

Total No. of Questions : 7]

SEAT No. :

P3403

[Total No. of Pages : 4

[5099] - 102

F.Y. B.C.A. (Science) (Semester - I)

BASIC PROGRAMMING IN 'C'

Time : 3 Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Question No. 1 (A and B) are compulsory.*
- 2) *Attempt any two questions from group - I*
- 3) *Attempt any two questions from group - II*
- 4) *Figure to the right indicate full marks.*

Q1) A) Choose correct option.

[7]

- i) In C language, statement are terminated with.
 - a) period
 - b) semicolon
 - c) new-line character
 - d) none of these
- ii) Comma operator is an
 - a) Unary operator
 - b) Binary operator
 - c) Ternary operator
 - d) None of these
- iii) C is an
 - a) Assembly level language
 - b) High level language
 - c) Machine level language
 - d) None of these
- iv) Which of the following is not a basic data type?
 - a) char
 - b) float
 - c) long
 - d) double

P.T.O.

- v) Which of the following is not a valid escape sequence?
- a) \r b) \v
c) \a d) \m
- vi) By default the return type of a function is
- a) char b) int
c) float d) void
- vii) In C language, elements of two dimensional arrays are stored in
- a) Random order b) Column major order
c) Row major order d) None of these
- B) Answer the following : [7]
- i) Define algorithm
- ii) Write ‘C’ expression for the following
- $$\frac{8x^2 + 15x + 4}{2x + 3}$$
- iii) State the output
- ```
main ()
{
 int a = 5, b = 10;
 printf (“%d”, a++ + b++);
}
```
- iv) A constant is an entity whose value \_\_\_\_\_.
- v) Name the header file required for get (C) function.
- vi) “Every function must return a value”. Comment.
- vii) What is the ? : operator? Give example.

### Group I

**Q2) Attempt the following :**

- a) Write a ‘C’ program to display the following output upto n<sup>th</sup> given value  
e.g : n = 4                                  o/p :- A B C D [5]  
                                                                             A B C  
                                                                             A B  
                                                                             A
- b) What are the different advantages and disadvantages of algorithm. [5]
- c) Describe the structure of a ‘C’ program. [4]

**Q3)** Attempt the following :

- a) Write an algorithm to find largest of three numbers. [4]
- b) What are the different symbols used to draw flowchart? Explain. [4]
- c) Explain logical operators in details. [3]
- d) Explain the basic data types in 'C'. [3]

**Q4)** Attempt the following :

- a) Draw a flow chart to calculate  $x^y$ . [4]
- b) What is the difference between the function getch ( ) and getchar ( ) and getche ( )? [4]
- c) Trace the output [3]  

```
main ()
{
 int i = 5;
do
{
 printf (" %d", i);
 i ++;
} while (i < 0);
}
```
- d) Explain advantages of recursion? [3]

### **Group II**

**Q5)** Attempt the following :

- a) Write a C program to print addition of two matrices. [5]
- b) What is escape sequence? Explain any four escape sequence? [5]
- c) Explain call by value and call by reference with example. [4]

**Q6)** Attempt the following :

- a) Write an algorithm to print first 20 odd numbers. [4]
- b) Explain for loop with syntax & example. [4]
- c) Explain enumerated data type with syntax. [3]
- d) Trace the output [3]  

```
main ()
{
 int arr[3] = { 1, 2, 3 };
 printf(" %d %d %d %d", arr[1], arr[2], arr[3]);
}
```

**Q7)** Attempt the following :

- a) Draw a flow chart to check whether the given character is vowel or consonent. [4]
- b) Give the syntax & use of following function [4]
  - i) Pow ( )
  - ii) sqrt ( )
  - iii) cos ( )
  - iv) log ( )
- c) Differentiate between nested if and switch statement. [3]
- d) What is array? Explain types of array. [3]

