Engineering physics (2016)

Q.1.Choose the correct answer in the following question:

(i) Hooke's law essentially defines.

(a) stress (b) strain
(c) yield point (d) elastic limit

Ans.(d)

(ii) The surface tension is pure water as compared to that of soap solution is

(a) less (b) more
(c) same (d) depends upon the nature of soap

Ans.(a)

(iii) The flow of liquid is laminar or stream lined is determined by

(a) rate of flow of liquid (b) density of liquid
(c) radius of tube (d) co-officient of viscosity

Ans.(a)

(iv) The S.I. unit of co-efficient of thermal conductivity is

(a) watt-kelvin metre (b) joule
(c) watt/m-k (d) joule/second

Ans.(c)

(v) The gas law pv = constant holds good for

(a) isothermal changes (b) adiabatic changes
(c) both isothermal and adiabatic changes
(d) None of the above

Ans.(b)

(vi) The refractive index of glass is 1.5. The velocity of l glass is.

(a) 0.67 m/s (b) 4.5 m/s
(c) 2 m/s (d) 1.986×10^8 m/s

Ans.(d)

(vii) The velocity of sound in vacuum is

(a) 0 m/s (b) 330 m/s
(c) 156 m/s (d) 1000 m/s

Ans.(a)

(viii) Work function is the energy required

(a) for acceleration the atom
(b) for producing x-rays
(c) for taking out the election just on the metal surface
(d) for charging the atom

Ans.(a)

(ix) X-ray exposure is most dangerous for

(a) bones (b) skin
(c) lungs (d) white blood carpu

Ans.(d)

Q.2 What is an error ? Explain the terms :
(i) Absolute error (ii) Relative error

Ans. Refers to Chapter 1 Q.no. 9

Q.3 Explain young's modulus, Bulk modulus and mod rigidity. Also write the relation between them ?

Ans. Refers to Chapter 5.1 Q.no. 5

Q.4 ***Define surface tension and write its S.I. unit. Wha effect of impurity and temperature on surface tens***

Ans. Refers to Chapter 5.2 Q.no. 3

Q.5 ***What is viscosity ? Define co-efficient of viscosity an its S.I. unit. What is Reynold's number ?***

Ans. Refers to Chapter 5.3 Q.no. 1 & 2

Q.6 ***Write the laws of thermal conductivity and defi efficient of thermal conductivity ?***

Ans. Refers to Chapter 6 Q.no. 3

OR

Q . Describe the various modes of transfer of heat by one example of each.

Ans. Refers to Chapter 6 Q.no. 1

Q.7 ***State and explain Boyle's law and charle's law ?***

Ans. Out of Syllabus

Q.8 Explain reflaction of light with a neat ray diagram. What is snell's law ? Also give the physical significance of refractive index ?

Ans. Out of Syllabus

Q.9 Describe the construction and working of He-Ne laser?

Ans. Out of Syllabus

Q.10 Define the terms : longitudinal wave, transverse wave, stationary wave, node and antinode ?

Ans. Refers to Chapter 7.1 Q.no. 3

Q.11 What is the concept of photon ? State plank's hypothesis and write the properties of photon ?

Ans. Out of Syllabus

Q.12Describe in brief the production of X-rays using coolidge tube ?

Ans. Out of Syllabus