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RETEST EXAMINATION - 2019

Semester : 4th (Old)

Subject Code : Et-402

ELECTRONIC TEST AND MEASUREMENTS

Full Marks - 70

Time - Three hours

The figure in the margin indicate full marks
for the questions.

Instructions :

1. *All* questions of PART-A are compulsory.
2. Answer any *five* questions from PART-B.

PART - A

Marks - 25

1. Write the full forms : 1×5=5
PMMC, VTVM, CRO, IEEE, DAC.
2. Choose the correct word : 10
(a) DVMs are fast/slow devices.

[Turn over

- (b) Balanced bridge TVM uses two/four transistors.
 - (c) Accuracy of analog multimeter is more/less than electronic multimeter.
 - (d) A CRO uses electrostatic/electromagnetic focussing.
 - (e) A CRT has three/four different types of anodes.
 - (f) IEEE-488 bus has 86/24 signals.
 - (g) RS-232 is a serial/parallel bus.
 - (h) The cost of a DVM is more/less than its analog counterpart.
 - (i) Using FET at the input of a TVM increases/decreases its sensitivity.
 - (j) A listener is a device capable of transmitting/receiving data when addressed.
3. Fill in the blanks : $1 \times 5 = 5$
- (a) Horizontal deflection plates are mounted _____.
 - (b) The vertical deflection frequency in a CRO is _____ hertz.

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4. State true or false : $1 \times 5 = 5$
- (a) Electrons are emitted from the cathode in a CRT.
 - (b) There are four deflection plates in a CRT.
 - (c) A function generator can generate only sinusoidal signal.
 - (d) Lissajous patterns can be used for accurate measurement of frequency.
 - (e) Dual beam oscilloscopes use a single electron gun in the CRT.
- (c) When two sinusoidal voltages of equal frequency and same phase are applied to the two sets of deflection plates the pattern appearing on the screen is _____.
 - (d) Blanking circuit in a CRO is used to blank out the _____.
 - (e) Chopper type amplifiers are used in meters which measures voltages in the _____ voltage range.

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PART - B

Marks - 45

5. With the help of a proper block diagram explain the operation of a digital multimeter. 4+5=9
6. (a) Why are electronic multimeter preferred to VTVM ?
- (b) What is meant by 3 and 1/2 digit multimeter ?
- (c) State the advantages of DMM over a conventional multimeter. 3+3+3=9
7. (a) Draw a neat sketch of a CRT and label its different parts.
- (b) Explain horizontal and vertical deflection systems. 4+5=9
8. Using a block diagram explain the working principle of a function generator. 4+5=9
9. Write brief notes on resonant wave analyser and spectrum analyser. 4½+4½=9
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10. (a) What is synchronisation in CRO ? 3

(b) Explain how you will measure voltage, current and frequency using a CRO. 2+2+2=6

11. Give the detailed description of IEEE-488 bus with diagrams. 5+4=9

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