	Assignment No. 02 Semester: Spring 2022 CS601: Data Communication	Total Marks: 20 Due Date: **27th June 2021**

Instructions:

Please read the following instructions carefully before submitting assignment:

You need to use MS word document to prepare and submit the assignment on VU-LMS.

It should be clear that your assignment will **not** get any credit if:

- The assignment is submitted after due date.
- The assignment is not in the required format (doc or docx)
- The submitted assignment does not open or file is corrupt.
- Assignment is copied (partial or full) from any source (websites, forums, students, etc)

Objectives:

The objective of this assignment is to enhance the learning capabilities of the students about:

- Scrambling
- Mode of data transmission

Assignment

Question No. 1   **[Marks 4 x 2 = 8]**

B8ZS and HDB3 are the two types of scrambling techniques used in digital to digital conversion.
You are required to answer in the given table by keeping in view the question statements.

Question Statement	Answer
Which new pattern is formed after B8ZS scrambling?	000VB0VB
If the number of non-zero pulses after the last substitution is EVEN then what will be scrambled pattern?	B00V
If the number of non-zero pulses after the last substitution is ODD then what will be the scrambled pattern?	000V
In HDB3, which pattern is replaced?	000V or B00V

Question No. 2   **[Marks 6 x 2 = 12]**

We use different types of transmission for different purposes in data communication. You have to write down the following types of transmission used for the given description in the table.

1. Parallel transmission
2. Asynchronous transmission
3. Synchronous transmission
4. Isochronous transmission

Description	Type of transmission
Frames are of equal size.	Synchronous transmission
To send real time audio and video, better to use.	Isochronous transmission
Several bits travel together.	Parallel transmission
No gaps in frames and start and stop bits are not involved.	Synchronous transmission
Start and stop bit separate each data unit.	Asynchronous transmission
More bits are sent then actual data.	Asynchronous transmission