# ANSWERS

|  |  |
| --- | --- |
| **Q1. (20 marks)** | **Lessons and CLOs** |
| (a) ; f = 11,.1 cm **(5 marks)**  Converging **(5 marks)**   1. **(5 marks)**   **(5 marks)** | Lecture/Chapter …  Topic: …  CLOi: |
| **Q2. (20 marks)** |  |
| **(15 marks)**   1. It is difficult to observe the wave-particle duality of macroscopic bodies because their de Broglie wavelength is too small. **(5 marks)** |  |
| **Q3. (20 marks)** |  |
| 1. Quantization means energy takes discrete values corresponding to different integer numbers *n.* **(5 marks)**   **(15 marks)** |  |
| **Q4. (20 marks)** |  |
| 1. Longest wavelength:   Shortest wavelength (**10 marks)**   1. Second Lyman line: 2. First Lyman line:   First Balmer line:  Clearly: **(10 marks)** |  |
| **Q5. (20 marks)** |  |
| (a) : (234 - 90 = 144) neutrons **(5 marks)**  (b) ;  N = 7.52×1027 nuclei **(15 marks)** |  |