Total No. of printed pages = 3

Et-304/EOEtE/3rd Sem/2013/N

ELEMENTS OF ELECTRONICS ENGINEERING

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1 (a) What are the active and passive components in electronic circuits ? 4

(b) What is electron emission ? What are the different types of electron emission ? 5

(c) Find the value of resistor whose band of sequence is as given below :
Brown / Black / Grey / Gold 5

2. (a) Give the procedure for determining the plate characteristics of a vacuum diode. 6

(b) What are the limitations of vacuum triode and what are its applications ? 8

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3. (a) Discuss the conduction properties of semiconductors and explain the process of eletron-hole pair generation and recombination. 3

(b) Discuss the behaviour of a p-n junction under forward and reverse biasing. 5

(c) Define : 6

(i) Intrinsic and extrinsic semiconductor

(ii) Majority and minority carriers

(iii) P-type and N-type semiconductor.

4. (a) Describe with a circuit diagram, the operation of a full-wave bridge rectifier. 7

(b) What is a zener diode? How the zener diode is used as a voltage regulator ? 7

5. (a) What is transistor? Explain the operation of transistor as an amplifier. 6

(b) With a neat circuit diagram, explain the working of RC coupled amplifier. 8

6. (a) What do you understand by Class A, Class B, Class C and Class AB amplifiers ? 8

(b) What are the advantages of negative feed back ? 6

7 (a) Explain the construction and working of a cathode ray tube. 10

(b) Draw the front panel view of a CRO and explain the function of each control switch. 4