

**(DMSIT 01)**

**Assignment-I**

**M.Sc. DEGREE EXAMINATION, JUNE 2022.**

**First Year**

**Information Technology, BASICS OF IT**

**MAXIMUM MARKS :30**

**ANSWER ALL QUESTIONS**

1. (a) Explain about evaluation information systems.  
(b) Write about major types web-based information systems and give their functions.
2. Discuss about different input and output technologies.
3. Describe the general functions of the operating systems and Differentiate among types of operating systems.
4. Explain about network processing strategies and types of networks.
5. (a) What is DNS? Describe different DNS specifications.  
(b) State and explain different layers of OSI reference model.
6. Describe the organizational level classification of Information system.
7. Write the types of primary storage devices.
8. Describe the various ways to connect internet.
9. What is system software? Describe different types of system software's.

**(DMSIT 01)**

**Assignment-2**  
**M.Sc. DEGREE EXAMINATION, JUNE 2022.**  
**First Year**  
**Information Technology, BASICS OF IT**  
**MAXIMUM MARKS :30**  
**ANSWER ALL QUESTIONS**

1. Write about different communication media channels.
2. Write short notes on World Wide Web.
3. Explain about data visualization technologies.
4. Write the features of web — based data management systems.
5. Define data warehouse.
6. Define multi- tasking operating system.
7. What are the graphic software and spread sheets?
8. What is decision support system?
9. What is digital certificate

**(DMSIT 02)**

Assignment-I  
M.Sc. DEGREE EXAMINATION, JUNE 2022.  
First Year  
Information Technology, COMPUTER NETWORKS  
MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. What is encoding and decoding? Illustrate error detection and recovery mechanism.
2. Explain the working of carrier sense multiple access protocol.
3. Explain in detail about circuit switching and packet switching.
4. (a) E-mail systems contain which two subsystems. Write the five basic functions provided by e-mail system.  
(b) Explain distance vector routing mechanism with example.
5. Explain about different issues in web security and e - mail security.
6. Describe various network components.
7. Write about the multiplexing and de-multiplexing process in frequency division multiplexing.
8. Calculate the polynomial checksum for the following frame and generator  
Frame:1101011011 and Generator  $x^4 + x + 1$ .
9. Write about the bridged Ethernet and switched Ethernet.

**(DMSIT 02)**

Assignment-2  
M.Sc. DEGREE EXAMINATION, JUNE 2022.  
First Year  
Information Technology, COMPUTER NETWORKS  
MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. Compare Virtual circuit and Datagram subnets.
2. Explain how it can be achieved with pure ALOHA and slotted ALOHA.
3. Write about ATM network addressing.
4. Explain the concept of Encryption/Decryption.
5. Define ring topology.
6. What is name resolution?
7. What is the difference between LAN and WAN?
8. Define WWW.
9. What is RPC?

**(DMSIT 03)**

**Assignment-I**

**M.Sc. DEGREE EXAMINATION, JUNE 2022.**

First Year

Information Technology

**COMPUTER ORGANISATION**

**MAXIMUM MARKS :30**

**ANSWER ALL QUESTIONS**

1. Discuss the evaluation of intel x86 architecture and embedded systems.
2. Explain bus inter connection and point-to-point interconnection with neat diagrams.
3. Explain how are data read from and written onto a magnetic disk? What are the advantages of using a glass substrate for a magnetic disk?
4. Explain the multiplication and division of two floating point numbers by using flowchart.
5. Design a hardwired control unit for CPU, Why hardwired CU are suitable for RISC.
6. Describe top level structure of computer.
7. What are the SPEC benchmarks?
8. State and explain different RAID levels.
9. Describe the PCI bus structure.

**(DMSIT 03)**

**Assignment-2**  
**M.Sc. DEGREE EXAMINATION, JUNE 2022.**  
First Year  
Information Technology  
**COMPUTER ORGANISATION**  
MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. Write the IEEE Standard for Binary Floating-Point Representation.
2. Describe various optical memory devices.
3. Explain how to detect overflow in fixed point representation.
4. What is an I/O processor? Explain with a neat Diagram.
5. What is Divide overflow?
6. What is asynchronous data transfer?
7. What is an interrupt?
8. What is stored program computer?

