

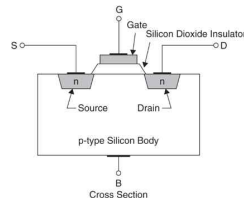
전기전자공학개론 숙제 #5 정답

11.2 a) FET : field effect transistor, controls current by voltage

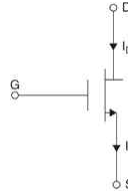
BJT : bipolar junction transistor, controls current by voltage

b) control current flow as a result of an input signal

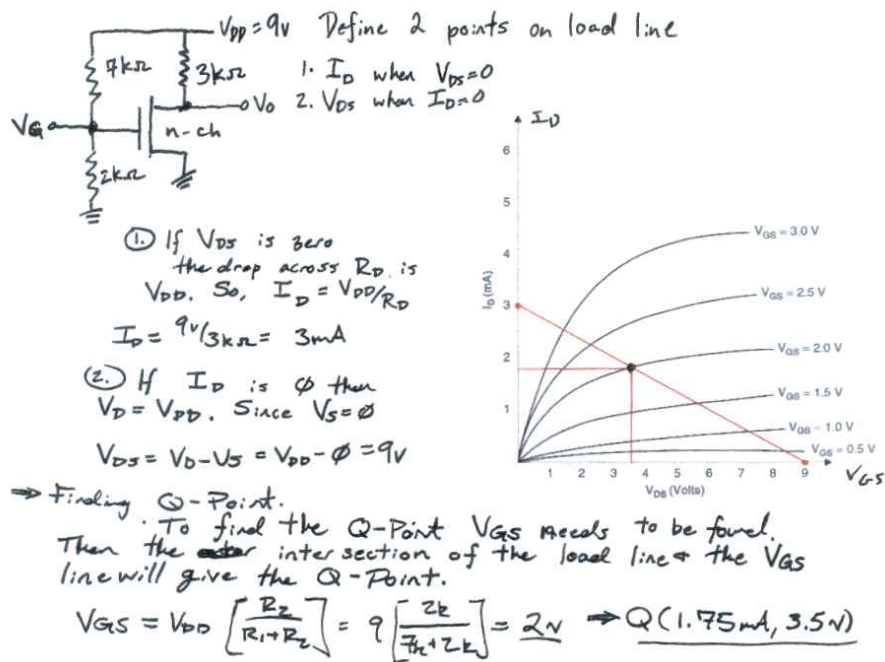
11.4 a)



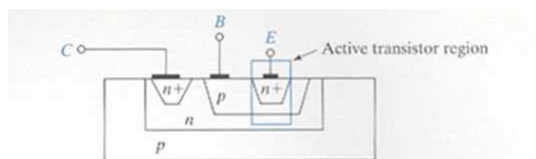
b)



11.7



11.28



11.38

a.) Active Mode
 $V_{BE} = 0.7V$ $V_C = 5V$ Collector-Base junction reverse biased by 4.3V.
 emitter-base junction forward biased

b) $V_{RB} = V_{BB} - V_B = 2 - 0.7 = 1.3V$
 $R_B = 50k\Omega$

$I_B = \frac{2 - 0.7}{50k\Omega} = 26\mu A$
 $I_C = \beta I_B = (100)(26\mu A) = 2.6mA$
 $I_E = (1 + \beta) I_B = (101)(26\mu A) = 2.626mA$