

(DMSIT01)

ASSIGNMENT - 1

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

Information Technology

BASICS OF IT

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Discuss various elements of Computer Based information system (CBIS).
2. Explain about working of various input devices with neat sketch.
3. Discuss evaluation of different programming languages and its features.
4. Explain about various communication channels and list down its merits and limitations.
5. (a) Describe World Wide Web architecture.
(b) Write about different internet services.
6. Write about business pressures and responses in today information age.
7. Describe the working CRT monitor.
8. Describe different data sources.
9. What are functions of RAM and ROM.

(DMSIT01)

ASSIGNMENT - 2

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

Information Technology

BASICS OF IT

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Describe different software selection factors.
2. Differentiate compiler and interpreter.
3. Describe different network topologies with diagrams.
4. Write about different web browsers.
5. Define microprocessor.
6. What is router?
7. Define assembler.
8. Define network protocol
9. What is meant by extranet?

(DMSIT02)

ASSIGNMENT - 1

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

IT

COMPUTER NETWORKS
MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. What is multiplexing? Discuss frequency division, time division and wavelength division multiplexing.
2. Explain and demonstrate Selective repeat sliding window Protocol with an example.
3. Describe hierarchical naming and How resource records are maintained in DNS?
4. Write any four reasons for using layered protocols. Explain the functionality of each layer in OSI reference model.
5. Explain about various network threats and types of firewalls.
6. Write about star and bus network topologies.
7. Explain fast Ethernet and gigabit Ethernet.
8. What is CSMA? Explain CSMA with Collision Detection.
9. Explain the algorithm for CRC method of error checking.

(DMSIT02)
ASSIGNMENT - 2
M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

IT

COMPUTER NETWORKS
MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. With example explain routing process in hierarchical routing
2. What is meant by RPC? What are the various steps in RPC?
3. Elucidate the special IP addresses used in internet.
4. Describe different issues in web security.
5. What is frame relay?
6. What is the use of datalink layer?
7. Give difference between switch and router.
8. Define internet checksum.
9. Define Tunneling.

(DMSIT03)

ASSIGNMENT - 1

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First Year

Information Technology

COMPUTER ORGANIZATION

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Explain about the structure and functioning of a computer in detail.
2. Explain about PCI Physical and Logical Architecture.
3. Explain about the data Organization and Formatting in Magnetic Disk.
4. Explain about the Booth algorithm with a flow chart.
5. Explain about Internal Structure of the CPU with a neat sketch.
6. Explain about the key distinguishing features of a microprocessor?
7. List and define three methods for calculating a mean value of a set of data values.
8. List and explain the possible states that define an instruction execution.
9. Explain the difference between a simple CAV system and a multiple zone recording system.

(DMSIT03)

ASSIGNMENT - 2

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

Information Technology

COMPUTER ORGANIZATION

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. How are data written onto a magnetic disk?
2. What is the benefit of using biased representation for the exponent portion of a floating-point number?
3. Describe the function of condition codes?
4. Explain about the User-Visible Registers.
5. What is a stored program computer?
6. What is QPI?
7. Define the terms track, cylinder, and sector.
8. Briefly explain the sign magnitude and twos complement representation.
9. What is a program status word?

(DMSIT04)

ASSIGNMENT - 1

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

Information Technology

DATA STRUCTURES WITH C

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Discuss different asymptotic notations used to represent algorithm efficiency.
2.
 - (a) What is record? Explain record storage structure in memory with suitable example.
 - (b) Write a procedure match string using transition table and transition graph.
3.
 - (a) Write a sub - routine to implement PUSH () and POP () operations using linked list.
 - (b) Describe evaluation of postfix expression using stack with suitable example.
4.
 - (a) What is B – tree? Write subroutines of insertion and deletion operations B – trees.
 - (b) Generate a binary search tree for following numbers and perform in-order and post-order traversals : 50, 40, 80, 20, 6, 30, 10, 90, 60, 70.
5. Sort the following list of elements by using merge sort also write pseudo code of it 39, 16, 45, 11, 55, 18, 43, 88.
6. Describe different operations of linear data structures.
7. What is pointer? Give the advantages of pointers.
8. Write down advantages of linked list over array and explain it in detail.
9. What is linked list? How can a polynomial such as $5x^4 - 3x^2 + 9x - 11$ be represented by linked list?

