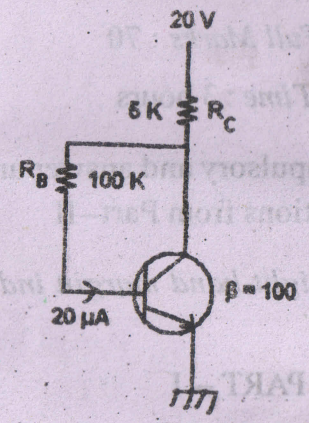
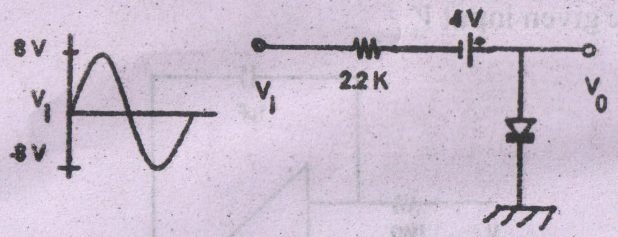
(*b*) Determine the collector to emitter voltage (V_{CE}) of the following circuit



(*c*) Determine V_0 for a sinusoidal input V_i of amplitude 8 Volts



(*d*) Simplify the following Boolean expression

$$A(A+B)(A+C)(A+B+C)$$

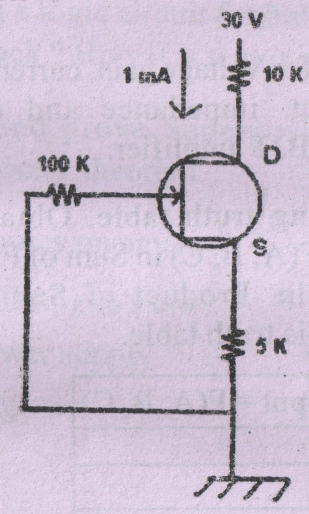
(*e*) Realize all others gates using NOR gate.

(*f*) Determine the decimal equivalent of

(*i*) $(100101\cdot01101)_2$

(*ii*) $(25\cdot3)_8$

(*g*) Determine V_{DS} from the following JFET circuit



(*h*) Can you construct an RC oscillator with a two stage of RC network ? Justify.

(*i*) Design the circuit of a scale of 4 counter using JK Flip-flop.