

1st TERM EXAMINATION 2022-23
CLASS- XII
SUBJECT- Physics

TIME: 3hrs

Marks- 70

Instruction:-

- (1) All questions are compulsory.
- (2) Q. No. 1 to 4 objective type questions each question carries 1 mark
- (3) Q.No.5 to 12 are very short answer type question each question carries 2 mark word limit 30 words.
- (4) Q.No.13 to 16 are answer type question each question carries 3 marks word limit 75 words
- (5) Q.No.17 is analytical question carries 4 marks word limit 120 words.
- (6) Q.No.18 to 19 are analytical questions each question carries 5 marks word limit 150 words.
- (7) Draw labelled diagram wherever required

Q.1 : choose the correct answer of the following (7)

- (1) The specific resistance of a wire depends on
(a) Length (b) diameter (c) mass (d) material
- (2) What is the unit of self inductance
(a) volt (b) Ampere (c) ohm (d) Henry
- (3) The angle between the equatorial service and electrical field lines is
(a) 90 (b) 180 (c) 0 (d) 45
- (4) The dielectric constant of a metal is
(a) infinity (b) Zero (c) one (d) none
- (5) Electric current is due to motion of
(a) None of these (b) positive ions (c) free electrons (d) molecules
- (6) In moving charge produces
(a) None of these (b) electric and magnetic field
(c) only the magnetic field (d) only the electric field
- (7) The phenomenon of electromagnetic induction was discovered by
(a) Henry (b) Fleming (c) Newton (d) Faraday

Q.2 Fill in the blanks :- (7)

- 1- The Dimensional formula of \sqrt{LC} is.....
- 2- Sound of waves are waves
- 3- The electromagnetic waves are..... waves
- 4- 1 weber =¹..... maxwell.

OR

5. CGS unit of magnetic flux is
6. The RMS value of alternating current is times of its peak value.
7. SI unit of pole strength

Q.3 Match the following :

Column A

1- Infrared rays

2- X-ray

3- Capacitance reactance for DC

4- Moving coil galvanometer

5- The waves used to kill germs

6- Minimum energy for electron emission

7- Kirchoff's second law

Column B

1- Rontegen

2- Conservation of energy

3- Roentgen

4- Zero

5- Infinity

6- Magnetic effect of current

7- harschel

Q.4 Give one word/ one sentence.

1- What is the direction of electric dipole moment.

2- What is the capacitance of earth.

3- Phone watch principal dose transformer work.

4- Write the SI unit of intensity of electric field.

5- Name the radiation useful for seeing distance object in fog.

6- The force acting on charge particle inside the minute wire is known as.

7- What is the unit of specific resistance.

Q.5 What is current write its unit.

OR

Q.6 What is electric conductance it's unit?

OR

two equipotential surface does not intersect each other why?

Q.7 State ampere's circuital law?

OR

Vector form of biot savarts law?

Q.8 Write any two difference between self inductions?

OR

Q.9 A spark is produced when electrical circuit is used off suddenly why? capacitor stop DC why?

OR

Q.10 Transformer work with AC supply but not with DC why?

Two electric lines of force never intersect each other why?

metallic rope's are attached with the vehicles carrying inflammable substance connected to earth why?

Q.11 What is drift velocity. (2)

OR

What is ohm's law

Q.12 difference between diamagnetic substance paramagnetic substance and ferromagnetic substance. (2)

OR

Write the properties of magnetic lines of forces:

Q.13 drive the expression for the intensity of electric field on the equatorial position of the dipole. (3)

OR

Derive expression for parallel plate capacitor.

Q.14 The storage battery of a car has an EMF of 12 voltage if the internal resistance of the battery 0.4 ohm what is the maximum current that can be drawn from the battery. (3)

OR

compare the resistance of two bulb of 50 watt 200watt if they are same voltage. <https://www.mpboardonline.com>

Q.15 difference between resistivity and resistance. (3)

OR

Establish relation between current and drift velocity.

Q.16 A long Straight wire carries a current of 35 ampere. what is the magnitude of the magnetic field at 20 cm from the wire. (3)

OR

Why an ammeter is connected in series in an electric circuit.

Q.17 difference between resistance, impedance and reactance. (4)

OR

Give difference between step up and step down transformer.

Q.18 Describe the transfer on the basis of following points. (5)

(1) Labelled diagram (2) principal

(3) formula for transformation ratio

(4) any two reason of energy loss in transformer

OR

drive and expression for self inductance of a solenoid. on what factors does it depend.

- Q.19 explain the series LCR circuit under the following heads. (5)
- (1) Resultant voltage (2) impedance of circuit
(3) frequency of resonance

OR

What is dynamo ? Draw labelled diagram and describe working of AC dynamo.

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