Karunya University
(Karunya Institute of Technology and Sciences)
(Declared as Deemed to be University under Sec.3 of the UGC Act, 1965)

End Semester Examinations - 2015-16 Even Semester - May 2016

14EC1001 Basic Electronics Engineering

Set B

Time : 3 hrs
Total Marks: 100

1. a. Explain the various types of an inductor. (10)

   b. Explain about the carbon film resistors and trimmer with suitable diagrams. (10)

OR

2. a. Explain the formation of P-type semiconductor through the covalent bond structure. (10)

   b. Using the colour coding table, find the resistance value for the following (10)

      a. Red, Red, Black, Gold

      b. Green, Red, Black, Silver

      c. Yellow, Red, Red, Gold

      d. Red, Green, Black, Gold

3. a. Explain the input and output characteristics of common emitter configuration of a BJT(14).

   b. Compare the CB, CE, and CC configurations. (6)

OR

4. a. Explain the working principle of half wave rectifier. (10)

   b. Draw the circuit of Zener voltage regulator and explain its working. (10)

5. a. Simplify using 4-variable K-map (6)

      $\Sigma m(0,1,2,3,4, 5,6,7,8,9,10,11)$

   b. Explain the working of 4x1 data selector and 1x4 data distributor. (14)

OR

6. a. Prove the following: (6)

      (i) A+A'B = A+B; (ii) AB + A'C + BC = AB +A'C; (iii) A+AB = A

   b. Implement the basic logic gate functions using universal gates (14)

7. a. Derive the expression for frequency modulation. (14)

   b. Explain the need for modulation. (6)

OR

8. a. Explain the working of FM transmitter with a block diagram. (10)

   b. Explain the working of superheterodyne receiver with a block diagram. (10)

9. a. Explain the working of Optical Fibre Communication with its block diagram. (10)
   b. Explain the working of Radar system with its block diagram. (10)

Wishing you All the Best