Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **13PH201 / 14PH1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **APPLIED PHYSICS** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** |  | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Describe the Davisson and Germer experiment for establishing the wave nature of the electrons with the necessary theory. | CO1 | 20 |
| **(OR)** | | | | |
| 2. |  | Derive the Schrodinger time dependent and time independent wave equation. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Demonstrate with neat sketch, the construction, principle and working of He-Ne laser along with energy level diagram. | CO1 | 20 |
| **(OR)** | | | | |
| 4. |  | With a neat figure and energy level diagram, paraphrase the construction, principle and working of CO2 laser. | CO1 | 20 |
|  |  |  |  |  |
| 5. |  | Describe the classification of optical fibre, based on the material modes of propagation and refractive index profile. | CO1 | 20 |
| **(OR)** | | | | |
| 6. |  | State numerical aperture. Deduce an expression for numerical aperture and angle of acceptance of fiber in terms of refractive index of core and cladding. | CO1 | 20 |
|  |  |  |  |  |
| 7. |  | List and explain the factors that affect the acoustics of a building and their remedies with diagram. | CO1 | 20 |
| **(OR)** | | | | |
| 8. |  | What is meant by piezoelectric effect? Discuss on the ultrasonic waves produced using a piezoelectric oscillator. | CO1 | 20 |
|  | | **Compulsory**: |  |  |
| 9. |  | Based on the magnetic properties, compare and tabulate dia, para and ferro magnetic materials. | CO1 | 20 |