XQ-101

003-007101

M.C.A. (CBCS) Sem.-I Examination
January-2015
CCA-1001 : Introduction to Programming Using C

Faculty Code : 003
Subject Code : 007101

Time : 2½ Hours]   **[Total Marks : 70**

1. Answer the following multiple choice questions by selecting correct option :   **15**

    (1) What will be output of the following program ?

```
void main ()
{
    printf("%d bytes\n", sizeof(3.14));
}
```

       (a) 2 bytes   (b) 4 bytes   (c) 8 bytes   (d) 10 bytes

    (2) What will be output of the following program ?

```
void main ()
{
    int i = 013;
    printf("i = %d\n", i);
}
```

       (a) i = 0   (b) i = 11   (c) i = 1   (d) i = 13

    (3) What will be output of the following program ?

```
void main()
{
    int i ;
    i = 1 ? 0 ? 5 : 10 : 1 ;
    printf("i = %d\n", i) ;
}
```

       (a) i = 1   (b) i = 10   (c) i = 5   (d) Compile time error

003-007101   **1**   **P.T.O.**

(4) Which of the following is the valid variable in a C program ?

(1) main (2) sort (3) signed (4) unsigned

(a) (2) only   (b) (1) and (2) only

(c) (2) (3) and (4) only   (d) None of the above

(5) What will be output of the following program ?

```
void main()
{
    int i = 1, j = 2, k = 3 ;
    if (--i && ++j)
        k = i +++ j--;
    printf("%d %d %d\n", i, j, k) ;
}
```

(a) 0 2 3   (b) 0 3 3   (c) 1 2 3   (d) None of these

(6) What will be output of the following program ?

```
void main()
{
    int i = 1, j = 2, k = 3 ;
    for (; i < = 5 ; i++)
        for (j = 1 ; j < = 7 ; j++)
        k = i + j ;
    printf("%d %d %d\n", i, j, k) ;
}
```

(a) 5 7 14   (b) 6 8 14   (c) 5 7 12   (d) 6 8 12

(7) What will be output of the following program ?

```
void main ()
{
    int i, j ;
    for (i = 1 ; i < = 5 ; i++)
        for (j = 1 ; j < = 5 ; j++)
            if (i = j)
                break ;
            else
                continue ;
    printf("%d %d \n", i, j) ;
}
```

(a) 6 6

(b) 1 1

(c) Program cannot be compiled

(d) Program goes infinite without printing anything

(8) What will be output of the following program ?

void main()

{

    int a[5] = {10, 20, 30, 40, 50};

    int *p1, *p2;

    p1 = a;

    p2 = &a[4];

    printf("%d \n", p1 – p2);

}

(a) – 40   (b) cannot be determined

(c) – 4   (d) 4

(9) What will be output of the following program ?

void main ()

{

    int i = 5, j ;

    j = ++i+i+++++i+++i;

    printf("%d %d\n", i, j) ;

}

(a) 9 29   (b) 9 32   (c) 8 28   (d) compile time error

(10) Only operator that is different from other operators in terms of number of operands on which it is operated is

(a) %   (b) >>   (c) ?:   (d) ||

(11) What will be output of the following program ?

void main ()

{

    int a = 5 ;

    float c = 10.50;

    printf("%d\n", (int) c % a) ;

}

(a) 2   (b) 0   (c) 0.50   (d) compile time error

(12) What will be output of the following program ?

```
void main ()
{
        int a = 5, b = 10;
        int fun (int);
        a = fun (b)
        printf("%d %d\n", a, b);
}
int fun (int b)
{
        int c;
        c = --b;
        return (c);
}
```

    (a)   9 10   (b)   9 9   (c)   10 9   (d)   10 10

(13) What will be output of the following program ?

```
void main ()
{
        char str[20] = "MCA-SEM-I";
        void prn (char *);
        prn (str)
}
void prn (char s[])
{
        if(*s)
                prn(s+1);
        printf("%c", *s);
        return;
}
```

    (a)   MCA-SEM-I

    (b)   I-MES-ACM

    (c)   Program goes infinite execution

    (d)   Compile time error

(14) What will be output of the following program ?

```
void main()
{
    int a[10];
    void disp (int []);
    printf("%d\n" sizeof(a));
}
void disp (int a[])
{
    printf("%d", sizeof(a));
    return;
}
```

(a)   10 10   (b)   20 20   (c)   2 10   (d)   2 20

(15) What will be output of the following program ?

```
union U
{
    char c;
    int i;
} u1;
void main()
{
    u1.i = 321;
    printf("%c\n" u1.c);
}
```

(a)   321

(b)   Garbage value

(c)   A

(d)   Equivalent character with ASCII value 321

2. Answer any **five** of the following questions : **15**

(1) Write a program in C that will receive an integer number from keyboard and determine whether the given number is odd or even without using modulus operator.

(2) When will you use simple if statement and when will you use ternary operator ? Give a suitable example in which ternary operator is better than simple if statement.

(3) What is back slash character constant ? What is the usefulness of it ? Explain three such constants with example.

(4) Explain the ways of initialization of two dimensional integer array with size 3×4.

(5) Switch statement can take only which type of expression ? Write the syntax and draw a flow chart of switch statement.

(6) Write a program in C to print following triangle for given N number of lines.

For example if N = 5 then output should be

```
        A
      A    B
     A    B    C
    A    B    C    D
   A    B    C    D    E
```

3. Answer any **three** of the following questions : **15**

(1) Draw a flowchart to find out the sum of following series.

$X - X^2/2! + X^3/3! - X^4/4! + \ldots X^n/n!$

(2) Write a program to find out GCF (Greatest Common Factor) using recursive function.

(3) What is the difference between pre test and post test loops ? Give list of each loop available in C and explain post test loop construct with syntax, flowchart and example.

(4) What is pointer ? Explain array of pointer and pointer to an array with suitable example.

4.   Attempt any **two** of the following questions :   **15**

(1)   What is storage class ? List and explain each of them with scope and life time.

(2)   Write a C program that will receive N names of students. Arrange them in alphabetical order and display the result.

(3)   Write the C code to create structure RESULT with student roll number and total marks of MCA SEM I as only two its members. Write declaration statement to create an array of 10 elements for this structure. Write a function that will receive this array as argument and return the roll number of the student who obtained maximum marks from all 10 students.

5.   Attempt any **one** of the following questions :   **10**

(a)   What is function ? How it is useful ? Explain function declaration, function definition and function call. Explain pass by value and pass by reference parameter passing by giving suitable example.

(b)   Write a program in C to copy one file to another in reverse order. File name should be given as command line arguments.

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