RANGAMATI SCIENCE AND TECHNOLOGY UNIVERSITY

Department of Computer Science and Engineering

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

Session: 2019-2020

Course: Data Communication; Code: CSE 3201

Duration: 1 Hour;

Full Marks: 15

[Answer all questions]

1. Explain the working principles of **Amplitude Shift Keying (ASK)**, **Frequency Shift Keying (FSK)** with appropriate figure(s). 06

2. Describe the process of converting an analog signal into a digital signal, highlighting the roles of **sampling, quantizing,** and **encoding**. 06

3. Draw web-form for transmitting binary bits 11010110 for the following line coding: 03

    a) Polar (NRZ-L),
    b) Polar (NRZ-I),
    c) Polar (RZ),
    d) Bipolar (NRZ),
    e) Bipolar (RZ),
    f) Manchester.

Rangamati Science and Technology University

Department of Computer Science and Engineering

3rd Year 2nd Semester, Mid Term-2 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) What are the principal activities for S/W quality management? Describe them briefly.   05

2) What is documentation standard? Classify it. Describe the process with diagram.   05

3) How process quality can be responsible for quality of products? Describe with a diagram.   03

4) Write a short note on quality control.   02

Rangamati Science and Technology University
Department of Computer Science and Engineering
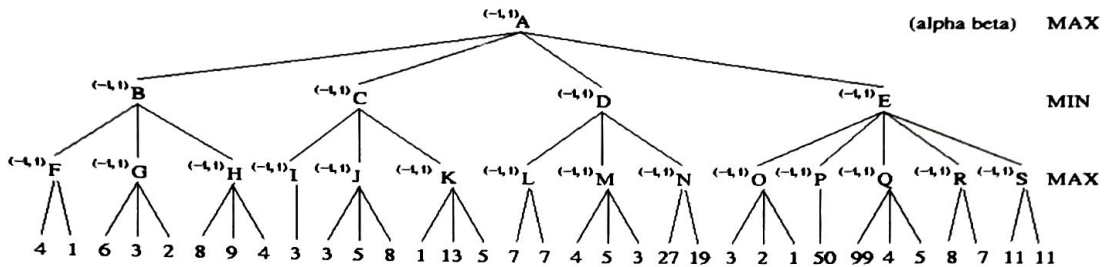B.Sc. in Engineering 3rd Year 2nd Semester Exam- 2022
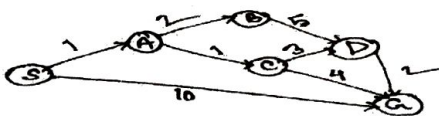**Course Title**: Artificial Intelligence, **Course Code**: CSE-3205

Time: 1 Hours

Full Marks: 15

1) Write the differences between beta search and hill climbing search. 03

2) What the purpose of using AI theme in game play? Define pruning. 08
Explain the given expanded tree with alpha-beta pruning.

3) The following figure shows a partially expanded search tree. Each arc is labeled with the cost of the 04
corresponding operator, and the nodes are labeled by alphabets (S-G).

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

Time: 1 Hour   Marks: 15

NB: 1. **Answer the following question.**
     2. Figures in the right margin indicate marks.

1. A Virginia-based mail-order house specializes in microcomputers and supplies for   **10**

various microcomputer make. It offers discounts based on the number of units ordered. When an order is received, an invoice is generated that includes the quantity, unit cost, discount, and shipping, and handling charges. The invoice is decomposed into the following hierarchy:

Generate Invoice -> Computer invoice total -> Extend line-item

                                           -> Compute discount

                                           -> Compute shipping/handling -> Compute regular mail

                                                                        -> Compute special delivery

Invoice-Total is computed on each line-item. All line-item totals are then added to get invoice total. A line-item is extended by multiplying quantity by unit cost. The product is the line-item total.

Discount is computed as follows:

If Invoice-Total is $3,000 or over, discount is 20 percent.

If Invoice-Total is between $2,000 and $2,999, discount is 10 percent.

If Invoice-Total is between $1,000 and $1,999, discount is 5 percent.

If Invoice-Total is under $1,000, no discount allowed.

Shipping and handling charges depend on whether the computer is to go by UPS or air freight. If the order specifies UPS, then compute as follows:

If weight is under 35 pounds, shipping handling rate is $30.

If weight is 35 to 55 pounds, shipping handling rate is $45.

If weight is over 55 pounds, multiply excess (over 55) by $2 and add $45 to get shipping handling rate.

If the order specifies airfreight, then multiply- each pound of weight by $1.85 to get rate.

Now, answer the following question:

i. Represent the information in structured English.

1

2. An international airline initiated a frequent traveler program designed to encourage passengers to fly regularly and earn awards based on miles flown. The airline policy is specified as follows:

Passengers who fly more than 100,000 miles per calendar year and, in addition, pay cash for tickets or have been flying with the airline regularly for more than five years are to receive a free round-trip ticket around the world. Passengers who fly less than 100,000 miles per calendar year and have been flying the airline regularly for more than five years also get a free round-trip ticket around the world.

Now, develop a decision table for passengers' free ticket.

Rangamati Science and Technology University
Department of Computer Science and Engineering
3rd Year 2nd Semester   Mid trem exam-2
Course tittle --Bangladesh studies.
Session : 2019-2020,   Code- Gen- 3210

Time- 1 Hour

Marks: 15

Ans any three (3) of the following Questions

1. What are the provisions of India Government Act 1858 ? Discuss shortly.   05

2. Why Bengal partition 1905 has been annulled ?   05

3. Define constitution .Write down the main Features of it.   05

4. How many times Bangladesh Constitution has been ammended and what are they ?   05

5. What do you understand by Independence of Judiciary? How it can be ensured ?   05