(DMSIT04)

ASSIGNMENT - 2

M.Sc. DEGREE EXAMINATION, MARCH 2023

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Information Technology

DATA STRUCTURES WITH C

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Write procedures for adding a node and deleting a node from a binary tree.
2. Describe L-L and R-L rotation in AVL trees with example.
3. Explain about binary search with suitable example.
4. Sort the following numbers using Bubble sort: 10, 50, 25, 20, 30, 10.
5. What is circular queue?
6. Define recursion.
7. How the memory is created for one dimensional array?
8. Define binary tree.
9. List down any two string operations.

ASSIGNMENT - 1

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

Information Technology

OPERATING SYSTEMS

MAXIMUM : 30 MARKS**ANSWER ALL QUESTIONS**

1. (a) What is a scheduler? List and describe different types of schedulers.
(b) Describe the components of process control block.
2. Assume the following processes arrive for execution at the time indicated and also mention with the length of the CPU-burst time given in milliseconds.

Job	Burst Time	Priority	Arrival time
P1	6	2	0
P2	2	2	1
P3	3	4	1
P4	1	1	2
P5	2	3	2

Give a Gantt chart illustrating the execution of these processes using FCFS, Round Robin(quantum=1), and Priority (Preemptive and Non-preemptive). Calculate the average waiting time and average turnaround time for each of the above scheduling algorithm.

3. Explain the Readers — Writers problem and its solution using the concept of semaphores.
4. With neat sketch, explain about paging and segmentation.
5. What are the objectives of file management system? Explain file system architecture. Explain the indexed file allocation method with an example.
6. Explain features of Distributed Operating System.
7. Define Cooperating process? What is the environment need in Cooperating processes?
8. Give the Peterson's solution to the Critical section problem.
9. What is deadlock? Explain the conditions that lead to deadlock.

ASSIGNMENT – 2

M.Sc. DEGREE EXAMINATION, MARCH 2023

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Information Technology

OPERATING SYSTEMS
MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Write about various types of Disk storage attachments. Describe the structure of page table.
2. Write about various file attributes.
3. Write about authentication mechanism in operating systems.
4. What are batch systems?
5. Differentiate process and program.
6. Define logical address and physical address.
7. Define seek time and latency time.
8. Define Trojan horse and Trap door.

(DMSIT06)

ASSIGNMENT - 1

M.Sc. DEGREE EXAMINATION, MARCH 2023

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Information Technology

DBMS (DATABASE MANAGEMENT SYSTEMS)

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Explain the components of information system and also classify information systems.
2. What is Entity set? and also define Relationship set. List and explain the symbols used to draw E-R Diagram with example.
3. Explain the guideline for mapping conceptual data model into relational and hierarchical data models.
4. What is meant by PC-FOCUS? Explain about PC-FOCUS manipulation and PC-FOCUS description.
5. Explain Two Phase-Locking protocol. What benefit does strict two-phase locking protocol provide? Discuss its disadvantages.
6. Write about many-to-many association and recursive associations among files.
7. What is the need of data model in DBMS and give its classification?
8. Describe the ring and invert list data structures.
9. Differentiate between Primary key and a candidate key.

(DMSIT06)

ASSIGNMENT - 2

M.Sc. DEGREE EXAMINATION, MARCH 2023

First Year

Information Technology

DBMS (DATABASE MANAGEMENT SYSTEMS)

MAXIMUM : 30 MARKS

ANSWER ALL QUESTIONS

1. Write about first and second normal form.
2. Explain desirable properties of transactions.
3. Write the syntax of create, insert, drop and update commands of SQL.
4. Briefly explain about security and maintenance of databases.
5. Give the limitation of file system.
6. What is the instance of a relation?
7. Define normalization.
8. What is relation algebra
9. Define concurrency.