

Total number of printed pages-8

41 (1) INPR 1.2 (IT 02)

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PGDCA

(1st Semester)

Paper : IT-02

INTRODUCTION TO PROGRAMMING

Full Marks : 100

Time : Three hours

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

1. Multiple choices : 10×1=10

(a) Which is not a loop control ?

(i) for

(ii) if-else

(iii) while

(iv) do-while

Contd.

- (b) Which is an example of keyword ?
- (i) printf
 - (ii) scanf
 - (iii) int
 - (iv) All of the above
- (c) Which of the following is the starting point of execution in C program ?
- (i) #include<stdio.h>
 - (ii) #include<conio.h>
 - (iii) main()
 - (iv) None of the above
- (d) Which of the following is an example of unary operator ?
- (i) +
 - (ii) ++
 - (iii) --
 - (iv) Both (ii) and (iii)
- (e) Which is not a header file in C ?
- (i) include
 - (ii) stdio.h
 - (iii) conio.h
 - (iv) None of the above

- (f) `int b, a = 10;`
`b = a++;`
`scanf("%d", &b);`
The output of the above code will be
- (i) 9
 - (ii) 10
 - (iii) 11
 - (iv) 12
- (g) Which is the type of translator used in case of C programs ?
- (i) Compiler
 - (ii) Interpreter
 - (iii) Assembler
 - (iv) Both (i) and (ii)
- (h) `float arr[50];`
Array arr can store maximum of
- (i) 49 integer numbers
 - (ii) 50 integer numbers
 - (iii) 49 real numbers
 - (iv) 50 real numbers

- (i) Parameters passed in a function call are termed as _____.
- (i) Formal parameters
 - (ii) Actual parameters
 - (iii) Original parameters
 - (iv) None of the above
- (j) Which of the following function is used to display multi-word strings ?
- (i) gets()
 - (ii) puts()
 - (iii) Printf()
 - (iv) scanf()

2. Fill in the blanks : 10×1=10

- (i) Flowchart is used to _____.
- (ii) . The memory size of a float variable is _____.
- (iii) #include is a _____ in C.
- (iv) Pointer variable can store _____ of another variable.
- (v) Single comment line can be placed in a C program by using _____.

- (vi) If a function does not return any value then the return type of the function is _____.
- (vii) switch-case is a _____ control.
- (viii) clrscr() is used to _____.
- (ix) When we require to execute some programming statement in C repeatedly multiple times then we use _____ control statement.
- (x) The last character of any string in C is _____.

3. Match the **Column-A** with **Column-B** :

10×1=10

Column-A	Column-B
a) User defined data type	(i) Array declaration to store characters
b) main()	(ii) Operator
c) \n	(iii) One string is copied to another string
d) Token	(iv) Exit from a loop
e) strcpy()	(v) add new line

Column-A**Column-B**

f) #define	(vi) Input function
g) char ch[30];	(vii) User defined function
h) break	(viii) Memory locations where value can be changed
i) Invalid identifier	(ix) \t
j) variable	(x) for loop
	(xi) int 3arr[60]
	(xii) Used to define macro
	(xiii) struct

4. State whether true **or** false : $10 \times 1 = 10$

- (i) "void" cannot be used as an identifier.
- (ii) strlen() is used to find out the length of a string.
- (iii) Function prototype and function declaration are same.
- (iv) Interpreter is used to convert high level language code to its machine code.
- (v) getch() is a output function.
- (vi) printf() is used to input a value from standard input device.

- (vii) * is an unary operator in C.
- (viii) continue statement can be used to start the next iteration of a loop.
- (ix) keyword is a token in C.
- (x) The size of a character variable is 2 bytes.
5. (a) What is algorithm ? Write an algorithm to check a number is odd or even. 5
- (b) Explain the advantages and disadvantages of C function. 5
- (c) Write down the different types of loop control in C with their syntax. 6
6. Write down the outputs of the following C statements :
- (a)

```
int n = 321, sum = 0;
while(n>0)
{
    sum = sum+ n%10;
    n=n/10;
}
printf("%d", sum);
```

 3
- (b)

```
int a = 10, b = 20, c = 30 ;
b += ++c + a++;
printf("%d,%d,%d", a,b,c);
```

 3

```
(c) char str[50]= "IDOL Gauhati University";  
                                           3  
    int i;  
    for(i=0; i<=3; i++)  
        printf("%c", str[i]);
```

7. Give answers to **any five** of the following questions : 5×7=35

- (a) Write a C program to implement Bubble sort algorithm.
- (b) Write a C program to check a number is prime number or not prime number.
- (c) Explain the different types of operators available in C with suitable examples.
- (d) Write a C program to count the number of vowels present in an input string.
- (e) Draw a flowchart to find out the summation of n integer numbers from 1.
- (f) Explain the different parts of a C function with suitable examples.
- (g) Write down the different properties of a good computer program. Write down *any two* input library function available in C.
- (h) Why structure is required ? Explain with suitable example.