Total number of printed pages = 6

2022

COMPUTER FUNDAMENTALS AND PROGRAMMING

Full Marks – 100

Time – Three hours

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

Answer any *five* questions.

1. (a) Multiple Choice Questions :   1×10=10

    (i) Which of the following is not a valid variable in C ?

        (a) var123   (b) CIT

        (c) 123_student   (d) None of these

    (ii) How many keywords are there in C programming ?

        (a) 30   (b) 31

        (c) 32   (d) None of these

[Turn over

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

1. #include <stdio.h>
2. void main()
3. {
4. int x = 0;
5. x=x+1;
6. if (x == 0)
7. printf("hi");
8. else
9. printf("how are u");
10. }

(a) how am I   (b) Hello

(c) how are u   (d) Hi

(iv) Convert $(1024)_{10}$ to its binary equivalent.

(a) 011000000000   (b) 010000011111

(c) 010000000000   (d) 011111111111

(v) Which of the following is not an assignment expression ?

(a) y = z *5   (b) x + = 1

(c) (a= =b)   (d) None of these

(vi) C programs are converted into machine language with the help of

(a) An Editor

(b) An Operating System

(c) A compiler

(d) None of these

(vii) What is the extension files by default for C Program ?

(a) .doc   (b) .exe

(c) .c   (d) .ppt

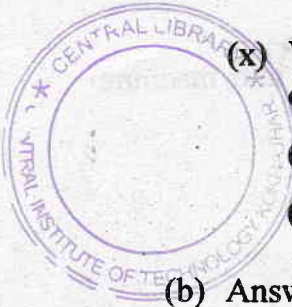(viii) Which of the following is not a relational operator ?

(a) <=   (b) !=

(c) =   (d) = =

(ix) i++ is called _____ operator.

(a) Post decrement

(b) Pre increment

(c) Post increment

(d) Pre decrement

1/19/2nd Sem/DCSE 202   (3)   [Turn over

(x) Which of the following is not an example of Looping statement ?

(a) For   (b) Do while

(c) Switch   (d) While.

(b) Answer the following questions :   1×10=10

(i) What is the full form of ROM.

(ii) If 'a' is an interger variable, then what is the return a value of a=5/2;

(iii) What is the difference between = and == symbol ?

(iv) What is the meaning of \n in C programming ?

(v) Explain the meaning of scanf() function in C.

(vi) Why do we need to use comment in programming ?

(vii) Declare an array variable of size 10.

(viii) Draw the flowchart to check whether a number is positive or negative.

(ix) Convert $(100011011)_2$ to Hexadecimal number.

(x) What do you mean by Base address of an array ?

1/19/2nd Sem/DCSE 202   (4)   250

2. (i) Draw the block diagram of a digital computer and explain each component in brief.

5+5=10

(ii) Explain array with an example in details. Write a program to enter roll number of 5 students in an array variable. 5+5=10

3. (i) Draw a flowchart to check whether a number is odd or even. Also write the C program for that. 5+5=10

(ii) Write a C program to check whether an alphabet is vowel or consonant using switch case. 10

4. (i) What is the advantage to use function in programming. Explain function definition, function declaration and function call using a program of your choice. 5+5=10

(ii) Write a program in C to swap the values of two numbers using functions call by reference concept. 10

5. (i) What do you mean by fundamental data type and User defined data type. Give example of each. 5

(ii) Explain the different types of loops in C with syntax. 10

(iii) Explain Low-level language and High level language. 5

6. (i) Discuss the various types of operators used in C. 10

(ii) Write a program to check the largest number among 3 numbers using if statement. 10

7. Write short note on any *four* : 5×4=20

(i) RAM and ROM

(ii) ARRAY

(iii) IDENTIFIERS

(iv) FUNCTION

(v) HEXADECIMAL NUMBER SYSTEM.