

(DMSIT01)

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M.Sc. DEGREE EXAMINATION, MAY – 2018

First Year

INFORMATION TECHNOLOGY

Basics of IT

Time : 3 Hours

Maximum Marks : 70

SECTION – A

(3 × 15 = 45)

Answer any THREE questions

- Q1)** Describe strategic information system (SISs) and how information technology helps companies improve their competitive positions.
- Q2)** Describe the design and functioning of the central processing unit.
- Q3)** State and discuss different classifications of software's.
- Q4)** Explain how a database approach overcomes the problems associated with the traditional file environment and also describe different data models.
- Q5)** What is the Internet? How it works and discuss different ways to connect internet by the user?

SECTION – B

(5 × 4 = 20)

Answer any five questions

- Q6)** Explain the terms market pressure, technology pressure and societal pressure.
- Q7)** Write about components of computer – based information systems.
- Q8)** Describe various primary storage devices.
- Q9)** Write about mainframe computers and midrange computers.
- Q10)** Explain the working principle of different output devices.
- Q11)** State evaluation of programming languages.

Q12) Differentiate between client/server computing and peer - to - peer computing.

Q13) Write short notes on www.

SECTION – C

(5 × 1 = 5)

Answer all questions

Q14) What is system software?

Q15) Define primary and secondary keys.

Q16) Define operating systems.

Q17) What is modem?

Q18) What is intranet?



(DMSIT02)

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M.Sc. DEGREE EXAMINATION, MAY – 2018

First Year

INFORMATION TECHNOLOGY

Computer Networks

Time : 3 Hours

Maximum Marks : 70

SECTION – A

(3 × 15 = 45)

Answer any THREE questions from the following

- Q1)** Explain about frequency division, wave division and time division multiplexing in detail.
- Q2)** a) What is Ethernet? Explain Fast Ethernet and Gigabit Ethernet.
- b) What is channel allocation? How CSMA helps to solve problem?
- Q3)** Explain about packet switching and circuit switching.
- Q4)** Discuss about different routing protocols.
- Q5)** Explain about web security and email security.

SECTION – B

(5 × 4 = 20)

Answer any five questions from the following

- Q6)** Write about differential Manchester encoding with suitable example.
- Q7)** What are the factors entered into selection of network topologies?
- Q8)** Describe the features of wireless networks.
- Q9)** Write about slotted ALOHA and reservation ALOHA.
- Q10)** What is bridge? Write short notes on bridges.
- Q11)** Write about IPv4 and subnets.

Q12) Write short notes on multicast routing.

Q13) Describe the features of file transfer protocol.

SECTION – C

(5 × 1 = 5)

Answer all questions

Q14) Define circuit mode access.

Q15) What mesh topology?

Q16) What is switch?

Q17) What is VLAN?

Q18) What is network threat?



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M.Sc. DEGREE EXAMINATION, MAY – 2018

First Year

INFORMATION TECHNOLOGY

Computer Organisation

Time : 3 Hours

Maximum Marks : 70

SECTION – A

(3 × 15 = 45)

Answer any THREE questions

- Q1)** Explain about Structure of the IAS Computer.
- Q2)** Explain about the peripheral component interconnect (PCI).
- Q3)** Explain about the Disk Performance Parameters.
- Q4)** Explain about the Hardware Implementation of Unsigned Binary Multiplication.
- Q5)** With suitable example explain about Microprocessor Register Organizations.

SECTION – B

(5 × 4 = 20)

Answer any five questions

- Q6)** Explain about the Top – Level Structure of Computer.
- Q7)** Explain about the Amdahl's Law.
- Q8)** What is the benefit of using a multiple – bus architecture compared to a single – bus architecture?
- Q9)** Explain about various Classes of interrupts.
- Q10)** How is redundancy achieved in a RAID system?
- Q11)** Explain about Magnetic Tape.
- Q12)** List four alternative methods of rounding the result of a floating – point operation.

Q13) Explain about pipeline Hazards.

SECTION – C

(5 × 1 = 5)

Answer all questions

Q14) What is a stored program computer?

Q15) Define the terms seek time, rotational delay, access time and transfer time.

Q16) How is redundancy achieved in a RAID system?

Q17) What is the function of condition codes?

Q18) Explain about instruction prefetch.



