ELECTRONIC DEVICES AND CIRCUITS - III
3K4-IED-20

Time : 3 hrs.

M.M. : 100

Note :—

1. Part 'A' may be attempted in first 6 pages of Answer Sheet.
   भाग 'क ' के सभी उत्तर, उत्तर–पुस्तिका के प्रथम छः पृष्ठों में ही करने हैं।
2. Part 'B' in rest of the Sheets of Answer Sheet.
   भाग 'ख 'के उत्तर, उत्तर–पुस्तिका के अगले शेष पृष्ठों में लिखिये।
3. Answers may be given in English or Hindi.
   प्रश्नों के उत्तर अंग्रेजी अथवा हिन्दी में दीजिये।

PART - 'A'

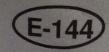1. Attempt any ten questions : -   (10x2=20)

   (a) What is meant by non-linear wave shaping?

   (b) What are different types of multivibrators?

   (c) What is monolithic IC ?

   (d) What do you mean by the parameter 'load regulation'

   (e) What are ordinary voltage regulators ?

   (f) Define latch current of an SCR.

   (g) What is the full form of VCO.

   (h) Draw the symbol of LASCR.

   (i) What is 555 timer ?

   (j) What is meant by time base ?

   (k) Define sweep time in saw tooth generator.

   (l) What is line regulation?

   (m) Name any three applications, making use of PLL.

   (n) Define restoration time.

2. Attempt any five questions :   (5x4=20)

   (a) Draw the block diagram of PLL.

   (b) Draw the VI characteristics of DIAC.

   (c) Mention the applications of SCR.

   (d) Explain the concept of floating power supply.

1/4

(e) Write short note on R-C differentiator.

(f) Discuss the principles of current series regulators.

(g) What is the difference between the out put from a clipping circuit and a clamping circuit?

(h) What is the need for regulated power supply?

PART- B

Attempt any three questions. (3x20=60)

3. (a) What is meant by a clipper? Draw different types of diode clipping circuits and explain the operation of any one of them.

   (b) Draw the circuit diagram of astable multivibrator and explain its operation.

4. What is CVT ? How does it differ from an ordinary transformer ? Explain its operation. Why the use of CVT is necessary is computers?

5. Draw the block and symbolic representation for SCR. Sketch its V-I characteristics and also explain its principle of operation.

6. (a) Sketch the circuit of schmitt trigger and explain its operation.

   (b) Briefly explain the concept of ideal transistor switch.

7. (a) Explain the fabrication process of monolithic ICs.

   (b) Discuss the advantages and disadvantages of monolithic IC's