AV–1681

B.Sc. Part–I Semester–I Examination
ELECTRONICS
(Basic Electronics)

Time : Three Hours]   [Maximum Marks : 80

N.B. :— (1) Question No. **1** is compulsory.

(2) Draw neat diagram wherever necessary.

1. (A) Fill in the blanks :

(i) KVL stands for _____.

(ii) The unit of resistance is _____.

(iii) SCR stands for _____.

(iv) VLSI stands for _____.   2

(B) Choose the correct answer :

(i) The unit of inductance is _____.

(a) ohm   (b) mho

(c) Henry   (d) Farad

(ii) CRT stands for _____.

(a) Current reactance tube   (b) Cathode ray tube

(c) Cathode ray transistor   (d) None of these

(iii) PIV indicates _____.

(a) Peak inverse voltage   (b) Positive inverse voltage

(c) Peak integrated value   (d) None of these

(iv) IC stands for _____.

(a) Integrated circuit   (b) Ionisation current

(c) Inverse current   (d) None of these   2

(C) Answer in **one** sentence :

(i) What is inductor ?

(ii) What is CRT ?

(iii) Define Rectification.

(iv) What is MOSFET ?   4

EITHER

2. (A) Explain wire wound and carbon composition resistors.   6

(B) Explain KVL and KCL.   6

OR

(P) Explain the working of transformer.   4

(Q) State and prove Thevenin's theorem.   8

EITHER

3. (A) Explain multirange voltmeter.   6

(B) Explain multirange ammeter.   6

OR

    (P) Explain CRT with diagram.   7

    (Q) Explain working of shunt type ohmmeter.   5

EITHER

4. (A) Explain forward biased PN junction diode.   6

    (B) Draw the forward V/I characteristics of PN junction diode and explain it.   6

OR

    (P) Explain construction and working of Half Wave Rectifier Circuit.   6

    (Q) Draw the block diagram of regulated power supply and explain function of each block.   6

EITHER

5. (A) What is transistor ? Explain PNP transistor.   8

    (B) Define α and β of a transistor. Show the relation between them.   4

OR

    (P) Draw the circuit of CE amplifier using NPN and PNP transistor.   4

    (Q) Explain biasing and stability and Load Line concept.   8

EITHER

6. (A) What is FET ? Explain its construction and working.   6

    (B) Define FET parameters. Show that $\mu = rd \times gm$.   6

OR

    (P) Explain construction, working and characteristics of LDR.   6

    (Q) What is photodiode ? Explain its working.   6

EITHER

7. (A) State the classification of IC.   4

    (B) Explain basic steps in fabrication of monolithic IC.   8

OR

    (P) Explain scale of integration in IC's.   4

    (Q) Explain fabrication of Diode and transistor in monolithic IC.   8