## C.U.SHAH UNIVERSITY Winter Examination-2015

## **Subject Name : Electronics**

!	Subject (	Code:4SC04PHE1	Branch	Branch : B.Sc. (Physics, Chemistry)		
2	Semester	<b>Date : 26/11/2015</b>	Time : 02:30 To 05:30	Marks : 70		
	<ul> <li>(1) U</li> <li>(2) I</li> <li>(3) I</li> <li>(4) A</li> </ul>	Jse of Programmable calcunstructions written on main Draw neat diagrams and fig Assume suitable data if nee	lator & any other electronic ins answer book are strictly to be ures (if necessary) at right place ded.	trument is prohibited. obeyed. es.		
Q-1		Attempt the following q	uestions:		(14)	
	a)	What is JFET? Draw its s	chematic diagram.		01	
	<b>b</b> )	Write full name of FET.			01	
	<b>c</b> )	What is single stage trans	istor amplifier?		01	
	<b>d</b> )	Write full name of BJT.			01	
	<b>e</b> )	Define pinch off voltage	n JFET.		01	
	<b>f</b> )	Define stability factor of	transistor.		01	
	<b>g</b> )	Why transistor biasing is	necessary?		01	
	<b>h</b> )	Convert $15_{10}$ into binary 1	number.		01	
	i)	Convert $10101101_2$ into c	lecimal number.		01	
	<b>j</b> )	What is logic gates? Give	name of three basic logic gates		01	
	<b>k</b> )	Draw schematic symbol o	of MOSFET.		01	
	I)	What is MOSFET?			01	
	<b>m</b> )	What is UJT?			01	
	n)	Draw the truth table of N	OR gate.		01	
Atten	npt any f	our questions from Q-2 t	o Q-8.			
Q-2		Attempt all questions			(14)	
	<b>a</b> )	Discuss base resistor bias	ing method with its merits and o	demerits.	07	
	b)	What is transistor? Explain	in feedback resistor biasing met	hod.	07	
Q-3		Attempt all questions			(14)	
	a)	Distinguish JFET and BJ	Г.		07	
	b)	Explain construction deta	il and working principle of JFE	Т.	07	
Q-4		Attempt all questions			(14)	
•	a)	Explain working of MOS	FET. Write advantages of JFET		07	
	b)	Discuss phase reversal pr	ocess in transistor amplifier.		07	
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Q-5	Attempt all questions		
	a)	Explain in detail practically working function of transistor amplifier.	
	b)	Discuss in detail load line analysis of transistor amplifier.	07
Q-6		Attempt all questions	
-	a)	Discuss parameters of JFET in detail.	07
	b)	How is UJT working as a relaxation oscillator? Write advantages of UJT.	07
Q-7		Attempt all questions	
-	a)	Write short notes on (1) NAND gate and (2) NOR gate.	07
	b)	Explain in detail NAND gate working as a universal gate.	07
Q-8		Attempt all questions	(14)
-	a)	Write short notes on (1) AND gate and (2) OR gate.	07
	b)	Write short notes on (1) NOT gate and (2) Thermistor.	07



