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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **BASIC ELECTRONICS ENGINEERING** | **Duration :** | **3hrs** |
| **Sub. Name :** | **17EC1001** | **Max. marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | List the types of resistors and explain the construction and application of variable resistors with neat diagram. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Describe the structure of paper and mica capacitor and state their applications. | CO1 | 12 |
| b. | Differentiate N type and P type semiconductor. | CO2 | 8 |
|  |  |  |  |  |
| 3. |  | Draw the common base configuration circuit and plot the input and output characterisitcs.Also define input impedance, reverse voltage gain and current gain for the circuit. | CO3 | 20 |
| (OR) | | | | |
| 4. | a. | List the advantages of JFET over BJT. | CO3 | 5 |
| b. | Explain the construction and operation of enhancement MOSFET and draw the drain characteristics. | CO3 | 15 |
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| 5. | a. | **Simplify the Boolean expression using karnaugh map reduction method**  **f (A,B,C,D) = ∑m (0,3,4,7,8,12,14,16)** | CO4 | 10 |
|  | b. | Design 1x4 demultiplexer circuit and write the truth table. | CO4 | 10 |
| (OR) | | | | |
| 6. |  | What do you mean by combinational circuit? Design a half adder circuit and explain its operation. | CO4 | 20 |
|  |  |  |  |  |
| 7. | a. | State the need for modulation in communication system. | CO5 | 8 |
| b. | Explain the basic concept of a communication system with a block diagram. | CO5 | 12 |
| (OR) | | | | |
| 8. | a. | Explain the block diagram of AM transmitter. | CO5 | 10 |
| b. | What do you mean by superheterodyning? Explain the operation of superheterodyne receiver. | CO5 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain in detail the principle of communication using satellite systems. | CO6 | 15 |
| b. | How smart health care can be achieved with the developed IOT technologies. | CO6 | 5 |