

19. (a) Derive the equation of the bisectors of the angles between straight lines.

(b) Find the correlation coefficient from the following data :

$x$ : 32 38 48 43 40 22 41 69 35 64

$y$ : 30 31 38 43 33 11 27 75 40 69

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MAY 2008

MATHEMATICS

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Time : Three hours

Maximum : 100 marks

PART A — ( $6 \times 5 = 30$  marks)

Answer any SIX questions.

1. Evaluate  $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a}$ , when  $n$  is negative integer.
2. Find  $\frac{dy}{dx}$  when  $x^3 + 3axy + y^3 = a^3$ .
3. Evaluate  $\int \sin^{-1} x \, dx$ .
4. Evaluate  $\int \frac{x}{(1+x)(1+x^2)} \, dx$ .
5. Prove that the scalar multiplication is distributive over vector addition.
6. Find the inverse of the Matrix  $\begin{bmatrix} 1 & 2 & 5 \\ 3 & 1 & 4 \\ 1 & 1 & 2 \end{bmatrix}$ .

7. Prove that any equation of the first degree in  $x$  and  $y$  always represents a straight line.

8. Prove that the equation

$12x^2 + 7xy - 10y^2 + 13x + 45y - 35 = 0$  represents a pair of two straight lines.

9. Find the mean for the following data:  
18, 15, 18, 16, 17, 18, 15, 19, 17, 17.

10. Obtain the standard deviation of the following data :

X: 4.5 6.5 8.5 10.5 12.5 14.5

F: 4 10 20 15 8 3

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. If  $y = \sin^{-1} x$  prove

$$(1 - x^2)y_{n+2} - (2n + 1)xy_{n+1} - n^2 y_n = 0.$$

12. Evaluate  $\int_0^{\frac{\pi}{2}} \log \sin x \, dx$ .

13. Show that the four points whose position vectors are  $3i + 2j + 4k$ ;  $6i + 3j + 2k$ ;  $5i + 7j + 3k$ ;  $2i + 2j + 5k$  are coplanar.

14. Solve  $x(x - y)dy + y^2 dx = 0$ .

15. Find the values of  $h$  and  $f$  so that the equation  $9x^2 + 2hxy + 4y^2 + 6x + 2fy - 3 = 0$  represent a pair of parallel lines and find the distance between them.

16. The following data related to the marks of 10 students in the internal test and the University examination for the maximum of 50 in each.

Internal Marks: 25 28 30 32 35 36 38 39 42 45

University Marks: 20 26 29 30 25 18 26 35 35 46

Obtain the two regression equations.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. (a) If  $y = (\sin^{-1} x)^2$  prove  
 $(1 - x^2)Y_{n+1} - (2n - 1)xy_n - (n - 1)^2 y_{n-1} = 0$ .

(b) Find the angle of intersection between the curves  $x^2 - y^2 = a^2$  and the curve  $x^2 + y^2 = a^2\sqrt{2}$ .

18. (a) Evaluate  $\int_0^{\frac{\pi}{2}} \frac{x}{a^2 \cos^2 x + b^2 \sin^2 x} dx$ .

(b) Using vectors, prove that the diagonals of a parallelogram bisect each other.

PROGRAMMING IN C

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. What are the steps in any program development?
2. Write a C program to illustrate the initialization of variables.
3. Write a program to find the factorial of non-negative integer using function.
4. Explain the function prototyping.
5. Define array and explain the initialization of one dimensional array.
6. Explain any three string handling functions.
7. Explain array of structure with example.
8. Explain bit field structure with suitable example.

9. Explain an five file open-modes with their meaning.

10. What are the typical file error situation?

PART B — (4 × 10 = 40 marks)

Answer any FOUR questions.

