

Roll No.

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**POST GRADUATE DIPLOMA IN COMPUTER
APPLICATION EXAMINATION - 2020**

**Programming & Problem Solving
Through “C” Language
Paper –II**

Time allowed: Three Hours

Maximum Marks: 75

PART – A (खण्ड – अ)

[Marks: 20]

Answer all ten questions (50 words each).

All questions carry equal marks.

सभी दस प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न का उत्तर 50 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART – B (खण्ड – ब)

[Marks: 35]

Answer five questions (250 words each),

selecting one from each unit. All questions carry equal marks.

प्रत्येक इकाई से एक-एक प्रश्न चुनते हुए, कुल पाँच प्रश्न कीजिए।

प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART – C (खण्ड – स)

[Marks: 20]

Answer any two questions (300 words each).

All questions carry equal marks.

कोई दो प्रश्न कीजिए। प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART – A

- Q.1 (i) What is an Algorithm?
(ii) List types of Flowcharts.
(iii) Define Variables.
(iv) Define a Loop.
(v) Define an Array.
(vi) What is the purpose of “#include” in C programme?
(vii) Define Pointers.
(viii) What are Unions?
(ix) What are linked lists?
(x) How do we Open a File?

PART – B

UNIT –I

- Q.2 Differentiate between Testing and Debugging, giving suitable examples.

OR

- ✓ Write an algorithm to find whether a given number is prime or not. Draw its flowchart also.

UNIT –II

- Q.3 (a) List and explain various types of operators available in C language, giving suitable examples.
(b) Explain the associativity and precedence of C operators, giving suitable examples.

OR

✓ Differentiate between the following:

- (a) While and Do-while loop
- (b) Break and continue

UNIT -III

- Q.4 ✓
- (a) Describe various methods of representation of Sparse Matrix.
 - (b) Write a 'C' programme to multiply two matrices.

OR

✓ Differentiate between Call by Value and Call by Reference, giving suitable examples. <http://www.ggtuonline.com>

UNIT -IV

Q.5 ✓ Differentiate between Structures and Unions, giving suitable examples.

OR

Explain pointer arithmetic, giving suitable examples.

UNIT -V

Q.6 ✓ What are Self-referential structures? Explain giving suitable examples.

OR

✓ List and explain various File handling operators, giving suitable examples.

PART – C

- Q.7 Explain the concept of Linking and Loading in context of C programming, giving suitable examples.
- Q.8 (a) Explain various input output statements in C along with their syntax and examples.
- (b) Write a C program to check whether a given character is vowel or not using switch statement.
- Q.9 Write a user defined C function which accepts a string in lower case as argument and returns the same string by converting it to upper case. For example if input is *hello* it returns *HELLO*.
- Q.10 Write a C program to sort a list of names using array of pointers.
- Q.11 Write short notes on the following -
- (a) Dynamic memory allocation functions
 - (b) File handling in C
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