

22226

12223

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
- (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: 10
- a) Define the terms :
- i) Flow chart
- ii) Algorithm
- b) State any four data types used in 'C'.
- c) List logical operators in 'C'.
- d) Define structure. Give one example of structure declaration.
- e) State any two advantages of function.
- f) Write the meaning of '&' and * with respect to pointer.
- g) Draw any two symbols used to construct flow chart. Also state their use.

P.T.O.

2. Attempt any THREE of the following:**12**

- a) Explain any four guidelines for preparation of flowchart.
- b) Differentiate between while loop and do while loop.
- c) Explain declaration and initialization of one dimensional array using example.
- d) Write output for following programming code:

```
#include<stdio.h>
#include<conio.h>
void main ( )
{
int x, y, a, b, *P1, *P2 ;
x = 10 ;
y = 20 ;
P1 = &x ;
P2 = &y ;
a = *P1 * *P2+20 ;
b = *P1 * *P2-20 ;
print f("x=%d, y=%d", x,y) ;
print f("a=%d, b=%d", a,b) ;
}
```

3. Attempt any THREE of the following:**12**

- a) Explain data type conversion with example.
- b) Explain any two string handling functions with syntax and example.
- c) Describe scanf() function with its syntax and example.
- d) Describe how recursive function is used in calculating factorial of a number.

- 4. Attempt any THREE of the following:** **12**
- a) Write an algorithm and draw a flowchart to find largest number from three numbers.
 - b) Write a program to convert temperature in Fahrenheit degrees to Centigrade degrees.
 - c) Write a C program to print following pattern using loop
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
 - d) Write a program to declare an array of 5 elements and display sum of all array elements.
 - e) Write a C program using function to find area of circle.
- 5. Attempt any TWO of the following:** **12**
- a) Write a C program with comments to reverse the digit of integer number. For example the number 12345 should be displayed as 54321.
 - b) Write a program to add two 3×3 matrices. Display the addition.
 - c) Write a program to find largest number from an array using pointer.
- 6. Attempt any TWO of the following:** **12**
- a) Write a C program to declare structure employee having data member name, age, designation and salary. Accept and display information of 1 employee.
 - b) Write a program to find factorial of a number using recursion.
 - c) Write a C program using pointer to read an array of characters and print them in reverse order.
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