

M1-R4: Programing and Problem Solving using C (JULY 2018)

Max Marks: 100

M1-R4-07-18

DURATION: 03 Hrs

1. Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the “OMR” answer sheet supplied with the question paper, following instructions therein.

(1x10)

1.1 Which programming method is followed in C language

- a) Algorithm
- b) Flow-Charts
- c) **Procedural**
- d) Object Oriented

1.2 getchar() function is available in which header file?

- a) **Stdio.h**
- b) Conio.h
- c) Math.h
- d) Header.h

1.3 Find the output of following code :

```
int main()
{
    int i=-2;
    printf (“-i=%d”,-i);
    return b;
}
```

- a) -i=2
- b) i=-2
- c) -i=-2
- d) **-i+=2**

1.4 Which numbering system is not handled directly by the printf() conversion specifies ?

- a) Decimal
- b) **Binary**
- c) Octal
- d) Hexadecimal

1.5 Which of the following is an incorrect assignment statement ?

- a) N=m=0
- b) Value+=10
- c) mySize=x<y?9:11
- d) **Value=+=10**



1.6 What will be the output of the following program?

```
int main()
{
    int x=5;
    printf(“%d %d %d”,x,x<<2,x>>2);
}
```

- a) 1 20 5
- b) 5 1 20
- c) **5 20 1**
- d) 20 1 5

1.7 A programming construct in which a set of statement in a computer program can be executed repeatedly.

- i. **Loop statement**
- ii. Conditional Statement
- iii. Block Statement
- iv. All of the above

1.8 What will be the output of following program?

```
int main()
{
    for(int c=1;c<5;++c);
    printf(“%d”,c);
}
```

- a) 1
- b) 5
- c) **6**
- d) 12345

1.9 In C, if you pass an array as an argument to a function, what actually gets passed?

- a) Value of elements in array
- b) First element of the array
- c) **Base address of the array**
- d) Address of the last element of array

1.10 How many times is a do while loop guaranteed to loop?

- a) 0
- b) Infinitely
- c) **1**
- d) Variable

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and enter your choice in the “OMR” answer sheet supplied with the question paper, following instructions therein.

- 2.1 Function can be called either by value or reference **TRUE**
- 2.2 A function cannot be defined inside another function. **TRUE**
- 2.3 Are the three declarations char **apple, char *apple[], and char apple[][] same? **FALSE**
- 2.4 A long double can be used if range of a double is not enough to accommodate a real number. **TRUE**
- 2.5 malloc() allocates memory from the heap and not from the stack. **TRUE**
- 2.6 While calling the fprintf() function in the format string conversion specifier %s can be used to write a character string in capital letters. **FALSE**
- 2.7 A union cannot be nested in a structure **FALSE**
- 2.8 The modulus operator cannot be used with a long double. **TRUE**
- 2.9 If the file to be included doesn't exist, the preprocessor flashes an error message. **TRUE**
- 2.10 A linked list is a linear data structure where each element is a separate object. **TRUE**

3 Match words and phrase in column X with the closed related meaning of word(s)/phrase(s) in column Y. Enter your selection in the “OMR” answer sheet supplied with the question paper, following instructions therein.

X		Y	
3.1	Calls itself (D)	A.	Infinite loop if no break statement inside the loop
3.2	String copy (E)	B.	A user defined data type in C which allows you to combine different data types to store a particular type of record.
3.3	Unary operator (M)	C.	Modify the size of previously allocated space
3.4	while(2) (A)	D.	Recursive functions
3.5	Structure (B)	E.	Strcpy()
3.6	realloc (C)	F.	Explicit conversion
3.7	exit() (K)	G.	--
3.8	Typecasting (F)	H.	Collection of similar type of data elements
3.9	'\v' used for (L)	I.	Logical operators
3.10	Array is a (H)	J.	strcat()
		K.	Terminates program
		L.	Vertical space
		M.	+

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Choose the most appropriate option, enter your choice in the “OMR” answer sheet supplied with the question paper, following instructions therein.

A.	Const	B.	Continue	C.	Two-dimensional
D.	Flowchart	E.	fputs	F.	2 bytes
G.	Six	H.	Break	I.	4 bytes
J.	Sizeof	K.	Multi-dimensional	L.	*
M.	&				

- 4.1 Function **(E) fputs** writes a line to a specified file
- 4.2 Pictorial representation of an algorithm is **(D) Flowchart**
- 4.3 A variable can be made constant by declaring it with the qualifier **(A) Const** at the time of initialization
- 4.4 The **(J)sizeof** Operator returns the number of byte the operand occupied.
- 4.5 By default, the real numbers are printed with a precision of **(G) Six** decimal places.
- 4.6 The **(H) break** statement when executed in a switch statement causes immediate exit from the structure
- 4.7 The **(B) continue** statement is used to skip a part of the statement in a loop.
- 4.8 An array that used more than two subscript is referred to as **(K) Multi-dimensional** array.
- 4.9 After incrementing a float pointer ptr by 1 it would be incremented by **(I) 4 Bytes**
- 4.10 The **(L) *** operator returns the value of the variable to which its operand points.

PART-TWO

5

(A) Write a C Program to display following pattern:

```
A
BB
CCC
DDDD
EEEE
```



- (B) Write a 'C' program that displays the recommended actions depending on the color of a traffic light using the switch statement
- (C) What is function? Explain uses of function. Also explain declaration, function call and function definition with example.

6.

- A) Write a 'C' program to find the frequency of characters in string.
- (B) Write a 'C' program to store information (title, author, subject and book_id) of a Book using structure and display it in appropriate format.
- (c) Write a C program to find largest element of any Array?

7.

- (a) Draw a flowchart to find the fibonacci series till term ≤ 10000
- (b) Explain different storage classes available in 'C'

8.

- a) Explain about 'Pointer to function' with suitable example
- b) What are the advantages and disadvantages of an Array?
- c) Write a 'C' Program to copy text of one file to another file.

9.

- a) What is command line argument? Also explain how to pass command line arguments to 'C' program
- b) What are preprocessor directives? Why do we need them? Explain various preprocessor directives.
- c) Explain the difference between Text Mode and Binary Mode files

