

Paper I — FUNDAMENTALS OF COMPUTERS

(For those who joined in July 1999 and after)

Time : Three hours

Maximum : 100 marks

PART A — ($20 \times 2 = 40$ marks)

Answer ALL questions.

1. Define : CPU.
2. What is ROM?
3. Define : Digital Computer.
4. What is meant by Flow Chart?
5. What is the decimal equivalent of $(101010)_2$?
6. Write a note on : Octal Number System.
7. Define : High-level languages.
8. What is Compiler?
9. List the names of any Two Input Devices of a Computer.

10. Define the term : Bus.
11. What are Output Units?
12. What is the Function of ALU?
13. Define : Operating System.
14. List the names of any Two operating systems.
15. Define : Multiprogramming.
16. What is meant by Computer Network?
17. Define : Protocol.
18. What is MAN?
19. Define : Star Topology.
20. Define : Internet.

PART B — (5 × 12 = 60 marks)

Answer ALL the questions.

21. (a) Describe the characteristics of computers.

Or

- (b) Explain about classification of computers.

22. (a) Describe in detail, Representation of Integers and Fractions in Computers.

Or

- (b) Compare High level Programming Languages with Assembly level languages.

23. (a) Explain the working of CPU with a neat diagram.

Or

- (b) Describe in detail, Secondary Storage Devices.

24. (a) Explain the various Functions of an operating system.

Or

- (b) Describe the different classification of operating system.

25. (a) Explain about different Communication Media used in Computer Networks.

Or

- (b) Discuss in detail, Network Topologies.

Paper II — COBOL AND DATA PROCESSING

(For those who joined in July 1999 and after)

Time : Three hours

Maximum : 100 marks

PART A — (20 × 2 = 40 marks)

Answer ALL questions.

1. Define : COBOL word.
2. What are Numeric Literals?
3. What is the use of Identification Division?
4. How do you insert a comment line in a COBOL program?
5. What are level numbers?
6. Define : Elementary Data Item.
7. Write a note on : ACCEPT Statement.
8. What is a Relation Condition?
9. Write the use of 77 level number.

10. What is the purpose of JUSTIFIED clause?
11. Write a note on : ROUNDED option.
12. What are the Arithmetic Operators in COBOL?
13. Define : Compound Condition.
14. What is the purpose of PICTURE Clause?
15. Write a note on: EXIT statement.
16. What is the use of SET verb?
17. Define : File.
18. What is meant by File Descriptor?
19. Define : Sorting.
20. Write the general syntax of CLOSE Statement with an example.

PART B — (5 × 12 = 60 marks)

Answer ALL questions.

21. (a) Explain about COBOL coding form with example.

Or

- (b) Describe in detail, identification and environment divisions.

22. (a) Describe the various PICTURE Clause characters and their uses with examples.

Or

- (b) Explain the different forms of ADD and SUBTRACT Statements with examples.

23. (a) Describe the use of Redefines and Renames Clauses with examples.

Or

- (b) Write a COBOL program to find the sum and average of 'N' given numbers.

24. (a) Explain the different forms of PERFORM statements with suitable examples.

Or

- (b) Write a COBOL program to find the Biggest number among three given numbers.

25. (a) Describe the general syntax of SORT and MERGE verbs with examples.

Or

- (b) Write a COBOL program to do Exam Processing.

Paper III — SOFTWARE ENGINEERING

(For those who joined in July 1999 and after)

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

PART A — ($20 \times 2 = 40$ marks)

1. Define : Software reliability.
2. How programmers spend their time in Software Engineering while developing software?
3. What is Management by objectives?
4. What is Regular Expressions?
5. What is Transition Tables?
6. Explain 'Democratic team'.
7. What are the major factors that influence software cost?
8. What do you mean by staffing?
9. What is DFD?

