

Revision Test-2020

Physics

Class 12th

Theoretical - 70

Practical - 30

Total -100

Instructions:

1. All Questions are Compulsory. Internal Options are given in Question No. 5 to 18
 2. Each question from question Nos. 1 to 4 carry 5 marks and each sub-question carries 1 mark.
 3. Each question from question Nos. 5 to 7 carry 2 marks and word limit for for each answer is approx 30 words.
 4. Each question from question Nos. 8 to 10 carry 3 marks and word limit for for each answer is approx 75 words.
 5. Each question from question Nos. 11 to 15 carry 4 marks and word limit for for each answer is approx 120 words each.
 6. Each question from question Nos. 16 to 18 carry 5 marks and word limit for for each answer is approx 150 words each.
 7. Draw neat and labelled diagrams where ever necessary.
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Q-1 Choose the Correct Answer

- (A) The least charge is :
- (a) 1 Coulomb (b) 1 Stat Coulomb
(c) 1 Micro Coulomb (d) Electronic charge
- (B) The Dielectric Constant of material is :
- (a) Infinite (b) Zero
(c) One (d) None of these
- (C) The formula of Capacitance of a spherical conductor is :
- (a) $C = \frac{1}{4\pi\epsilon_0 R}$ (b) $C = 4\pi \epsilon_0 R$ (c) $C = 4\pi \epsilon_0 R^2$
(d) $C = 4\pi \epsilon_0 R^3$
- (D) The SI Unit of electrical capacitance :
- (a) Stat farad (b) Farad
(c) Coulomb (d) Stat Coulomb

Q-2 Fill in the blanks -

- (A) Meter bridge works on the principal of
- (B) Relation between B, H and I is
- (C) S.I. Unit of Pole strength is
- (D) Three capacitor each of three $3\mu\text{F}$ are joined in series there equivalent capacitance will be.....
- (E) 1 farad =stat farad.

Q-3 Match the following:-

Column "A"	Column "B"
1- Electrical energy	(a) Ohm
2- Internal Resistance	(b) Volt
3- e.m.f.	(c) Electrical energy
4- Kilowatt-hour	(d) VI
5- Electric power	(e) $I^2 RT$

Q-4 Give answers in one word/sentence:-

- (a) What is the resistance of ideal Voltmeter?
- (b) What is the unit of self inductance?
- (c) Kirchhoff's first law based upon which law?
- (d) What is the Potential of earth?
- (e) What do you mean by Quantization of Electric charge?

Q-5 what is the drift velocity?

OR

What is relaxation time?

Q-6 what is potential? Is it a vector or scalar are quantity, write its S.I. unit and dimensional formula.

OR

Write the unit of capacitance and its dimensional formula.

Q-7 Define intensity of electric field.

OR

Write Lenz's law.

Q-8 Explain Faraday's Laws of Electromagnetic Induction.

OR

What are Eddy Currents? What are their disadvantages write uses of eddy Current?

Q-9 Prove that the potential of a point on the neutral axis of dipole is zero.

OR

What do you mean by a capacitor? Explain its principle.

Q-10 Establish relation between current and drift velocity.

OR

Stat and Explain Kirchhoff's Laws.

Q-11 How potentiometer is superior than voltmeter Explain.

OR

Explain the principle of potentiometer.

Q-12 Write the difference between self inductance and mutual inductance.

OR

What is wattless current? Why is current flowing in choke coil known as wattless current?

Q-13 Prove for an a.c. circuit.

$$P_{av} = V_{rms} \times I_{rms} \times \cos \phi.$$

OR

A bulb is made to deliver 100w power at 220 volt supply. Find.

- (a) Resistance of bulb (b) peak Voltage of source
(c) rms current flowing through the bulb

Q-14 Establish relation between elements of earth's magnetic field.

OR

A Galvanometer of resistance 99 Ohm given full scale deflection for a current of 10^{-4} A. What arrangement will be made to pass current of 1A through it?

Q-15 Write the difference between step-up and step-down transformer.

OR

Write the difference between A. C. and D.C.

Q-16 Explain the construction and working of Van de Graff generator, write its uses.

OR

Write and prove Gauss theorem.

Q-17 Derive an expression of electric field field intensity on a point in axial position of an electric dipole.

OR

You are given three capacitor of $4\mu\text{F}$ each. How they will be combined to obtain resultant capacity of $6\mu\text{F}$?

Q-18 Describe a Transformer on the basic of following points.

- (i) Labelled Diagram (ii) Principle (iii) Energy Losses in Transformer

OR

Explain the series L-c-R circuit under the following heads.

- (i) Resultant Voltage (ii) Impedance of circuit
(ii) Phase Difference between resultant voltage and current

Evaluation Scheme for Practical

Subject - Physics

Class - XII

M.M-30

Two experiments one from each section	8+8 marks
Practical record (experiments and activities)	7 marks
Viva on experiments and activities	7 marks
Total	30 marks

Note: 50% of the total experiments and activities should be included in examination.