

Department of Computer Science and Engineering Begum Rokeya University, Rangpur.

3rd Year 1st Semester Final Examination-2016 (Session: 2013-14)
Course Code: CSE 3101 Course Title: Database Management Systems

Time: 3.00 Hours

Full Marks: 50

1. (a) Why would you choose a database system instead of simply storing data in operating system files? When would it make sense not to use a database system? 3
- (b) What is logical data independence and why is it important? Explain the differences between logical and physical data independence. 4
- (c) Write short notes in: i) NoSQL ii) Normalization iii) PL/SQL 3
2. (a) Define the term functional dependency. 2
- (b) A company database needs to store information about employees (identified by ssn, with salary and phone as attributes), departments (identified by dno, with dname and budget as attributes), and children of employees (with name and age as attributes). Employees work in departments; each department is managed by an employee; a child must be identified uniquely by name when the parent (who is an employee; assume that only one parent works for the company) is known. 5

Draw an ER diagram that captures this information.

- (c) What are various anomalies we may have to face in retrieving data through joining relations? How can we resolve those through various joining operations? 3
3. (a) What is a foreign key constraint? Why are such constraints important? What is referential integrity? 4
- (b) Suppose that we have a ternary relationship R between entity sets A, B, and C such that A has a key constraint and total participation and B has a key constraint; these are the only constraints. A has attributes a1 and a2, with a1 being the key; B and C are similar. R has no descriptive attributes. 6

Write SQL statements that create tables corresponding to this information so as to capture as many of the constraints as possible. If you cannot capture some constraint, explain why.

4. Consider the following relations: 10
- ```

Student(snum: integer, sname: string, major: string, level: string, age: integer)
Class(name: string, meets at: string, room: string, fid: integer)
Enrolled(snum: integer, cname: string)
Faculty(fid: integer, fname: string, deptid: integer)

```

The meaning of these relations is straightforward; for example, Enrolled has one record per student-class pair such that the student is enrolled in the class.

Write the following queries in SQL. No duplicates should be printed in any of the answers.

- i. Find the names of all Juniors (level = JR) who are enrolled in a class taught by I. Teach.
- ii. Find the age of the oldest student who is either a History major or enrolled in a course taught by I. Teach.
- iii. Find the names of all classes that either meet in room R128 or have five or more students enrolled.
- iv. For each level, print the level and the average age of students for that level.
- v. Find the names of students enrolled in the maximum number of classes.

## **Department of Computer Science and Engineering**

**Begum Rokeya University, Rangpur.**

3<sup>rd</sup> Year 1<sup>st</sup> Semester Final Examination-2016 (Session: 2013-14)

Course Code: CSE 3101 Course Title: Database Management Systems

Time: 3.00 Hours

Full Marks: 50

5. (a) What is an index on a file of records? What is a search key for an index? Why do we need 3 indexes?
- (b) Explain the difference between Hash indexes and B+-tree indexes. In particular, discuss how 4 equality and range searches work, using an example.
- (c) What are the causes of bucket overflow in a hash file organization? What can be done to reduce 3 the occurrence of bucket overflows?
6. (a) Illustrate the usage of SQL GROUP BY, ORDER BY and HAVING clauses. 4  
Consider the relational database of Figure-5, where the primary keys are underlined. 6
- (b)

|                                                    |
|----------------------------------------------------|
| TRIN( <u>Name</u> , Start, Destination)            |
| TICKET ( <u>PNR_NO</u> , Start, Destination, Fare) |
| PASSENGER ( <u>Name</u> , Address, <u>PNR_NO</u> ) |

Figure-5: Database Schemas

Write SQL expressions for the following queries:

- List the names of the passengers who are travelling from the start to the destination station of the train
- Change the destination address of “ABC Express” to “Rangpur”
- Find the name of all passengers whose address includes the substring “Rangpur”

7. (a) What is a transaction? In what ways is it different from an ordinary program (in a language such 2 as C)?
- (b) What is the phantom problem? 2
- (c) Consider the following SQL query: 3

```
select T.branch name
from branch T, branch S
where T.assets > S.assets and S.branch city = "Brooklyn"
```

Write an efficient relational-algebra expression that is equivalent to this query. Justify your choice.

