Madurai Kamaraj University

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Department of Computer Science

ASSIGNMENT

Discrete Mathematics

Marks: 5X5=25

Answer all the questions:

1) a. What are the different types of binary relations? Given an example for each.

(or)

b. Define composition of functions. Give an example.

2) a. Distinguish tautology and contradiction.

(or)

b. What is the disjunctive normal form of $P \wedge (P \rightarrow O)$?

3) a. Define homogeneous recurrence relation. Give an example.

(or)

b. What are the properties of generating functions?

4) a. Distinguish paths and circuits in a graph.

(or)

b. Define digraph. Give an example.

5) a. Define least upper bound. Give an example.

(or)

b. Define modular lattice. Give an example

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ASSIGNMENT

Object Oriented Programming with C++

Marks: 5X5=25

Answer all the questions:

1. a. Write short on basic concept of object oriented programming.

    (or)

    b. Write short notes on control statement with examples

2. a. What is array? Explain its type with detail

    (or)

    b. Write short notes on dynamic allocation of memory

3. a. Define function and its type in detail.

    (or)

    b. Explain storage class in detail.

4. a. Write short note on operator overloading.

    (or)

    b. Define inheritance and its type in detail

5. a. Explain polymorphism in detail

    (or)

    b. Write short note on abstract classes

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ASSIGNMENT

Computer Graphics

Marks: 5X5=25

Answer all the questions:

1) **a.** What are segments in Line Segments

   (or)

   b. Discuss about the vectors and pixels and frame buffers

2) a. Discuss about their thick lines segments

   (or)

   b. Discuss about their display devices

3) a. Discuss about their polygons and its Representations

   (or)

   b. Write short notes on Polygon Interptaking Algorithms

4) a. What is the methods of Rotation Homogeneous Coordinate and Translation

   (or)

   b. Write short note on inverse transformation

5) a. Write short on adding to the system and multiple windowing

   (or)

   b. Write short note on clipping.

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ASSIGNMENT

Operating System

Marks: 5X5=25

Answer all the questions:

1   a. Write short notes on direct memory access.

(or)

b. Explain Dekker's algorithm for implementing mutual exclusion

2   a. what is scheduling and explain the scheduling algorithm

(or)

 b. Write short notes on deadlock prevention

3   a. Explain virtual memory in brief

(or)

b. Write short notes on segmentation

4   a. write short notes on file system

(or)

b. Brief disk space management in detail

5   a. Explain about the architecture of Unix

(or)

b. Write short notes on system calls

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ASSIGNMENT

Computer Organization

Marks: 5X5=25

Answer all the questions:

1. a. Write short notes on Assembler.

   (or)

   b. Brief about computer register.

2. a. Explain about Addressing mode.

   (or)

   b. Write short note on Reduced Instruction set computer.

3. a. Write a detail notes on Asynchronous data transfer.

   (or)

   b. Explain in detail about Direct Memory access.

4. a. Write short notes on cache memory.

   (or)

   b. Explain about the hierarchy in memory.

5. a. Write short notes on subroutines.

   (or)

   b. Explain about peripheral devices.

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ASSIGNMENT

Computer Algorithm and Data Structures

Marks: 5X5=25

Answer all the questions:

1) a. Write short notes on Binary search?

   (or)

   b. Write short notes on MERGESORT

2) a. Write short note Stassen's matrix

   (or)

   b. Write short note on General Method

3) a. Discuss about the travelling salesperson problem

   (or)

   b. Write short notes on flow shop scheduling

4) a. List out their multiple Stacks and Queues.

   (or)

   b. Discuss about their single linked lists

5) a. Discuss about their Binary trees

   (or)

   b. What are the methods in threaded binary trees?

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ASSIGNMENT

SOFTWARE ENGINEERING

Marks: 5X5=25

Answer all the questions:

1) a. Define Software Engineering. Explain the few fundamental quality attributes that every software product should possess.

   (Or)

   b. Discuss about various categories of project size

2) a. Discuss about the factors that influence software quality and programmer productivity List down the factors to be considered in project planning and in setting project goals

   (Or)

   b. Discuss about programming team structures.

3) a. Explain about phased software life cycle model

   (Or)

4) b. List down and explain the major factors that influence the software cost. Write about COCOMO cost estimation model

   (Or)

5) a. Write about Delphi cost estimation techniques

   (Or)

   b. Explain about various   Relational Notations

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ASSIGNMENT

Computing with oracle

Marks: 5X5=25

Answer all the questions:

1) a. "Data Integrity". Describe about it.

(or)

  b. What is attribute and entity?

2) a. What is client/server? What are the different types of servers available?

