Mansoura University
Faculty of Engineering
BME and MTE Prog.
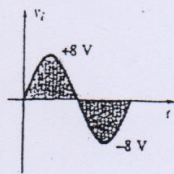Total marks 50

10-1-2015
Time: 2 H.
Course title:
Electronics1

ANSWER ALL QUESTIONS

Question One: (10 MARKS)
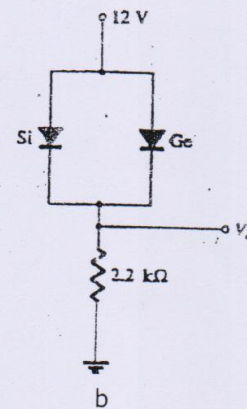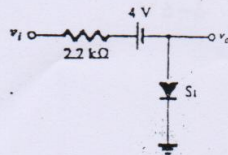
1-a) What are the advantages of BJT and the advantages of FET?

b) Write the equations whose control the operation of the BJT and the FET.

c) What are the meaning of Bipolar and unipolar device ?
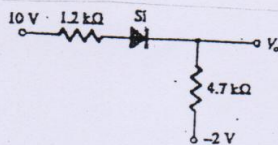
Question Two: (12 MARKS)
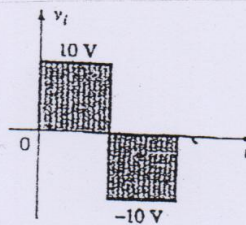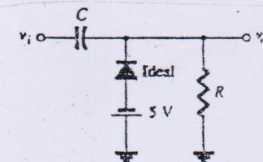
2-Determine Vo for the following circuits:

a

b

C

d

Question Three: (8 MARKS)

3- Explain the structure and operation of n-channel JFET

Question Four: (10 MARKS)

4- For the circuit shown in Fig.1, determine I_B , I_C , I_E , V_B , V_C , V_E , V_{CB} , V_{CE}.

Question Five: (10 MARKS)

5- Design a fixed bias circuit with Vcc=20v , β =100 ,Ic=3mA. , V$_{CE}$=5v.

6 V

330 kΩ

β=120

I_E ⊸ V$_E$

1.2 kΩ

Fig.1   ⊸ - 6 V

Prof. Ahmed Samra