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| **PB-T2/PHAK/1221/B 14-APR-2022** | | | |
| |  | | --- | | **PRE BOARD EXAMINATION 3 - TERM II (2021-22)**  **ANSWER KEY** | | | | |
| **Subject: Physics**  **Grade:12** | | Max. Marks:35Time: 2 hours | |
|  | **Section – A** | |  |
| 1. |  | | 1 each |
| 2. |  | | ½  ½  ½  ½ |
|  | OR | |  |
|  | Bohr’s Quantisation condition: Only those orbits are permitted in which the angular momentum of the electron is an integral multiple of h/2π.  For Brackett Series, The shortest wavelength is for the transition of electrons from ni = ∞ to nf = 4  Using the equation Class 12 Physics Important Questions Chapter 12 Atoms 1 | | ½  ½  ½  ½ |
| 3. | Solar cell / photovoltaic cell  I-V characteristics of this device. =>  Uses (i)solar panels (ii) solar watches (any other 2applications) | | ½  ½  ½ each |
|  | **Section – B** | |  |
| 4. |  | | 1  1  1 |
| 5. | (i) X – half wave rectifier -------1/2  Y – full wave rectifier ------1/2  (ii) Circuit diagram -------1/2  Working -----------1  (iii) y- frequency double than that of input -------1/2 | | 3 |
| 6. |  | | 1  1  1 |
| 7. | Derivation | | 3 |
| 8. |  | | ½  1  ½  1 |
|  | * 1. Ray diagram     wkt during minimum deviation condition,  r1 = r2 = r each and δ = δm and also ***i*** = ***e***  Thus using A + δ = ***i*** = ***e*** =>***i*** = (A + δm) / 2  Also r1 + r2 = A => r = A/2  .’. By Snell’s law , where symbols have their usual meaning.   * 1. (b) | | ½½½1 ½ |
| 9. |  | | 11 1 |
| 10. |  | | ½½1½ ½ |
| 11 | (a) Gamma rays lie between 10–11 m to 10–14 m  (b) Infrared waves lie between 10–4 m to 10–6 m  (a) g rays (b) Microwaves | | 1  1  1 |
|  | **OR** | |  |
|  | X1 formula  X2 formula  X2-x1 = 0.775 mm. | | ½  ½  2 |
| 12 | **Section – C** | |  |
| 1 | 1. **D) large focal length** | | 1 |
| 2 | 1. **A) M = fo/fe** | | 1 |
| 3 | **A) fo + fe** | | 1 |
| 4 | **B) 2** | | 1 |
| 5 | B). 14 | | 1 |

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