B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022
Seventh Semester
Instrumentation and Control Engineering
EI8692 - ELECTRONIC INSTRUMENTATION
(Regulations 2017)

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks, K-Level, CO
1.	Classify electronic voltmeters.	2,K2,CO1
2.	Define Auto ranging.	2,K1,CO1
3.	State the purpose of storage oscilloscopes.	2,K1,CO2
4.	Recall the basic principle of frequency selective wave analyzer.	2,K1,CO2
5.	Define the principle of Crystal oscillator.	2,K1,CO3
6.	Name the advantages of electronic counters.	2,K1,CO3
7.	Define the components of Virtual Instruments.	2,K1,CO4
8.	Name the types of loops available for VI.	2,K1,CO4
9.	Define telemetry.	2,K1,CO5
10.	Distinguish between time and frequency division multiplexing.	2,K2,CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a) Illustrate the construction and operation of True RMS reading voltmeter with appropriate diagram.   *13,K2,CO1*

OR

b) With a neat circuit diagram explain the working of differential amplifier type electronic voltmeter.   *13,K2,CO1*

12. a) Explain the working of Dual trace CRO with the appropriate block diagram. Write short note on Alt and chop mode.   *13,K2,CO2*

OR

b) With a neat sketch explain about Digital storage oscilloscope.   *13,K2,CO2*

13. a) Explain the working of Function Generator with the appropriate block diagram.   *13,K2,CO3*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **11497**

b) With a neat circuit diagram explain the working of Wien's bridge oscillator and derive the equation for frequency of oscillations.   13,K2,CO3

14. a) Describe in detail about the architecture of Virtual Instrumentation system.   13,K2,CO4

OR

b) (i) Explain the VI program to find the square root.   7,K2,CO4
   (ii) Explain the VI program to develop Half adder.   6,K2,CO4

15. a) Explain about the voltage and current telemetry system.   13,K2,CO5

OR

b) Explain in detail about Pulse-Code Modulation Telemetry system.   13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Illustrate the operation of shift register showing the front panel and block diagram.   15,K2,CO4

OR

b) Describe in detail about frequency division multiplexing.   15,K2,CO5