

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 - 19 Examination

Semester: 1/2
Subject Code: 203105101
Subject Name: Fundamentals of Programming

Date:14/05/2019
Time: 02:00pm to 04:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Do as Directed**(15)**

1. Find out 2's complement of 011110

- a) 111111 b)100000 c)100010 d)None of these

2. Predict output of following program

```
int main()
{
    int i;
    int arr[5] = {1};
    for (i = 0; i < 5; i++)
        printf("%d ", arr[i]);
    return 0;
}
```

- a) 1 followed by four garbage values b) 1 0 0 0 0
c) 1 1 1 1 1 d) 0 0 0 0 0

3. What will be the output?

```
void main()
{
    char *p=NULL;
    char *q=0;
    if(p)
        printf("p");
    else
        printf("nullp");
    if(q)
        printf("q");
    else
        printf("nullq");
}
```

- a) p q
b) Depends on the compiler
c) x nullq where x can be p or nullp depending on the value of NULL
d) nullp nullq

4. Which one is valid variable?

- a) sum b) temp c) rate_of_int d) All of above

5. What will be the output?

```
void main()
{
    int x=15,y;
    y=x++;
}
```

```
printf(“%d%d”,++y,x++);  
}
```

- a) 15 16 b) 16 16 c) 16 15 d) None of above

6. An array is a collection of data elements of the same_____.
7. Each string is terminated with a _____ character.
8. The escape sequence character _____ causes the backspace.
9. Algorithm is the graphical representation of logic. **(True/False)**
10. = is used for comparison, whereas, = = is used for assignment of two quantities. **(True/False)**
11. The keywords cannot be used as variable names. **(True/False)**
12. Which operator is known as ternary operator? What is its other name?
13. Which built in function appends a string at the end of a string?
14. What is Recursion?
15. In every ‘C’ program which function must be there?

Q.2 Answer the following questions. (Attempt any three) (15)

A) Discuss about function declaration, function definition and function call with suitable example.

B) Distinguish among entry control loop and exit control loop with example

C) Write down the **syntax** of following operations and write a program to check whether a given string is palindrome or not.

- (1) gets()
- (2) strcmp()
- (3) strcpy()
- (4) strrev()

D) Define an array. Explain the declaration and initialization of one and two dimensional arrays with example.

Q.3 A) Which type of problem can be solved by structure? Explain it with C program. (07)

B) Write a program for simple calculator(+, -, *, /, %) using switch-case statement. (08)

OR

B) Suppose exam department wants to generate your mark sheet grade wise according to your marks out of 100. They decided to make a C program. The mark sheet should contain grade A, B, C, PASS and FAIL. What program they should make? (08)

Q.4 A) Write a program to print the following pattern. (07)

```
1  
2 2  
3 3 3  
4 4 4 4
```

OR

A) Copy the following code with modifications at appropriate places (see the comment parts of the program). The program finds the total number of vowels in the string st. **(07)**

```
#include <stdio.h>
int main()
{
char st[]="Computer Programming";
int nvowel=0;
/*Write code that finds the total number of vowels*/
/*Print the total number of vowels*/
return 0;
}
```

B) List and explain File Management Functions of C. **(08)**