2/16

1810E622

Candidate's Seat No :_____

B.Sc. Sem.-1 Examination
CC-3-P-101
Electronics
October-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Q1 Describe the different types of linear resistors. (14)

(OR)

Design a multirange dc voltmeter using a d'Arsonval movement. Also explain voltmeter sensitivity. (14)

Q2 (1) Describe the construction and working of a varactor diode (7)

(2) Draw and explain a simple diode positive clipper. (7)

(OR)

(1) Write a note on light emitting diode. (7)

(2) Explain in detail about the principle on which the solar cell operates. (7)

Q3. (1) Write about the different classes of amplifier operation. (7)

(2) With proper diagram of a distortion analyser, explain how harmonic distortion can be measured. (7)

(OR)

(1) What is decibel? Why is it important? How can it be used to measure voltage level and power level? (7)

(2) What are frequency response curves and amplifier bandwidth? (7)

(PTO)

Q4 (1) Explain the excess-3 code. (7)

(2) Write the Boolean laws and theorems and explain them. (7)

(OR)

(1) Perform the following conversions. (7)

(a) $(25)_{10} = (\quad)_2$

(b) $(11101110)_2 = (\quad)_{10}$

(c) $(10101111)_2 = (\quad)_{16}$

(2) Explain the 2's complement representation of numbers. (7)

Q5. Attempt any seven (out of 12) (14)

(1) What is a fuse?
(2) What is a relay?
(3) What is the symbol of a inductor and the unit of inductance?
(4) Write the full form of LCD.
(5) What is the full form of LASER?
(6) What is the function of a clamper?
(7) Write the equation of a square wave voltage.
(8) What is maximum power transfer?
(9) What is conversion efficiency?
(10) What is the full form of ASCII?
(11) What is the base of the hexadecimal number system?
(12) $(11110000)_2 + (01010101)_2 =$ ____ ?

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