D–1022	Sub. Code
	51711

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION, DECEMBER 2021.

First Semester

PRINCIPLES OF INFORMATION TECHNOLOGY

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Define data and information.

2. What are the five components in information system?

3. Why computer is known as data processing system?

4. Specify the Electronic components used for different computer generations.

5. List the types of application software.

6. Define software piracy.

7. Mention the different types of network.

8. Differentiate Internet and Intranet.

9. What is IP Address?

10. Write Short notes on web server.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Explicate the pros and cons of Global Positioning Systems.

Or

(b) Why Information Technology is more important in Education and Training?

12. (a) Explain the use of different types of computer with their functional areas.

Or

(b) Expand and Explain ENIVAC, ABC, EDVAC, EDSAC and UNIVAC.

13. (a) Discuss the various categories of Software with example.

Or

(b) Elucidate the functions of operating system.

14. (a) Discuss in briefly about Network services.

Or

(b) Define Firewalls. Explicate its advantages and disadvantages.

15. (a) Give explanation of various Internet Terminologies.

Or

(b) Why we need an Internet security? Explain its Features.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Why information technology is helpful for the daily life applications of human beings? Explain different applications of Information technology.

17. Explain Basic Anatomy of a Computer and discuss its applications.

18. Write Short notes on:

    (a) Word processing

    (b) Spreadsheet

    (c) Communication Software.

19. Discuss Bus, Ring and Star Topologies with neat diagram.

20. Explain various Internet applications, advantages and drawbacks.

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D–1023

Sub. Code
51712/22412

DISTANCE EDUCATION

COMMON FOR DIPLOMA IN COMPUTER APPLICATIONS & CERTIFICATE PROGRAMME IN WEB DESIGNING EXAMINATION, DECEMBER 2021.

First Semester

OPEN SOURCE SOFTWARE

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Mention the four important factors that led to the development of open source software.

2. List some applications of Open Source Systems.

3. Give some characteristics of Linux.

4. Define Kernel Mode.

5. Why do so many organizations use MySQL?

6. Write the three fundamental operations that are common to MySQL Programs.

7. Discriminate between mysql_connect and mysql_pconnect?

8. How can you terminate the MySQL Server?

9. What is the different file ownership available in LINUX?

10. How Security and Templates can be implemented using PHP?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Compare and contrast between proprietary software and open source software.

Or

(b) Explain in detail about Linux User mode and Kernel mode with diagram.

12. (a) Write a note on process management in Linux along with the relevant command used for process management.

Or

(b) What are the various Linux distributions? Explain.

13. (a) Discuss various advantages and disadvantages of MySQL database.

Or

(b) Write in detail about string functions in MySQL with examples.

14. (a) Define Metadata and explain the categories of it with example.

Or

(b) Explain about the file handling mechanism in PHP.

15. (a) Enlighten the following PHP regular expression functions in detail.

(i) preg_match()

(ii) preg_replace()

(iii) preg_split().

Or

(b) Explicate various program control statements in PHP with suitable examples.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain in detail about open source softwares? Discuss its applications and advantages of Open Source software.

17. What is Linux? What is the role of the free software foundation in the development of Linux? Who developed Linux kernel?

18. How are the following operations performed,

(a) Database connection created,

(b) Perform SQL query,

(c) Process results,

(d) Closing database connection.

19. Elaborate in detail about PHP security vulnerabilities.

20. (a) Write in detail about PHP math functions with examples.

(b) Explain different types of arrays in PHP with suitable examples.

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D–1024

Sub. Code
51713

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION,
DECEMBER 2021.

First Semester

OFFICE AUTOMATION

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. How do you move text around your work document?

2. Define the term hyperlink.

3. How do you freeze certain rows and columns in Excel?

4. Write a procedure to add rows and columns in Excel.

5. How can you sort data in Excel?

6. How do you insert a new slide in PowerPoint?

7. Write a procedure to add content in a slide.

8. How to Create a Color Scheme in PowerPoint?

9. What is meant by linking a picture to a document?

10. What is the use of form to a database in Access?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Write short notes on bullets and numbering.

Or

(b) Explain briefly about Macros creation and its advantages.

12. (a) Explain the formatting features in Excel.

Or

(b) Write short notes on auto formatting.

13. (a) Explain how to add and resize an image in Excel worksheet.

Or

(b) How to Create a Chart in Excel using the Chart Wizard? Explain.

14. (a) How to create a custom slide show? Explain in detail.

Or

(b) Write short notes on the following:

(i) Resize a textbox

(ii) Textbox properties.

15. (a) How to add, delete and edit records from a table in Access database? Explain in detail.

Or

(b) Write short notes on drag and drop method in MS-Access.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Describe the Mail Merge process in Word.

