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



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

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| **Code :** | **16PH1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **APPLIED PHYSICS FOR ENGINEERS** | **Max. Marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain in detail the components involved in laser production with neat diagram. | CO1 | 10 |
| b. | Discuss the application of laser in,   1. Lasik surgery (ii) Compact disc. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Optical fiber cables are classified based on their mode of propagation. Discuss with diagram. | CO1 | 10 |
| b. | Illustrate with necessary block diagram the application of fiber optic cables in communication. | CO1 | 10 |
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| 3. |  | There are various factors that affect the acoustics of the building and thereby remedies as well. Explain them in detail. | CO2 | 20 |
| **(OR)** | | | | |
| 4. | a. | Give a note on inverse piezoelectric effect. Explain with neat diagram how this effect is used to produce ultrasonic waves. | CO2 | 10 |
| b. | Discuss the applications of ultrasonic waves in SONAR and NDT. | CO2 | 10 |
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| 5. |  | Elucidate the principle, construction and working of a Scanning Electron Microscope with a neat figure. | CO3 | 20 |
| **(OR)** | | | | |
| 6. |  | Prove how Davisson and Germer experiment explains the concept of matter waves with neat diagrams. | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | Differentiate between the properties of dia, para, and ferromagnetic materials and tabulate the same. | CO4 | 20 |
| **(OR)** | | | | |
| 8. |  | How do superconductors vary from others? List out their properties and explain them with an example. | CO4 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the different types of nuclear power plants in India. | CO5 | 10 |
| b. | Give an account on the nuclear radiation and its hazards to the environment. | CO5 | 10 |