

M.Sc. (Previous) First Year DEGREE EXAMINATION, DEC. - 2012

Information Technology

Paper - I : BASICS OF INFORMATION TECHNOLOGY

Time : 03 Hours

Maximum Marks : 75

Section - A ($3 \times 15 = 45$)

*Answer any **Three** of the following*

- 1) Define IT. Enumerate various IT trends and their benefits to the organizations.
- 2) Bring out various primary and secondary storage memories.
- 3) Explain various levels of programming languages.
- 4) Define a network. Explain various network communications software and hardware.
- 5) Define intranet. What are the uses of it to business.

Section - B ($5 \times 5 = 25$)

*Answer any **Five** of the following*

- 6) Explain the components of MIS.
- 7) Distinguish between desktop PC and portable PC.
- 8) Define enterprise application software. Enumerate common types of it.
- 9) Distinguish between www and internet.
- 10) What is Usenet? List out major categories of it.
- 11) Define an OS. Explain any two OSs.
- 12) What is a browser? Explain Netscape communicator and MS-internet explorer.
- 13) Enumerate the factors that affect the software evaluation and selection.

Section - C ($5 \times 1 = 5$)

*Answer **All** of the following*

- 14) Write the hierarchy of byte memory capacity.
 - 15) Define DBMS?
 - 16) Define data mining.
 - 17) What is an e-mail?
 - 18) Who is an ISP?
-

M.Sc. (Previous) First Year DEGREE EXAMINATION, DEC. - 2012

Information Technology

Paper - II : COMPUTER NETWORKS

Time : 03 Hours

Maximum Marks : 75

Section - A ($3 \times 15 = 45$)

*Answer any **Three** questions.*

- 1) Discuss and distinguish between packet switching, circuit switching and manage switching.
- 2) Explain briefly OSI reference model.
- 3) Explain short notes on data link protocols.
- 4) Explain how congestion control in data grams.
- 5) Write about Internet multicasting.

Section - B ($5 \times 5 = 25$)

*Answer any **Five** questions.*

- 6) Explain IPV₆ header format.
- 7) Explain about SNMP and DNS.
- 8) Describe twisted pair cable.
- 9) Explain time division multiplexing.
- 10) Describe routing table.
- 11) Write short notes on Internet Multicasting.
- 12) Discuss SMTP Protocol.
- 13) Explain IDEA Algorithm.

Section - C

($5 \times 1 = 5$)

- 14) Write about :
 - a) Peer-to-peer Processes.
 - b) Backbone networks.
 - c) Piggybacking.
 - d) Bridge.
 - e) Subnet.
-

M.Sc. (Previous) First Year DEGREE EXAMINATION, DEC. - 2012

INFORMATION TECHNOLOGY

Paper - III : COMPUTER ORGANISATION

Time : 03 Hours

Maximum Marks : 75

Section - A ($3 \times 15 = 45$)

*Answer any **Three** of the following.*

- 1) Explain different floating point arithmetic operations with examples.
- 2) Discuss the auxiliary memory and main memory.
- 3) Explain the 4 stage pipeline with its hardware organization.
- 4) How a program is executed in a computer. Explain it with an example.
- 5) Explain different instruction formats.

Section - B ($5 \times 5 = 25$)

Answer any **Five** of the following

- 6) Explain various methods to represent binary integers.
- 7) Explain any two levels of RAID scheme.
- 8) Write short note on Reverse polish notation.
- 9) Explain optical memory.
- 10) Discuss the process of bus arbitration.
- 11) Explain PCI bus features.
- 12) Explain sign magnitude representation with example.
- 13) Explain any three flags with example.

Section - C ($5 \times 1 = 5$)

Answer **All** of the following

- 14) Define PSW.
 - 15) What is CPU?
 - 16) What is instruction format?
 - 17) What is parallel processors.
 - 18) What is RISC?
-

M.Sc. (Previous) First Year DEGREE EXAMINATION, DEC. - 2012

INFORMATION TECHNOLOGY

Paper - IV : DATA STRUCTURES WITH C

Time : 03 Hours

Maximum Marks : 75

Section - A ($3 \times 15 = 45$)

*Answer any **Three** of the following*

- 1) Define a data structure. Explain various types of data structures with examples.
- 2) What are linear arrays? Explain in detail their representation in memory.
- 3) Define stack and explain different ways of representing them in computer.
- 4) What is a binary tree? Explain the pre-order and in-order traversals of it.
- 5) An array A contains the following elements : 77, 33, 44, 11, 88, 22, 66, 55
Arrange these elements in sorted order using selection sort and discuss its complexity.

