Mansoura university
Dept. of Electrical and power Mach.
TOTAL MARK. 100
1st year الامتحان ورقتان

5-1-2013
Time: 3 hours
Course title: Solid – state Electronics

ANSWER ALL QUESTIONS

Question One: (30 MARKS)

1)Determine and sketch Vo for the circuits shown in Fig.1

Question Two: (10 MARKS)

2- Determine the range of Vi that will maintain the Zener diode of Fig.2 in the ON state.

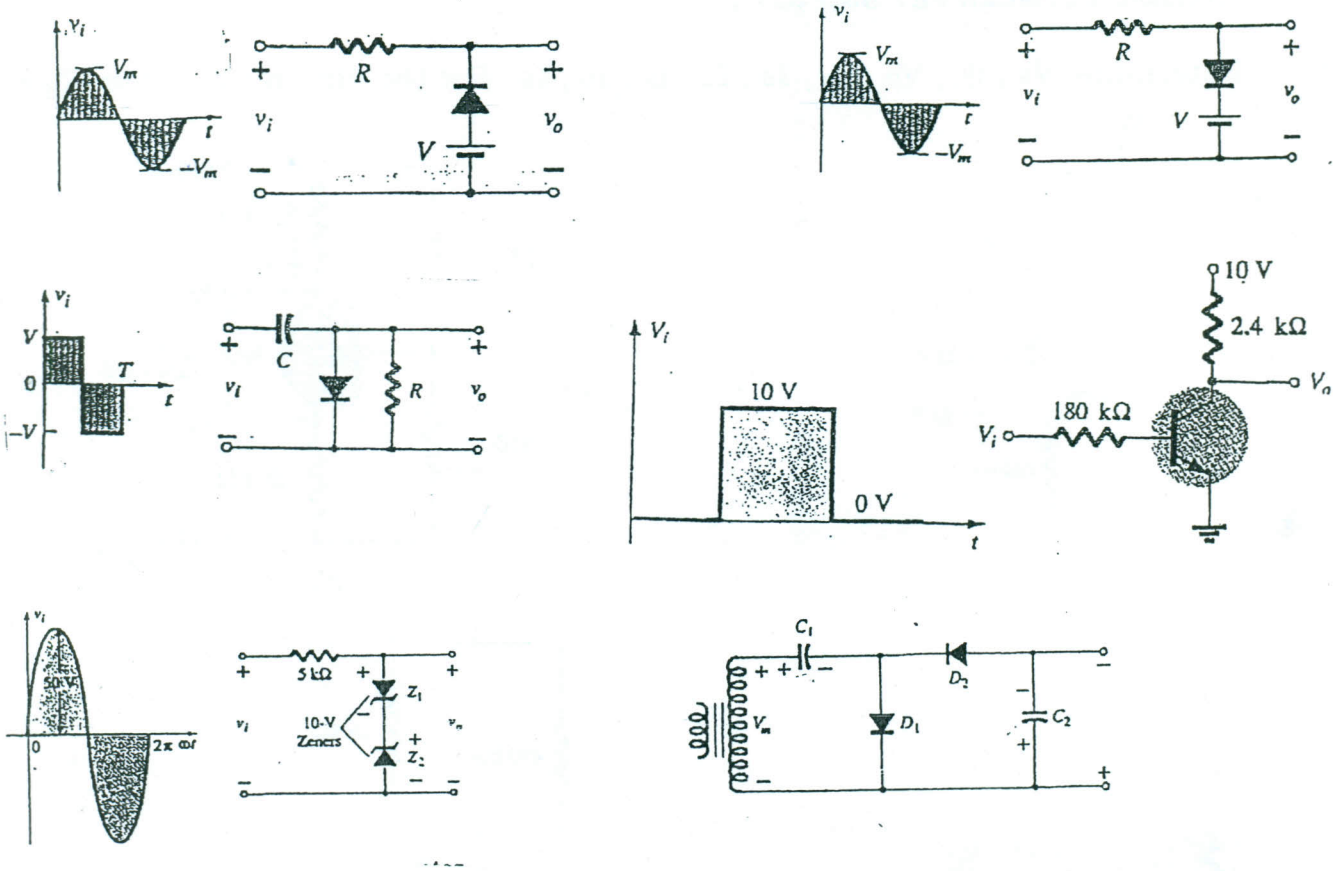

Fig.1

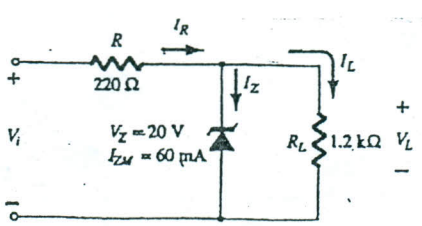

Fig.2

Question Three: (10 MARKS)

