**Electronics Instruments & Measurements**

 **Course code- EJ-3G Subject code-(17317)** ------------------------------------------------------------------------------------

1) Define calibration. Explain why calibration is needed for Measuring Instruments

2) Draw the block schematic of single trace CRO. State function of each block.

3) State how DSO stores waveforms? List its advantages.

4) Draw and describe the horizontal deflection system in CRO.

5) How the electron beam generated in CRT? Sketch suitable diagram

6) Write the procedure for frequency and Phase of signal is measurement by CRO?

7) Define Standard. What are the different standards used for Instrument calibration?

8) What is Loading effect and voltmeter sensitivity of multi range Voltmeter?

9) State and describe the different types of triggering available in CRO?

10) With neat labeled block diagram state how distortion factor meter operates?

11) What is spectrum analyzer? How it can be used for Harmonic Analysis?

12) Derive the torque equation for PMMC instruments.

13) Draw and state how the Ayrton shunt type DC ammeter operates?

14) Draw neat diagram of CRT. State the function of accelerating anode.

15) Draw the neat block diagram of dual beam dual trace CRO and state functions of each

 blocks.

16) Draw block diagram of function generator and write how square and triangular signals are

 generated?

17) Draw and describe the circuit diagram of pulse generator.

23) Draw block diagram of pattern generator and how different patterns are generated using

 pattern generator?

18) Describe the working of frequency selective wave analyzer.

19) Write the operation of frequency meter with block diagram.

20) Draw the block diagram of ramp type digital type voltmeter. State the function of ramp

 generator and control unit.

21) Draw the block diagram of digital multimeter. State its advantages.

22) What is LCR meter? How the inductance, capacitance and resistance is measured using it?

23) Draw block diagram of Q-meter and state functions of each block.

24) Compare analog instruments with digital instruments.