1044 **Code : E-06**

Register Number | | | | | | | |

II Semester Diploma Examination, April/May-2015

ANALOG ELECTRONICS

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Section – **I** is *compulsory*.
(ii) Answer any **two** full questions from of the remaining sections.

SECTION - I

1. (a) Fill in the blanks : **1 × 5 = 5**
   (i) A semiconductor has _____ temperature coefficient of resistance.
   (ii) The element that has the biggest size in a transistor is _____.
   (iii) A JFET is a _____ driven device.
   (iv) An oscillator employs _____ feedback.
   (v) An emitter follower has _____ input impedance.

   (b) Derive the relationship between alpha and beta in case of transistor. **5**

SECTION - II

2. (a) Explain the phenomenon of conduction in p-type and N-type semiconductor material. **8**

   (b) Explain the formation of PNP and NPN transistor. **4**

   (c) Mention the sketches of different types of transistor configuration. **3**

3. (a) Explain with sketch the construction and working operation of JFET. **8**

   (b) List the various types of electron emission and explain any one type of electronic emission. **7**

4. (a) Explain with neat sketch the working of LED. **6**

   (b) Explain with neat circuit diagram the zener diode as a voltage regulator. **4**

   (c) Explain with sketch the working of photo multiplier. **5**

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SECTION - III

5. (a) Explain with neat circuit diagram the working operation of Bridge Rectifier. **8**

   (b) Explain the working of Pi type filter. **7**

6. (a) Explain with neat circuit diagram the working operation of Class-B push pull amplifier. **8**

   (b) Explain the faith full amplification and how it is achieved in transistor amplifier. **7**

7. (a) Explain with circuit diagram the working of Hartley oscillator. **7**

   (b) List the advantages of oscillator. **4**

   (c) List the advantages of negative feedback in transistor amplifier. **4**

SECTION - IV

8. (a) Explain with neat circuit diagram the VI characteristic of Zener diode. **8**

   (b) State the difference between FET and Bipolar transistor. **7**

9. (a) List the advantages and disadvantages of integrated circuit. **6**

   (b) Define the terms :
   SSI, MSI, LSI, VLSI **4**

   (c) With neat sketch explain the fabrication of transistor in IC technology. **5**

10. (a) Explain the working of Op-Amp as non inverting amplifier. **6**

    (b) List the Ideal characteristic of an Op-Amp. **5**

    (c) Explain the use of Op-Amp as running amplifier. **4**

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