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PHYSICS

BOOKS - PUNJAB BOARD PREVIOUS YEAR PAPERS

QUESTION PAPER 2021

Multiple Choice Question

1. Charging without actual contact is called:

A. Charging by friction

B. Charging by induction

C. Charging by conduction

D. None of these

Answer:

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2. The ultimate individual unit of magnetism in any magnet is called:

A. North pole

B. South pole

C. Dipole

D. None of these

Answer:

3. A positively charged glass rod attracts and then repels the suspended object. The suspended object is :

A. Negatively charged

B. Positively charged

C. Neutral

D. None of these

Answer:

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4. The law governing the force between electric charges is known as

A. Ampere's law

B. Ohm's law

C. Faraday's law

D. Coulomb's law

Answer:

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5. When the distance between two charges is halved, the force between the charges becomes :

A. half

B. twice

C. four times

D. None of these

Answer:

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6. Name the physical quantity, whose SI unit is newton coulomb $\hat{} -1$

A. Electric charge

B. Electric field

C. Electric potential

D. Electric force

Answer:

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7. The dimensions of electric permittivity are :

A. $\left[M^1L^3T^4A^{-2}\right]$

B. $\left[M^1L^{-3}T^4A^2\right]$

C. $\left[M^{-1}L^3T^4A^2\right]$

D. $\left[M^{-1}L^{-3}T^4A^2\right]$

Answer:

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8. Two charges $3 \times 10^{-5}C$ and 5×10^4C are placed at a distance of 10 cm from each other. Find the value of electrostatic force acting between

A. $13.5 \times 10^{11} N$

B. $3 \times 10^{11} N$

C. $18 \times 10^{9} N$

D. $13.5 \times 10^{10} N$

Answer:

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9. The electric potential at the surface of an atomic nucleus (Z=50) of radius $9.0 \times 10^{-15} m$ is

A. 9 volt

B. 80 volt

C. 8×10^6 volt

D. 9×10^5 volt

Answer:

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10. On what factors the capacitance of a capacitor depends?

A. Dielectric

B. Area of plate

C. Distance between plates

D. All of these

Answer:

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11. Which of the following characterstics of electrons determines the current in a conductor?

A. Thermal velocity alone

B. Drift velocity alone

C. Both thermal velocity and drift velocity

D. Neither thermal velocity nor drift velocity

Answer:

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12. 12 Coulomb/minute can be written as:

A. 2A

B. 0.2A

C. 0.02A

D. 0.002A

Answer:

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13. In a current carrying conductor the ratio of the electric field and electric current density at a point is called :

A. Conductivity

B. Mobility

C. Resistivity

D. Resistance

Answer:

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14. When a wire is stretched and its radius becomes $\frac{r}{2}$ then its resistance will be:

A. 4R

B. 16R

C. 2R

D. R/2

Answer:

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15. In charging a battery of a motor car, which effect of electric current is used ?

A. Magnetic

B. Chemical

C. Heating

D. Induction

Answer:

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16. Resistivity of a wire depends upon the :

A. Composition of material of wire

B. Shape of wire

C. Length of wire

D. Area if cross-section of wire

Answer:

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17. Magnitude of the magnetic intensity of a point due to a current in a conductor is given by :

A. Right hand thumb rule

B. Biot-Savart's law

C. Fleming's left hand rule

D. Coulomb's law

Answer:

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18. Magnetism in substances is caused by:

A. Orbital motion of electrons only

B. Spin motion of electrons only

C. Due to spin and orbital motions of electrons both

D. Hidden magnets

Answer:

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19. The resistance of an ideal ammeter is

A. 1

B. infinite

C. zero

D. 10Ω

Answer:

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20. Calculate the value of resistance needed to coavert a galvanometer of resistance 200Ω. which gives full scale deflection for a current of 5 m A, into a voltmeter of range 25 volt.

A. $5K\Omega$

B. $5.2K\Omega$

C. $4.8K\Omega$

D. $4.2K\Omega$

Answer:

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21. Magnetic meridian is a

A. point

B. line along NS

C. horizontal plane

D. vertical plane along NS

Answer:

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22. The magnetic moment (μ) of a revovlign electron around the nucleus varies with principle quantum number n as

A. $\mu \propto n$

B. $\mu \propto 1/n$

C. $\mu \propto n^2$

D. $\mu \propto 1/n^2$

Answer:

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23. Is there a magnetic force exerted by a magnetic field on a stationary electric charge?

A. the electron moves in an opposite direction

B. the electron moves in the direction of the field.

C. the electron remains stationary.

D. the electron starts spinning.

Answer:

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24. Gauss is a unit of :

A. Magnetic field strength

B. Magnetic flux density

C. Current

D. Magnetic flux

Answer:

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25. A solenoid has 1000 turns per meter length. If a current of 5 A is flowing through it, then magnetic field inside the solenoid is :

A. $2\pi \times 10^{-3}T$

B. $4\pi \times 10^{-5}T$

C. $2\pi \times 10^{-5}T$

D. $4\pi \times 10^{-3}T$

Answer:

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26. SI unit of magnetic flux is :

A. Tesla/m

B. Tesla/m^2

C. N/Am^2

D. None of these

Answer:

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27. Which of the following relations is correct ?

A. $I_0 = \sqrt{2} I_v$

B. $I_0 = I_v / \sqrt{2}$

C. $I_v = (\pi / 2) I_0$

D. $I_v = \sqrt{2} I_0$

Answer:

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28. An induction furnance works on the principle of

A. Mutual induction

B. Self-induction

C. Eddy currents

D. None of these

Answer:

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29. Lenz's law gives

A. The magnitude of induced e.m.f.

B. The direction of induced current

C. Both magnitude and direction of induced current

D. The direction of induced current

Answer:

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30. In a pure inductive circuit, current :

A. Lags behind e.m.f. by $\pi/2$

B. Leads the e.m.f. $\pi/2$

C. Lags behind e.m.f. by π

D. Leads the e.m.f. π

Answer:

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31. A coil has a resistance of 8 Ω and an inductive reactance of 6 Ω . The impedance of the coil is :

A. 8Ω

B. 10Ω

C. 6Ω

D. 14Ω

Answer:

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32. What is the condition of resonance?

A. When $X_L = X_C$

B. When $X_L > X_C$

C. When $X_L < X_C$

D. None of these

Answer:

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33. According to Maxwell's hypothesis, a changing electric field gives rise to

A. An e.m.f.

B. Electric current

C. Magnetic field

D. Pressure gradient

Answer:

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34. Which of the following has the longest wavelength ?

A. Radio waves

B. Gamma rays

C. Microwaves

D. X-rays

Answer:

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35. In a plane e.m. wave the electric field oscillates sinusoidally at a frequency of 2×10^{10} Hz and amplitude $48 V m^{-1}$ Find wavelength of wave.

A. $1.5 \times 10^{-2} m$

B. $1.5 \times 10^{-3} m$

C. $1.5 \times 10^{2} m$

D. $1.5 \times 10^{3} m$

Answer:

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