---

**(DMSIT 04)**

**Assignment-I**  
M.Sc. DEGREE EXAMINATION, JUNE 2022.  
First Year  
Information Technology, DATA STRUCTURES WITH C

MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. Explain sequential, selection and iterative logic for implementing the algorithm with neat flow charts.
2. Illustrate different string pattern algorithms with suitable example.
3. What is double linked? Explain different operations of double linked lists.
4. (a) Write in-order, pre-order and post-order traversal of a binary tree.  
(b) Develop a binary search tree resulting after inserting the following integer keys: 49, 27, 12, 11, 33, 77, 26, 56, 23, 6.
5. Discuss how to sort elements using merge sort with suitable example.
6. What is record? How it represents in computer memory?
7. Write an algorithm to solving the quadratic equation.
8. Describe the Big - Oh (O) and Omega ( $\Omega$ ) notations of an algorithm.
9. Describe various Queue operations.

**(DMSIT 04)**

**Assignment-2**  
M.Sc. DEGREE EXAMINATION, JUNE 2022.  
First Year  
Information Technology, DATA STRUCTURES WITH C

MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. What is recursion? How to implement recursion using stack?
2. Describe various AVL tree rotations with suitable example.
3. Write an algorithm to delete a node from tree.
4. Describe selection sort procedure.
5. Give the applications of stack.
6. What is pointer?
7. What is circular queue?
8. Define B — tree.
9. What is single linked list?

---

**(DMSIT 05)**

Assignment-I  
M.Sc. DEGREE EXAMINATION, JUNE 2022.

First Year

Information Technology  
OPERATING SYSTEMS  
MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. Explain about various functions operating systems.
2. Consider the following set of processes with length of CPU burst time and arrival time given in milliseconds

Process	Burst Time	Arrival time
P1	5	1.5
P2	1	0
P3	2	2
P4	4	3

Illustrate the execution of these processes using FCFS, SJF CPU scheduling algorithms. Also calculate wait time, turnaround time for each process? Also calculate Average waiting time, average turnaround time for above situation.

3. With neat sketch, explain about paging and segmentation.
4. (a) Discuss various schemes for defining the logical structure of directory.  
(b) What do you mean by thrashing? Suggest solutions to overcome this in virtual memory.

5. Discuss different disk scheduling algorithm with example.
6. What is thread? Compare user threads and kernel threads.
7. What is critical section problem? State the requirements of critical section problem solution.
8. What is PCB? Write about the various elements of process control block.

**(DMSIT 05)**

Assignment-2  
M.Sc. DEGREE EXAMINATION, JUNE 2022.

First Year

Information Technology  
OPERATING SYSTEMS  
MAXIMUM MARKS :30  
ANSWER ALL QUESTIONS

1. Explain about kernel I/O subsystem in detail.
2. Describe different CPU schedulers.
3. Write the difference between internal and external fragmentation.
4. What are the various attributes that are associated with an opened file?
5. Define throughput and average waiting time.
6. Define Semaphore.
7. Define demand paging.
8. Define virus and worm.
9. Define boot block. How it initiated from disk?

**Assignment-I**

M.Sc. DEGREE EXAMINATION, JUNE 2022

.Information Technology

First Year, DBMS (DATA BASE MANAGEMENT SYSTEM)

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

1. Describe components of information system and also classifications of information system.
2. Discuss various data structures used storing data with example.
3. What is meant by PC – FOCUS? Explain about PC – FOCUS manipulation and PC – FOCUS description.
4. What is information management system (IMS)? Write about IMS database description.
5. Explain about concurrency control mechanism in detail.
6. Describe the many – to –may association and recursive associations among files.
7. What is pointer? What are the different types of pointers?
8. Explain about 3<sup>rd</sup> and BCNF normal forms with example.

**Assignment-2**

M.Sc. DEGREE EXAMINATION, JUNE 2022

.Information Technology

First Year, DBMS (DATA BASE MANAGEMENT SYSTEM)

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

1. Explain about network based data model with suitable example.
2. Explain select, insert, create and update commands of SQL.
3. Write short notes on security and maintenance of databases.
4. Describe 2 – phase locking protocol with example.
5. What is field?
6. What is Decision Support System?
7. What is relational algebra?
8. Define database action diagram.
9. Define conceptual and physical data models.