

**Q.4.**

a. Explain in brief three elastic constants. (05)

b. Write a note on hygrometer.

c. Explain in detail viscosity. (06)
Q.5. Attempt any five
   a. What are isotopes & isobars?
   b. Explain Bohrs Atomic Model?
   c. What is hard water? How it becomes hard?
   d. Write charge and location of Proton, Electron and Neutron.
   e. Give distinguish test between aldehyde and ketone?
   f. Write electronic configuration of Cl and S.

Q.6. Explain in brief
   a. Normality
   b. Mass Number
   c. Isotopes.
   d. Ionization.

Q. 7. a. What are disadvantages of hard water in textile Industry?
   b. Explain properties of esters and acids and write their uses in textile industries
   c. What are types of hardness of water and how it measure?

Q.8. a. Write structure of
   (i) 2, 2-Dimethyl-pentane
   (ii) 2, Methyl-Pentanol
   b. What are aromatic compound? Differentiate between aliphatic & aromatic compounds.

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