

Total No. of printed pages = 4

BCA 171103

Roll No. of candidate

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B.C.A. 1st Semester End-Term Examination

INTRODUCTION TO C PROGRAMMING

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *four* from the rest.

1. Select The correct Options : (10 × 1 = 10)

(i) The _____ operator is true only when both the operands are true.

- (a) bitwise or
- (b) bitwise and
- (c) logical and
- (d) Boolean

(ii) Find a correct C Keyword.

- (a) Float
- (b) Int
- (c) Long
- (d) Double

(iii) What will be the output of the following code?

```
#include <stdio.h>
int main()
{
    int a = 3, b = 5;
    int t = a;
    a = b;
    b = t;
    printf("%d %d", a, b);
    return 0;
}
```

- (a) 3 3
- (b) 3 4
- (c) 3 5
- (d) 5 3

[Turn over

(iv) What will be the output of the following code?

```
int main()  
{  
    int sum = 2 + 4 / 2 + 6 * 2;  
    printf("%d", sum);  
    return 0;  
}
```

- (a) 2 (b) 15
(c) 16 (d) 17

(v) What will be the output of the following code?

```
#include <stdio.h>  
int main()  
{  
    int x = 1, y = 2;  
    printf(x > y ? "ABC" : x == y ? "DEF" : "IJK");  
    return 0;  
}
```

- (a) ABC (b) DEF
(c) IJK (d) Compile time error

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

```
#include <stdio.h>  
main()  
{  
    int n = 0, m = 0;  
    if (n > 0)  
        if (m > 0)  
            printf("True");  
    else  
        printf("False");  
}
```

- (a) True
(b) False
(c) No Output will be printed
(d) Run Time Error

(vii) All elements of a structure are allocated contiguous memory locations.

(a) True

(b) False

(viii) #include <stdio.h>

```
int main()
{
    int X=40;
    {
        int X=20;
        printf("%d ", X);
    }
    printf("%d\n", X);
    return 0;
}
```

(a) 20 20

(b) 20 40

(c) 40 20

(d) Error

(ix) #include <stdio.h>

```
void solve()
{
    int ch = 2;
    switch(ch)
    {
        case 1 : printf("1");
        case 2 : printf("2");
        case 3: printf("3");
        default: printf("None");
    }
}

int main()
{
    solve();
    return 0;
}
```

(a) 1 2 3 None

(b) 2

(c) 2 3 None

(d) None

- (x) Diagrammatic or symbolic represent of an algorithm is called
- (a) Data flow diagram (b) Flow chart
(c) E.R. Diagram (d) None of the above
2. (a) What is program? What are the different steps of program development? (3)
(b) What is algorithm? What are its various characteristics? (2+3=5)
(c) What is use of if statement? (2)
(d) State the difference between '=' and '==' operator explain with example? (2+3=5)
3. (a) What is variable? State the rules of declaring a variable. Differentiate between local variable and global variable? (1+2+2=5)
(b) Write a program to swap two numbers without using third variable. (3)
(c) What are the different types of Input/Output functions of C language? Explain them. (4)
(d) Explain the function of conditional operator? (3)
4. (a) Write the difference between compiler and interpreter scanf () and gets ()? (2)
(b) What is string constant? How is string constant is differ from character constant? (1+2=3)
(c) Explain different types of errors in C? (3)
(d) What is an array? How an array is declared? Write a program in C to display the largest and smallest element in an integer array. (2+2+3=7)
5. (a) What is a function? What are the advantages of using function? (1+2=4)
(b) Explain the working principle of a recursive function with an example. (5)
(c) What is meant by call by value? Explain how it is different from call by reference. Write C language program to support your answer. (1½+1½+3=6)
6. (a) What is a pointer variable? State the advantages of using pointer variable? (1+2=3)
(b) What is a structure? Explain the syntax of structure declaration with example. (3)
(c) How many types of storage classes does C supports? What is the necessity of each? (4)
(d) What do you mean by dynamic memory allocation? How it is implemented in C program? (2+3=5)
7. Differentiate the followings: (5 × 3 = 15)
- (a) While and do-while loop
(b) Break and continue
(c) If else and switch case
(d) Compiler and interpreter
(e) Structure and union.

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