Problem 7.16

(a) The transmission bandwidth of Sunde's BFSK is greater than that of the corresponding BPSK. This means that for the problem at hand, it will be greater than 1 MHz. In particular, examining the spectrum shown in Fig. 7.12, we see that the main lobe occupies a bandwidth of 3 Hz for the bit duration $T_b = 1$s. Therefore, scaling this result for $T_b = 1\mu$s, we may say that the corresponding transmission bandwidth is

$B_T = 3$ MHz

which is 50% greater than that of the corresponding BPSK.

(b)

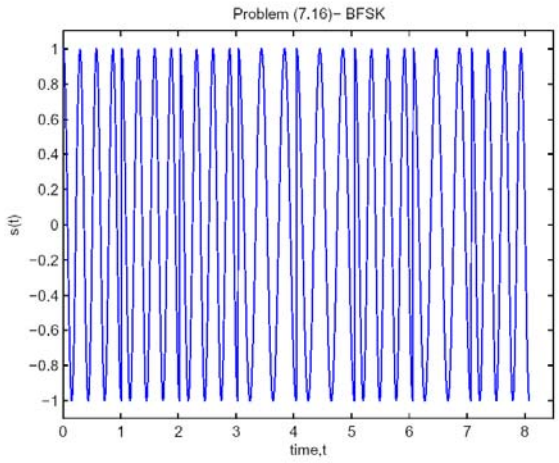

Figure 1

Notes:
In plotting the BFSK waveform in Fig. 1, we have followed the same notes outlined in the solution to Problem 7.14.