DMSIT01

ASSIGNMENT 1

M.Sc. (IT) DEGREE EXAMINATION, MAY - 2020

First Year

BASICS OF IT

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What are the capabilities expected of information system? Explain.

Q2) State and explain about working of different input and output technologies.

Q3) Explain about different system software and application software's.

Q4) Discuss about network processing strategies in detail.

Q5) Explain evaluation of internet and also describe various internet services.

Q6) Describe business pressure in today's information age.

Q7) How does the intranet - based system support the human resources management function at Hershey?

Q8) Explain the working principle of RAM and ROM.

Q9) Describe about file accessing methods.

Q10) Explain about ring and tree network topologies.

DMSIT01

ASSIGNMENT 2

M.Sc. (IT) DEGREE EXAMINATION, MAY - 2020

First Year

BASICS OF IT

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) Write about structured and procedure oriented programming.

Q2) Write about client/server and peer - to - peer computing.

Q3) Describe various internet challenges.

Q4) What is Arithmetic Logic Unit?

Q5) Define relational schema.

Q6) Define operating systems.

Q7) What is router?

Q8) What is extranet?

Q9) Write about the IT support at different organizational levels.

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DMSIT02

ASSIGNMENT 1

M.Sc. DEGREE EXAMINATION, MAY - 2020

First Year

COMPUTER NETWORKS

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What type of errors can be detected by Parity Check Code? How is it implemented? Explain with suitable examples.

Q2) Explain functions of Media Access Control sub layer and also differentiate pure ALOHA and slotted ALOHA.

Q3) Explain about hierarchical naming and addressing in detail.

Q4) Explain Distance Vector routing and shortest path routing algorithms with example.

Q5) Discuss different issues in IP security and e - mail security.

Q6) Explain frequency division multiplexing with neat sketch.

Q7) Write about star and tree type network topologies.

Q8) Briefly explain about sliding window protocol.

Q9) Write about spanning tree bridges.

Q10) What is name resolution? Explain in brief.

DMSIT02

ASSIGNMENT 2

M.Sc. DEGREE EXAMINATION, MAY - 2020

First Year

COMPUTER NETWORKS

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What is RPC? Describe various steps in RPC.

Q2) What are the different IP address classes?

Q3) Describe different network threats.

Q4) What is meant by signaling?

Q5) What is congestion control?

Q6) What is Bridge?

Q7) Define hierarchical routing.

Q8) Define firewall.

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DMSIT03

ASSIGNMENT 1

M.Sc. DEGREE EXAMINATION, MAY- 2020

(First Year)

INFORMATION TECHNOLOGY

Computer Organization

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What is the structure of IAS computer? Describe the elements of expanded structure of IAS computer?

Q2) Explain about bus inter connection scheme and multiple bus hierarchies.

Q3) Explain Booth Multiplication algorithm with suitable example.

Q4) Draw the data layout of magnetic disk and how the data written onto a magnetic disk?

Q5) Discuss about different RAID levels and give their characteristics.

Q6) What is the functional view digital computer?

Q7) Explain about PCI bus structure with neat sketch.

Q8) Explain about the working optical disk.

Q9) Describe division algorithm for floating point.

Q10) What is meant by normalization in floating point representation? Give example.

DMSIT03

ASSIGNMENT 2

M.Sc. DEGREE EXAMINATION, MAY- 2020

(First Year)

INFORMATION TECHNOLOGY

Computer Organization

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What are the various states in instruction cycle with neat diagram?

Q2) Draw and explain basic computer instruction formats.

Q3) Explain pipelining technique. Draw the general structure of four segment pipeline.

Q4) List down processor modes of ARM processor.

Q5) What is instruction format?

Q6) Define pipeline.

Q7) What is a program status word?

Q8) What is asynchronous serial transfer?

Q9) What is optical disk?

DMSIT04

ASSIGNMENT 1

M.Sc. DEGREE EXAMINATION, MAY - 2020

First Year

DATA STRUCTURES WITH C

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) Discuss different asymptotic notations used to represent an algorithm.

Q2) What is an array? Write different types of arrays and their memory representation? Write a program to addition of two matrices.

