

Answer the following questions

- Q1) Determine V_o for the circuits shown in Fig.1
- Q2)(a) Why we must use Zener diode in the power supply circuits?
 (b) Determine the range of values of V_i that will maintain the Zener diode of Fig.2 in the " ON" state.
- Q3)(a) Why the voltage divider bias is the best one for the BJT DC bias ?
 (b) Make the DC analysis for the circuit shown in Fig. 3
- Q4) Design an emitter stabilization circuit for a BJT at $I_{CQ} = 0.5 I_{Csat.}$,
 $V_{CEQ} = 0.5 V_{CC}$, if $V_{CC} = 20$ v , $I_{Csat} = 10$ mA , $\beta = 100$, and $R_c = 4 R_E$.
- Q5)(a) What are the advantages of FET and BJT?
 (b) Explain the n-channel enhancement MOSFET.
- Q6) Determine I_{DQ} , V_{GSQ} , V_D , V_S , V_{DS} , V_{DG} for the circuit shown in Fig.4.

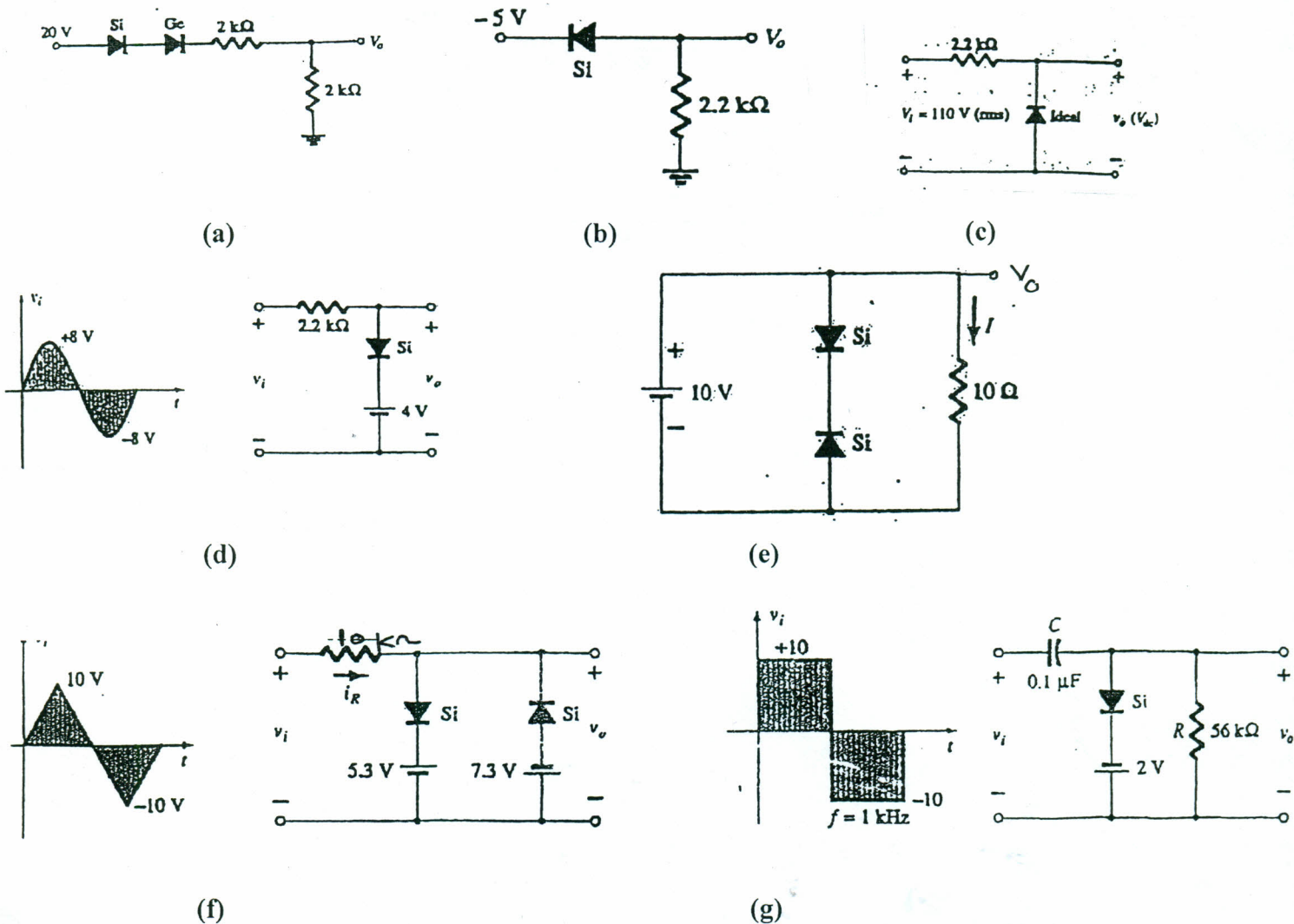


Fig.1

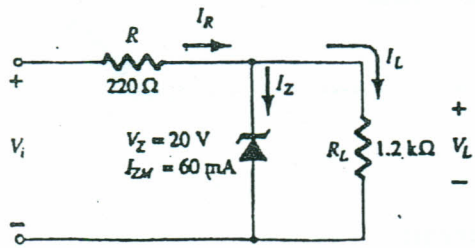


Fig.2

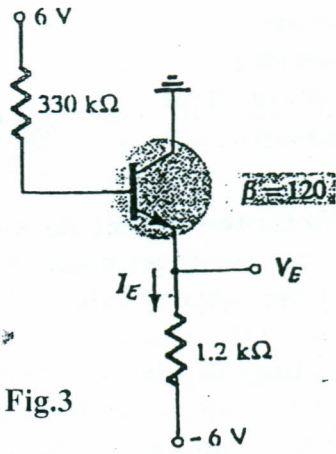


Fig.3

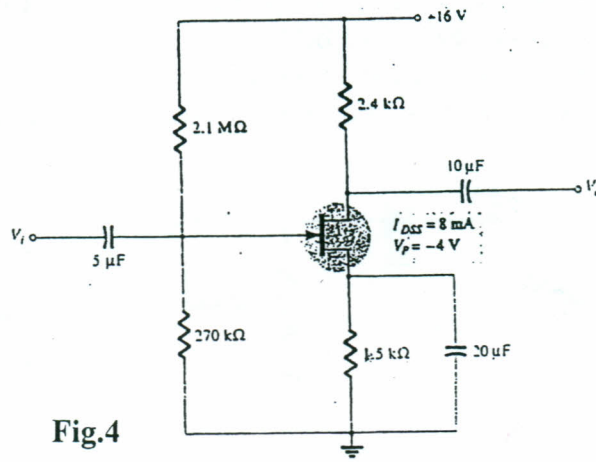


Fig.4