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M.Sc. DEGREE EXAMINATION, MAY – 2018

First Year

INFORMATION TECHNOLOGY

Data Structures with C

Time : 3 Hours

Maximum Marks : 70

SECTION – A

(3 × 15 = 45)

Answer any THREE questions

- Q1)** What is an algorithm? Explain various components of algorithm? Write an algorithm to largest elements of given set of elements.
- Q2)** What structure of record? How to represent records in computer memory? Explain with suitable example.
- Q3)** Write an algorithm for the following in single linked list.
- Delete a node with specified value from the list.
 - Reverse the links of the list i.e. the first node becomes last node.
- Q4)** Explain about AVL trees, B – trees and red black trees with suitable example.
- Q5)** Write and explain the trace of selection sort on following data :
42, 23, 74, 11, 65, 58, 94, 36, 99, 87

SECTION – B

(5 × 4 = 20)

Answer any five questions

- Q6)** Write about various algorithm operations.
- Q7)** Explain about Big O notation and Theta notation θ of an algorithm.
- Q8)** Give any four string handling functions with syntax.
- Q9)** Evaluate the following postfix expression using stack :
5 6 2 + * 1 2 4 / - +
- Q10)** Compare circular queue with simple queue.

Q11) Explain Threaded binary trees with suitable examples.

Q12) Construct a binary search tree for the following and perform in – order and post – order traversals : 5 9 4 8 2 1 3 7 6

Q13) Write short notes on hashing.

SECTION – C

(5 × 1 = 5)

Answer all questions

Q14) What is pointer?

Q15) Define recursion.

Q16) How to create node in single linked list?

Q17) Define binary tree.

Q18) What is average time complexity?



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M.Sc. DEGREE EXAMINATION, MAY – 2018

First Year

INFORMATION TECHNOLOGY

OPERATING SYSTEMS

Time : 3 Hours

Maximum Marks : 70

SECTION – A

(3 × 15 = 45)

Answer any THREE questions

Q1) Explain various managements of operating systems and their responsibilities in detail.

Q2) Solve the following problem by using following scheduling algorithms.

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

- i) FCFS
- ii) SJF
- iii) Round Robin

Q3) a) Write about the techniques for structuring the page table.

b) Explain file system architecture with neat sketch.

Q4) Explain three major methods of allocating disk space.

Q5) Discuss about authentication and identification issues in operating systems.

SECTION – B

(5 × 4 = 20)

Answer any five questions

Q6) What are multiprocessor systems? Describe different types of multiprocessing?

Q7) State and explain different process states.

Q8) Describe various process attributes.

Q9) What is demand paging and what is its use?

Q10) State and describe causes of deadlocks.

Q11) What is virtual memory? Mention the advantages of virtual memory.

Q12) Write about the kernel I/O subsystem.

Q13) Describe different program threads.

SECTION – C

(5 × 1 = 5)

Answer all questions

Q14) What is the use of fork and exec system calls?

Q15) Define throughput.

Q16) Define Critical section.

Q17) Define page fault.

Q18) Define segmentation.



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M.Sc. DEGREE EXAMINATION, MAY – 2018

First Year

INFORMATION TECHNOLOGY

DBMS (Database Management Systems)

Time : 3 Hours

Maximum Marks : 70

SECTION – A

(3 × 15 = 45)

Answer any THREE questions

- Q1)** Discuss about features of conventional file system and describe its limitations.
- Q2)** Explain about hierarchical and network data models with neat diagrams.
- Q3)** What is normalization? Discuss different normal forms with example.
- Q4)** Discuss various IMS data manipulation commands with syntax.
- Q5)** Explain about concurrency control mechanism with suitable example.

SECTION – B

(5 × 4 = 20)

Answer any five questions

- Q6)** Describe association between fields.
- Q7)** Write about physical address pointer and relative address pointer.
- Q8)** Briefly explain about multi – list data structure with example.
- Q9)** Describe various database design steps.
- Q10)** Write about symbols used in database action diagram.
- Q11)** Briefly explain about data description language.
- Q12)** Explain UNION and INTERSECT commands of interactive SQL with example.
- Q13)** What is timestamp? Explain about time stamp protocol.

SECTION – C
Answer all questions

(5 × 1 = 5)

Q14) What is expert system?

Q15) Define meta data.

Q16) What is pointer?

Q17) What is conceptual data model?

Q18) What is database recovery?

