PHYSICS

BOOKS - JEEVITH PUBLICATIONS PHYSICS (KANNADA ENGLISH)

II PUC ANNUAL EXAMINATION QUESTION PAPER MARCH 2019

Question

1. State Coulomb's law .

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2. Define electrical resistivity of a material of a conductor.

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3. Write the expression for force acting on a moving charge in a magnetic field.

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4. What is magnetic susceptibility ?

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5. How the self-inductance of a coil depends on number of turns in the coil ?

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6. For which position of the object magnification of convex lens is -1 (minus one) ?

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7. For which angle of incidence reflected ray is completely polarised ?

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8. Mention any two types of electron emission.

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9. Write the expression for energy of an electron orbit of hydrogen atom.

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10. Write the relation between Half-Life and Mean-Life of radio active element.

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11. Write any two basic properties of charges

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12. Write the expression for drift velocity in terms of current and explain the terms.

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13. Define:

(a) Magnetic declination (b)Magnetic dip. Mention the S.I. unit of magnetisation.

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14. Write the expression for speed of light in terms of μ_0 and ε_0, explain the terms used.

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15. Write the ray diagram for formation of image in the simple microscope.

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16. What is diffraction of light?

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17. Write the expression for de-Broglie wavelength of electrons interms of electric potential and explain the terms used.

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18. Distinguish between p type and n type semiconductors

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19. Derive an expression for potential energy of electric - di-pole placed in a n uniform electric field .

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20. Write the expression for force per unit length between two striaght parallel current carrying conductors of infinite length . Hence defin e SI unit of current 'ampere'.

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21. Distinguish between 'dia' and 'ferro' magnetic materials.

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22. Mention energy losses in a transformer .

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23. Write any three experimental observations of photoelectric effect

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24. State the three postulates of Bohr's theory of hydrogen atom.

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25. Explain the .Conduction band. .Valence band. and .Energy gap. in semiconductors.

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26. What is modulation ? Write the block diagram of the receiver.

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27. State Gauss's theorem. Obtain an expression for elactric field at any point outside a charged spherical hollow conductor (shell).

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28. Obtain an expression for the equivalent emf and internal resistance of two cells connected in parallel.

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29. Derive the expression for magnetic field at a point on the axis of a circular current loop.

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30. Derive an expression for the impedance of a series LCR, circuit, when an AC voltage is applied to it.

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31. Derive th lens maker's formula.

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32. Explain the working of a n-p-n transistor in CE mode as an amplifier.

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33. In a circular parallel plate capacitor radius of each plate is 5 cm and they are separated

by a distance of 2mm. Calculate the capacitance and the energy stored. When it is charged by connectig battery of 200 V. (given $\varepsilon_0 = 8.854 \times 10^{-12} Fm^{-1}$)

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34. Two resistors are connected in series with 5V battery of negligible internal resistance. A current of 2 A flows through each resistor. If they are connected in parallel with the same battery a current of $\frac{25}{3} A$ flows through

combination. Calculate the value of each resistance.

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