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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(EIE) (2011 & Onwrads) (Sem.-3)**  
**ELECTRONICS DEVICES AND ANALOG ICs**

Subject Code : EI-201

M.Code : 58007

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****I. Write briefly :**

- a. What is the use of DC load line?
- b. Draw the VI characteristics of the JFET?
- c. Write input resistance equation of hybrid equivalent CC configuration.
- d. What do you understand by heat sink?
- e. What is use of multistage amplifiers? List at least two advantage of it.
- f. Distinguish between couplings and bypass capacitor.
- g. Define the role of XY plate of CRO.
- h. What is "Dark current" of a photodiode?
- i. Explain the LC filter used in rectifiers.
- j. What is beam shaping?



### SECTION-B

2. Draw the hybrid model of a low frequency small signal voltage amplifier.
3. Discuss the working of symmetric push pull amplifier with suitable diagram.
4. What is JFET? Distinguish between FET and MOSFET.
5. Explain the operation of N-channel MOSFET in depletion mode using suitable diagram.
6. What is the basic principle of working of LCD's? How these differ from LED's.

### SECTION-C

7. In the circuit given below, calculate  $Z_i$ ,  $Z_o$ ,  $A_v$ , and  $A_i$ . Note that this CE stage uses a single bias resistor  $R_{B1}$  which is the value  $R_{BB}$ .

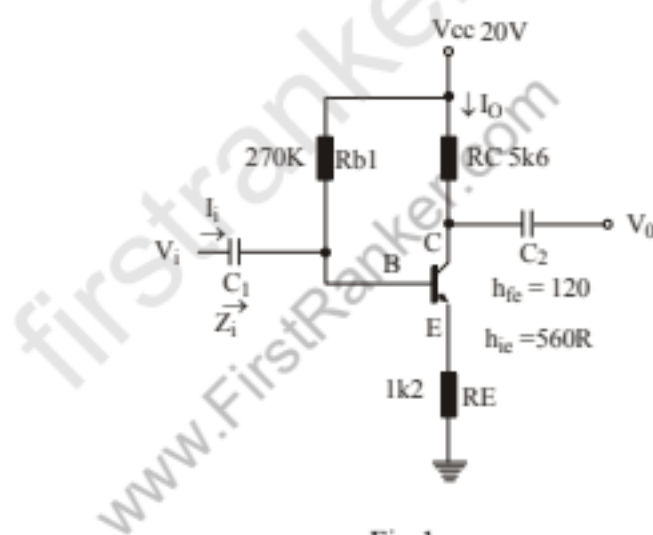


Fig.1

8. What is the use of a rectifier? Compare and contrast half and full wave rectifiers.
9. Write short notes on :
  - a. CRO
  - b. Transistor as switch

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**