



PBK-003-1031002

Seat No. \_\_\_\_\_

**B. C. A. (Sem. I) (CBCS) Examination**

November / December - 2018

**CS - 02 : Problem Solving Methodologies &  
Programming in C**

**Faculty Code : 003**

**Subject Code : 1031002**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- 1 (a) Attempt the following : 4
- (1) C language was designed and written by \_\_\_\_\_.
- (2) \_\_\_\_\_ is a graphical representation of an algorithm.
- (3) Point out errors, if any, in the following program.
- ```
#include<stdio.h>
#define MSG printf("Hello World");
Void main( )
{
    MSG
}
```
- (4) What will be the output of the following program ?
- ```
#include<stdio.h>
void main( )
{
    int a=10;
    printf("%d\t%d",a++,--a);
}
```
- (b) Explain any **one** with example : 2
- (1) typedef keyword
- (2) #pragma directive
- (c) Answer any **one** : 3
- (1) Write down rules for constructing variables names.
- (2) Explain implicit type conversion with example.
- (d) Answer any **one** : 5
- (1) Explain primary data type in C.
- (2) Explain basic structure of C program with example.

2 (a) What will be the output of the following programs ? 4

```
(1) #include<stdio.h>
void main( )
{
    int x=0;
    if(!x)
        printf("Let us C");
    else
        printf("Wish C was free!!");
}
```

```
(2) #include<stdio.h>
void main( )
{
    int a=35,b=55;
    if(a>10 && b<100)
    {
        if (a==35 || b!=55)
            printf("C language is very easy");
        else
            printf("C language is very hard");
    }
}
```

```
(3) #include<stdio.h>
void main( )
{
    int p,q,r;
    for(p=1,q=2,r=3;p<=1 && q<=2 && r<=3;p++)
        printf("C is POP language");
}
```

```
(4) #include<stdio.h>
void main( )
{
    int ans=1;
    do
    {
        ++ans;
        printf("God is Grate");
    }while(ans<1);
}
```

(b) Explain any **one** keyword with example : 2

- (1) break
- (2) continue

(c) Answer any **one** : 3

- (1) Explain nested if statement with example.
- (2) Explain with example how conditional operator is equivalent to if...else ?

- (d) Answer any **one** : 5
- (1) Which are entry-controlled loop ? Explain any one with syntax and example.
  - (2) Explain switch statement with its syntax, flow control and example.
- 3 (a) Fill in the blanks in following statement : 4
- (1) \_\_\_\_\_ is a block of code to perform specific task.
  - (2) rand( ) generates \_\_\_\_\_.
  - (3) sqrt( ) return \_\_\_\_\_.
  - (4) A static variable by default gets initialized to \_\_\_\_\_.
- (b) Explain any **one** built-in function with usage and example : 2
- (1) malloc( )
  - (2) atof( )
- (c) Answer any **one** : 3
- (1) Differentiate : call by value and call by reference.
  - (2) Write a recursive function to find sum of digits of given number.
- (d) Answer any **one** : 5
- (1) What is function ? Explain elements of function with example.
  - (2) Write down usage, syntax and example of delay( ), realloc( ) and floor( ) functions.
- 4 (a) Attempt the following : 4
- (1) Array elements are stored in \_\_\_\_\_ memory location.
  - (2) The name of an array represent \_\_\_\_\_ of an array.
  - (3) In an array in arr[3][2][3], how will you refer the first and last element in this array ?
  - (4) What will be the output of following program ?
- ```
#include<stdio.h>
void main( )
{
    struct student
    {
        int grno;char snm[20];
    };
    printf("Size=%d", sizeof(struct student));
}
```

- (b) Answer any **one** : 2
- (1) How many ways to initialize a 1-D array ? demonstrate with code segment.
  - (2) What is array ? List out types of array.
- (c) Answer any **one** : 3
- (1) How pointer to array passes to function ? Demonstrate with example.
  - (2) Differentiate : Structure and union.
- (d) Answer any **one** : 5
- (1) Explain array of structure with example.
  - (2) Explain two dimensional arrays with code segment.
- 5 (a) Attempt the following : 4
- (1) The FILE structure is defined in which header file ?
  - (2) ftell( ) return \_\_\_\_\_.
  - (3) What will be the output of the following program ?  

```
#include<stdio.h>
void main( )
{
    int *x;
    float *y;
    long double *z;
    printf("\n Size of x=%d", size of (x));
    printf("\n Size of y=%d", size of (y));
    printf("\n Size of z=%d", size of (z));
}
```
  - (4) State True or False : If a file is opened for reading it is necessary that the file must exist.
- (b) Answer any **one** : 2
- (1) What is file ? Explain fopen( ) with example.
  - (2) What is pointer ? Explain pointer arithmetic with example.
- (c) Answer any **one** : 3
- (1) Write note on file opening mode available in C.
  - (2) Write down usage and example of fseek( ), feof( ), and rewind( ).
- (d) Answer any **one** : 5
- (1) What is command line argument ? Demonstrate with example.
  - (2) Write C code to perform file copy operation of given files.