- (d) Consider the relations  $r_1(A, B, C)$ ,  $r_2(C, D, E)$ , and  $r_3(E, F)$ , with primary keys  $A$ ,  $C$ , and  $E$ , respectively. Assume that  $r_1$  has 1000 tuples,  $r_2$  has 1500 tuples, and  $r_3$  has 750 tuples. Estimate the size of  $r_1 \bowtie r_2 \bowtie r_3$ , and give an efficient strategy for computing the join. 3

**Department of Computer Science & Engineering**

**Begum Rokeya University, Rangpur**

**3<sup>rd</sup> Year 1<sup>st</sup> Semester Final Examination – 2016**

**Course Title: Design & Analysis of Algorithm**

**Course Code: CSE 3103**

**Total Marks: 50**

**Exam Duration: 3 Hours**

**Answer any of the five questions**

- 1 a. What is an Algorithm? Write down properties of a good algorithm. 1+1  
b. What do you understand by the term “Complexity Trade-off”, how it affects an Algorithm? 2  
c. Step-by-step, calculate complexity for the following code snippet 4

```
void kind_of_sort(A)
{
 1: for j = 2 to A.length
 2: key = A[j]
 3: // Insert A[j] into the sorted sequence A[1 .. j-1]
 4: i = j - 1
 5: while j > 0 and A[j] > key
 6: A[i+1] = A[i]
 7: i = i + 1
 8: A[i+1] = key
}
```

- d. Define “Order of Growth”, how is it used in three different Asymptotic notations, discuss? 2
- 2 a. Define Divide-and-Conquer approach of an algorithm. 2  
b. Let an array of integers  $A = [a_1, a_2, \dots, a_n]$  be given. Suppose that there exists an (unknown) index  $k$  such that the subarray  $[a_1, a_2, \dots, a_k]$  is sorted in strictly increasing order, and the subarray  $[a_k, a_{k+1}, \dots, a_n]$  is sorted in strictly decreasing order (i.e., if  $1 \leq i < j \leq k$  then  $a_i < a_j$ , and if  $k \leq i < j \leq n$  then  $a_i > a_j$ ). Write an algorithm that uses divide and conquer technique to find the index  $k$ . 5  
c. Write a pseudo-code to merge two groups of sorted values in merge-sort. 3
- 3 a. Explain, in general terms, the main differences between the divide-and-conquer technique and dynamic programming. 2  
b. A telephone company plans to connect its switching centers together using fiber optics. When connecting switching centers, it is required to have a path, either directly or indirectly, between every pair of them. The telephone company is looking for an interconnection topology that minimizes the amount of fiber required to connect its switching centers.  
i. Write and describe an algorithm that will be the best fit to find the optimal topology? 4  
ii. Using asymptotic notation, compute the worst-case time complexity of your algorithm. 2
- c. Using Huffman coding, how many bits may be required for encoding the message ‘mississippi’? Explain your answer. 2
- 4 a. Define paradigm of Dynamic Algorithm. With appropriate examples, describe four basic steps that every dynamic programming requires to follow. 1+3

- b. The Levenshtein distance between two words is the minimum number of single-character edits (insertions, deletions or substitutions) required to change one word into the other. Mathematically, the Levenshtein distance between two strings  $a, b$  (of length  $|a|$  and  $|b|$ ) where

$$\text{lev}_{a,b}(i,j) = \begin{cases} \max(i,j) & \text{if } \min(i,j) = 0, \\ \min \begin{cases} \text{lev}_{a,b}(i-1,j) + 1 \\ \text{lev}_{a,b}(i,j-1) + 1 \\ \text{lev}_{a,b}(i-1,j-1) + 1_{(a_i \neq b_j)} \end{cases} & \text{otherwise.} \end{cases}$$

Where  $1_{(a_i \neq b_j)}$  is the indicator function equal to 0 when  $a_i = b_j$  and equal to 1 otherwise, and  $\text{lev}_{a,b}(i,j)$  is the distance between the first  $i$  characters of  $a$  and the first  $j$  characters of  $b$ . Considering the above definition

