RANGAMATI SCIENCE AND TECHNOLOGY UNIVERSITY

Department of Computer Science and Engineering

3rd Year 2nd Semester 1st Midterm Examination - 2022

Session: 2019-2020

Course: Data Communication; Code: CSE 3201

Duration: 1 Hour;   Full Marks: 15

[Answer all questions]

1.	Describe the key elements and modes of data communication.	03
2.	Discuss the OSI model and explain the function of its layers.	03
3.	Illustrate various communication media.	03
4.	Explain a sine wave and its fundamental properties.	03
5.	Briefly discuss different network topologies.	03

Rangamati Science and Technology University
Department of Computer Science and Engineering
3rd Year 2nd Semester, Mid Term-1 B.Sc. Examination-2022

Course Title: Software Engineering   **Course Code: CSE-3203**

Time: 1 Hour   Marks: **15**

[Answer the following questions. Figures in the right-hand margin indicate full marks.]

1) a) What do you mean by Software Engineering? Describe the Characteristics of Good   3
   software..

   b) Write the ethics of software engineering.   2

2) What is software life cycle model? Explain any 2types of life cycle model with their pros   5
   & cons.

3) What is Agility and Agile Process model? Derive the phases of Agile Process model in   5
   details.

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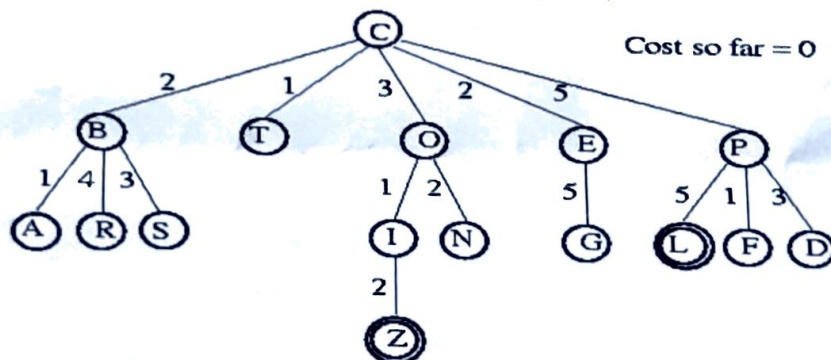**Course Title: Artificial Intelligence**   **Course Code: CSE-3205**

Time: 1 Hour

Marks: 15

[Answer the following questions. Figures in the right-hand margin indicate full marks.]

1. (a) "The study of the computations that make it possible to perceive, reason, and act". Describe the definition of artificial intelligence.   **2**

    (b) What do you mean by PEAS? List out PEAS description for followings-   **3**
         a) Taxi driver
         b) Interactive English Tutor
         c) Backgammon

2. (a) Differentiate between best-first search and hill climbing search strategies with example.   **3**
         Uniform-cost

    (b) The following figure shows a partially expanded search tree. Each arc is labeled with the cost of the corresponding operator, and the nodes are labeled by alphabets (A-Z).   **7**

For each of the following search strategies
    i)   Depth-First Search
    ii)   Uniform-Cost Search
    iii) Iterative Search

Briefly describe the strategy and show which node (in the figure above) will be expanded next in each case, when starting from node C. Conclude your opinion about the performance of these search strategies.

Rangamati Science and Technology University
Department of Computer Science and Engineering
3rd Year 2nd Semester B.Sc. (Engg.) MidTerm-1 Exam-2022
Course Code: CSE-3207; Session: 2019-2020
Course Title: System Analysis and Design

Time: 1 Hour   Marks: 15

1. An analyst was asked by a bank president to look into installing online terminals for all tellers. The bank **15** has 15 tellers in the lobby and 9 tellers in the drive-in. The teller department reports to operations. The bank is organized with the following departments:

    a) Operations department, which includes bookkeeping, tellers, check processing, microfilm, customer service, and accounting. This department has 58 employees and 4 officers.
    b) Commercial and installment loan department, which handles auto loans, home improvement loans, secured loans, and commercial loans for small businesses. The department has eight employees and three officers.
    c) Audit department, which verifies the entire bank's operations, audits the books, and investigates cash shortages or overages.
    d) Safe deposit department, which is in charge of 6,000 safe deposit boxes housed in a vault off the lobby. Three employees handle customer service and billing.
    e) Personnel department, which performs services such as health insurance administration, recruitment, testing, training, and human resources planning. The department is run by a director and one assistant.

    The present teller system has electronic terminals that use paper tape to capture deposits, withdrawals, and other transactions. At the end of the day, the tape goes to data processing, where the information is entered on tape for final processing. If a teller needs an account
    Balance, she dials bookkeeping, which looks up the balance in a computer-generated report. The teller then writes the balance on a slip and hands it to the customer. An online teller terminal performs the same function in a matter of seconds.

    Now,
    I.   If you were the analyst, what detailed plan would you lay out to represent the system life cycle for a possible installation? Explain each step-in detail.
    II. In this particular case, where would you start the cycle? What step do you consider most crucial? Explain.
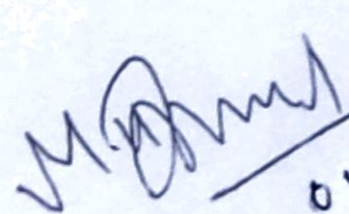
Time: 1 hour   Full Marks: 15;

(Answer any 3 (Three) of the following questions.

1. Discuss about the various ancient Janapadas and their present location.   5
2. (a) Why Shamuddin glyas shah is important in Bangal history?   2.5
   (b) Narrate briefly about the Judicial system of the Bengal province under Mughal rule.   2.5
3. Who introduced dual government system of administration in Bengal and what are the characteristics &
   impact of it?   5
4. Write short note on the following   2.5*2=5
   a.Palassy war b.Permanent Settlement system.

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