2803N1156

Candidate's Seat No :_____

B.Sc. Sem.-5 Examination

CC-303

Electronics

Time : 2-30 Hours] **March-2025** **[Max. Marks : 70**

Instructions: (1) Symbols used here have their usual meanings.
(2) Figures to the right indicate marks.

Q-1	(i)	Explain working principle of chopper type micro-voltmeter.	(7)
	(ii)	Explain True RMS voltmeter in brief.	(7)
		OR	
Q-1	(i)	Explain the working of the Transistor Voltmeter with suitable circuit diagram.	(7)
	(ii)	Explain the basic principle of the differential voltmeter.	(7)
Q-2	(i)	Draw block diagram of ramp type DVM. Explain function of each block.	(7)
	(ii)	Write a short-note on integrating type DVM.	(7)
		OR	
Q-2	(i)	A 4 and ½ digit voltmeter is used for voltage measurements. (1) Find its resolution (2) How would 12.98 V be displayed on 10 V range? (3) How would 0.6973 be displayed on 1 V and 10 V ranges.	(7)
	(ii)	Explain the basic principle of successive approximation type DVM.	(7)
Q-3	(i)	Draw the block diagram of C.R.O. Explain function of each block briefly.	(7)
	(ii)	Write a short note on CRT circuits.	(7)
		OR	
Q-3	(i)	Explain construction of distributed parameter delay line in detail.	(7)
	(ii)	Write a note on "Graticules" of the CRT.	(7)
Q-4	(i)	With the help of suitable diagram, explain pulse terms/characteristics (1) rise time (2) fall-time (3) duty cycle (4) sag	(7)
	(ii)	Draw the block diagram of general purpose pulse generator providing negative pulses of variable frequency, duty cycle and amplitude.	(7)
		OR	
Q-4	(i)	Briefly explain the role of astable multivibrator in pulse and square-wave generation.	(7)
	(ii)	Explain basic concept of simplified current source operation in laboratory pulse generator.	(7)
Q-5		Attempt any <u>seven</u> out of twelve.	(14)
	(1)	What is full form of PMMC?	
	(2)	Mention any one limitation of a Transistor Volt Meter?	
	(3)	Mention different modes of a DC standard volt-meter .	
	(4)	What do you mean by 3 ½ digit DVM?	
	(5)	What is the resolution of a 3 ½ digit display on 1 V?	
	(6)	Define Sensitivity of digital meters.	
	(7)	Write the full form of C.R.O.	
	(8)	What is the function of Delay Line of C.R.O.?	
	(9)	Where phosphor is used in CRT? Why?	
	(10)	Define : Duty cycle.	
	(11)	Write any one common characteristic of a signal generator.	
	(12)	Draw the block diagram of a simple sine-wave generator.	