- i. Write a Dynamic programming algorithm that can calculate Levenshtein distance between two words. 4
- ii. Using asymptotic notation, compute the worst-case time complexity of your algorithm. 2

- 5 a. We can model a data network as a directed graph, with each vertex corresponding to a router and each edge corresponding to a connection between routers. In routing data through a network, there is a time delay associated with going through a connection — but there is also a time delay associated with passing through the router from one connection to the next. How can we use Dijkstra's algorithm so that it still finds the fastest route between two points in the network? 5
- b. Trace the dynamic programming algorithm for the longest common subsequence problem with strings  $X[1\dots 4] = \text{"bacb"}$  and  $Y[1\dots 6] = \text{"abcabc"}$ . Complete all the entries in a typical table, and also build all of the optimal solutions. 5
- 6 a. For each statement below, determine whether it is true or false, and a one sentence and/or one picture explanation. 2
- i. The heaviest edge in a graph cannot belong to a minimum spanning tree.
  - ii. Given an undirected graph, it can be tested to determine whether or not it is a tree in  $O(V + E)$  time. A tree is a connected graph without any cycles.



Consider the weighted graph above.

- i) Run Prim's algorithm starting from vertex A. Write the edges in the order which they are added to the minimum spanning tree.
  - ii) Run Kruskal's algorithm starting from vertex A. Write the edges in the order which they are added to the minimum spanning tree.
- c. Suppose you are given a directed, weighted graph  $G$  that might have negative-weight edges. Suppose we know that all the shortest paths in  $G$  use at most  $k$  edges. Show how to compute shortest paths from a source vertex  $s$  in  $G$  in  $O(k(V+E))$  time. 4
- 7 a. Explain P and NP problems with suitable example 4
- b. What is convex hull? Briefly explain the graham scan algorithm to find the convex hull of a given set of points also compare it with monotone chain algorithm. 6

Begum Rokeya University, Rangpur  
Department of Computer Science and Engineering  
B.Sc. Engineering 3<sup>rd</sup> Year 1<sup>st</sup> Semester Final Examination-2016  
Course: CSE 3105(Computer Architecture)

Time: 3 hours

Full Marks: 50

**N.B.:** Answer any **FIVE** of the following questions. All part of a question must be answered sequentially.

1. a) Why do we need to study Computer Architecture? Differentiate between Von Neumann and Harvard Computer Architecture. 4  
b) What is logic gate? Considering the Boolean function  $F = ABC + ABC'' + A'C$ 
  - i) Draw a logic diagram that only uses Basic logic gates.
  - ii) Simplify the function F.
- c) What is integrated circuit? Define MSI, LSI and VLSI. 2
  
2. a) Define the functional characteristics that are common to the devices used to build main and secondary computer memories. 4  
b) Explain various mechanisms of mapping main memory address into cache memory addresses. 6
  
3. a) Consider you have given two 2 X 4 decoders, how you can use them to perform as a 3 X 8 decoder. 4  
b) Briefly describe on how fixed points integers are represented in various data representation. 2  
c) Consider two numbers -6 and -13. Describe how addition works on them. 2  
d) What is overflow? How overflow can be detected? 2
  
4. a) What is register transfer? What is the purpose of using it? 2  
b) Why do we need to use Bus to transfer data? 2  
c) Draw a Three-State-Bus Buffers and describe how with works? 5  
d) What is Shift operation? Give example. 1
  
5. a) What is Micro-operation? How Micro-operations can be classified, describe in brief? 3  
b) Using 4-bit full adder, draw and describe hardware implementation of a 4-bit adder subtractor. 5  
c) For a Control unit, what capabilities are required to handle the address sequence? 2
  
6. a) Describe different memory address techniques in micro-operation. 3  
b) Write down at least 8 different computer registers that are commonly used along with their functions. 2  
c) What do you mean by Instructor Set Completeness? What are the four sufficient properties that identify completeness of an Instruction Set? 5
  
7. a) Draw the single bus and three bus organization of the data path inside a processor. 5  
b) Describe the organization of micro programmed control unit. 5

