Seat No. : 442

MA-104

May-2017

B.C.A., Sem.-II

CC-108 – Advanced C Programming

Time : 3 Hours] **[Max. Marks : 70**

1. (A) What is the difference between built in function and user defined function ? Explain different types of user defined functions with suitable examples. **8**

OR

What is recursion ? Explain types of recursion with suitable example.

(B) (1) Explain nested function with suitable example. **6**

(2) Explain function prototype and function definition with suitable example.

OR

(1) List out storage classes. Explain any two of them with example.

(2) What is the difference between actual argument and formal argument ? Explain with suitable example.

2. (A) What is structure ? Explain nested structure with suitable example. **8**

OR

Explain different arithmetic operations on structure variable with example.

(B) (1) Give differences between structure and union. **6**

(2) Explain pointer arithmetic with example.

OR

(1) Explain initialization of pointer with example.

(2) Differentiate array of structure and array within structure.

3. (A) Explain call by value and call by reference with example. **7**

OR

What is dynamic memory allocation ? List and explain all dynamic memory management functions with syntax and example.

(B) Explain pointer to array and array of pointers with example. **7**

OR

Explain concept of linked list with storage structure. List types of linked list. Compare it with array.

4. (A) Explain following functions with syntax and example : 7

(1) getc( )
(2) fprintf( )
(3) fscanf( )
(4) fseek( )
(5) ftell( )
(6) rewind( )
(7) ferror( )

OR

Explain command line argument with suitable example.

(B) Explain preprocessor directives with suitable examples. 7

OR

Give the difference between text mode and binary mode. Explain fopen( ) function with all it's modes.

5. Attempt the following : (Any **fourteen**) 14

(1) A user defined function can not call main( ) function. (T/F)

(2) The member variable of a structure is accessed by using.
(a) dot(.) operator (b) arrow(→) operator
(c) asterisk(*)operator (d) ampersand (&) operator

(3) Which of the following cannot be a structure member in C ?
(a) Another structure (b) Function
(c) Arrays (d) None of the above

(4) What will be the output of following block ?

```
#include<stdio.h>
int main()
{
    int a=10, b=2, c;
    int *pa=&a,*pb=&b;
    c = a+(*pa)/(*pb);
    printf("%d",c);
    return 0;
}
```

(a) 5 (b) 10
(c) 15 (d) 20

(5) For declaring pointer to a function _____ from the following is correct.
(a) int (*p) (b) int *p( )
(c) int (*p)( ) (d) None of above

(6) Function name itself is _____.

(a) Value (b) Address

(c) Both of above (d) None of above

(7) From the following example, function a( ) is said as _____ function.

```
main( )
{
  a( );
}
void a( )
{
}
```

(a) Calling (b) Self-referential

(c) Called (d) None

(8) Preprocessor processes the program after compilation. (T/F).

(9) _____ type of linked list's last node contains the address of first node.

(10) It is possible to pass structure elements to function in *C*. (T/F)

(11) Singly linked list moves forward and backward direction. (T/F).

(12) A macro defined with _____ directives can be undefined with #undef directive.

(a) #define (b) #include

(c) #ifdef (d) None

(13) _____ function is used to detect the end of file.

(a) feof( ) (b) ferror( )

(c) fputs( ) (d) fgets( )

(14) The scope of local variables is limited to the block in which they are defined. (T/F).

(15) _____ moves the file pointer to the beginning of file.

(a) fseek (fp,0,0) (b) fseek(fp,0,SEEK_SET)

(c) rewind(fp) (d) All of above