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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

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

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12EC256** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **OPTO ELECTRONIC DEVICES** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | What do you mean by interference? | (1) |
| 2. | Define Diffraction. | (1) |
| 3. | State few display devices. | (1) |
| 4. | LED stands for \_\_\_\_\_\_\_\_. | (1) |
| 5. | Define Quantum Efficiency. | (1) |
| 6. | A basic photo diode is a \_\_\_\_\_\_\_ junction. | (1) |
| 7. | State any two digital modulation techniques. | (1) |
| 8. | Acousto optic effect can be used to construct \_\_\_\_\_\_\_\_\_\_\_. | (1) |
| 9. | What are the advantages of IC over discrete circuits? | (1) |
| 10. | OEIC means \_\_\_\_\_\_\_\_\_\_\_. | (1) |

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| **PART B(5 X 3= 15 MARKS)** | | |
| 11 | What is meant by polarization? | (3) |
| 12 | Define Cathode-luminescence. | (3) |
| 13 | State few applications of photo diode. | (3) |
| 14 | State few applications of electro optic modulator. | (3) |
| 15 | Differentiate Hybrid and Monolithic Integrated Circuits. | (3) |

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| **PART C(5 X 15= 75 MARKS)** | | |
| 16. | Discuss about various optical sources and its operational principle. | 15 |
| (OR) | | |
| 17. | Define various criteria for light sources and discuss about the necessary requirements of semiconductor. | 15 |
| 18. | Elucidate in detail the mode locking process in laser. | 15 |
| (OR) | | |
| 19. | Explain the light amplification process in LASER with neat diagram. | 15 |
| 20. | Explain the construction and working principle of photo detectors. | 15 |
| (OR) | | |
| 21. | Discuss the operation PIN diode and Avalanche photo diode and state its applications. | 15 |
| 22. | Discuss in detail about electro optic modulators and its applications. | 15 |
| (OR) | | |
| 23. | Explain the acousto optic effect with suitable example. | 15 |
| 24. | Explain in detail the process of hybrid and monolithic integration in OEIC. | 15 |
| (OR) | | |
| 25. | Discuss in detail about guided wave devices. | 15 |

ALL THE BEST