

HOLIDAY HOMEWORK INSTRUCTIONS.

- 1) HOMEWORK SHOULD BE WRITTEN IN ASSIGNMENT BOOK MAINTAINED NOT IN PAGES.
- 2) ASSIGNMENT TO BE WRITTEN 10 TIMES.
- 3) IT SHOULD BE HANDWRITTEN NOT TYPED
- 4) SUBMISSION DATE :- 14th OCT 2019 (MONDAY).

General Instructions

- 1) All the Answers should be Exactly According to the NCERT Text books.
- 2) Any Question which consists of diagrams / figures should be drawn with all the parts labelled.
- 3) Final Expression of derivation or Numerical should be highlighted.
- 4) Any definitions / laws should be explained using right technical terms.

Ch-1

One mark Questions

- 1) Write SI unit of charge. (Ch-1 page-9)
- 2) State and Explain Lohoumhs law in Vector form. (Ch-1 page-10, 12)
- 3) Define SI unit of charge. (Ch-1 page-11)
- 4) What is an Electric dipole. (Ch-1 page-27)
- 5) State Gauss law in Electrostatics. (Ch-1, page-33)

Two mark Questions / three mark Questions

- 6) Give three properties of charge (3m) (Page-8)
- 7) Give three properties of electric field lines (2m) (Page-25)

Five mark Questions

- 8) Derive an Expression for electric field due to an Electric dipole at a point on the axial line. (Page-28)
- 9) Derive an Expression for electric field due to electric dipole at a point on the equatorial line. (Page-28)
- 10) Using Gauss law derive an Expression for Electric field due to uniformly charged thin spherical shell at a point outside the shell. (Page-39)

Ch-2

One mark Questions

- 1) Define Electrostatic potential due to a point charge (Page 54)
- 2) What is an Equipotential surface (Page 60)

Two mark / Three mark Questions

- 3) Derive the relation between electric field and electric potential due to a point charge (Page-61)

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- 4) Derive the Expression for potential energy of a system of two charges in the absence of external electric field (Page-62).
- 5) Derive an Expression for potential energy of electric dipole placed in an uniform Electric field (Page-66)
- 6) Derive the Expression for Capacitance of parallel plate capacitor (Page-74)
- 7) On what factors does the Capacitance of a parallel plate capacitor depends (Page 75)
- 8) Derive the Expression for Energy stored in a charged Capacitor (Page-80)

Five mark Questions

- 1) Derive the Expression for electric potential at a point due to a point charge (Page 54)

Ch-4

One-mark Questions

- 1) Write the Expression for force acting on a moving charge in a magnetic field (Page 134)
- 2) What is cyclotron (Page 140)
- 3) State Ampere's Circuital Law (Page 147)
- 4) What is the nature of force between two parallel conductors carrying currents in same direction (Page 155)
- 5) Write three uses of cyclotron (Page 141)

Two mark Questions / Three mark Questions

- 6) Arrive at an Expression for force acting magnetic field near a straight infinite current carrying wire (Page -148).
- 7) What is a toroid? mention an Expression for magnetic field at a point inside a toroid (Page -152).
- 8) Write three uses of cyclotron (Page-141)
- 9) Write the Expression for force per unit length between two straight parallel current carrying conductors of infinite length . hence define SI unit of current Amperre (Page -155).
- 10) Explain with Circuit diagram how to convert galvanometer into an ammeter (Page 165)

1) Explain with circuit diagram how to convert galvanometer into an voltmeter (Page-165).

Five mark Questions

(1) Derive an Expression for the force between two parallel conductors carrying currents. hence define ampere (Page 154)

(2) Write any five properties of ferromagnetic materials (Page 193)

(3) What is hysteresis? Define the terms 'coercivity' and 'retentivity' of a ferromagnetic material (Page-195)

Ch-9

One mark Questions

1) For which position of the object magnification of convex lens is -1. (Page 327)

2) How does the power of a lens vary with its focal length (Page 327)

Two mark Questions/ Three mark Questions

3) Mention three applications of TIR (Page 32)

4) Name the type of lens which is used to correct myopia & hypermetropia (Page 337)

5) Write the ray diagram for formation of image in simple microscope (Page 339)

6) Draw the ray diagram of image formation in case of compound microscope (Page 340).

Five mark Questions

(1) Derive the relation between n, v, u and R . (Page 322).

(2) Derive lens makers formula for a convex lens (Page 325)

(3) Derive an Expression for equivalent focal length of two thin lenses in contact (Page 328).

(4) Derive an Expression for refractive index of the prism.

In terms of angle of the prism and angle of minimum deviation (Page 330)