

CS/BCA(C)/ODD/SEM-1/1000081/2024-2025/1055


MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : BCAC102 Programming for Problem Solving through C
UPID : 1000081

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks

Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

[1 x 10 = 10]

1 Answer any ten of the following :

- (i) Linker converts source program into machine code. (State True/False)
- (ii) The expression $-11\%3$ evaluates to _____.
- (iii) What will be the output of the following code segment?

```
int a=0;
Switch(a)
{
Case 0:
Default: printf("default");
Case 1: printf("a=%d",a);
}
```
- (iv) C performs bound checking for array.(state true/false)
- (v) Size of a pointer is equal to the data type it points to. (State True/False)
- (vi) By default any user defined function returns _____ type of data.
- (vii) FILE is of type _____.
- (viii) What is the program that translates source code into object code ?
- (ix) ^ is a _____ operator.
- (x) What is the final value of x when the code `int x; for(x=0; x<10; x++) { }` is executed?
- (xi) Binary search works on sorted arrays. (State True/False)
- (xii) How we can combine the following two statements into one using `char *p; p = (char*) malloc(100);` .

Group-B (Short Answer Type Question)

Answer any three of the following :

[5 x 3 = 15]

2. How will you pass parameters to a function? Write a function that will compute $y=x^n$ where x and n are positive integer numbers. [5]
3. Discuss the use of `fscanf()` and `fprintf()` functions. Give some suitable examples. [5]
4. Convert $(29)_{10}$ to binary and $(1011101)_2$ to hexadecimal number system. [5]
5. What is bitwise operator? Give suitable examples? Write a program to swap the values between two variables without using third variable. [5]
2+3
6. a) Find the output of the following: [5]

```
char p[] = "%d\n";
p[1] = 'c';
printf(p, 65);
```
- b) `#include <stdio.h>`

```
void main()
{
int k = 5;
int *p = &k;
int **m = &p;
printf("%d%d%d\n", k, *p, **m);
}
```

Group-C (Long Answer Type Question)

Answer any three of the following :

[15 x 3 = 45]

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7. a) State and explain call by value and call by reference with suitable examples. [5+5+5]
b) State and explain different types of storage classes with suitable examples.
c) Explain function with return and function with arguments with suitable examples.
8. a) Differentiate between i) break and continue ii) entry controlled loop and exit controlled loop. [8+7]
b) Write a 'C' program to check whether a given number is prime or not.
9. a) Write a program to delete an element from a given location of an array of integers. [7+8]
b) Write a program to check whether a given string is palindrome or not.
10. i) Explain Recursive function with example. [3+7+5]
ii) Differentiate between Type Casting and Type Conversion with example.
iii) Differentiate between Embedded C and Traditional C.
11. a) Write short notes on fseek() and rewind(). [8+7]
b) Write a program which creates a file named TEXT, enter 10 integers in the file and then read and print them from that file.

*** END OF PAPER ***

