Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name: Electronics

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

Semester: 4 **Date: 23/05/2016** **Time: 2:30 To 5:30** **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 is the full form of UJT?	01
b)	Define pinch-off voltage.	01
c)	Why NAND gate is called a Universal gate?	01
d)	Define Bandwidth.	01
e)	Define D.C load line.	01
f)	What is meant by single stage transistor amplifier?	01
g)	What is Stabilization?	01
h)	Give types of FET.	01
i)	What is Thermistor?	01
j)	Define Analog signal.	01
k)	Draw the circuit symbol of OR Gate and NOT gate.	01
l)	Convert $(540)_{10}$ into binary number.	01
m)	What is faithful Amplification?	01
n)	What is Transconductance of JFET?	01

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

Q-2 **Attempt all questions** **(14)**

a)	Describe the construction and working of JFET.	**06**
b)	Explain OR gate	**05**
c)	For transistor amplifier having V_{CC}=9V, R_1=6KΩ, R_2=3KΩ, R_C=1KΩ and R_E=1KΩ, R_L=2KΩ and V_{BE}=0.7V (i) Draw D.C load line (ii) Find the operating point (iii) Draw a.c load line.	**03**

Q-3 **Attempt all questions** **(14)**

a)	Explain D.C load line analysis in details.	**05**
b)	Explain in details output characteristic of JFET.	**05**
c)	Write a short note on AND gate.	**04**

Q-4		**Attempt all questions**	**(14)**
	a)	Explain Universal gate	**06**
	b)	Write a short note on Phase reversal.	**05**
	c)	For a given JFET if the change in gate voltage of 0.1 causes a change in drain current of 0.3ma then calculate the value of transconductance.	**03**
Q-5		**Attempt all questions**	**(14)**
	a)	Explain JFET parameters.	**06**
	b)	Describe biasing with feedback resistor. Give its advantages and Disadvantages.	**05**
	c)	Convert below number into decimal number: $(11100)_2$	**03**
Q-6		**Attempt all questions**	**(14)**
	a)	Explain D.C load line analysis in	**05**
	b)	Describe voltage divider biasing method with its stability factor.	**06**
	c)	Give the differences between JFET and BJT.	**03**
Q-7		**Attempt all questions**	**(14)**
	a)	Explain metal oxide semiconductor Field effect transistor	**06**
	b)	Write a short note on Thermistor.	**05**
	c)	Explain voltage gain.	**03**
Q-8		**Attempt all questions**	**(14)**
	a)	Explain construction and working of UJT	**06**
	b)	Write a short note on classification of Amplifiers.	**05**
	c)	Write a short note on NOT gate.	**03**