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BESCK104C/ BESCKC104

First Semester B.E/B.Tech. Degree Supplementary Examination, June/July 2024
Introduction to Electronics and Communication

Time: 3 hrs.   Max. Marks:100

Note: *1. Answer any FIVE full questions, choosing ONE full question from each module.*
2. M : Marks , L: Bloom's level , C: Course outcomes.

			M	L	C
		Module – 1			
1	a.	Describe full wave bridge rectifier with relevant waveform? Memorize its measurable parameters.	7	L2	CO1
	b.	Explain how zener diode acts as voltage regulator. Discuss line and load regulation.	7	L2	CO1
	c.	Illustrate the difference between zener and avalanche breakdown.	6	L2	CO1
		OR			
2	a.	Discuss half wave rectifier with capacitor filter. Memorize ripple factor.	7	L2	CO1
	b.	Describe with neat sketch and working operation of RC coupled amplifier and specify frequency response with parameters.	7	L2	CO1
	c.	Discriminate half wave rectifier and full wave rectifier.	6	L2	CO1
		Module – 2			
3	a.	Describe the operation of crystal oscillator and state its applications.	7	L2	CO2
	b.	Discuss any two applications of OPAMP.	7	L2	CO2
	c.	State ideal and practical characteristics of OPAMP.	6	L2	CO2
		OR			
4	a.	Explain the concept for sustained oscillations of ladder type network oscillator.	7	L2	CO2
	b.	Define multivibrator and also discuss single stage astable oscillator using OPAMP.	7	L2	CO2
	c.	Describe various blocks of OPAM and discuss its measurable parameter.	6	L2	CO2
		Module – 3			
5	a.	i) Convert $(725.25)_8$ to $(\quad)_{10}$ and $(\quad)_2$ ii) Determine the value of x if $(211)_x = (152)_8$	7	L3	CO3
	b.	Discuss the different theorems and postulates of Boolean Algebra and prove each of them with truth table.	7	L2	CO3
	c.	Find the complement of functions F_1 and F_2 i) $F_1(x, y, z) = x'yz' + x'y'z$ ii) $F_2(x, y, z) = x(y'z' + yz)$.	6	L3	CO3

		OR			
6	a.	Simplify and realize the expression using NAND and NOR F = AB + AC + BD + CD.	7	L3	CO3
	b.	Implement full adder circuit with truth table and deduce expression for sum and carry.	7	L2	CO3
	c.	Implement EX–OR and EX–NOR using NAND.	6	L2	CO3
		Module – 4			
7	a.	Define general computing system. Describe its classification in contrast to embedded system.	7	L2	CO4
	b.	Compare microprocessor and microcontroller with silent features.	7	L2	CO4
	c.	Explain the following : i) Transducers ii) Actuators.	6	L2	CO4
		OR			
8	a.	Explain various elements of embedded systems and state its applications.	7	L2	CO4
	b.	Distinguish RISC and CISC.	6	L2	CO4
	c.	Explain : i) 7 segment LED display ii) Sensor.	7	L2	CO4
		Module – 5			
9	a.	Explain the concept of AM wave and interpret MI and transmission efficiency.	7	L2	CO5
	b.	Discuss the various modes of radio wave propagation.	7	L2	CO5
	c.	Describe ASK used in communication system.	6	L2	CO5
		OR			
10	a.	Discuss frequency modulation in communication system and describe MI and frequency deviation.	7	L2	CO5
	b.	Describe the various block of communication system.	6	L2	CO5
	c.	Explain PSK modulation technique in communication system.	7	L2	CO5

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