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



**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **14EC2091** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELECTRON DEVICES AND INSTRUMENTATION** | **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. | Discuss about the operation and V-I characteristics of PN junction diode with neat diagram. | | CO1 | 10 |
| b. | Explain in detail about the Intrinsic and Extrinsic Semiconductor. | | CO1 | 10 |
| (OR) | | | | | |
| 2. | a. | Sketch the energy band structure of open circuited p-n junction and derive the expression of potential energy. | | CO1 | 10 |
| b. | Describe about Half wave rectifier with its circuit diagram. | | CO2 | 10 |
|  |  |  | |  |  |
| 3. | a. | With a circuit diagram and necessary waveforms describe the operation of any full wave rectifier . | | CO2 | 10 |
|  | b. | Discuss in detail about JFET with its I-V Characteristics. | | CO1 | 10 |
| (OR) | | | | | |
| 4. | a. | Explain the principle of Hall effect and derive the expression of Hall voltage and Coefficient. | | CO2 | 15 |
|  | b. | Describe the total current in the semiconductor. | | CO2 | 5 |
|  |  |  | |  |  |
| 5. | a. | Explain the construction and operation of Silicon Controlled Rectifier (SCR) with diagram. Also explain its I-V Characteristics. | | CO1 | 15 |
|  | b. | Draw the V-I Characteristics of DIAC. | | CO1 | 5 |
| (OR) | | | | | |
| 6. | a. | Draw and explain the construction , operation and V-I characteristics of TRIAC with neat diagram. | | CO1 | 10 |
|  | b. | With neat sketch explain the operation and I-V characteristics of UJT. | | CO1 | 10 |
|  |  |  | |  |  |
| 7. | a. | Discuss in detail about Linear Variable Differential Transformer with neat diagram. | | CO2 | 15 |
|  | b. | Explain about Potentiometer based transducer with neat diagram. | | CO3 | 5 |
| (OR) | | | | | |
| 8. | a. | Explain in detail about the digital Multimeter with its block diagram | | CO3 | 12 |
|  | b. | Explain about construction of LED with its I-V characteristics. | | CO1 | 8 |
|  | |  | |  |  |
|  | | **Compulsory**: | |  |  |
| 9. | a. | Explain about Computer based Data Acquisition Systems. | | CO3 | 15 |
|  | b. | Describe about the architecture of virtual instruments with neat diagram. | | CO3 | 5 |

ALL THE BEST