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Department of Computer Science and Engineering

B.Sc. (Engg.) 3<sup>rd</sup> year 1<sup>st</sup> Semester Final Examination, 2016. (Session: 2013-14)

Course Code: CSE 3107

(Improvement)

Time: 3.00 hours

Course Title: Computer Peripheral & Interfacing

Total Marks: 50

[N.B: Answer any five (5) questions and figures in the right margin indicate full marks]

1. a) Define the different ways of transforming data between a microcomputer and physical I/O devices. 2  
b) Explain the different ways of programmed I/O utilization. 5  
c) What is interrupt I/O? Mention different interrupts types. 1+2
  
2. a) What are programmed I/O and virtual I/O? 3  
b) Explain different protocol steps in programmed I/O interfacing technique. 2  
c) Explain DMA. Define cycle stealing, block transfer and interleaved DMA. 2+3
  
3. a) Draw the internal block diagram of 8255 and explain its working. 3+4  
b) Write the features of 8255A. 3
  
4. a) Draw the internal block diagram of 8259 interrupt controller and explain its different parts in brief. 2+5  
b) Explain the importance of 8259 interrupt controller and explain how does it handle the interrupt? 3
  
5. a) What are the different types of key switch used in keyboard? 2  
b) What do you mean by key debounce using hardware and software? 2  
c) Explain the working procedure of 4×4 matrix keyboard with 8086 and 8255. 6
  
6. a) Calculate a full-scale output voltage of a simple D/A converter. 4  
b) Describe the operation of a flash-type A/D converter. What are its main advantages and disadvantages? 4  
c) What is the resolution of a 13-bit D/A converter? 2
  
7. a) Why must data be sent to a printer on handshake basis? 3  
b) Why the port lines of programmable port devices automatically put in the input mode when that device is first powered up or reset? 4  
c) List the major tasks that must be done to support dynamic RAM in microcomputer systems. 3

Begum Rokeya University, Rangpur  
 Department of Computer Science and Engineering  
 B. Sc. Engineering Final Examination- 2016  
 Third Year 1<sup>st</sup> Semester  
 Course: CSE 3109 (Theory of Computation and Automata)

Time: 3 hours

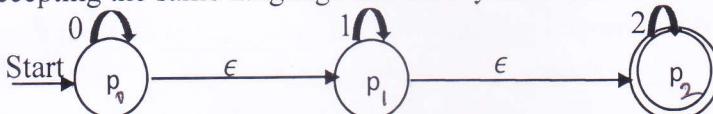
Full Marks: 50

**N.B.**

Answer any **FIVE** of the following questions. All parts of a question must be answered sequentially.

1. a) What is Automata? Discuss different types of Automata. 4  
 b) Explain "Grammar is a mechanism to describe the languages". 3  
 c) Write down the differences between formal language and natural language. 3

2. a) Why should you study automata? 2  
 b) Design an FA that reads strings made up of {0, 1} and accepts only those strings which end in either '00' or '11'. 2  
 c) Convert the NFA with  $\epsilon$ -moves in (Fig a) to its equivalent NFA without  $\epsilon$ -moves accepting the same language and finally draw the NFA. 6



3. a) Convert the NFA  $[\{p, q\}, \{0, 1\}, \delta, p, \{q\}]$  to its equivalent DFA and finally draw the DFA, where the state transition function  $\delta$  is as shown in the following table 5

| $\Sigma$ |             | Q      |   |
|----------|-------------|--------|---|
|          |             | 0      | 1 |
| p        | {p, q}      | {q}    |   |
|          | $\emptyset$ | {p, q} |   |

- b) Write a short note on the properties and limitations of finite state machine (FSM). 5  
 4. a) Write a context CFG for the language  $L = \{0^m 1^n 0^{m+n} | m, n \geq 0\}$  2  
 b) Consider the grammar G, which consists of the following productions with S as the start symbol: 3

$$\begin{aligned} S &\rightarrow A|bb \\ A &\rightarrow B|b \\ B &\rightarrow S|a \end{aligned}$$

