M 053/064

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BCA Semester Examinations

INTRODUCTION TO PROGRAMMING

Course Code: BCA23101T

Full Marks – 60   **Time –2$^1/_2$ hours**

The figure in the margin indicates full marks for the questions.

(Part A)
Answer ALL questions
Multiple Choice(10 x 1mark = 10marks)

1. Answer the following: 10 x 1 = 10

(i) Out of the following operations, which one is not possible in the case of a register variable?

(A) Global declaration of the register variable

(B) Copying the value from the memory variable

(C) Reading any value into the register variable

(D) All of the above

(ii)   #include <stdio.h>

```
int main() {
        int a[] = {1, 2, 3, 4};
        int sum = 0;
        for(int i = 0; i < 4; i++) {
           sum += a[i];
        }
        printf("%d", sum);
        return 0;
}
```

(A) 1   (B) 4

[1]

(C)   10   (D)   20

(iii)   Which of the following comment is correct when a macro definition includes

arguments?

(A)   The opening parenthesis should   (B)   There should be at least one blank between
         immediately follow the macro   the   macro   name   and   the   opening
         name.   parenthesis.

(C)   There should be only one   (D)   All the above comments are correct.
         blank between the macro
         name   and   the   opening
         parenthesis.

(iv)   Which of the data types has the size that is not fix?

(A)   float   (B)   int

(C)   long int   (D)   structure

(v)   A C-style comment, simply surround the text with ___.

(A)   /* and */   (B)   */ and */

(C)   \   and /   (D)   //

(vi)   What is the output of the following C code?

```
#include <stdio.h>

int main(){
    int a = 11;

    while (a < 20) {
        printf("%d ", a);
        a += 2;
    }
    return 0;
}
```
(A)   11 13 15 17 19   (B)   11 13 15 17 19 11 13 15 17 19

(C)   11   (D)   0

(vii)   what will be the output of the following code.

```
#include <stdio.h>

int main(){
    int i, j;
    for (i = 2; i < 10; i++) {
        for (j = 2; j <= (i / j); j++)
```

[2]

```
        if (!(i % j))
            break;
        if (j > (i / j))
            printf("%d ", i);
    }

    return 0;
}   }
```

(A)   1   (B)   2 3 5 7

(C)   2 3 4 5 6 7 8 9   (D)   2 3 5 7 11

(viii)   A string is terminated by ___.

    (A)   Newline ('\n')   (B)   func(&a);

    (C)   func(**a);   (D)   func(*a);

(ix)   If the two strings are identical, then strcmp() function returns

    (A)   1   (B)   Null ('\0')

    (C)   Whitespace   (D)   None of the above

(x)   FILE *fp;

    fp = fopen("source.txt", "rb");

    (A)   open "source.txt" in write   (B)   open "source.txt" in
        mode for reading   binary mode for reading
                                              and writing

    (C)   Create a new file   (D)   open "source.txt" in
        "source.txt" for reading   binary mode for reading
        and writing.

Part B
Answer ANY Five questions
(5 x 4 mark = 20 marks)

2.   Write a C program to add n numbers.

3.   What is Software? Explain different types of software.

4.   Write an algorithm to find the largest among 3 numbers.

5.   Explain formatted input and output statement with examples.

6.   Why Indentation and documentation is essential in a program?

7   Explain different types of errors in C?

8.   Write different steps of program development.

Part C
Answer ANY TWO questions
(2 x10 mark = 20 marks)

9.   (a)   What do you mean by call by value and call by reference. Explain it   5
with example

(b)   Write a program that reverses a five digit number.   5

10.   (a)   Explain the syntax of for loop statement.   5

(b)   Write a program that adds two m x n matrix.   5

11.   (a)   Write a C program to search an element in an array.   5

(b)   State the difference between structure and union. Give examples.   5

Part D

12.   Write short notes (Any two)   2 x 5 =   10

(a) Library function vs User defined function

(b) Arrays and pointers

(c) Dynamic Memory Allocation

(d) Recursion in C