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



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

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|  |  |  |  |
| **Code :** | **14EC2046** | **Duration :** | **3hrs** |
| **Sub. Name :** | **OPTOELECTRONICS** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Discuss the various criteria for light sources in detail. | CO1 | 10 |
| b. | Discuss polarization, interference and diffraction. | CO1 | 10 |
| **(OR)** | | | | |
| 2. |  | Discuss various optical sources and its operational principle. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Explain the following:   1. Cathode Luminescence 2. Electro Luminescence 3. Photo Luminescence 4. Injection Luminescence | CO1 | 20 |
| **(OR)** | | | | |
| 4. |  | Interpret the process of absorption, radiation and light amplification in LASER. | CO1 | 20 |
|  |  |  |  |  |
| 5. |  | Discuss the operational principle of PIN and Avalanche photo diodes. | CO2 | 20 |
| **(OR)** | | | | |
| 6. |  | Discuss the operation of various photo conductors used for optical detection. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Explain the magneto and acousto optic effect with suitable example. | CO2 | 20 |
| **(OR)** | | | | |
| 8. |  | Discuss in detail the electro optic modulators and its applications. | CO2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Interpret the process of various integration techniques used in OEIC. | CO3 | 10 |
| b. | Discuss the integrated transmitters and receivers in detail. | CO3 | 10 |