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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May – 2017**

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| **Code :** | **14EC1001** | **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. | With neat sketch explain the types of inductor and the losses that occur in a practical inductor. | CO1 | 15 |
| b. | Capacitor blocks DC signal. Justify. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Find the value of the resistance and tolerance range for the following color band. **Green-Red-Orange-Gold.** | CO1 | 5 |
| b. | Find out the capacitive reactance of a capacitor with 10µF capacitance and 1KHz frequency. | CO1 | 5 |
| c. | With suitable diagram give the constructional features and characteristics of electrolytic capacitors. | CO1 | 10 |
| 3. | a. | Differentiate N type and P type semiconductor. | CO1 | 8 |
|  | b. | Discuss the Common emitter configuration of BJT and plot the dc characteristics. Also define the hybrid parameters associated with it. | CO1 | 12 |
| (OR) | | | | |
| 4. |  | How can you convert ac voltage into unidirectional voltage? Explain the working principle of the circuit used for the above purpose and derive the efficiency, form factor and peak factor. | CO1 | 20 |
| 5. | a. | Simplify the following using Kmap     f(A,B,C)=Σm(0,1,2,4,5,7)  f(A,B,C,D)= Σm(0,3,5,7,8,9,12,14) | CO2 | 10 |
|  | b. | Design 1X4 Demultiplxer and write its truth table. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Write Boolean equation for the following circuit diagram  https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcTbxPi56_WJnZ52lbQKQiDIitisBlL1-Nv7kShl7DqvhzWXphQCSg | CO2 | 5 |
|  | b. | Explain the operation of basic logic gates with its circuit diagram, equivalent circuit and truth table. | CO2 | 15 |
| 7. | a. | Draw the basic block diagram of the communication system and explain it elaborately. | CO3 | 12 |
|  | b. | Discuss the need for modulation in communication system. | CO3 | 8 |
| (OR) | | | | |
| 8. |  | Explain in detail about Amplitude modulation with a neat diagram, wave equation and its power relation. Also write its advantage, drawback and its application. | CO3 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the working principle of optic fibre communication with a neat diagram. | CO3 | 10 |
|  | b. | Enunciate key features of ISDN with its architecture. | CO3 | 10 |