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| | (b) Write the application of laser in medicine & industries. | [5M] |
| | OR | |
| 16 | (a) Explain population inversion. | [5M] |
| | (b) Describe the construction & working of ruby laser. | [5M] |
| 17 | (a) Define acceptance angle and derive an equation for acceptance angle. | [5M] |
| | (b) The N.A of an optical fiber is 0.39. If the difference in the refractive indices of the material of its core and cladding is 0.05, calculate the refractive index of material of the core. | [5M] |
| | OR | |
| 18 | (a) Explain the optical fiber in communication system with neat diagram. | [5M] |
| | (b) Write a short note on various losses in optical fiber. | [5M] |
| 19 | (a) Derive time independent Schrodinger wave equation. | [5M] |
| | (b) What is the physical significance of the wave function. | [5M] |
| | OR | |
| 20 | (a) Explain De – Broglie’s hypothesis. | [5M] |
| | (b) Explain photo electric effect. | [5M] |