D–6018	Sub. Code
	51711

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION,
DECEMBER 2024.

First Semester

PRINCIPLES OF INFORMATION TECHNOLOGY

(CBCS 2020 – 2021 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What do you mean by data?

2. List down the three components to GPS.

3. Mention the features of primary memory.

4. What is called computer?

5. Write a short note on application software.

6. What do you mean by communication software?

7. Write short note on internet.

8. Define the term computer network.

9. Define the term analog signals.

10. Write the features of DNS.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Discuss with suitable example for IT in industry.

Or

(b) How IT support entertainment field? Explain through example.

12. (a) Demonstrate any two types of computers.

Or

(b) Explain the history of computer.

13. (a) Explain the feature of presentation graphics software.

Or

(b) Explain the features of word processing software.

14. (a) List down the advantage of computer network.

Or

(b) Discuss in detail about MAN.

15. (a) Explain the concept of ISDN interfaces.

Or

(b) Illustrate the benefits of digital communication.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. What is GPS? Explain in detail about the features and benefits of GPS.

17. Explain the concept of secondary memory.

18. What do you mean by software? Explain in detail about the different kinds of software.

19. Discuss in detail about network topology.

20. Define – modem. Explain the types of modem.

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D–6019

Sub. Code
51712/22412

DISTANCE EDUCATION

COMMON FOR DIPLOMA IN (Computer Applications And Certificate Programme In Web Designing) EXAMINATION, DECEMBER 2024.

First Semester

OPEN SOURCE SOFTWARE

(CBCS 2020 – 2021 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. Define open source software and its distinguishing features.
2. Give an example of a popular open source application.
3. Explain the difference between kernel mode and user mode in Linux.
4. Briefly describe the concept of scheduling in Linux.
5. What is MySQL and what is its primary function?
6. Explain the process of record selection in MySQL.
7. What is metadata and how is it used in MySQL?
8. How do you generate a summary in MySQL?
9. What is PHP and what is its primary use in web development?
10. Differentiate between variables and constants in PHP.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Discuss the significance of collaboration in open source projects and its impact on innovation.

Or

(b) Describe two ways in which open source software can help reduce costs for businesses.

12. (a) Explain the general overview of Linux, including its history and key features.

Or

(b) Describe the development process with Linux, including the tools and methodologies involved.

13. (a) Discuss the steps involved in setting up a MySQL account.

Or

(b) Explain the working method with strings and manipulating data in MySQL.

14. (a) Discuss the importance of sorting query results in MySQL and explain the syntax for sorting data.

Or

(b) Discuss the implementation and use of sequences in MySQL for generating unique identifiers.

15. (a) Discuss the process of programming in a web environment using PHP, including server-side scripting and client-side interaction.

Or

(b) Make a detailed note on PHP arrays and its type.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain the philosophy behind the open source movement and its impact on the software industry.

17. Explain the process management in Linux, including process scheduling and management techniques.

18. Explain the importance of date and time functions in MySQL, and discuss how they are utilized in database management.

19. Discuss the integration of MySQL with web applications, including the use of PHP and other server-side scripting languages, and the process of connecting MySQL databases to web interfaces.

20. Describe the various security measures in PHP, including data validation, sanitization, and prevention of common vulnerabilities such as SQL injection and cross-site scripting (XSS).

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D–6020	Sub. Code
	51713

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION, DECEMBER 2024.

First Semester

OFFICE AUTOMATION

(CBCS 2020 – 2021 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What is the procedure for inserting symbols in MS Word documents?

2. List the advantages of mail merge feature.

3. What is cell reference?

4. How can we insert date and time in excel?

5. What happens if you do not use the equal (=) sign with a formula in MS Excel?

6. What are the uses of reports in MS access?

7. What are the main features of a good presentation?

8. List the effects that can be used to improve the presentation.

9. How to create a database?

10. List out the properties of a field.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Explain with the help of examples, different ways/methods using which tables can be drawn in MS-Word.

Or

(b) Write the procedure to check spelling and grammar in MS-Word.

12. (a) Discuss the role of formulas in MS-Excel.

Or

(b) Explain the following in detail :

(i) Linking worksheets

(ii) Freezing panes.

13. (a) Write short note on : sorting and filling.

Or

(b) Explain about report creation in MS-Access.

14. (a) Write the steps to create a presentation with header and footer, title, author, slide number and date included in all slides.

Or

(b) Write a procedure to add the following in PowerPoint :

(i) Clip art

(ii) An image from a file.

15. (a) Brief on find and replace data in a table in MS-Access.

Or

(b) Explain the different sections of reports in MS-Access.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain the header and footers in MS-Word.

17. How many types of charts are available in MS-Excel? Explain in detail.

18. Discuss on formatting toolbar in MS-Excel.

19. Explain the terms :

(a) Transitions

(b) Slide master.

