Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name : Electronics

Subject Code : 4SC04PHE1 **Branch : B.Sc. (All)**

Semester : 4 **Date : 28/04/2017** **Time : 10:30 To 01:30** **Marks : 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1		**Attempt the following questions:**	**(14)**
	a)	What do you mean by BJT?	01
	b)	Distinguish BJT and UJT.	01
	c)	JFET having _____ terminals.	01
	d)	Write advantages of UJT.	01
	e)	Write usefulness of JFET.	01
	f)	Draw schematic diagram of MOSFET.	01
	g)	What is transistor biasing? Why it becomes necessary for biasing purpose?	01
	h)	Which number system is found useful in digital electronics?	01
	i)	Define: stability factor.	01
	j)	Convert 20.78125_{10} into binary number.	01
	k)	Calculate 110011_2 into decimal number.	01
	l)	Define: universal logic gates.	01
	m)	What is thermistor?	01
	n)	Distinguish analog and digital electronics.	01

Attempt any four questions from Q-2 to Q-8

Q-2		**Attempt all questions**	**(14)**
	a)	What is transistor? How transistor biasing can be done through feedback resistor biasing method.	07
	b)	Discuss briefly base resistor biasing method. Write its merits and demerits.	07
Q-3		**Attempt all questions**	**(14)**
	a)	Explain briefly JFET with its construction and working principle.	07
	b)	What is phase reversal process in transistor amplifier? - Discuss.	07
Q-4		**Attempt all questions**	**(14)**
	a)	Distinguish JFET and BJT briefly.	07
	b)	What is MOSFET? Explain working of MOSFET.	07

Q-5		**Attempt all questions**	**(14)**
	a)	How UJT works as a relaxation oscillator? Write its advantages.	07
	b)	How transistor amplifier works practically? – Explain.	07
Q-6		**Attempt all questions**	**(14)**
	a)	Discuss JFET parameters briefly.	07
	b)	What is the physical significance of load line in transistor amplifier? Discuss its analysis.	07
Q-7		**Attempt all questions**	**(14)**
	a)	Write short notes on (1) OR gate and (2) NOT gate.	07
	b)	Discuss how AND, OR and NOT gate can be made through NAND gate.	07
Q-8		**Attempt all questions**	**(14)**
	a)	For a given JFET, if a change in drain voltage of 4V produces a change in drain current of 0.06 mA. Calculate ac drain resistance.	04
	b)	Discuss-Thermistor characteristics.	05
	c)	Write short note on AND gate.	05