CSE320

Quiz - 04

Set - A

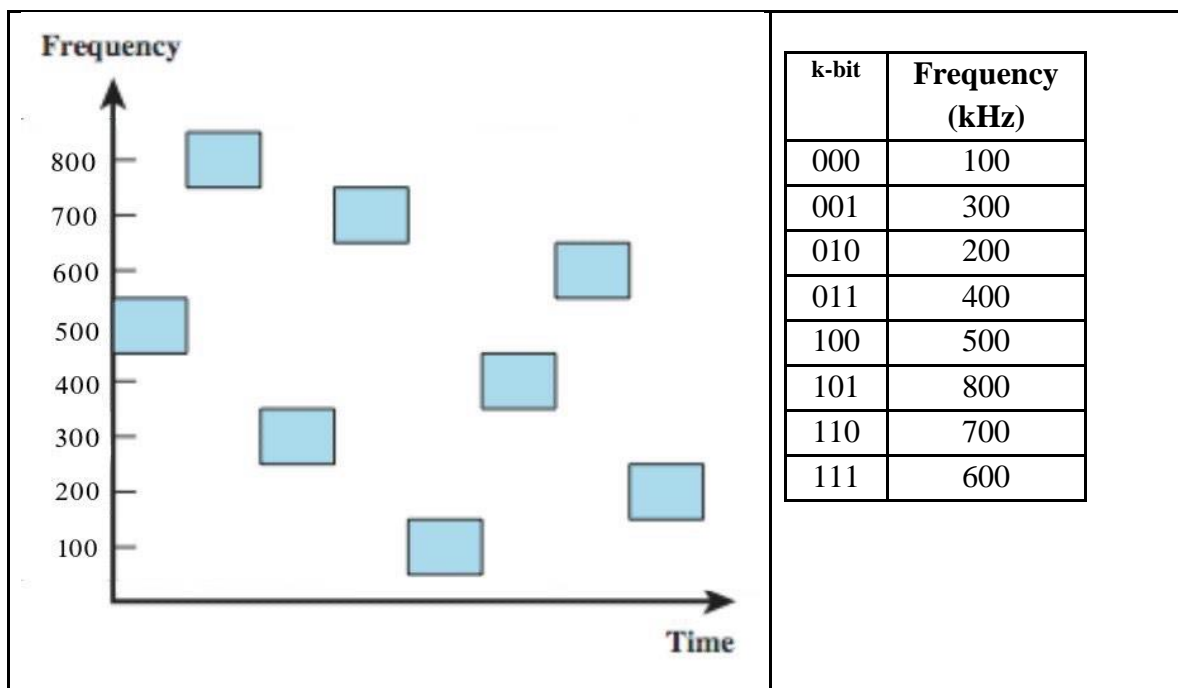**Name:**   **ID:**   **Section:**

1. Suppose we have 10 sources, each creating 400 8-bit characters per second. Since only some of these sources are active at any moment, we use **statistical TDM** to combine these sources using **character interleaving**. Each frame carries 8 slots at a time, but we need to add 4-bit addresses to each slot.
   [10]

   Drawing one output frame, answer the following questions:

   I.   What is the size of an output frame in bits?

   II.   What is the output frame rate?

   III.   What is the duration of an output frame?

   IV.   What is the output data rate?

   V.   What is the output bit duration?

2. Find the pseudorandom generator's **k-bit pattern** output to match the given FHSS cycle and the Frequency hopping table.   [10]

k-bit	Frequency (kHz)
000	100
001	300
010	200
011	400
100	500
101	800
110	700
111	600

3. Assume the following cases for a sender and a receiver device that use CRC for error control: [10]

   ▪ Dataword: 100110

   ▪ Generator: 1011

   Show the sent **codeword** using **CRC polynomial division**.