- Simplify the grammar by eliminating the unit productions, if any.  
 c) Construct a transition graph that recognizes the set: 5  
 $r = [1.(00)^* .1 + 0.1^*.0]^*$

5. a) Construct the Recursive Descent Parsing for the following grammar 6  
 $E \rightarrow E + E * E | (E) | id$  and verify for the input string 'id+id'  
 b) What is normal form? Convert the following CFG to CNF. 4

$$S \rightarrow aSa | bSb | a | b | aa | bb$$

6. a) Briefly discuss the elements of a Turing machine? Design a TM that recognize the words of the form  $0^n$  for  $n \geq 0$ . 4  
 b) Write a short note on linear bounded automata. 3  
 c) What is Russel's Paradox? Write down fundamental properties of formal systems. 3

7. a) Show that the following grammar is LL(1) 7  

$$E \rightarrow TE' \quad E' \rightarrow +TE' | \in \quad T \rightarrow FT' \quad T' \rightarrow *FT' | \in \quad F \rightarrow (E) | id$$
  
 b) Explain, giving reasons, why leftmost derivation cannot be applied in shift-reduce parsing. 3

Begum Rokeya University, Rangpur

Department of Computer Science and Engineering

B.Sc. (Engg.) 3<sup>rd</sup> year 1<sup>st</sup> Semester Final Examination, 2016. (Session: 2013-14)

*X - 2M*

Course Code: **MAT 3121**

(Improvement)

Time: **3.00 hours**

Course Title: **Numerical Analysis**

Total Marks: **50**

[NB: Answer any five (5) questions and figures in the right margin indicate full marks]

1. a) Write an algorithm for fixed point iteration technique to find a solution to  $p=g(p)$ , given an initial approximation  $p_0$ . 4  
b) Write down the fixed-point theorem. 2.5  
c) Use Bisection method to find the solution accurate to four significant digits for  $x+1.0+\cos\pi x=0$  3.5
  
2. a) Derive Newton's forward difference formula. When this formula is used? 5  
b) From the following table of values of x and  $y=e^x$ , interpolate the value of y when  $x=1.91$  5  

|           |        |        |        |        |        |        |
|-----------|--------|--------|--------|--------|--------|--------|
| x         | 1.7    | 1.8    | 1.9    | 2.0    | 2.1    | 2.2    |
| $y = e^x$ | 5.4739 | 6.0496 | 6.6859 | 7.3891 | 8.1662 | 9.0250 |
  
3. a) From the data in the following table find by Lagrange's formula the value of y when  $x=27$ . 5  

|   |      |      |      |      |
|---|------|------|------|------|
| x | 22.0 | 23.5 | 25.2 | 28.7 |
| y | 2.8  | 3.5  | 4.6  | 5.3  |

  
b) What do you know about error in numerical analysis? Establish the general formula of error. 5
  
4. a) Using Newton's forward difference formula find the 1<sup>st</sup> and 2<sup>nd</sup> derivative of a function. 5  
b) Determine the constants  $a$  and  $b$  by the method of least squares such that  $y=ae^{bx}$  fits the following data. 5  

|   |       |        |        |        |        |
|---|-------|--------|--------|--------|--------|
| x | 2     | 4      | 6      | 8      | 10     |
| y | 4.077 | 11.084 | 30.128 | 81.897 | 222.62 |
  
5. a) Establish the Newton-Raphson method to determine a root of  $f(x)=0$ . 5  
b) Use the Newton-Raphson method to find a root of the equation  $x^3-2x-5=0$ , up to four decimal places. 5
  
6. a) Using Euler's method solve the following differential equation 5  

$$\frac{dy}{dx} + 2y = 0, y(0) = 1$$
  
b) Use the Runge-kutta forth order method to estimate y at  $x=0.2, 0.4$  when 5  

$$y'(x) = \frac{dy}{dx} = \frac{y^2 - x^2}{y^2 + x^2} \text{ with } y(0)=1.$$
  
7. a) Discuss the procedure of Gaussian elimination with backward substitution. 5  
b) Solve the following system of linear equations by Gauss elimination method: 5  

$$3x+5y-7z=13$$
  

$$4x+y-12z=6$$
  

$$2x+9y-3z=20$$

# Begum Rokeya University, Rangpur

Department of Computer Science and Engineering

B.Sc. (Engg.) 3<sup>rd</sup> year 1<sup>st</sup> Semester Final Examination, 2016. (Session: 2013-14)

