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



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

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| **Code :** | **13EC101** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC ELECTRONICS ENGINEERING** | **Max. Marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Discuss the formation of N type and P type semiconductor with its covalent bond structure. | CO1 | 20 |
| **(OR)** | | | | |
| 2. |  | Discuss the various types of resistors and color coding with suitable examples. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Explain the five characteristics of PN junction diode. | CO1 | 20 |
| **(OR)** | | | | |
| 4. |  | Interpret the characteristics of transistor in CB configuration with relevant diagram. | CO1 | 20 |
|  |  |  |  |  |
| 5. | a. | Simplify using K-Map: F(A,B,C,D)=∑(0,2,5,7,8,10,13,15). | CO1 | 8 |
| b. | Pictorially represent the NAND and NOR equivalent of AND, OR and NOT. | CO1 | 12 |
| **(OR)** | | | | |
| 6. |  | Design a 4x1 Multiplexer and draw its logic circuit. | CO1 | 20 |
|  |  |  |  |  |
| 7. |  | Discuss in detail about Amplitude Modulation. Also derive the expression for the Amplitude Modulated wave. | CO2 | 20 |
| **(OR)** | | | | |
| 8. |  | Derive the mathematical analysis for frequency modulation with related waveforms. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss about the functional blocks of fiber optic communication system. | CO2 | 10 |
| b. | Explain the operational principle of monochrome tv transmitter. | CO2 | 10 |