10. What is Decision table?
11. What do you mean by levels of Abstraction?
12. What are the major steps in structured design methodology?
13. What is detailed design?
14. What do you mean by Pseudo code?
15. List the merits of stepwise refinement technique.
16. What is Assertion?
17. What are the types of test that a software product should satisfy?
18. Define : Walkthrough.
19. What do you mean by Static Analysis?
20. What are different definitions of time for software reliability models?

PART B — (5 × 12 = 60 marks)

21. (a) Explain the RAD model for software development.

Or

- (b) Explain in detail about the various roles of Project Management.

22. (a) Explain in detail about Algorithmic cost models.

Or

- (b) Explain PERT – Project Scheduling Method with example.

23. (a) Explain in detail about design specification.

Or

- (b) Explain the structured software design.

24. (a) Explain in detail about the structured coding techniques.

Or

- (b) Write short notes on :

- (i) Walk through
- (ii) Inspections.

25. (a) Explain the basis path testing.

Or

- (b) Explain in detail about Black box testing.

23. (a) Write a C++ program to illustrate the use of overloaded constructors.

Or

(b) Explain the different type conversion in C++ with suitable examples.

24. (a) Write a C++ program to implement multiple inheritance.

Or

(b) Write an example C++ program for pointers to objects.

25. (a) Explain the various unformatted I/O operations in C++ with examples.

Or

(b) Describe the sequential Input and Output operations in C++ with examples.

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**Paper IV — OBJECT ORIENTED PROGRAMMING
WITH C++**

(For those who joined in July 1999 and after)

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

PART A — (20 × 2 = 40 marks)

1. What are classes?
2. List the names of any Four promising areas for application of OOP.
3. What are the User-defined data types in C++?
4. Give the general syntax of the 'while' statement in C++.
5. What is meant by friend function?
6. How to create objects in C++?
7. What are arrays of objects?

8. State whether the following statement is True or False :

Functions cannot return class objects.

9. The _____ is a member function whose name is the same as the class name but is preceded by a tilde.

10. List the operators that cannot be overloaded.

11. Using the keyword _____, we can create new operators in C++.

12. What are overloaded casting operator functions?

13. The _____ operator tells us what base class, a class is derived from.

14. Define : Multilevel Inheritance.

15. The _____ operator is used to specify a particular class.

16. A _____ function causes its class to be abstract.

17. Define : File.

18. The _____ function reads a whole line of text that ends with a newline character.

19. Write a note on : fail() Function.

20. State whether the following statement is True or False :

We can add data to an existing file by opening in write mode.

PART B — (5 × 12 = 60 marks)

21. (a) Compare Procedure-Oriented programming with Object-Oriented programming.

Or

(b) Explain the different types of operators in C++ with examples.

22. (a) What are inline functions? Explain the use of them with an example C++ program.

Or

(b) Write a C++ program to find the Smallest and Biggest number among 'n' given numbers.

24. (a) Discuss the administrative steps in building a database.

Or

(b) List out the steps to execute a PL/SQL programme.

25. (a) Illustrate with examples, the Oracle networking concepts.

Or

(b) Discuss in detail the threshold manage with respect to backup and recovery.

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**Paper V — CLIENT/SERVER COMPUTING
WITH ORACLE**

(For those who joined in July 1999 and after)

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

PART A — (20 × 2 = 40 marks)

1. What do you mean by data?
2. Compare data and information.
3. What is an entity?
4. Define middleware.
5. Compare open system and closed system.
6. Enumerate different types of data model.
7. What do you understand by the term client?
8. What do you mean by interface?
9. What is referred as commit?

10. What is referred as client/server?
11. State any two DML commands.
12. What do you mean by save point?
13. Distinguish between preemptive and non-preemptive threads.
14. What do you mean by procedure?
15. List out the roles of database administrator.
16. Compare variable and constant.
17. List out any four aggregate functions with suitable examples.
18. What do you mean by error handling?
19. Define trigger.
20. What do you mean by backup?