Course Code: CSE 3107

Time: 3.00 hours

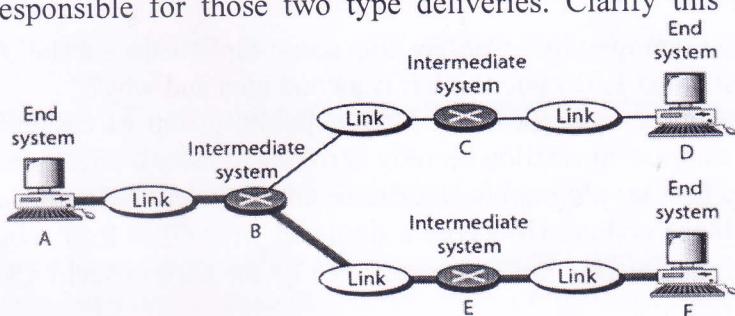
Course Title: Communication Engineering

Total Marks: 50

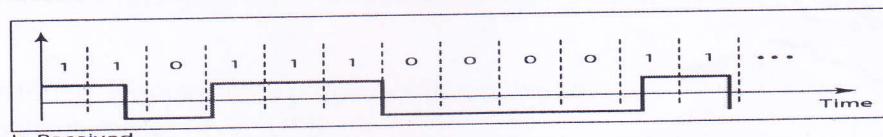
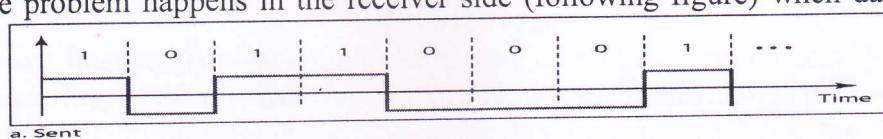
[NB: Answer any five (5) questions and figures in the right margin indicate full marks]

[All parts of each question must be answered sequentially]

1. a) What is topology? Draw a hybrid topology with a star backbone and three ring networks. 1+2  
b) Define peer-to-peer processes. Briefly, describe how data exchange among different layers in the OSI model and explain why in every layer a header is added to data? 1+3  
c) How hop-to-hop delivery and source to destination delivery is occurred in following figure and which layers are responsible for those two type deliveries. Clarify this in terms of network model. 3



2. a) What are the duties of transport layer and application layer? 2+2  
b) How do the layers of the internet model correlate to the layers of the OSI model? 2  
c) What are differences between TCP/IP and OSI model? 2  
d) How can a composite signal be decomposed into its individual frequencies? 2
3. a) During analog to digital conversation using PCM technique which stage introduce error and why. How can you minimize this error? 3  
b) Write dome some differences between baseband transmission and broadband transmission. 2  
c) What is the assumption for Nyquist bit rate and what problem come up with this formula. To diminish such difficulty, what is your suggestion? 3  
d) Suppose we are calculating the theoretical highest bit rate of a regular telephone line. A telephone line normally has a bandwidth of 4000 hz assigned for data communication. The signal to noise ratio is usually 3264. Now calculate the capacity in this channel. 2
4. a) Explain how queuing time affect the performance of a network. 2  
b) How data elements differ from signal element? Show in brief. 2  
c) What type problem happens in the receiver side (following figure) when data is sent from sender? 2

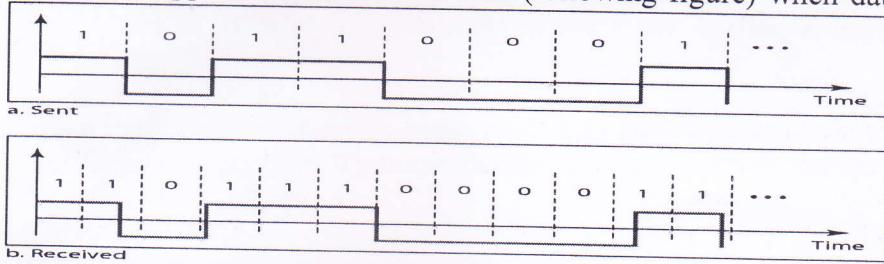


- d) What are the differences between unipolar scheme and polar schema? 2  
e) Note down some advantages and disadvantages of serial and parallel transmission. 2

