***C-14 -AEI -305***

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING**

**MODEL PAPER -I**

**ELECTRONIC MEASURING INSTRUMENTS**

[Time: 3 Hours] [Total Marks: 8**0]**

**PART – A 10x 3 = 30**

**Instructions :** *Answer all questions. Each question carries three marks.*

1. Explain the principle of operation of PMMC.
2. State the balancing conditions of Bridges.
3. Explain the use of Megger.
4. List the advantages of Digital instruments over Analog instruments
5. List the specifications of Digital Voltmeter.

6) Define Deflection sensitivity

7) Describe the purpose of delayline.

8) List the conditions for Stationary & Flickerfree waveforms

9) Explain the importance of shielding.

10) State the necessity of plotters.

**PART – B 5 x10 = 50**

**Instructions :** *Answer any five questions. Each question carries ten marks*

11) Explain the working of FET-input voltmeter

12) Explain the Capacitance measurement using Schering bridge.

13) Describe the working of RAMP-type Digital Voltmeter.

14) Explain the working of Digital Frequency meter with its specifications.

15) Descibe the function of each block of general purpose CRO.

16.a) Explain Triggered sweep with necessary circuit.

b) Write the procedure for measurement of Voltage, Frequency using CRO .

17) Explain the working of RF signal generator

18) Describe the working of Logic Analyser with block diagram

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**STATE BOARD OF TECHNICAL EDUCATION & TRAINING**

**MODEL PAPER -II**

**ELECTRONIC MEASURING INSTRUMENTS**

[Time: 3 Hours] [Total Marks: **80]**

**PART – A 10x 3 = 30**

**Instructions :**  *Answer all questions. Each question carries three marks.*

1. Classify Analog Measuring instruments

2) Explain Loading effect

3) Give the classification of Bridge Circuits

4) List the specifications of Digital Multimeter

5) Explain the basic principle of Digital Frequency merter

6) Give the necessity of Time-base generator

7) Explain the procedure for measurement of voltage using CRO

8) Define Flicker free waveform

9) List the applications of AF Oscillator.

10) State the necessity of Recorders.

**PART – B 5 x 10 = 50**

**Instructions :**  *Answer any two questions. Each question carries TEN marks*

11.a) Explain the principle of operation of PMMC instrument

b) Explain the working of Rectifier type Voltmeter

12) Explain the Inductance measurement using Maxwell’s Bridge

13) Draw & Explain the Block diagram of Dual-slope integrating type DVM

14) Explain the working of Digital Multimeter with block diagram

15) Sketch CRT & Describe the function of different parts.

16) Describe the block diagram of Storage Oscilloscope

17) Explain the working of Function generator.

18) Explain the working of Digital IC tester with block diagram