Q3) a) Convert given Infix expression : (a + b * c ^ d) * (e + f/g) to Postfix expression using Stack and show the details of Stack at each step of conversion (Note : ^ indicates exponent operator)

b) Explain how to insert and delete list in a circular linked list with an example.

Q4) a) With the help of diagrams construct a Binary Search Tree (BST) with the following keys : 85, 22, 42, 63, 38, 57, 74, 6, 49, 71. Also delete 42 from the constructed BST.

b) Write a subroutine to search an element in a Binary Search Tree.

Q5) Sort the following elements using the merge sort and also write its pseudocode : 34, 76, 54, 12, 38, 29, 11, 89, 8, 3, 6, 27.

Q6) Write an algorithm to find largest of list of elements.

Q7) Explain short notes on garbage collection.

Q8) Describe string matching procedure using transition flow diagram.

Q9) Explain the operations of queue with example.

Q10) Explain about the rotations in AVL tree.

DMSIT04

ASSIGNMENT 2

M.Sc. DEGREE EXAMINATION, MAY - 2020

First Year

DATA STRUCTURES WITH C

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) Describe how to represent the binary tree with an example.

Q2) Explain the trace of selection sort on following data: 42, 23, 11, 65, 58.

Q3) Write a subroutine to binary search.

Q4) What is record?

Q5) Give any two applications of stack.

Q6) Define circular queue.

Q7) Define in - order and post - order of tree.

Q8) Define space complexity.

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DMSIT05

ASSIGNMENT 1

M.Sc. (IT) DEGREE EXAMINATION, MAY - 2020

First Year

OPERATING SYSTEMS

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What is a process? Explain about various attributes of process control Block. Explain various process states with neat sketch.

Q2) What is Dining Philosophers problem? Discuss the solution to Dining philosopher's problem using monitors.

Q3) What is a page fault? Explain the steps involved in handling a page fault with a neats ketch.

Q4) Explain implementation of virtual memory through Demand Paging.

Q5) Discuss various issues in organization of devices by the operating systems.

Q6) What structure of operating system?

Q7) Explain the Round Robin scheduling algorithm with a suitable example.

Q8) Describe the differences among long - term scheduling. Short - term, and medium term scheduling.

Q9) Explain the Resource - Allocation Graph Algorithm for deadlock prevention.

Q10) What are the various attributes that are associated with an opened file?

DMSIT05

ASSIGNMENT 2

M.Sc. (IT) DEGREE EXAMINATION, MAY - 2020

First Year

OPERATING SYSTEMS

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What is a Virtual Memory? Discuss the benefits of virtual memory technique.

Q2) Describe various directory Operations.

Q3) State different categories of threats.

Q4) What is scheduler?

Q5) Define average waiting time and turnaround time.

Q6) Define Semaphore.

Q7) Define paging.

Q8) Define program threat.

Q9) Consider the following page reference string : 1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6 How many page faults would occur for the optimal page replacement algorithm? assuming three frames and all frames are initially empty.

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DMSIT06

ASSIGNMENT 1

M.Sc. DEGREE EXAMINATION, MAY - 2020

(First Year)

INFORMATION TECHNOLOGY

DBMS (Database Management System)

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What are the components of information system? Discuss classifications of information system.

Q2) Illustrate different types of data models with suitable example.

Q3) What are the various steps to consider to database design? Explain.

Q4) What is Integrated Database Management Systems? Describe its DDL and DML commands.

Q5) Discuss different security mechanisms and database recovery.

Q6) Write about indexed sequential file organization.

Q7) Explain one–to–one and many–to–one association between files with example.

Q8) Write about ring and inverted list data structures.

Q9) Describe Entity – Relationship data model with example.

Q10) State and explain about different types of pointers.

DMSIT06

ASSIGNMENT 2

M.Sc. DEGREE EXAMINATION, MAY - 2020

(First Year)

INFORMATION TECHNOLOGY

DBMS (Database Management System)

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

Q1) What are the guidelines for mapping conceptual data model into relational data model?

Q2) Write about PC – FOCUS database description.

Q3) State relational algebra and relational calculus commands with syntax.

Q4) Define Decision Support System.

Q5) What is significance of meta data?

Q6) Define normalization.

Q7) What is conceptual data model?

Q8) Define concurrency?