PART B — (5 × 12 = 60 marks)

21. (a) Explain in detail various database model.

Or

(b) Explain the overall system architecture of a database system with neat diagram.

22. (a) Explain briefly, evolution of computing models.

Or

(b) Explain the benefits and pitfalls of client / server computing.

23. (a) Consider the database given by the following schemes :

Sailors (sid: integer, sname: string, rating: integer, age: integer)

Boats (bid: integer, bname: string, color: string)

Reserves (sid: integer, bid: integer, day: date)

Give an expression in SQL for each of the following queries :

(i) Find the names and ages of all sailors younger than 18.

(ii) Find the names of sailors who have reserved a red boat.

Or

(b) Distinguish between conventional and direct path loading provided by SQL loader.

Paper VI — WINDOWS AND VISUAL BASIC

For those who joined in July 1999 and after

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (20 × 2 = 40 marks)

1. What is GUI?
2. Define: Multitasking .
3. List down any FOUR options in the OPEN Menu of Ms-Word.
4. What is the use of Mailmerge?
5. What are cells in Ms-Excel?
6. How to insert a row in a worksheet?
7. How to enter formulas in a worksheet?
8. Define: Event - Driven Programming.
9. What are Frames?
10. Write a note on : Command Button.

11. List the Numeric operators in Visual Basic.
12. List down any FOUR properties of Text Boxes.
13. How to Run a VB Project?
14. What is meant by code window?
15. Define : Procedure.
16. What is meant by Recursive Function?
17. What is SDI?
18. Write a note on : Title Bar in VB.
19. What is the use of Labels in VB?
20. What are Arrays?

PART B — (5 × 12 = 60 marks)

21. (a) Explain the following Icons in Windows :
 - (i) My computer
 - (ii) Recycle Bin
 - (iii) Control Panel.

Or

- (b) Explain the various Menus in Windows.

22. (a) Explain the various Formatting operations in Ms-word with examples.

Or

- (b) What are the various features of Ms-word? Discuss briefly.

23. (a) What are the different characteristics of a spread sheet? Discuss briefly.

Or

- (b) Explain the different types of charts in Ms-Excel with examples.

24. (a) Describe the general syntax of msgbox() and input box () functions with suitable examples.

Or

- (b) Explain the different types of looping statements in VB with examples.

25. (a) Write a VB program to arrange the given numbers in an Ascending order.

Or

- (b) What are control Arrays? Explain with example.

**Paper VIII — INFORMATION TECHNOLOGY AND
ITS APPLICATIONS**

(For those who joined in July 1999 and after)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — ($20 \times 2 = 40$ marks)

1. List down the components of Data communication.
2. What are Gopher servers?
3. Define :www.
4. List/ down any FOUR major categories for Top-level domain names.
5. Write a note on : E-mail Address.
6. What is the use of Microsoft Internet Explorer?
7. What is HTTP?
8. Define :Web Index.
9. What is the purpose of Internet chat?

10. Write a note on : Address Book.
11. Write a note on : Mailing lists.
12. List any TWO common Mailing List management programs.
13. Define the term : Intranet.
14. What is an Extranet?
15. What are Routers?
16. How information provider is significant?
17. What is meant by Dial up connection?
18. What is POP?
19. Write the function of Internet protocol.
20. List down any FOUR benefits of information provider.

PART B — (5 × 12 = 60 marks)

21. (a) Discuss about standards and agreements of Internet.

Or

- (b) Write short notes on :

- (i) Electronic lifelines
- (ii) FTP.

22. (a) Explain about domain name system and IP addresses.

Or

- (b) Explain how Internet works.

23. (a) Explain about TCP/IP.

Or

- (b) Describe in detail, Dial up Trouble shooting.

24. (a) Describe the salient features of E-mail.

Or

- (b) Explain about Mail reflectors and list servers.

25. (a) Explain the issues in managing the information provider.

Or

- (b) Explain the method of use of information providers.