20. Explain the step-by-step procedure to crate a form in MS Access with an example.

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D–6021

Sub. Code
51721

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION, DECEMBER 2024.

Second Semester

DIGITAL LOGIC FUNDAMENTALS

(CBCS 2020 – 2021 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What is the base of octal number system?
2. Mention the use of complements.
3. Prove the theorem of Boolean algebra $x + 1 = 1$.
4. State Demorgan's theorem.
5. Convert the expression to sum-of-products term.

   (A' + C)(A' + B' + C')(A + B').
6. What is the value of Don't care condition in Karnaugh map?
7. Differentiate Half adder and full adder.
8. What is De-Multiplexer?
9. What is flip flop?
10. List out the various data types that can be used for data representation.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Explain Binary arithmetic with suitable examples.

Or

(b) Explain about excess 3 code with examples.

12. (a) Explain any five basic theorems of Boolean algebra.

Or

(b) Explain sum of products and product of sums with suitable example.

13. (a) Explain the two level implementation of combinational circuit.

Or

(b) Illustrate the working of Half adder with circuit diagram and truth table.

14. (a) Explain binary counters with neat sketch.

Or

(b) Describe the architecture of memory unit.

15. (a) Explain Floating point representations with examples.

Or

(b) Explain about error detection codes.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Illustrate the procedure for subtraction with r's and (r-1)'s complement.

17. Explain any five theorem of Boolean algebra.

18. Simplify the following Boolean expression using Karnaugh map.

    Y = A'BCD + ABC'D + ABC'D + ABCD + ABCD' + AB'C'D' + AB'CD + A'B'CD.

19. Explain JK master slave flip flop with neat sketch.

20. Illustrate the working of shift registers with neat sketch.

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D–6022	Sub. Code
	51722

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION, DECEMBER 2024.

Second Semester

PROGRAMMING IN C

(CBCS 2020 – 2021 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What do you mean by Token?

2. List out the data types in C.

3. Give the syntax of scanf( ) statement in C.

4. Differentiate between while statement and do statement.

5. How will you define one dimensional array in C?

6. What are the elements of user defined function in C?

7. Define the term recursion.

8. Give the syntax to define a structure.

9. How ill you access a variable through its pointer?

10. Write down the commands for opening a data file.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Outline the basic structure of a C program.

Or

(b) Explain the precedence of arithmetic operators and evaluation of expressions.

12. (a) Explain various forms of If statement with syntax and example.

Or

(b) Explain switch statement with syntax and example.

13. (a) List and explain any five string handling functions in C.

Or

(b) Illustrate nesting of functions with suitable code.

14. (a) Distinguish between structure and union.

Or

(b) Explain array of structures with pseudocode.

15. (a) What is a pointer? How pointers are declared in C?

Or

(b) List and explain the I/O operations on files.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain the following :

    (a) Symbolic constants

    (b) Operators in C.

17. Explain the various Looping statements with syntax and example.

18. Write a C program to arrange n numbers in ascending order.

19. Write a C program to implement structures within structures.

20. Explain the various file handling functions in C.

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D–6023	Sub. Code
	51723

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION,
DECEMBER 2024.

Second Semester

DATA STRUCTURES AND ALGORITHMS

(CBCS 2020 – 2021 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What are the characteristics of an efficient algorithms?

2. List down any four applications of data structures.

3. Mention the different types of array.

4. Compare linear search with binary search.

5. How do you test for an empty queue?

6. List any two applications of queue.

7. State the use of header node in a linked list.

8. Mention the demerits of linked list.

9. Define a full binary tree. Give an example.

10. Write the applications of binary tree.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) How do you find complexity of an algorithms? Explain.

Or

(b) Discuss briefly the sequence of steps involved in designing and analyzing an algorithm.

12. (a) Explain in detail about two-dimensional array.

Or

(b) How to declare and initialize an array? Explain with suitable examples.

13. (a) Write an algorithm to convert an infix expression to a postfix expression. Trace the algorithm to convert the infix expression (a+b)*c/d+e/f to a postfix expression.

Or

(b) What is stack? Explain any two applications of stack with examples.

14. (a) Write short notes on merging lists.

Or

(b) Write an algorithm to insert and delete a node from doubly linked list.

15. (a) Write the steps to convert general tree to binary tree.

Or

(b) How do you insert and delete an element in a binary search tree? Explain with an example.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain the primitive data types in data structures.

17. Distinguish between linear search and binary search. State and explain the algorithms for both the search with example.

18. Write an algorithm for push and pop operations on stack using linked list.

19. Write and explain the algorithm to create and traverse a singly linked list with illustration.

20. Explain the tree traversal techniques with examples.

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