11. Explain an ten character type constants.

12. Explain integer and real arithmetic with examples.

13. Write a C program to display the charge for the units consumed with the following conditions:

Consumption of units	Rate of Charge
< 250	Minimum charges Rs. 25
0-100	Rs. 0.50 / unit
100-200	Rs. 125 + Rs. 1.50/unit for excess of 200
200-400	Rs. 425 + Rs. 3.00/unit for excess of 400

14. Write a function to find the power of numbers using function.

15. Write a program that sorts a set of given numbers in ascending order.

16. Discuss structure with in structure with an example.

PART C — (2 × 15 = 30 marks)

Answer any TWO questions.

17. Explain various types of operators available in C with examples.

18. (a) Explain recursion with suitable programming example.

(b) Write a program to illustrate string input and output using pointers.

19. (a) Explain a structure with its initialization

(b) Write a c Program for I/O operations using formatted I/O functions.

DIGITAL PRINCIPLES AND APPLICATIONS

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain streamlined Method of converting binary-to decimal.
2. Explain the basic parts of a computer with a diagram
3. Write the logic symbol of AND gate with truth table.
4. What are basic Gates? Why they called so?
5. Explain Decoder with diagram.
6. Explain Exclusive OR using AND gate.
7. Explain Half subtractor with circuit and truth table.

8. Explain 2's complement subtraction with example.
9. Explain clocked RS flip Flop.
10. Explain Schmitt Trigger.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Convert 21.13 into its binary equivalent.
12. State and prove Commutative Laws of Boolean Algebra.
13. Explain the simplification of Boolean Expression using K-Map.
14. Explain Seven Segment Indicator.
15. Explain binary subtraction with suitable example.
16. Construct a 4 bit asynchronous counter and explain its working principle.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. (a) Represent the binary (1100.11) into hexadecimal.  
(b) Represent the decimal number 534.35 in to hexadecimal.

18. (a) State and prove De Morgan's Law  
(b) Explain commercially available ROMs.
  19. (a) Explain JK flip Flop.  
(b) Build up a mod 12 counter and explain it working.
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PC SOFTWARE FOR WINDOWS

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain elements of Program Manager Window.
2. Describe the usage of File manager and Program manager in Windows.
3. Explain various page setup commands.
4. Explain inserting foot notes and endnotes in word document.
5. Explain how to align data in Work sheet cells with an example.
6. Explain how to format work sheet with example.
7. Explain how to fill and replacing data in work sheet.
8. Explain the use of advanced filter and auto filters.



9. Explain DTP.

10. Explain briefly computer viruses.

PART B — (4 × 10 = 40 marks)

Answer any FOUR questions.

11. Explain format of a window.

12. Explain spell checking and selecting styles in Ms-word.

13. Discuss the graphics feature of Word.

14. Explain moving, copying, inserting and deleting rows and columns in Excel.

15. Explain briefly databases in a worksheet.

16. Explain Major types of computer viruses.

PART C — (2 × 15 = 30 marks)

Answer any TWO questions.

17. Write an essay on the Windows help menu in detail.

18. (a) Discuss the formatting table in Word.

(b) Explain the Mail merge feature of Word and application of the same with example.

19. (a) Explain multiple worksheets and Macro in MS-Excel.

(b) List any ten symptoms of Computer viruses.

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**SYSTEM SOFTWARE**

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**Time : Three hours****Maximum : 100 marks****PART A — (6 × 5 = 30 marks)****Answer any SIX questions.**

1. Explain the input and output of SIC.
2. Explain system programs.
3. What are the differences between a literal and immediate operand.
4. Explain assembler expressions with suitable examples.
5. Explain the tables used for linking.
6. What are relocating loaders? Explain.
7. What is the function of IF statement during the expansion of a macro?
8. What are the advantages of line-by-line approach in macro processing?

9. Define interpreter. Explain.

10. Explain the relationship between editing and viewing buffer.

**PART B — (4 × 10 = 40 marks)****Answer any FOUR questions.**

11. Explain SIC machine structure in detail.
12. Explain one pass assembler.
13. Explain the machine-dependent loader features.
14. Explain dynamic Linking in detail.
15. Discuss Macro Expansion with macro invocation.
16. Explain the relationship of interactive debuggers with other parts of system.