17. Describe in detail about formula and functions in Excel.

18. Explain data filtering and various options in it through illustrations.

19. Explain in detail about video and audio effects in PowerPoint.

20. Discuss on various form controls in MS-Access.

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D–1025	Sub. Code
	51721

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION,
DECEMBER 2021.

Second Semester

DIGITAL LOGIC FUNDAMENTALS

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define Number System.

2. Draw the logical diagram of NOR gate with truth table.

3. What is Boolean algebra?

4. Write the Associative property of Boolean law.

5. Define combinational circuit.

6. Write short note on maxterm.

7. What is flip flop?

8. What is the purpose of decoder?

9. Define (r-1)'s complement.

10. What do you meant by signed magnitude form?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Convert the following

(i) $(111001)_2$ Binary to Decimal

(ii) $(536)_{10}$ Decimal to Hexadecimal.

Or

(b) Convert the following

(i) $(1111001)_2$ to 1's complement

(ii) $(110001)_2$ to 2's complement

12. (a) Explain De Morgan's Law of Boolean algebra.

Or

(b) What is Sum of Product and Product of Sum? Explain.

13. (a) Explain half adder with neat diagram.

Or

(b) Write the applications of Multiplexer.

14. (a) Discuss on RS flip flop.

Or

(b) Write short notes on BCD counter.

15. (a) How do you represent floating point numbers? Explain.

Or

(b) Explain any two binary codes.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Convert the following

(a) $(56)_{10}$ Decimal to Binary

(b) $(234)_{10}$ Decimal to Octal

(c) $(1111001)_2$ Binary to Octal

(d) $(1AE)_{16}$ Hexadecimal to Binary.

17. Write the procedure to simplify the logical expression using Karnaugh Map method.

18. Explain JK Flip flop with neat diagram.

19. What is shift register? Explain its various types.

20. Discuss on Error detection code with example.

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D–1026	Sub. Code
	51722

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION, DECEMBER 2021.

Second Semester

PROGRAMMING IN C

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Give out the basic structure of C Program.

2. Mention the use of ternary operator.

3. Why do we avoid '*goto*' statements? Give reason.

4. Can we use '*break*' statement inside loop? Why?

5. What is the use of *strcmp()* function?

6. Define function prototype? Give out its syntax.

7. What is the use of pointer?

8. Define structure.

9. List different type of file modes.

10. What are compiler control directives?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Write a C program to find the maximum of three given numbers.

Or

(b) What are the primitive data types in C?

12. (a) Briefly explain about 'else-if ladder with example.

Or

(b) Differentiate between 'break' and 'continue' statements.

13. (a) Write a function in C to reverse given string and check for palindrome or not.

Or

(b) How will you define and call parameterised function? Explain.

14. (a) Briefly explain about structure within structure with example.

Or

(b) How will you define array of pointers? Explain.

15. (a) Write short note on :Error Handing during I/O Operations.

Or

(b) Write short note on: Command Line Arguments.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Briefly explain about formatted input and output statements with examples.

17. Write a C program to sort n given numbers in ascending order using while loop.

18. Define Recursion. What are its characteristics? Give example.

19. Write a C program to display your date of birth using structure.

20. Explain in detail about 'for' loop with suitable example.

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D–1027	Sub. Code
	51723

DISTANCE EDUCATION

DIPLOMA IN COMPUTER APPLICATIONS EXAMINATION,
DECEMBER 2021.

Second Semester

DATA STRUCTURES AND ALGORITHMS

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is the purpose of data structure?

2. Distinguish between linear and non linear data structure.

3. What is asymptotic notion? Give example.

4. Mention the advantages and operations of arrays?

5. How can you represent queue?

6. What are the advantages of stack?

7. Define tree. What are its types.

8. List various types of hashing techniques.

9. What is header list?

10. What are the ways for representing lists?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Explain about time and space complexity of algorithms.

Or

(b) What are multi-dimensional arrays?

12. (a) How can you represent arrays? Give example.

Or

(b) Write short note on Expression evaluation using stack.

13. (a) Write short note on: in-order traversal.

Or

(b) Discuss various applications of stack data structure.

14. (a) Provide the linked representation of queue. Explain.

Or

(b) How can you represent binary search tree? Give example with suitable diagram.

15. (a) Explain about insertion and deletion operations of binary tree.

Or

(b) Briefly explain about time and space complexity of linear search technique.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss in detail about one dimensional array and its operations with example.

17. Explain about the enter and relive operations of queue with diagram.

18. How can you insert and delete an element in to double links list? Explain with example and neat sketch.

19. Describe about traversing linked list with example.

20. Explain in detail about bubble sorting technique using array with suitable example.

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