Section - B ($5 \times 5 = 25$)

*Answer any **Five** of the following*

- 6) Explain different operations on data structures.
- 7) How do you analyze the complexity of algorithms?
- 8) Write a C program to check whether the given string is a palindrome or not.
- 9) Write the procedure for bubble sort and discuss its complexity.
- 10) Explain the procedure for searching a particular item in a linked list when the list is unsorted.
- 11) Define priority queues. Explain.
- 12) Write the procedure for inserting an element into heap.
- 13) Explain briefly about hashing technique.

Section - C ($5 \times 1 = 5$)

*Answer **All** of the following*

- 14) What is a linked list?
 - 15) Define a pointer.
 - 16) What is recursion?
 - 17) What is a complete binary tree?
 - 18) What is a thread?
-

M.Sc. (Previous) DEGREE EXAMINATION, DEC. - 2012

First Year

Information Technology

(Paper - V) : OPERATING SYSTEMS

Time : 03 Hours

Maximum Marks : 75

Section - A

(3 × 15 = 45)

*Answer any **Three** of the following.*

- Q1) What is an operating system? Describe different types of operating system with examples.
- Q2) What are the requirements for mutual exclusion? Explain them in detail.
- Q3) Define virtual memory. Why is it used? Explain in detail.
- Q4) What are the different levels of RAID structure? Discuss its importance.
- Q5) Discuss in detail the fundamental requirements addressed by computer security.

Section - B

(5 × 5 = 25)

*Answer any **Five** of the following.*

- Q6) Explain the process state transition diagram with examples.
- Q7) Enumerate different services provided by the operating system.
- Q8) Discuss how paging is implemented in the memory of a computer system.
- Q9) Distinguish between preemptive and non-preemptive scheduling.
- Q10) What is the need for a transaction look aside buffer in virtual memory systems?
- Q11) What are the necessary and sufficient conditions for occurrence of a deadlock?
- Q12) Narrate different types of intrusion techniques.
- Q13) Explain different types of viruses.

Section - C

(5 × 1 = 5)

Answer All of the following.

- Q14) What is a system call?
- Q15) What are communicating processes?
- Q16) What is an inverted page table?
- Q17) What is device management?
- Q18) Define worms.



Total No. of Questions : 18]

[Total No. of Pages : 01

M.Sc. (Previous) DEGREE EXAMINATION, DEC. - 2012

First Year

Information Technology

(Paper - VI) : DBMS

Time : 03 Hours

Maximum Marks : 75

Section - A

(3 × 15 = 45)

*Answer any **Three** of the following*

- Q1)** Define a file organization. Explain the working of a sequential file organization with a suitable example.
- Q2)** Discuss in detail about different types of network data model with neat diagrams.
- Q3)** Explain first, second and third normal forms each with an example.
- Q4)** Explain in detail about the skeleton of DBD of IMS.
- Q5)** Define 'locking protocol'. Discuss in detail various types of locking protocols.

Section - B

(5 × 5 = 25)

*Answer any **Five** of the following*

- Q6)** Enumerate the disadvantages of file processing.
- Q7)** Explain the components of a database management system.
- Q8)** Explain the elements of a stack data structure.
- Q9)** Define E-R diagram. Explain it with an example.
- Q10)** Narrate the steps involved in mapping conceptual data model into a relational data model.
- Q11)** List and explain different DML retrieval commands of IDMS.
- Q12)** Explain any five commands of relational algebra with an example to each.
- Q13)** Discuss the functions of a database administration.

Section - C

(5 × 1 = 5)

*Answer **All** of the following*

- Q14)** What do you mean by redundancy of data?
- Q15)** Define a data structure.
- Q16)** What is requirements analysis?
- Q17)** What is encryption?
- Q18)** What is a view?

