

**(DMSIT01)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**  
**(First Year)**  
**INFORMATION TECHNOLOGY**  
**Basics of Information Technology**  
**MAXIMUM MARKS:30**  
**Answer ALL Questions**

- Q1)** Discuss in detail about IT support at different organizational levels.
- Q2)** Explain about hierarchy of computers.
- Q3)** Discuss different categories of programming languages and their features.
- Q4)** What is data model? Explain about different logical data models and their characteristics.
- Q5)** What is internet? Discuss different services provided by internet.
- Q6)** Write about various components of information systems.
- Q7)** Briefly explain about hierarchical organizational structure with neat diagram.
- Q8)** Describe the components of CPU.

**(DMSIT01)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**  
**(First Year)**

**INFORMATION TECHNOLOGY**  
**Basics of Information Technology**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

*Q1)* Differentiate system software and application software.

*Q2)* Write short notes on traditional file environment.

*Q3)* Describe the telecommunication services.

*Q4)* Write about different types of data transmission.

*Q5)* Describe about internet challenges.

*Q6)* Differentiate RAM and ROM.

*Q7)* Define operating system.

*Q8)* What is LAN?

*Q9)* What is extranet?

*Q10)* What is data warehouse?



**(DMSIT02)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**

**First Year**  
**INFORMATION TECHNOLOGY**

**Computer Networks**  
**MAXIMUM MARKS:30**  
**Answer ALL Questions**

- Q1)** Discuss about different layers of TCP/IP protocol.
- Q2)** Explain about LAN architecture and LAN topologies in detail.
- Q3)** What are the different approaches in packet switching? Explain them in detail.
- Q4)** Write about Routing Mechanisms? Explain about any routing algorithm with an suitable example?
- Q5)** Explain in detail about the Data Encryption Standard.
- Q6)** What are the three criteria necessary for an effective and efficient network?
- Q7)** What is baseband transmission? Briefly explain it.
- Q8)** Briefly explain multiple access mechanism.
- Q9)** Write note on routing in Ad Hoc Networks.

**(DMSIT02)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**

**First Year**  
**INFORMATION TECHNOLOGY**

**Computer Networks**  
**MAXIMUM MARKS:30**  
**Answer ALL Questions**

- Q1)* Write short notes wireless LAN.
- Q2)* What is role of DNS in computer networks?
- Q3)* What are the advantages and disadvantages of public key encryption?
- Q4)* Write about IP address calculation.
- Q5)* Define flooding.
- Q6)* What is meant by congestion?
- Q7)* Define multiplexing.
- Q8)* Define checksum.
- Q9)* Define public key.



**(DMSIT 03)**

**ASSIGNMENT-1**

**M.Sc. DEGREE EXAMINATION, MAY – 2018**

**First Year**

**INFORMATION TECHNOLOGY**

**Computer Organisation**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** Explain about the Functional View and Structure of the Computer.
- Q2)** Explain about Computer Components: Top-Level View.
- Q3)** Explain about magnetic disk data write and data read operations.
- Q4)** Use the Booth algorithm to multiply 23 (multiplicand) by 29 (multiplier),  
Where each number is represented using 6 bits.
- Q5)** Explain about the Register Organization of a processor.
- Q6)** Explain about the designing for Performance based on Microprocessor Speed.
- Q7)** Explain about Little's law.
- Q8)** Explain about Multiple-Bus Hierarchies.

**(DMSIT 03)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**  
**First Year**  
**INFORMATION TECHNOLOGY**  
**Computer Organisation**  
**MAXIMUM MARKS:30**  
**Answer ALL Questions**

- Q1)** Explain about PCIe Transaction Layer.
- Q2)** Explain about Winchester Disk Format.
- Q3)** Assume numbers are represented in 8-bit two's complement representation.  
Show the calculation of the following: (a)  $6 + 13$  (b)  $-6 + 13$
- Q4)** Explain about Pipeline Hazards.
- Q5)** Explain about the execution modes supported by the ARM architecture.
- Q6)** What is a stored program computer?
- Q7)** List and briefly define the possible states that define an instruction execution.
- Q8)** What common characteristics are shared by all RAID levels?
- Q9)** What is positive overflow and exponent overflow?
- Q10)** What is a program status word?



