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



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

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| **Code :** | **19PH1003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ENGINEERING PHYSICS** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
|  | **PART – A (10 X 1 = 10 MARKS)** | | |
| 1. | Give the difference between amorphous and crystalline solids. | CO1 | 1 |
| 2. | Define semiconductor. | CO1 | 1 |
| 3. | Give the expansion for JFET. | CO2 | 1 |
| 4. | Draw the schematic diagram for npn BJT. | CO2 | 1 |
| 5. | Mention the applications of optical fiber cable. | CO3 | 1 |
| 6. | The light carrying capacity of the optical fiber cable is called numerical aperture. (True or False) | CO3 | 1 |
| 7. | Name the sound with frequency less than 20 Hz. | CO4 | 1 |
| 8. | Reverberation time of an auditorium should be zero. State True or False. | CO4 | 1 |
| 9. | Give the expansion for NDT. | CO5 | 1 |
| 10. | Define ultrasound. | CO5 | 1 |

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| **PART – B (6 X 3 = 18 MARKS)** | | | |
| 11. | Classify materials based on band gap. | CO1 | 3 |
| 12. | Compare BJT with JFET based on their advantages and disadvantages. | CO2 | 3 |
| 13. | Draw the structure of optical fiber cable. | CO3 | 3 |
| 14. | Write the Sabines Formula. | CO4 | 3 |
| 15. | Define magnetostriction effect. | CO5 | 3 |
| 16. | Write the applications of green energy devices with examples. | CO6 | 3 |

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| **PART – C (6 X 12 = 72 MARKS)**  **(Answer any five Questions from Q.no 17 to 23. Q.No 24 is a Compulsory Question)** | | | |
| 17. | Draw the I-V characteristics of a Zener diode under forward and reverse biasing and explain its working principle with a neat sketch. | CO1 | 12 |
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| 18. | Classify npn and pnp bipolar junction transistor and explain the working of any one type with its I-V characteristics. | CO2 | 12 |
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| 19. | Distinguish between single mode and multimode optical fiber with neat diagrams. | CO3 | 12 |
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| 20. | List the factors affecting acoustics of a building with their remedies. | CO4 | 12 |
| 21. | Identify the ultrasound generator which could work with the help of Quartz crystal and explain its construction and working with a neat diagram. | CO5 | 12 |
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| 22. | Discuss the difference between step index and graded index optical fiber cable in detail. | CO3 | 12 |
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| 23. | With a neat sketch describe working of JFET with its I-V characteristics. | CO2 | 12 |
|  | **Compulsory:** | | |
| 24. | Name the device to convert sunlight into useful energy and hence elaborate its working principle with its applications. | CO6 | 12 |