Final Exam Questions

Final Exam due Jan 6, 2022 15:45 +06 Past due

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Announcement

REMEMBER TO Click on SUBMIT Button.

There will be **three** sets of questions. Total time: **1 hr 30 min**

[VERY VERY IMPORTANT]

You will not be writing the answers in the BuX answer block. You will get the questions in BuX then write the answers in a paper, take a picture/PDF of your answers then upload the file in BuX only then click the submit button.

PDF must be the image of handwritten answers. **You must write your ID, section, and Name at the top of the PDF**. Only one PDF is allowed. Multiple PDF files are not allowed. **[PDF naming format: Name_StudentID_CSE320Final].**

[Remember] If you have any problem regarding submission, talk to your faculty in discord during exam time. After the exam time, nothing will be accepted.

Unacceptable:

-> Plagiarized answers

-> Email submissions

-> Google Drive Link sharing

-> Saved answers

-> Screenshots as means to prove that you had a problem during the exam.

Acceptable:

-> Late submission with penalty is allowed. In late submission, upload your PDF in this google form **https://forms.gle/7UAnzmJVggqY8HQF7**

-> We will check your exam starting and ending time in BuX. The penalty for each 5 min late will be 1 mark. Google Form open time: 3.31 pm to 4.00 pm.

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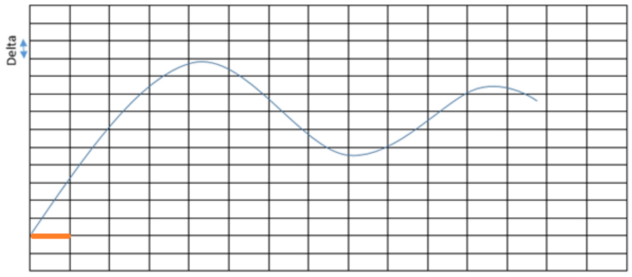
1. a) Identify the types of transmission mediums used for the following examples: - [Your answer should contain the exact type of the media (e.g. twisted pair, coaxial, radio wave etc.), NOT guided and unguided media only.] [4 marks]

- Long-haul network
- 4G mobile networks
- SONET network
- Cordless Phones

1. b) Find the digital data from the given analog signal using Delta Modulation (DM) technique. [6 marks]



2. (a) Suppose, a synchronous TDM multiplexer combines 5 sources and sends only three characters from each source at a time. [Note that the characters are sent in the same order that they are typed. The third source is silent. For indicating an empty slot in the frame, write "x"] Write down the necessary frames with the appropriate contents using the Interleaving concept of TDM. [4 marks]

Source 1: MAXIMIZER

Source 2: JACQUARDS

Source 3:

Source 4: KNOCKBACK

Source 5:BLACKJACK

2. (b) We need to use synchronous TDM and combine 10 digital sources, each of 10 Mbps. Each output slot carries 2 characters from each digital source, but one extra bit is added to each frame for synchronization. Answer the following questions: [6 marks]

- What is the size of an output frame in bits?
- What is the output frame rate?
- What is the duration of an output frame?
- What is the output data rate?
- What is the input bit duration?
- What is the input slot duration?

3. (a) How does a single-bit error differ from a burst error? If we want to be able to detect two-bit errors, what should be the minimum Hamming distance? [4 marks]

3. (b) Given the data word 111011101 and the divisor 1001.

Show the generation of the codeword at the sender side (using binary division).

Suppose the second bit from the left is inverted during transmission. How will receiver detect this error? Show the calculation.[6 marks]

ANSWER OF ALL THE QUESTIONS

Status

You have completed this assignment. Your final grade will be available when the assessments of your response are complete.

COMPLETE

1 Your Response due Jan 6, 2022 15:45 BDT (in 0 minutes)

NOT AVAILABLE

2 Staff Grade

Waiting for a Staff Grade

Check back later to see if a course staff member has assessed your response. You will receive your grade after the assessment is complete.

Your Grade: Waiting for Assessments

Status

The grade for this problem is determined by your Staff Grade.

You have completed your steps in the assignment, but some assessments still need to be done on your response. When the assessments of your response are complete, you will see feedback from everyone who assessed your response, and you will receive your final grade.

Previous Next