**PART C — (2 × 15 = 30 marks)****Answer any TWO questions.**

17. Discuss four instruction formats SIC/XE machine and their addressing modes in detail.
18. Discuss Machine Independent macro Processor Features.
19. Describe the machine dependent and independent Code optimization.

COBOL PROGRAMMING

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain the rules to form identifiers in COBOL.
2. Explain I/O verbs in COBOL with examples.
3. Explain a typical IDENTIFICATION Division with example.
4. Explain various level numbers and their usage.
5. Write any five rules that are to be observed in using OCCURS clause.
6. Describe Inspect Verb with suitable example.
7. Describe a data record with suitable example.
8. Write the syntax of the statements for Sequential file.

9. Explain the applications of computers to Banking and Insurance.

10. Discuss any five application of computers in Science and technology.

PART B — (4 × 10 = 40 marks)

Answer any FOUR questions.

11. Explain various arithmetic verbs with suitable examples.

12. Explain Figurative constants in detail

13. Write a COBOL program to compute sales commission for given sales amount using IF statement.

14. Explain any four forms of PERFORM Statements with suitable examples.

15. Write a COBOL program to sort given set of names in a sequential in to ascending order.

16. Discuss the applications of computers in Project Management.

PART C — (2 × 15 = 30 marks)

Answer any TWO questions.

17. (a) Explain

(i) COMPUTE Verb

(ii) ACCEPT and DISPLAY verbs

(b) Explain the editing characters CR, DB, Z, \$ and + with suitable examples.

18. (a) Write note on SEARCH and INSPECT Verbs.

(b) Suppose a disk file is to be modified in the following manner. Let EMP-No, NAME and BASIC-PAY are the three records in the record. If the values of BASIC-PAY will be replaced by BASIC-PAY plus additional 10% of BASIC-PAY If BASIC-PAY > 800 and <= 1000 , the value of BASIC-PAY plus additional 20% of old BASIC-PAY. In other cases the record should remain unchanged

Write a COBOL program to accomplish the above.

19. Write an essay on applications of computers to Finance and accounts.

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DISCRETE MATHEMATICS

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Time : Three hours

Maximum : 100 marks

PART A — ( $6 \times 5 = 30$  marks)

Answer any SIX questions.

1. Given an example of a relation which is neither reflexive nor irreflexive.
2. Prove that the equality of numbers on a set of real numbers is an equivalence.
3. Draw truth table for the five basic connectives.
4. Differentiate tautology and contradiction.
5. Obtain the recurrence relation whose solution is  $D(k) = 5 \cdot 2^k$ .
6. What are the properties of a generating functions?
7. Define the terms simple, complete and regular graph with example.
8. Define isomorphism of two graphs with suitable graphs.

PCA II

9. Write the properties of the operations meet and join.

10. Find atoms in the Boolean algebra of all positive divisors of 70.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Let  $R = \{(1, 2), (3, 4), (2, 2)\}$  and  $S = \{(4, 2), (2, 5), (3, 1), (3, 1)\}$  find  $R \circ S, S \circ R, R \circ R$  and  $S \circ S$ .

12. If  $f: A \rightarrow B$  and  $g: B \rightarrow C$  be bijective prove that  $(g \circ f)^{-1} = f^{-1} \circ g^{-1}$ .

13. Solve the recurrence relation  $a(n) = a(n-1) + 2(n-1)$  with boundary condition  $a(1) = 2$ .

14. Prove that a tree with  $n$  vertices has  $n-1$  edges.

15. Prove that, in a simple graph, the number of odd degree vertices is always even.

16. State and prove the De Morgan's law for a complemented distributive Lattice.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Prove

$$(a) \quad P \rightarrow (Q \rightarrow R) \Leftrightarrow P \rightarrow (\sim Q \vee R) \\ \Leftrightarrow (P \wedge Q) \rightarrow R$$

(b) Object PDNF of

$$(P \wedge Q) \vee (\sim P \wedge R) \vee (Q \wedge R).$$

18. Prove that a graph is Eulerian iff all the vertices are of even degree.

19. (a) Using Karnaugh map method find the minimal sum-of-product of  $f(a, b, c, d) = \sum 0, 5, 7, 8, 12, 14$ .

