CSE320: Data Communications

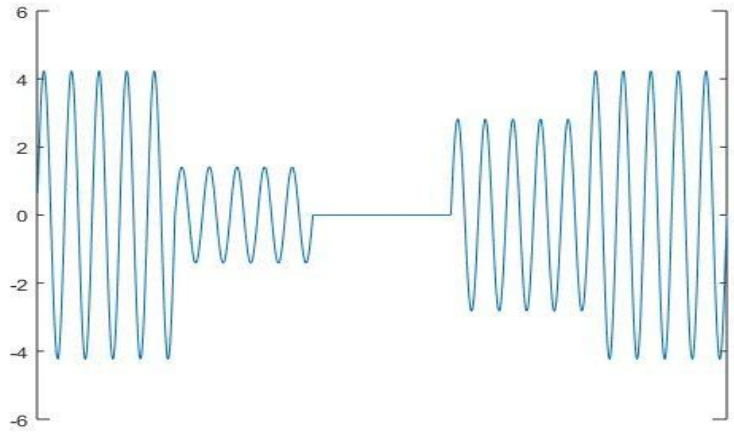
Quiz-1 (Set – A)

Total Marks: 20

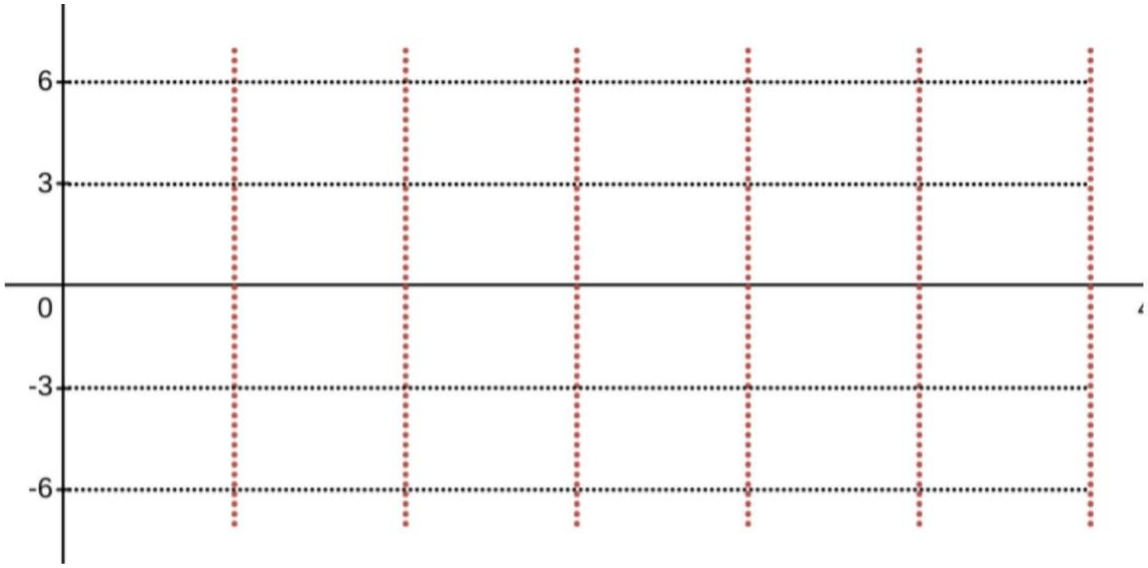
Name: **ID:** **Sec:**

1. For the following Multi-level ASK, find the bit stream form the signal below: [4]

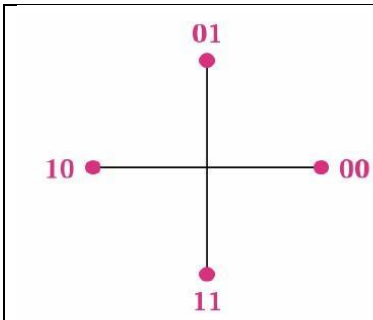
Bit Pattern	Amplitude
00	1V
01	3V
10	4V
11	0V



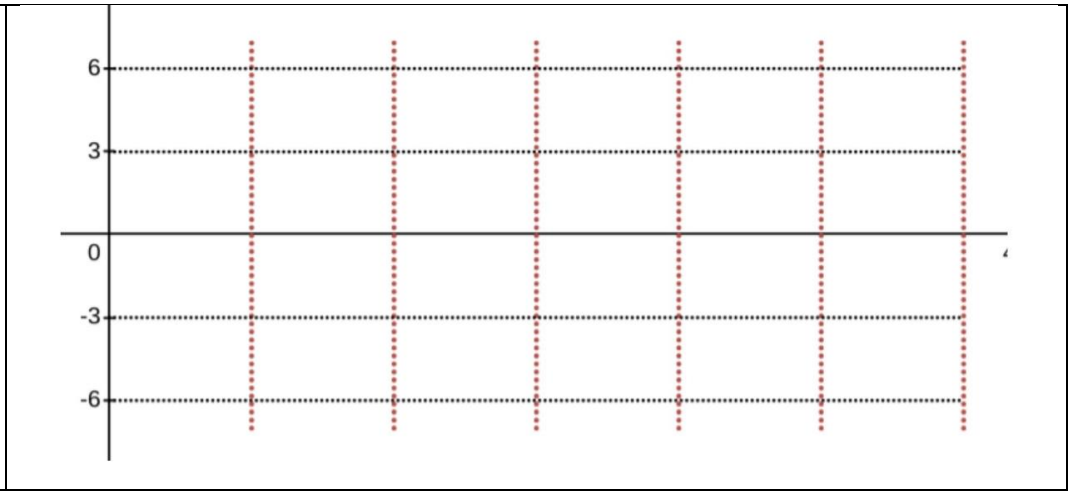
2. Draw the analog signal for the digital bit stream 101100011000 using Multi-level FSK where 2 bits at a time get transmitted. [Amplitude of the Carrier Signal = 3V and phase = 0 rad, Number of Cycles of the signal element for different Bit Patterns: 00: 4, 01: 3, 10: 1, 11: 2] [4]



3. Draw the analog signal for the bit stream 0011101101 using the constellation diagram given below [frequency = 2 for each signal element and amplitude = 6V] [4]



Constellation diagram



4. If the value of Δf = 3, what is the difference between the carrier signals in FSK? [4]

5. Draw the constellation diagram for the following case. Find the peak amplitude value and define the type of the modulation (ASK/ FSK/ PSK). The numbers in parentheses define the values of I (In-phase Carrier) and Q (Quadrature Carrier) respectively. [4]

- Four points at (5, 5), (−5, 5), (−5, −5), and (5, −5)