

D-1010

Sub. Code

22211

DISTANCE EDUCATION

CERTIFICATE PROGRAMME IN C PROGRAMMING
EXAMINATION, DECEMBER 2021.

PRINCIPLES OF PROGRAMMING

(CBCS 2020 – 21 Academic Year Onwards)

Time : Three hours

Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Write the features of a Computer.
2. Specify the uses of a Computer.
3. Why do we need Bar code?
4. Mention the various functions of a Scanner.
5. List out different types of output devices.
6. Specify the uses of Laser printer.
7. Write the differences between primary and secondary memories.
8. Expand the word EPROM and EEPROM.
9. What is Software?
10. Define Operating System.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Describe the history of Computers.

Or

- (b) Elaborate any three applications of a Computer.

12. (a) What do you mean by Speech Recognition? Explain with any two examples.

Or

- (b) Describe the functions of pointing devices.

13. (a) Clarify the various types of screens.

Or

- (b) Write a short note on printers.

14. (a) Discuss the features of PROM and EPROM.

Or

- (b) What is Virtual memory? Explain the uses of Virtual memory.

15. (a) Illustrate the functions of Magnetic Tapes.

Or

- (b) Name any two Communication Software and explain their features.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Illustrate the characteristics of a Computer.
17. Discuss the functions of any four input devices.

18. Explicate the different types of memory.
 19. Give a brief account on Optical Disks.
 20. Explain the following:
 - (a) Database Software
 - (b) Presentation Graphics Software.
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D-1011

Sub. Code

22212

DISTANCE EDUCATION

CERTIFICATE PROGRAMME IN C PROGRAMMING
EXAMINATION, DECEMBER 2021.

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. What are the features of C programming?
2. Define: Symbolic constants.
3. What is the use of getchar() function?
4. Write the syntax of goto statement.
5. How to initialize single dimensional array?
6. Write code to read a string from the terminal.
7. What is the need for user defined function?
8. Differentiate between structure and array.
9. What are the benefits of pointers?
10. Write the syntax and purpose of fprintf() function.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Discuss about datatypes available in C++.

Or

- (b) Write a C program to calculate simple interest using the formula ($SI = P \times N \times R / 100$).

12. (a) Write in detail about nested if else statement.

Or

- (b) Illustrate switch statement with an example program.

13. (a) Determine how one two dimensional array is declared and initialized.

Or

- (b) Write a C program to calculate average of 'n' numbers using array.

14. (a) Discuss in detail about scope and visibility of variables giving an example.

Or

- (b) Explain structures within structures.

15. (a) Describe chain of pointers.

Or

- (b) Discuss I/O operations on a file.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain operators in C with suitable examples.
 17. Write in detail about string handling functions in C.
 18. Explain different categories of functions.
 19. Explain storage classes in C through examples.
 20. Explain the functions used to access different types of files.
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D-1012

Sub. Code

22213

DISTANCE EDUCATION

CERTIFICATE PROGRAMMING IN C Programming
EXAMINATION, DECEMBER 2021.

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 are the two fundamental types of data structures? Give examples.
2. Is floating point number a primitive data type? Give an example.
3. What is called an array in data structure? Give an example.
4. What is called an indexed array? Give an example.
5. What is the use of stack data structure?
6. What are the disadvantages of queue?
7. What type of data structure is list?
8. What is merging in data structure?
9. What do you mean by searching?
10. Which searching algorithm is best?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) How data structures are used in real life? Explain.

Or

- (b) How time complexity of an algorithm is used to compare the solutions to find optimality? Explain with an example.

12. (a) How do you initialize arrays? Explain with examples.

Or

- (b) List out the differences between one-dimensional array and two dimensional array.

13. (a) Bring out the applications of stack.

Or

- (b) How do you represent a queue? Give examples.

14. (a) What is insertion operation in linked list? Explain with an example.

Or

- (b) Is header linked list a linked list? Explain with an example.

15. (a) List out the different types of searching algorithms and their complexity.

Or

- (b) Why do we need binary search? Explain.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. What are the applications of data structures? Explain with an example.
 17. How do you declare and initialize arrays? Illustrate with examples.
 18. List out various operations on stack. Write pseudo code for each operation.
 19. Where are single linked list used? Discuss in detail about various operations with illustrations.
 20. What is binary search? Explain the algorithm and illustrate the steps in it.
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