(b) Implement Boolean function  $f(x, y, z) = (x \wedge y) \vee (x' \wedge y') \vee (y' \wedge z')$  using AND, NOT gates only.

PROGRAMMING IN C++

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain about any two basic concepts of OOP.
2. Explain various arithmetic operators with example.
3. Explain the concept of object with suitable example.
4. Explain this pointer with example.
5. Explain the basic elements of a function with suitable example.
6. Explain an two types of storage classes supported in C++.
7. Explain the purpose of overloading operators.
8. Explain runtime polymorphism.



9. What is the use of inheritance? Explain
10. Explain the concept of virtual base classes.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Explain I/O operations in C++
12. Compare break and continue statements with examples.
13. Illustrate the reference arguments with programming example.
14. Write a C++ program to add two complex numbers.
15. Explain the types of base classes with suitable examples.
16. Explain the use of friend function with suitable programming example.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Write an essay on various control statements available in C++ with suitable syntax and examples.
18. Explain overloading of operators in C++. Write a program to over load a binary operator.

19. Write note on

- (a) Function overloading
  - (b) Virtual destructor
  - (c) Inline function
-



COMPUTER GRAPHICS

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Time : Three hours

Maximum : 100 marks

PART A — ( $6 \times 5 = 30$  marks)

Answer any SIX questions.

1. Explain Graphical User interface.
2. Explain pixels and frame buffers.
3. Explain the primitive commands for drawing a line segment.
4. Explain how to delete a segment.
5. Explain the acoustic tablet and Electro Acoustic tables.
6. Describe winding number method for defining polygon's interior points.
7. Obtain rotation 2-D transformation matrix.

8. Explain display procedures briefly.

9. Explain mid point sub division.

10. Explain clipping of polygons.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Write any three Graphics applications.

12. Explain the concept of character generation.

13. Explain

(a) Direct View Storage tubes and

(b) Plasma Panel

14. Explain the polygon interfacing algorithms

(a) to set a flag indicating that polygon should be filled and

(b) to set the polygon interior style

15. Obtain the matrix of transformation for scaling and translation.

16. Explain three dimensional transformations in detail.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Describe the Bresenham's Line drawing algorithm.

18. Discuss in detail TEST primitive operations

19. Explain Cohen-Sutherland algorithms for clipping lines.

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**OPERATING SYSTEMS**

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Discuss the need for the operating system.
2. Explain I/O protection.
3. Write note on scheduling Queues.
4. Explain any two OS schedulers.
5. What are the necessary conditions for the occurrence of deadlock? Explain.
6. Explain in detail about the virtual memory.
7. Explain process control Block.
8. Discuss briefly the multiprogramming.

9. Explain any five DOS commands used to working with Directories.

10. Explain BSD Kernel I/O structure.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Explain protection requirement for memory and processor.

12. Explain how semaphore s may be used to enforce mutual exclusion.

13. Discuss the role of semaphore with an example.

14. Explain priority based pre-emptive scheduling algorithm.

15. Discuss various DOS commands used to work with files.

16. Describe briefly the history of Unix operating systems.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. (a) Discuss performance criteria for comparing scheduling algorithms.

(b) Explain an one scheduling algorithm with examples.

18. (a) Explain Optimal replacement and Adhoc page replacement algorithms.

(b) Explain how information is Protected from physical damage and improper access.

19. (a) What do you mean by semaphore? Explain in detail with suitable examples.

(b) Explain various mechanisms that support distributed processing on Windows 2000.

COMPUTER ORGANISATION

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Time : Three hours

Maximum : 100 marks

PART A — ( $6 \times 5 = 30$  marks)

Answer any SIX questions.

