Roll No. ....

Total Pages : 03

BT-2/M-19   32006

ELEMENTS OF ELECTRONICS ENGINEERING
EL-101E (Opt. II)

Time : Three Hours]   [Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. (a) What is the difference between clippers and clampers ?

   (b) Draw the equivalent model of Op-Amp 741.

   (c) Explain the difference between Active and Passive electronic components.

   (d) What is the use of filters in rectifiers ?

   (e) What is a Rectifier ? What are its types ? 5×3=15

Unit I

2. Explain the operation of Full-Wave bridge rectifer with necessary diagram. Why Full-wave bridge rectifier is preferred over centre-tapped rectifer for making regulated power supply ?   15

3. What is the use of clippers in electronics circuits ? What are the types of clippers ? Differentiate between positive and negative clippers with examples.   15

Unit II

4. Explain the input and output characteristics of Common Base (CB) BJT amplifier configuration with necessary V-I graphs indicating four regions of operation.   15

5. What is the need of biasing in BJT ? Explain the various biasing configuration with necessary diagrams.   15

Unit III

6. Explain the inverting, non-inverting and different modes of Op-Amp with necessary diagrams. Explain how Op-Amp can be used to produce an output of 10 V for an input of 5 V. Which configuration will be used for this ? http://www.kuonline.in   15

7. Derive the expression of differentiator using Op-Amp ? Explain, how it will produce a square waveform as output for a Triangular wave input ?   15

Unit IV

8. What is a SCR ? Explain the operation and characteristics of SCR with necessary diagrams. Describe the applications of SCR. **15**

9. What is MOSFET ? How is it different from FET ? Explain its structure, working, characteristics and applications with necessary graphs and disadvantages.

15