Code No. : **6209**

FACULTY OF ENGINEERING
B.E. 2/4 (CSE) I Semester (Supplementary) Examination, July 2010
BASIC ELECTRONICS

Time : 3 Hours]　　　　　　　　　　　　　　　　　　　　[Max. Marks : 75

*Note : Answer **all** questions from Part **A**. Answer five questions from Part **B**.*

PART – A　　　　　　　　　　25

1. What is diffusion current ?　　　　3

2. What are the doping levels of a zener diode ?　　　　2

3. Differentiate between an FET and a BJT.　　　　3

4. What is Hall effect ?　　　　2

5. How does the gain of an amplifier vary with feedback ?　　　　3

6. Explain Barkhausen criteria.　　　　2

7. Draw the VI characteristics of a DIAC.　　　　3

8. Mention the ideal characteristics of an ideal op amp.　　　　2

9. What is Early Effect ?　　　　3

10. Enlist the various applications of CRO.　　　　2

PART – B　　　　　　　　　　50

11. a) Explain the Energy band diagram and Fermi level of an intrinsic and extrinsic semiconductor.

　　b) With neat sketches, explain the operation of a rectifier with capacitor filter.

12. a) Explain the construction and operation of a JFET. Derive the relationship between μ, gm and r_d.

　　b) Draw the circuit of the common emitter and explain its n-parameter model.

(This paper contains 2 pages)　　　　　1　　　　　**P.T.O.**

13. a) Explain the operation of series and shunt regulators.

   b) Explain the operation of a simple inverter circuit.

14. a) What are the advantages of negative feedback ?

   b) Compare between oscillator types.

15. a) Draw the functional block diagram of an op-Amp and explain the function of each block.

   b) What are the basic logic gates ? Explain with truth tables.

16. a) Explain the working of a UJT. What is intrinsic stand off ratio ?

   b) Draw a neat labelled diagram of a CRO.

17. Write notes on :

   a) TRIAC

   b) Differentiator.

700

2