3-a) Explain the Transistor amplification action

3-b) Draw and Explain the output characteristics of BJT common Emitter configuration.

Question Four: (30 MARKS)

4-a) Design an Emitter stabilized circuit (determine β , R_B, and V_{CC}) for the circuit shown in Fig.3

4-b) Determine I_B , I_C , V_E , V_{CE} for the circuit shown in Fig.4.

4-C) Determine I_E , V_C , V_{CE} for the circuit shown in Fig.5.

Question Five: (20 MARKS)

5-a) Compare between FET and BJT .

5-b) Determine V_B , V_C , V_D , V_S , I_B , I_C , I_E , I_D , I_S For the circuit shown in Fig.6.

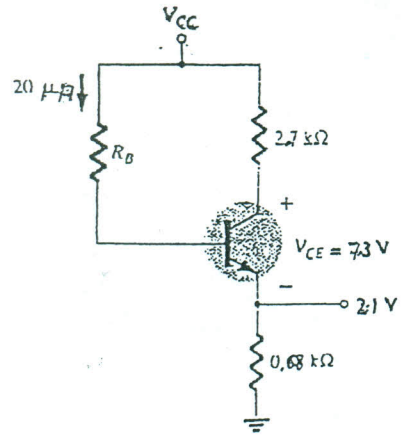

Fig.3

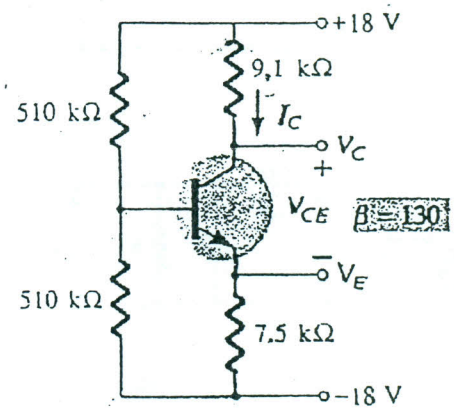

Fig.4

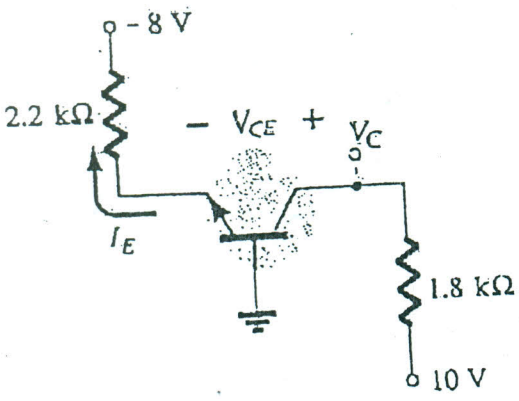

Fig.5

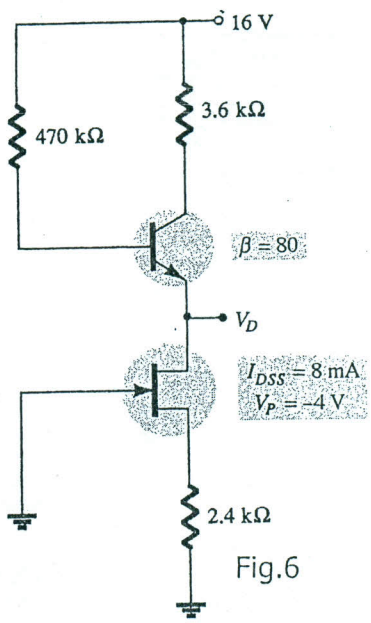

Fig.6

Good Luck