**(DMSIT04)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**  
**First Year**

**INFORMATION TECHNOLOGY**

**Data Structures With C**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** What is two dimensional array? How to create, initialize and access array elements? Consider the array int a [10] [10] and the base address 2000, then calculate the address of the array a[2][3] in the row and column major ordering.
- Q2)** What is queue? Describe different queue operations. Write a subroutine to implement queue operations using arrays.
- Q3)** How to create node in double lined list? Discuss different operations in double linked list.
- Q4)** Write a routine for insertion sort illustrate for data n = 10  
10, 20, 13, 25, 17, 15, 8, 3, 5, 4
- Q5)** Show how the following integers can be inserted in an empty binary search tree in the order they are given : 75, 36, 12, 91, 110, 45, 60, 20, 114, 8. Draw the tree in each step and also mention its pseudo code.
- Q6)** What is meant structure in C? How to create structure and access structure elements?
- Q7)** Write a C program to demonstrate concatenation of two strings.
- Q8)** Convert the following infix expression into equivalent post fix expression using stack :  
 $((a + b) * c - (d - e)) / (f + g)$

**(DMSIT04)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**

**First Year**

**INFORMATION TECHNOLOGY**

**Data Structures With C**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** What is recursion? Write C program to implement factorial of given number using recursion.
- Q2)** Write about circular linked list.
- Q3)** Construct binary tree from the following information.  
In – order : 50, 10, 30, 90, 60, 80, 40, 20, 70  
Pre - order : 60, 10, 50, 90, 30, 40, 80, 70, 20
- Q4)** Write C code to implement linear search.
- Q5)** Write about Bubble sort with example.
- Q6)** What is pointer?
- Q7)** Define de – queue.
- Q8)** Define height and width of tree
- Q9)** Define complete binary tree
- Q10)** Define binary search.





(DMSIT05)

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**  
**First Year**

**INFORMATION TECHNOLOGY**

**Operating Systems**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** Give the detail description of the system structure of modern operating system.
- Q2)** Consider the following five processes, with the length of the CPU burst time given in milliseconds.

Process	P1	P2	P3	P4	P5
Burst Time	10	1	2	1	5
Priority	3	1	5	4	2

- Draw four Gantt charts illustrating the execution of these processes using FCFS, a non-preemptive priority (a smaller priority number implies a higher priority), and RR (quantum = 1) scheduling.
- Q3)** What is deadlock detection and recovery? Describe the method for recovering from deadlock.
- Q4)** Explain in detail about paging and segmentation.
- Q5)** Write about disk management and swap-space management in detail\
- 6)** Write about time sharing and batch systems.
- Q7)** What is use of system call? Describe various types of system calls.
- Q8)** What is thread? Describe different thread models.

**(DMSIT05)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, MAY – 2018**  
**First Year**

**INFORMATION TECHNOLOGY**

**Operating Systems**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

**Q9)** Briefly explain about External and internal Fragmentation?

**Q10)** Write note on protection strategies provided for files.

**Q11)** What is demand paging and what is its use?

**Q12)** What is a file? List the various file attributes.

**Q13)** Describe various program threats in operating systems.

**Q14)** Define spooling.

**Q15)** Define Critical section.

**Q16)** What is meant by mutual exclusion?

**Q17)** What are overlays?

**Q18)** Define worm and virus.

**x x x**

**(DMSIT 06)**

**ASSIGNMENT-1**

**M.Sc. DEGREE EXAMINATION, MAY – 2018**

**First Year**

**INFORMATION TECHNOLOGY**

**Database Management Systems**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** Discuss the components of information systems and database management systems.
- Q2)** State and explain about classification of data models.
- Q3)** What is normalization? Explain normalization of invoice and reorder reports.
- Q4)** Explain about integrated database management system (IDMS) and its commands.
- Q5)** What is meant by database recovery? Explain about forward and backward recovery mechanisms.
- 6)** Write about one – to – one and one – to – many associations with example.
- Q7)** Briefly explain about the indexed sequential file organization.
- Q8)** What is meant by physical, relative and logical key pointers?

**(DMSIT 06)**

**ASSIGNMENT-2**

**M.Sc. DEGREE EXAMINATION, MAY – 2018**

**First Year**

**INFORMATION TECHNOLOGY**

**Database Management Systems**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** Write a procedure to mapping from conceptual data model to relational data model.
- Q2)** Write short note on data volume and usage analysis.
- Q3)** Describe different interactive SQL DDL commands.
- Q4)** Explain about PC – FOCUS database description.
- Q5)** Describe different security mechanisms in brief.
- Q6)** Define decision support system.
- Q7)** Define conceptual data model.
- Q8)** What is relational algebra?
- Q9)** Define deadlock.
- Q10)** Define concurrency.

