JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008

I B.TECH SUPPLIMENTARY EXAMINATIONS
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
(BIO-TECHNOLOGY)

AUG/SEP-2008

MARK-3 HOUR
MARK-80

ANSWER ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

1. (a) State Ohm's law and Kirchoff's voltage law.

(b) Find the potential difference VAB using Kirchoffs laws.

2. With neat sketch explain the magnetisation characteristics of dc shunt generator. Also explain how to find Rc and Nc.

3. (a) Compare between spring and gravity control.

(b) Explain with neat sketch the air friction damping.

4. (a) Give the energy band description of conductors, semiconductors and insulators.

(b) What do you understand by intrinsic and extrinsic semiconductors?

5. Analyse BJT voltage divider bias configuration.

6. Explain in detail the frequency response of RC coupled amplifier.

7. A Hartley oscillator is designed with L_1 = 2mH, L_2 = 20μH and a variable capacitance. Determine the range of capacitance values is the frequency of oscillation is varied from 2050 KHz to 3050 KHz.

8. (a) Realize the following function using 8:1 multiplexer. f (A, B, C, D) = (0,3, 5, 6, 9, 10, 12, 15).

(b) Implement a full subtractor using NAND gates?