(or)

  b. List any five front end and back end tools.

3) a. Create a sample table, EMPLOYEE and write the following queries:

   a. Count the no. of employees having salary greater than 5000.

   b. Print the average salary.

(or)

  b. What is the advantage of stored procedures?

4) a. Write with neat syntax:

   a. ALTER

   b. SELECT

(or)

  b. Write a PL/SQL program to find the greatest of three numbers.

5) a. What is a database backup?

(or)

  b. Explain database trigger.

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ASSIGNMENT

Computer Networks

Answer all the questions: **Marks: 5X5=25**

1) a. Define Computer Networks. Explain any 5 uses of computer networks. Explain about various types of networks

(Or)

b. Explain (a) OSI Reference Models (b) TCP/IP Model

2) a. Write about (a) twisted pair (b)baseband coaxial cable (c) broad band coaxial cable (d)fibber optics (e)radio transmission (f) microwave transmission

(Or)

b. Explain about (a)circuit switching (b) packet switching (c) Frequency Division Multiplexing (d) Time Division Multiplexing

3) a. List down the various services provided by Data Link Layer. Explain Framing. Write about Digital Cellular Radio

(Or)

b. What is MAC Layer? Explain (a) Pure Aloha (b) Slotted Aloha (c) Persistent CSMA (d) Non Persistent CSMA (e) CSMA with collision detection (f) IEEE802.3

4) a. Explain the following Routing Algorithms (a) Optimality Routing (b) Shortest path Routing (c) Broadcasting (d) Flooding (e)Hierarchical routing (f) Multicast Routing

(Or)

b. List down transport layer quality of service parameters. Explain (a) establishing connection (b) releasing connection (c) buffering (d) multiplexing

5) a. Explain about cryptography , public key algorithms

(Or)

b. Explain about (a) E-Mail Architecture and Services (b) RFC822 (c)SMTP (d) PGP (e)WWW

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ASSIGNMENT

Multimedia and its Applications

Answer all the questions: **Marks: 5X5=25**

1. a. What is Multimedia? List down the uses of multimedia. Discuss about history and Multimedia Market

    (Or)

    b. Discuss about multimedia computer architecture

2. a. Explain in detail about using text files

    (Or)

    b. Discuss the Graphics file and Application Formats

3. a. Write short notes on audio file format

    (Or)

    b. Write notes on Digital audio systems. Describe the characteristics of sound and digital audio

4. a. Explain about digital video software

    (Or)

    b. How to select the tools in multimedia applications

5. a. Discuss about the digital video data sizing. explain the categories of authoring tools in multimedia

    (Or)

    b. Discuss the communication protocols in detail

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ASSIGNMENT

Java Programming

Answer all the questions: **Marks: 5X5=25**

1. a. List down and explain the special features of Java. Explain the various conditional and control statements available in java with examples

   (Or)

   b. Explain the object oriented fundamentals in details. Also Explain Method Overloading and Constructor Overloading with examples

2. a. Write about the java's primitive data types with examples

   (Or)

   b. Discuss about the various types of operators available in java with examples

3. a. Explain any 10 String Handling methods in java with examples. What is Multithreading in Java explain with examples

   (Or)

   b. What is Exception Handling? How Java handles exception, explain with example. How to create user defined exceptions

4. a. List down the input stream and output stream classes along with its methods with examples

   (Or)

   b. Explain about TCP/IP client socket and server socket

5. a. Explain Applet Life Cycle Methods with example, Write a java program to pass information to applets

   (Or)

   b. Write about the following awt controls with example. (a) Label (b) button (c) List (d) checkbox

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ASSIGNMENT

Operation Research

Answer all the questions: **Marks: 5X5=25**

a. Give the main characteristics of Operations Research.

(or)

b. State the different types of models used in OR.

1) a. Find all the basic solutions of the equations:

$2x1 + 6x2 + 2x3 + x4 = 3$

$6x1 + 4x2 + 4x3 + 6x4 = 2.$

(or)

b. Define a. Basic feasible solution   b. unbounded solution.

3) a. Write down the dual of the following LPP:

Max $Z = 4x1 + 2x2$

Subject to the constraints

$-x1 + x2 \leq -3$

$-x1 + x2 \leq -2$ and

$-x1 + x2 \leq 0$

(or)

b. What is an artificial variable and why it is necessary to introduce it?

4) a. Define 'Assignment Problem'. Give an example of it

(or)

b. Show that an assignment problem is a special case of a transportation problem.

5) a. Define degenerate solution in a Transportation Problem.

(or)

b. Write the procedure for finding the initial basic feasible solution using Matrix minimum Method.