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| **PB/PHAK/1220/A 25/01/2021** | | | |
| **PRE BOARD EXAMINATION (2020-21)** | | | |
| **Subject: PHYSICS (ANSWER KEY)**  **Grade: XII** | | Max. Marks:70Time:3 Hrs | |
|  | **SECTION A** | |  |
| 1 | It necessary that the field lines from a point charge placed in the vicinity of a conductor must be normal to the conductor at every point. would have a tangential component which will make electrons move along the surface creating surface currents and the conductor will not be in equilibrium | | 1 |
| 2. | Electric potential at any point in the equatorial plane of dipole is zero. | | 1 |
| 3. | On the equator, the values of both angle of dip (δ) and vertical component of earth’s magnetic field is zero. So, in this case, Bv = 0.  (OR) | | 1  1 |
| 4. | (OR) | | 1 |
| 5. |  | | 1 |
| 6. |  | | ½  ½ |
| 7. |  | | ½  ½ |
| 8. | **:**the perpendicular distance from the center of the force field to the initial path of the particle deflected by the field in nuclear scattering | | 1 |
| 9. | Any two  Each ½ mark | | 1 |
| 10. | Any two  Each ½ mark | | 1 |
| 11. | C | | 1 |
| 12. | A | | 1 |
| 13. | D | | 1 |
| 14. | A | | 1 |
|  | **SECTION – B** | |  |
| 15. | i) d) all the above  ii) b) North pole will be created on the face of coil  iii) c) Law of conservation of energy  iv) a) Clockwise  v) d) Zero  (Any Four, each 1mark) | | 4 |
| 16. | i) c) frequency remains same  ii) b) 2  iii) b)  iv) a)  v) d) All the above  (Any Four, each 1mark) | | 4 |
|  | **SECTION– C** | |  |
| 17. | Derivation  (OR)  Derivation | | 2 |
| 18. |  | | 1  1 |
| 19. | (OR) | | 1  1  1  1 |
| 20. |  | | 1  1 |
| 21. |  | | 1  ½  ½ |
| 22. | (OR) | | 1  1  1  1 |
| 23. |  | | 1  1 |
| 24. |  | | **1**  **0.5**  **0.5** |
| 25. | circuit diagram of a full wave rectifier  working  output, input waveforms | | ½  1  ½ |
|  | **SECTION -D** | |  |
| 26. | (OR) | | 1  1  1  1  1  1 |
| 27. |  | | 1  1  1 |
| 28. |  | | 1  1  1 |
| 29. | (OR) | | 1  1  1  1  1  1 |
| 30. |  | | 1  1  1 |
|  | **SECTION – E** | |  |
| 31. | a) Derivation  b)      (OR)   1. Derivation   b)  Formula  E = 3√3 x 105 NC-1 | | 2  1  1  1  3  0.5  1.5 |
| 32. | a) labelled diagram, basic elements of an AC generator explanation  b) principle.    diagram  c) expression for the instantaneous value of the emf  (OR)  a) Derivation | | 2  1  1  2  3  1  1 |
| 33. | a) Any two importance of coherent sources  b) Derivation  c) fringe width decreases n times  (OR)   1. Statement Huygen’s principle   Single slit Diffraction explation | | 1  3  1  1  2  1  1 |
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