Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Solid State Electronics

Subject Code: 4SC06SEC1 Branch: B.Sc. (Physics)

Semester: 6 Date: 04/05/2018 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)	Define Multivibrator.	1
b)	Give the types of Switch.	1
c)	Give one application of SCR.	1
d)	What is Clamper?	1
e)	What is OP-AMP?	1
f)	Give types of modulation.	1
g)	Define Bandwidth.	1
h)	Give types of communication systems.	1
i)	Give application of clipper circuits.	1
j)	Give full form of SCR.	1
k)	Define latching current of Thyristors.	1
l)	What is clipping?	1
m)	Give types of Multivibrators.	1
n)	Define frequency modulation.	1

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

Q-2 Attempt all questions (14)

a)	Explain in details Switching action of a Transistor.	**5**
b)	Explain principle of operation of an SCR with diagram in details.	**5**
c)	Explain in details Differentiating circuit.	**4**

Q-3 Attempt all questions (14)

a)	Explain in details Transistor Bistable Multivibrator.	**6**
b)	Explain in details output characteristics of SCR with figure.	**4**
c)	Explain Integrating circuit in details.	**4**

Q-4 Attempt all questions (14)

a)	Explain in details Transistor Astable Multivibrator.	**6**
b)	Write a short note on TRIAC in detail.	**5**
c)	Write a short note on Clamper circuit.	**3**

Q-5		**Attempt all questions**	**(14)**
	a)	Explain in detail Diode clipping circuits with diagram.	**7**
	b)	Explain in detail modulation index and percentage of modulation.	**7**
Q-6		**Attempt all questions**	**(14)**
	a)	Explain elements of a communication system in detail.	**5**
	b)	Write a short note on DIAC.	**5**
	c)	Explain in detail any two triggering methods of a Thyristors.	**4**
Q-7		**Attempt all questions**	**(14)**
	a)	Explain in detail two transistor analogy of SCR.	**5**
	b)	Explain in detail any two applications of OP-AMP.	**6**
	c)	Give classification of ICs on scale of integration.	**3**
Q-8		**Attempt all questions**	**(14)**
	a)	Explain in detail How Monolithic ICs are made?	**6**
	b)	Explain in detail principle of amplitude modulation.	**5**
	c)	Give advantages of ICs in detail.	**3**