

**PC-1256/MH**

**CS-2057**  
**ELECTRONICS-II**  
Paper-B  
(Semester-VI)

**Time Allowed : 3 Hours]**

**[Maximum Marks : 26**

**Note :-** Attempt two questions each from Sections A and B carrying 5 marks each, and any five from Section C consisting of 7 short answer type questions carrying 2 marks each.

**SECTION-A**

- I. What is UJT ? Draw the equivalent circuit of a UJT and discuss its working from the circuit. Explain the use of UJT as relaxation oscillator. 5
- II. Explain the construction and working of an SCR. Discuss its characteristics. Give the uses of SCR. 5
- III. (a) What do you understand by DiAC. Explain construction and working of a DiAC. Discuss its characteristics. 3

- (b) What is a thermistor ? What are its types ? Discuss its resistance-temperature characteristics. 2
- IV. (a) Discuss the construction, working and characteristics of IMPATT. 3.5
- (b) What is PIN diode ? Discuss its working under zero biased, forward biased and reverse biased condition, 1.5

### **SECTION-B**

- V. Define stability factor. Discuss the fixed biased circuit and derive expression for its stability factor. Give advantages of this circuit. 3
- VI. Discuss the working of C.E. transistor amplifier with help of a labelled circuit diagram. Derive the expression for current gain, voltage gain and input resistance with help of a equivalent circuit in term of h-parameter. 5
- VII. What do you understand by feedback in amplifier ? Describe working and analysis of an emitter follower with help of labelled circuit diagram. 5
- VIII. (a) In FET amplifier for a constant gate-to-source voltage, a change in drain-to-source voltage of 5V produces a change in drain current of  $50\mu\text{A}$ . Find the ac drain resistance. 3

- (b) What is Tunnelling effect. Discuss the characteristics of Tunnel diode.

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### **SECTION-C**

IX. Attempt any five :

- (a) Give the meaning of negative resistance. In which type of diode is it shown ?
- (b) What do you understand by a load line ?
- (c) Give three difference between TRIAC and SCR.
- (d) What do you understand by Gunn effect ?
- (e) Write h-parameter of a CE transistor, amplifier.
- (f) What are the parameter of FET. Give the relation between them.
- (g) What do you understand by Q-point in output characteristics of a transistor amplifier.

5x2=10