

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'

(10x2=20)

1. Attempt any ten questions :-

- (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.

(5x4=20)

2. Attempt any five questions :

- (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.

- (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 in 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