FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

First Semester B.Sc Degree Examination, November 2016

BSC1B01 – Problem Solving Using C

(2016 Admission onwards)

Max. Time: 3 hours　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 80

PART – A

Answer *all* questions. Each question carries *one* mark

1. What are the different types of tokens available in C?
2. What is a flowchart?
3. What is meant by type conversion in C?
4. What is the use of break statement in C?
5. Which is the conditional operator used in C ?
6. Give the syntax of do-while loop.
7. What is a file pointer?
8. Define an expression used in C.
9. What will be the output of the following program segment ?

```
void main( )
{
        int a=10,i;
        for(i=0;i<5;i++,a--)
        printf(" %d\t",a);
}
```

10. What is meant by arrays?
11. What is malloc( )?
12. What is the purpose of using # include in a C program?

(12 x 1= 12 Marks)

PART – B

Answer *any seven* questions. Each question carries *two* marks

13. What is meant by command line arguments?
14. Describe the various functions used for accessing a file in random fashion.
15. What is meant by dynamic memory allocation? What are the functions associated with it ?
16. How can we define an array to store a collection of strings?
17. What is the role of macros? Give an example.
18. Write a C program to find the sum and average of array elements using pointers.
19. Write a C program to find the factorial of a number using recursion.
20. What do you mean by algorithmic complexity? Explain two basic measures of complexity.
21. What is meant by dereferencing? Give an example.
22. How can we return multiple values from a function?

(7 x 2 =14 Marks)

PART - C
Answer *any six* questions. Each question carries *five* marks

23. What is meant by functions? What are the different types?
24. Differentiate between structure and union.
25. List and explain the different data types in C.
26. Explain the structure of a C program?
27. What is meant by variables? What are the different scopes possible for C variables?
28. Write a program to illustrate the use of static variables.
29. Explain the syntax and working of a *for loop* with a suitable example.
30. What are the procedure for creating and compiling a C program in Windows and Linux?
31. List and explain any two string functions.

(6 x 5 = 30 Marks)

PART – D
Answer *any three* questions. Each question carries *eight* marks

32. What are the different operators used in C? Illustrate with examples.
33. Explain the various branching statements used in C with sample codes.
34. Write a C program to add and subtract two complex numbers using structure and functions.
35. Write a C program to sort the array elements in ascending / descending order. The order to be sorted will be specified by the user at the time of execution. Use functions to perform sorting and pass the array as argument.
36. Write notes on
    a) Top down approach of program design
    b) Union
    c) Storage classes
    d) macros

(3 x 8 =24 Marks)