2005 JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY
II B.TECH I SEMESTER SUPPLYMENTARY EXAMINATIONS
ELECTRONIC DEVICE & CIRCUITS
(COMPUTER SCIENCE ENGINEERING)

MAY 2005

TIME: 3 HOUR
MARK: 80

ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS

MARK [5*16=80]

1. (a) Explain the zener breakdown and avalanche breakdown.

(b) Draw the characteristics of tunnel diode.

2. (a) Draw the input and out characteristics of common emitter configuration and explain.

(b) Given that dc=180 and IC=2.0mA. Find IE and IB.

3. (a) Explain the principle of photodiode and photo transistor.

(b) Draw the characteristics of SCR.

4. (a) Define pinch off voltage.

(b) Discuss briefly MOSFET enhancement and depletion modes.

5. (a) Draw Half wave rectifier circuit using diode.

(b) Derive expressions for ripple factor and regulation for Half wave rectifier with and without filters.

6. (a) Briefly explain thermal runaway.

(b) Draw the voltage divider biasing circuit for FET and explain.

7. (a) Draw H parameter model for common emitter configuration.

(b) Derive expressions for voltage gain, current gain, input impedance and output admittance for CE using H parameter model.

8. Write short notes on the following:

(a) Varactor diode and its characteristics

(b) CRT.