1. Explain instruction code and their usage.
2. Explain control unit with a block diagram.
3. Discuss arithmetic Logic unit with suitable circuit.
4. Explain the pipeline processing using a simple example.
5. Explain peripherals devices.
6. What are the advantages of using micro programmed control unit?
7. Explain asynchronous data transfer.
8. Write note on Strobe control
9. Explain interrupt cycle micro operations with a flow chart.
10. Explain memory protection.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Explain three categories of computer Instructions.
12. Explain the micro instruction format with suitable example.
13. Explain any one priority interrupt.
14. Explain any two modes of data transfer between central computer and peripherals.
15. Explain associative memory table with suitable block diagram.
16. Explain cache memory with the help of diagram.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Explain the cache memory organization.
18. Discuss I/O Bus and Interface Module with suitable diagrams.
19. Write note on
  - (a) Associative memory
  - (b) Address space and Memory space.

COMPUTER ALGORITHMS AND DATA STRUCTURE

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain binary search with simple example.
2. Explain Strassen's Matrix multiplication.
3. What is greedy method? Explain.
4. Explain the problem of optimal storage on tapes.
5. Explain Hash function with suitable example.
6. Explain and/ or Graphs with example.
7. Define Queue. Explain the operation that can be performed on Queue.

8. Explain mazing problem with suitable figure.
9. Define Binary tree with example and List the properties of Binary trees.
10. Explain in order traversal of binary tree.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Write procedure for creating, inserting, and deleting items from a linked list.
12. Draw binary decision tree for binary search with  $n-12$ .
13. Explain optimal binary search tree for the given identifier set with suitable algorithm.
14. Write procedure for creation, add and delete elements in a stack.
15. Explain pattern matching strings with suitable algorithm.
16. Write an algorithm to search a binary search tree.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Explain :
  - (a) Prim's algorithm and
  - (b) Kruskal's Algorithm.
18. Discuss multistage graphs and the formulation of it by dynamic programming and backward approach.
19. (a) Write an algorithm to find all pairs shortest path.
  - (b) Explain various operations on Doubly linked list.



SOFTWARE ENGINEERING

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain the distribution of effort in the software life cycle.
2. Explain the factors to consider in project planning.
3. What are the quality attributes of software?
4. List various teams and their function performed by them in project structure.
5. Explain product size as software cost factor.
6. Construct a transition diagram to specify the operation of a bank teller machine.
7. Explain structured flow charts with suitable examples.

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8. Explain Coupling and their types.

9. Explain any two functions performed by SQA group.

10. Explain analysis and design activities of software maintenance.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Discuss the format of a project plan.

12. Explain project complexity as a factor that influence software cost.

13. Explain the software requirements specification in detail.

14. Discuss the difference between structured English and structured flowcharts.

15. Explain the software quality assurance plan in detail.

16. Explain the methods of system testing.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Discuss various factors that influence quality and productivity of software product.

18. Write an essay on the software cost estimation techniques in detail.

19. (a) Explain any two code metrics.

(b) Explain the system testing in detail.

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**CLIENT SERVER COMPUTING WITH ORACLE**

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Time : Three hours

Maximum : 100 marks

**PART A — (6 × 5 = 30 marks)**

Answer any SIX questions.

1. What is a database? Explain with example that stores student information system.
2. Explain any two types of data independence.
3. Explain the disconnected, personal computing model.
4. What are the advantages of client server computing?
5. Explain the data types used in Oracle SQL.
6. Explain the DDL commands to create and modify tables.
7. Explain conditional control in PL/SQL with suitable table examples.

8. Write a PL/SQL block to find the greatest of the given three numbers.

9. Explain database backup.

10. Write PL/SQL program to check if the given number is odd or even.

**PART B — ( $4 \times 10 = 40$  marks)**

Answer any FOUR questions.

11. Discuss various advantages of using a DBMS.

12. Explain ER model with suitable example.

13. Explain Inheritance, class hierarchy. and polymorphism.

14. Write a PL/SQL block to generate first  $n$  prime numbers.

15. What is SQL? Write its classification with suitable examples.

16. Explain the configuring SQL\*Net for an Oracle Client/Server System

**PART C — ( $2 \times 15 = 30$  marks)**

Answer any TWO questions.

