

XII - MODEL QUESTION

PAPER - 2019

PHYSICS section - A

TOTAL marks: - 50M

I Multiple choice questions

10 x 1 = 10 M

- ① Choose the odd man out of the following
a) Dipole moment b) Electric flux c) Electric field d) Electric potential
- ② An Example of conductor is
a) nonmetal b) human body c) dry wood d) None of the above
- ③ Equation of electric charges is
a) $q = ne$ b) $q = CV$ c) $q = \rho n$ d) $q = VC$
- ④ The equation of permittivity of medium is
a) $\epsilon = \epsilon_r \epsilon_0$ b) $\epsilon = \epsilon_0 / \epsilon_r$ c) $\epsilon = \epsilon_r / \epsilon_0$ d) $\epsilon = \epsilon_r - \epsilon_0$
- ⑤ The silver ring on the resistor represents - - - - tolerance
a) 20% b) 10% c) 5% d) 1%
- ⑥ Negative Thomson effect is observed only in - - - -
a) silver b) Gold c) copper d) Mercury
- ⑦ The unit of intensity of magnetisation is - - - -
a) Am^{-2} b) A^2m c) Am d) A/m
- ⑧ Nickel is a - - - - magnetic material
a) Dia b) Ferro c) para d) none of the above
- ⑨ For diamagnetism, the value of relative permeability is
a) $\mu_r < 1$ b) $\mu_r = 1$ c) $\mu_r < 1$ d) $\mu_r > 1$
- ⑩ Cyclotron was devised by
a) Crooked b) Faraday c) Lawrence d) Lorentz

Section - B

4 x 2 = 8 M

II Answer any 4 questions. (Q.No 11 compulsory)

- 11) Mention the properties of charges
- 12) What is dielectric
- 13) Define one ampere
- 14) What is meant by transition temperature
- 15) What is magnetic inclination?
- 16) Define relative permeability
- 17) Prove that $\vec{B} = \mu_0 (\vec{H} + \vec{I})$

Section - C

4 x 3 = 12 M

III Answer any 4 questions (Q.No 18 compulsory)

- 18) Difference between Electric field and Magnetic field.
- 19) Define voltage sensitivity
- 20) Difference between emf and Potential difference
- 21) How ohm's law is derived from drift velocity relates current formula?

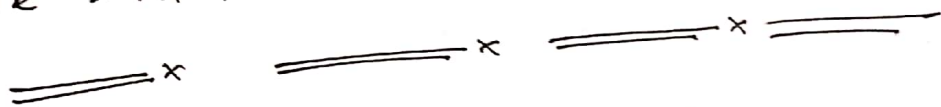
- 22) How does water act as a good solvent
 23) Define one coulomb
 24) What are the applications of a capacitors

Section - D

4 x 5 = 20 M

III Answer all the Questions

- 25) a) State and Explain the properties of electric field lines with the help of diagram
 (or)
 b) Derive an expression for electric field due to two parallel charged infinite sheets
 (or)
 26) a) Explain peltier effect
 (or)
 b) Describe the combination of cells in which cells are connected (i) in series and (ii) in parallel.
 27) a) Obtain expressions for the magnetic field of a toroid (or)
 b) What do you infer from Lorentz force?
 28) a) Obtain an expression for the force acting on a current conductor placed in a magnetic field (or)
 b) State and prove Biot savart law.



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