Sun Shine Public Higher Secondary School, Sirali

Pre-Board Examination-2020

Class –12th [Time:- 3:00 hours]

Subject- Physics [M.M.-75]

Qu.1 Choose the correct answer.

(i) The speed of electromagnetic waves in vacuum.

(a) $\frac{1}{\sqrt{\mu_0 \varepsilon_0}}$ (b) $\sqrt{\mu_0 \varepsilon_0}$ (c) $\frac{1}{\sqrt{\mu_0 \varepsilon_0}}$ (d) None

(ii) The size of nucleus is .

(a) $10^{-10}m$ (b) $10^{-15}m$ (c) $10^{-14}m$ (d) None

(iii) Air bubble in water work as.

(a) Convex lens (b) Concave lens

(c) Flat plate (d) None

(iv) The force between like charges.

(a) Attraction force (b) Repulsion force

(c) Gravitational force (d) Nuclear force

(v) The energy of a photon.

(a) hu (b) $h\rho/\lambda$

(c) hv (d) $p = \frac{h}{\lambda}$

Qu.2 Fill in the blank's -

(a)The resistivity of semiconductor is .....when temperature is increased.

(b) Dipole moment is ..... quantity.

(c) The unit of radio activeness.....

(d) The wave theory of light is given by.....

(e) 1 ev .....joule.

Qu.3 Answer in one word-

(a) Write the relation between n_e and n_h in intrinsic Semiconductor.

(b) Write the name of electromagnetic waves which have More penetrating power.

(c) Write quantization of charge.

(d) Write the formula of Lorentz force.
(e) Write the S.I. unit of electric current.

Qu.4 Match the following -
(a) Half life - (i) Magnetic susceptibility is positive
(b) H α line - (ii) Magnetic susceptibility negative
(c) Displacement current - (iii)Visible field
(d) Unit of Planck constant -(iv) $t = \frac{.6931}{\lambda}$
(e) Diamagnetic substances - (v) Neil
- (vi) Maxwell
- (vi) Joule x second

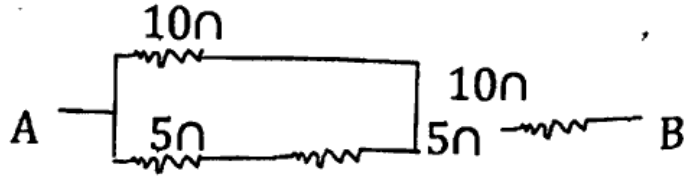
Qu.5 Write any two properties of Electromagnetic waves.
or
Red light is used in photographic room. why ?

Qu.6 Define Threshold Frequency.
Or
Explain Thermonic Emission.

Qu.7 Write quantum limitation of Bohr atomic model .
Or
Nuclear fission is possible in light nucleus .why?

Qu.8 Establish relationship between E mf, Internal resistance and Terminal voltage .
Or
Write the principle of wheat stone Bridge using Kirchhoff Low.

Qu.9 What is the resistance of a wire when the length of wire is Double when it is stretched.
Or
Find out effective resistance between point A and B for Circuit given below.



Qu.10 Write Huygens's secondary wavelet theory.

Or

State Brewster's law and prove if .

Qu.11 Write Biot savart law and define 1 ampere of current.

Or

Difference between Di Para and faro magneticsubstances

Qu.12 Obtain mutual inductance for carrying two long Solenoid .

Or

Write lenz law and show that it is based on conservation Of energy.

Qu.13 Derive lens maker formula.

Or

Prove that- $\mu = \frac{sin\frac{(A+\delta m)}{2}}{Sin\frac{A}{2}}$

Qu.14 Explain compound microscope.

Or

Explain Gillian Telescope.

Qu.15 Explain line spectrum of hydrogen atom.

Or

Explain binding energy and mass reduce effect.

Qu.16 Derive expression for electric field intensity in transverse position .

Or

Derive capacity of parallel plate capacitor when dielectric medium is kept .

Qu.17 Explain L-C-R and find impedance and phase Difference.

Or

Write the principle of Transformer and explain energy loss in transformer.

Qu.18 Write Half wave rectifier.

Or

Explain logic gates.