17. (a) Explain relational model with suitable example

(b) Discuss the pitfalls of client server computing.

18. (a) Explain the following manipulation commands using SQL with their syntaxes and examples :

(i) UPDATE and

(ii) DELETE.

(b) Explain the following transaction control commands. With their syntaxes and examples :

(i) COMMIT

(ii) ROLLBACK

(iii) SAVEPOINT.

19. (a) Write a PL/SQL program to find the factorial of a given non-negative integer.

(b) Explain how the DBA planning for database installation.

**COMPUTER NETWORKS**

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain broadcast Networks.
2. Explain Network standardization.
3. Explain base band coaxial cable.
4. Explain Analog Cellular telephones
5. Explain the character count framing method.
6. Explain Token ring standard
7. Explain the application of routing algorithm.
8. Explain transport entity.

9. Explain any five people who cause network security problem.

10. Explain Uniform Resource Locators.

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Explain the Novell Netware reference Model in detail.

12. Discuss any two Communication satellites.

13. Explain any two data link protocols.

14. Explain the services provided by the network layer to Transport Layer.

15. Explain how transport layer enhance the quality of service provided by the network layer.

16. Explain in detail the network security problems intentionally caused by malicious people.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Discuss the OSI reference Model in detail.

18. (a) Explain any two unguided transmission media.

(b) Explain the services provided by the data link layer to the Network Layer.

19. (a) Write note on Berkley Socket.

(b) Discuss what an email system can do and how they are organized.

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**MULTIMEDIA TECHNOLOGY AND APPLICATIONS**

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Time : Three hours

Maximum : 100 marks

**PART A — (6 × 5 = 30 marks)**

Answer any SIX questions.

1. Write brief history of multimedia.
2. Explain four basic stages in a multimedia project.
3. Explain digital audio system.
4. Explain font editing and design tools.
5. What are the disadvantages of MIDI?
6. What are the characteristics of Sound and Digital Audio?
7. What are the characteristics of Non-interactive presentations?
8. Discuss Building Blocks for Multimedia.
9. Explain internet addressing.
10. Explain HTML and web authoring.

**PART B — (4 × 10 = 40 marks)**

Answer any FOUR questions.

11. Explain in detail the digital audio and video.
12. Explain the user's perspective of multimedia products.
13. Explain Images and colours in Multimedia.
14. Explain the use of Digital Audio Systems for Multimedia.
15. Discuss categories of authority tools for multimedia.
16. Discuss various costs that involve in the multimedia projects.

**PART C — (2 × 15 = 30 marks)**

Answer any TWO questions.

17. Write an essay on the types of multimedia products.
18. Write note on Multimedia requirement analysis and Architectural design.
19. Write an essay on the multimedia design for the Web.



JAVA PROGRAMMING

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Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain identifier in Java with suitable example.
2. Explain Java's Bytecode.
3. Explain the four integer data types in Java.
4. Explain why abstract classes are needed.
5. Explain any five methods in Thread class.
6. What are exception subclasses?
7. Explain the methods in Java Output Stream abstract class.
8. Write a note on string tokenizer.
9. Explain an four important methods of Applet class.
10. What are the flags used in Image observer?

PART B — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

11. Discuss five types of Literals in Java.
12. Explain with syntax and example the statements- while, do-while.
13. Discuss in detail the AWT classes.
14. Write a Java program that is used sequence input stream to output the contents of several files.
15. Write a program that implement a simple network communications client and server.
16. Explain various methods in Lists.

PART C — ( $2 \times 15 = 30$  marks)

Answer any TWO questions.

17. Write an essay on the key factors that played important role in molding the final form of Java Language.
18. Write a program to illustrate the race condition situation in Java.

19. Write note on

- (a) Applet class
  - (b) Applet Display methods
  - (c) Passing information to Applets.
-