Roll No.

72604

M.Sc. Physics 1st Sem. Examination-December, 2014

Electronic Devices

Paper: IV

Time: 3 hours

Max. Marks: 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note: Attempt five questions in all, selecting one question from each Unit. Q. No. 1 is compulsory.

- 1. (a) How are FETs superior to BJTs?
 - (b) Compare voltage division and current division in circuits.

(d) Why does a zener diode provide voltage	
stabilization?	
UNIT - I	
. (a) Describe various transistor operating	;
modes and configurations.	,
	1
(b) Describe Ebers-Moll model to find out	
equivalent circuit of a BJT.	3
Complete Victorial Party Company	
. (a) Explain the pinch-off condition obtained in	1
an FET with the help of a diagram.	3
The second of the second second second	
(b) Describe MOSFET characteristics in	1
different modes.	3

(2)

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(c) What is the role of negative resistance in

switching action in electronic circuits?

4

4. (a) What are ICs? How are they classified?
Describe various advantages and
disadvantages of ICs over discrete
elements. 8
(b) How is the isolation obtained in various
components during the fabrication of
or are Nothe Molics?
(c) How is an IC amplifier different from a
conventional amplifier?
5. Describe various processes involved in the
fabrication of ICs. Give importance of each
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Thus according to etoreseid quotation by the express Court a menship which is of commercial rounders. In presentably to be confu- to some transaction, because the expression to assertial telesionsh
equipped Describe; ose of the Acr in Section 44. To upply
section "comm(a) Zener diode" must be of commercial nature was essential aspect of relationship to be called "commercial"; it is nur storial that su(b): Photodiode contractual or not
In the above (c) Light Emitting diode
draws i.e., It N(d) Solar cells Trading Co. For the appeal to provide re. Posing Co. with consultant services for or motion of sale
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Another expression as contained in Section 44 to "Cay in force

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7.	(a)	Differentiate between spatial and temporal coherence in LASER 4
	(b)	Describe a semiconductor LASER. 4
	(c)	Describe RAM and ROM. 4
	(d)	What do you mean by Piezo-electric effect? How is it used in electronic circuits?
		UNIT - IV
		What do you mean by UJT? Describe its construction, working and characteristics.

- 9. (a) What do you mean by NR devices? Describe tunnel diode.
 - (b) Compare back diode with a tunnel diode.

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