RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

SECOND YEAR [2016-19]
B.A./B.Sc. THIRD SEMESTER (July – December) 2017
Mid-Semester Examination, September 2017

Date : 15/09/2017

Time : 12 noon – 1 pm

ELECTRONICS (General)

Paper : III

Full Marks : 25

*Answer **any five** of the following questions :*   [5×5]

1. State some sources of error while measurement of a parameter. The expected value of current passing through a resistor is 90mA. However, the measurement gives a value of 85mA. Calculate—
    (i) absolute error, (ii) percentage error, (iii) relative accuracy and (iv) percentage accuracy.   [2+3]

2. What is CRT? Mention some characteristics of a CRT.   [2+3]

3. Draw a schematic block diagram of a CRO and indicate all the components.   [5]

4. How is a signal traced using a CRO? Explain, how frequency and phase can be determined with the help of a CRO.   [2+3]

5. State basic characteristics of TTL and ECL logic families respectively.   [5]

6. Mention advantages of CMOS technology over the NMOS technology. Draw and explain an NMOS inverter switch.   [2+3]

7. Draw and explain the operation of a 3-input NOR using CMOS technology. Explain how it can be converted into a 3-input OR gate.   [3+2]

8. State some important capabilities of VHDL. What do you mean by entity? Give the syntax of entity declaration for a 2×4 decoder circuit.   [2+1+2]

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