Q3 – 1

mou Freq = 50 Hz

time poriodt = 1/f = 1/50 = 0.02 scc = 20 m sec

P3-1

a = 24 Hz

mou $\frac{1}{24}$

= 0.0417 s

= 41.7×10^{-3} s

= 41.7 ms

b = 8 MHz

mou (8 MHz) = 1 (8000000^{3} Hz) = 125×10^{-9} s = 125 nS

C = 140 MHz

mou (140 KHz) = 1 (140000 Hz) = 7.14×10^{-6} s = 7.14 NS

P# 3-2

a = 55

mou Answcv f = 1/T = 1 (55) = 0.2 Hz

b = 12 MS

mou (12 MS) = 1 (0.000012 s) = 83.3×10^{3} Hz = 83.3 KHz

C = 220 ns

mou (220 ns) = 1 (0.000000220 s) = 4.55×10^{6} Hz = 4.55 MHZ

P3-3

a. Answer: 90 degrees ($\pi/2$ radians)

b. Answer: 0 degrees

c. 90 degrees ($\pi/2$ radians)

P3-7

a. A signal in which 1 bit lasts 0.001 s

bit rate = 1 / (bit duration) = 1/(0.001 s) = 1000 bps = 1 kbps

b. A signal in which 1 bit lasts 2 ms

bit rate = 1 (2 ms) = 1/(0.002 s) = 500 bps

c. A signal in which 10 bits last 20 μs

(20 μs) = 500000 bps = 500 kbps

P 3-12

a. How long does it take to send out 10 bits

10/1000 = 0.01 sec

b How long does it take to send out a charactor (8 bits

8/2000 = 0.004 sec

C. How long does it take to send a file of 100000 characters

8 x 100000 b / 2000 = 400 sec