5. a) Draw the graph of the Manchester and Differential Manchester scheme for the below data stream:  
0100110101 3
- b) What do you mean by multiplexing? Illustrate multiplexing process and de-multiplexing process of frequency division multiplexing. 4
- c) State pulse stuffing in the multiplexing process. How, synchronization is ensured between the multiplexer and de-multiplexer in the time division multiplexing? 1+2
6. a) What do you mean by controlled-access protocols? 2
- b) Explain CSMA/CA technique. 3
- c) Find the netid and the hostid of the following IP addresses. 5
- i) 217.35.9.7  
ii) 152.57.8.5  
iii) 237.3.54.11
7. a) What is cryptography? Can we use mono-alphabetic substitution if our plaintext composite with just 0 and 1. Do you think it is a good idea and why? 1+2
- b) Think about a scenario, there have a public group of enormous people's. Generally, two people start a conversation secretly and they transfer a huge number of data very first. In this, scenario how cryptographic algorithms are used that match above all consideration. 2
- c) Define block coding. How does a single bit error differ from a burst error? 1+2
- d) What kind of error remains undetectable by the parity check? Clarify. 2

[N.B: Answer any five (5) questions and figures in the right margin indicate full marks]

[All parts of each question must be answered sequentially]

1. a) What do you understand by data communication? Explain basic components of a data communication. 1+3  
b) Define network. What are the criteria necessary for an effective and efficient network? 1+1  
c) What are the advantages of a multipoint connection over a point-to-point connection? 2  
d) Assume six devices are arranged in a mesh topology. How many cables are needed? How many ports are needed for each device? 1+1
2. a) In TCP/IP protocol, why port address is necessary along with IP address for data communication? 2  
b) Why network model is necessary? Distinguish between OSI model and TCP/IP model 3  
c) Depict different parameters that represent a sine wave. 3  
d) What are the dissimilarities between analog and digital signal. 2
3. a) How an analog signal convert to an analog signal when amplitude and frequency is constant. 3  
b) Write dome some differences between baseband transmission and broadband transmission. 2  
c) Explain Constellation diagram. Write down some reasons for analog-to-analog conversion. 3  
d) What is the assumption for Nyquist bit rate and what problem come up with this formula. To diminish such difficulty, what is your suggestion? 2
4. a) Explain how queuing time affect the performance of a network. 2  
b) How data elements differ from signal element? Show in brief. 2  
c) What type problem happens in the receiver side (following figure) when data is sent from sender?  

  
d) What are the differences between unipolar scheme and polar schema? 2  
e) Note down some advantages and disadvantages of serial and parallel transmission. 2
5. a) Draw the graph of the Manchester and Differential Manchester scheme for the data stream: 0100110101 3  
b) Briefly discuss frequency division multiplexing and de-multiplexing process. 4  
c) State pulse stuffing in the multiplexing process. How, synchronization is ensured between the multiplexer and de-multiplexer in the time division multiplexing? 1+2
6. a) What is cladding? Discuss some properties of microwaves. 1+2  
b) Note down the purposes of the GPS. 2  
c) Write down the function of a mobile switching center. 2  
d) Discuss Roaming as the feature of cellular telephony in short. Find out the period of the moon. [The Moon is located 384000 km above the earth and the radius of the earth is 6378 kml. 3

7. a) Explain why most of the addresses in class A are wasted. Explain why a medium size or large size corporation does not want a block of class C addresses. 1+1
- b) What is the network address in a block of addresses? How can we find the network address if one of the addresses in a block is given. 1+1
- c) Draw the flow diagram of CSMA/CD and CSMA/CA. 2+2
- d) How does CSMA/CD differ from CSMA/CA? 2