CONTINUOUS INTERNAL EVALUATION - 2

Dept: FY	Sem / Div: **2 CS A & B**	Sub: **Introduction to Electronics and Communication**	S Code: **BESCK204C**
Date: 27.06.2024	Time: 9:30-11:00	Max Marks: 50	Elective: Y

Note: Answer any 2 full questions, choosing one full question from each part.

QN		Questions	Marks	RBT	CO's
		PART A			
1	a	Using suitable diagrams, explain Instrumentation and Control System.	8	L2	CO3
	b	With neat block diagram, explain modern communication system.	8	L2	CO4
	c	Discuss different types of Communication Systems. List the advantages of Digital Communication over Analog Communication.	9	L2	CO4
		OR			
2	a	Write a brief note on operation of LED. Explain how 7-Segment LED display can be used to display the data.	8	L2	CO3
	b	Define Amplitude and Frequency Modulation. Sketch AM and FM waveforms. Also, write a note on Quadrature Phase Shift Keying (QPSK) modulator.	8	L2	CO4
	c	Explain with a neat diagram, the concept of radio wave propagation and its different types.	9	L2	CO4
		PART B			

3	a	Perform the following: (i) $(1010100)_2 - (1000100)_2$ using 1's complement and 2's complement method. (ii) $(4456)_{10} - (34234)_{10}$ using 9's complement and 10's complement method.	8	L3	
	b	Mention the different Theorems and Postulates of Boolean Algebra and Prove each of them.	8	L2	CO2
	c	Convert the following numbers to its equivalent numbers and show the steps: (i) $(FACE)_{16} = (?)_{10}$ (ii) $(65.45)_{10} = (?)_2$ (iii) $(1111011011011.11011)_2 = (?)_8$ (iv) $(345.AB)_{16} = (?)_2$	9	L2	CO2
		OR			
4	a	Express the Boolean function in a sum of minterms form & implement by using logic gates – (i) $F_1 = A + \bar{B}C$ (ii) $F_2 = x\bar{y} + \bar{x}z$	8	L3	CO2
	b	Implement half adder and full adder circuit with its truth-table and write the expressions for Sum and Carry.	8	L3	CO2
	c	Using basic Boolean theorems prove – (i) $(x + y)(x + \bar{y}) = x$ (ii) $xy + \bar{x}z + yz = xy + \bar{x}z$ (iii) $xy + xz + y\bar{z} = xz + y\bar{z}$	9	L3	CO2

Prepared by: Rajani Rai B

HOD