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



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

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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. | a. | Discuss the types of resistors and its colour coding in detail. | CO1 | 15 |
| b. | State the difference between covalent bond and ionic bond. | CO2 | 5 |
| (OR) | | | | |
| 2. | a. | Illustrate the formation of N-type and P-type semiconducor using covalent bond structure. | CO2 | 15 |
| b. | List the types of inductors. | CO1 | 5 |
|  |  |  |  |
| 3. |  | Ellucidate the operation of transistor in Common Base configuration. | CO2 | 20 |
| (OR) | | | | |
| 4. |  | Explain the operation of Depletion type MOSFET in depletion and enhancement mode. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Design a 4x1 Multiplexer and draw its logic circuit. | CO2 | 12 |
|  | b. | State the difference between combinational and sequential circuits. | CO2 | 4 |
|  | c. | Draw the symbol and truth table of EX-OR and NOR gates. | CO2 | 4 |
| (OR) | | | | |
| 6. | a. | Simplify using K-Map: f(A,B,C,D) = Σm(0,1,5,6,7,8,9,11,13,14,15) | CO2 | 8 |
|  | b. | Design a1x4 demultiplexer and draw its logic circuit. | CO2 | 12 |
|  |  |  |  |  |
| 7. | a. | Define frequency modulation and derive its equation. | CO3 | 10 |
|  | b. | Ellucidate the operation of superheterodyne receiver with neat diagram. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Derive the instantaneous voltage equation of Amplitude Modulation. Provide suitable waveforms. | CO3 | 15 |
|  | b. | Draw the basic block diagram of communication system. | CO3 | 5 |
|  |  |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Illustrate the principle of optical communication with neat diagram. | CO3 | 10 |
|  | b. | Discuss the function of ISDN interfaces with necessary diagram. | CO3 | 10 |

ALL THE BEST