## C.U.SHAH UNIVERSITY Summer Examination-2019

## **Subject Name : Electronics**

	Subject (	Code :4SC04PHE1	Branch : B.Sc. (All)				
	Semester Instructio		Time : 02:30 To 05:30	Marks : 70			
	(2) In (3) I	(1) Use of Programmable calculator & any other electronic instrument is prohibited.					
Q-1		Attempt the following questio	ons:	( <b>14</b> ) 01			
	a) State applications of JFET.						
	,	Calculate 111001 <sub>2</sub> into decimal		01			
	c) Define universal logic gates. Write their names.						
	<b>d</b> )	What is FET?		01			
	<b>e</b> )	Convert 32.88125 <sub>10</sub> into binary		01			
	<b>f</b> )	Write full names of BJT and U.	JT.	01			
	0.			01			
	-	Give advantages of UJT.		01 01			
		i) How can we differentiate analog and digital electronics?					
		<b>j</b> ) How many terminals in JFET? Write their names.					
	/	<b>k</b> ) Which number system is found more useful in digital electronics?					
	l)	What is thermistor?		01			
		State advantage of transistor bia		01			
		Convert $256_2$ into binary number		01			
Attempt any four questions from Q-2 to Q-8							
Q-2		Attempt all questions		(14)			
	a)	What is transistor? How transis biasing method?	stor biasing can be done through feed	dback resistor 07			
	b)	6	using method are working for trans	istor biasing? 07			
	0)	Write its merits and demerits.	using method are working for trans	istor blashig: 07			
Q-3		Attempt all questions		(14)			
	<b>a</b> )	Define JFET. Write it briefly w	ith its construction and working prine	ciple. 07			
	b)	Explain phase reversal process	in transistor amplifier in brief.	07			
Q-4		Attempt all questions		(14)			
			oscillator? Explain it with its advant	-			
	b)	What is MOSFET? Discuss we schematic diagram.	orking principle of MOSFET with n	neat and clean 07			



Q-5		Attempt all questions		
	a)	How JFET and BJT are differentiated with each other? Explain in brief.	07	
	b)	Explain how transistor amplifier works practically.	07	
Q-6		Attempt all questions		
	<b>a</b> )	Define logic gates. Write short notes on (1) AND gate and (2) NOT gate.	07	
	b)	What is load line? How many types of it? Discuss briefly about the physical significance of load line in transistor amplifier circuit.	07	
Q-7		Attempt all questions	(14)	
-	a)	How many parameters are presented for JFET? Write each parameter briefly.	07	
	b)	How AND, OR and NOT gate can be made through NAND universal gate? Discuss briefly.	07	
Q-8		Attempt all questions	(14)	
	a)	Write about OR gate.	05	
	<b>b</b> )	Write short note on thermistor characteristics.	05	
	c)	For a given JFET, if a change in drain voltage of 8V produces a change in drain current of 0.09 mA. Calculate ac drain resistance.	04	

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