BRAINWARE UNIVERSITY

Term End Examination 2018 – 19

Programme – Bachelor of Computer Applications

Course Name - Principle of Programming Language

Course Code - BCAC 201 / BCA 201

(Semester – 2)

Time allotted: 3 Hours **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Questions) 10 x 1 = 10

1. *Choose the correct alternative from the following*

(i) Which one is the right output?

```
#include "stdio.h"
int main()
{
    void foo();
    printf("1");
    foo();
    return 0;
}

void foo()
{
   printf("2");
}
```

a. 12
b. Compile time error
c. 1212
d. Depends on the Compiler

(ii) Which one of the following is a valid identifier ?

a. Record1
b. 1record
c. 123-45
d. None of these

(iii) Which of the following is not a logical operator?

1.&
2.&&
3.||
4.!

a. 3 b. 2

c. 1 d. 4

(iv) Which of the following functions are used to dynamically allocate space in memory?

a. memAlloc and malloc b. calloc and malloc

c. alloc and memalloc d. calloc and alloc

(v) Which of the following is(are) a collection of different data type(s)?

a. String b. Structure

c. Character d. All of these

(vi) How many bytes are required to store a float variable?

a. 8 bytes b. 4 bytes

c. 2 bytes d. 6 bytes

(vii) When you pass an array as an argument to a function, what actually gets passed?

a. address of the array b. value of the elements of the array

c. address of the first element of the array d. number of elements of the array

(viii) Which header file should be included to use functions like 'malloc()', 'calloc()'?

a. stdlib.h b. string.h

c. dos.h d. stdio.h

(ix) What does fp points to the program?

```
#include "stdio.h"
int main()
{
    FILE *fp;
    fp=fopen("myData.txt","r");
   return 0;
}
```

a. The first character in the file b. A structure which contains a char pointer which points to the first character of the file

c. The name of the file d. The last character of the file

(x) Which of the following are unary operators?

1.!

2.sizeof

3.~

4.&&

a. 2 b. 1

c. 1,2,4 d. 1,2,3

Group – B

(Short Answer Type Questions) 3 x 5 = 15

Answer any *three* from the following:

2. Briefly describe the different loop control structures in 'C' with syntax, example and explanation. [5]

3. What is/are the difference(s) between Entry Controlled Loop and Exit Controlled Loop? Explain with an example. [3+2]

4. Define the term Dynamic Memory Allocation. How Dynamic Memory allocation can be used to create an array containing 1000 integer data? [2+3]

5. Define the term Dynamic Memory Allocation. How Dynamic Memory allocation can be used to create an array containing 1000 integer data? [2+3]

6. Write a structure of customer with name age and address. How a structure member is accessed? [2+3]

Group – C

(Long Answer Type Questions) 3 x 15 = 45

Answer any *three* from the following:

7. (a) What is a pointer variable? Explain the relation of pointer variable in the context of dynamic memory allocation. [2+3]

(b) Explain the usage of register variable with an example. [6]

(c) Write a function to calculate the factorial of a integer number. [4]

8. (a) Explain the difference between 'call by reference' and 'call by value'. [5]

   (b) What are the differences between global & local variable ? [5]

   (c) Given an array A of N integers. Write a C program to add all the contents of the array. [5]

9. (a) Explain the 'strcpy' function with suitable example. [5]

   (b) Write down the advantages of switch case over if else elseif statements. Explain using suitable example. [5]

   (c) Write a 'C' program to calculate LCM(Lowest Common Multiple) of two numbers. [5]

10. (a) What do you mean by storage classes in 'C' ? [5]

    (b) Name different storage classes and explain each with examples. [5]

    (c) Write a 'C' program that implements the matrix multiplication using 2-D array. [5]

11. (a) Explain the meaning of each of the following declarations. [5]

    ```
    float a,b,*fa,*fb;

    int *px;

    double * funct (int a ,int b,int c);

    char *a[12];

    char *d[4]={"north","south","east","west"};
    ```

    (b) What are the advantages of switch case ? [5]

    (c) Write a 'C' program to calculate factorial of a number. [5]
