

2023

COMPUTER SCIENCE — HONOURS — PRACTICAL

Paper : CC-2P

(Programming in C)

Full Marks : 30

SET-1

Marks Distribution :

| | | |
|-------------|---|----|
| Source Code | : | 10 |
| Algorithm | : | 05 |
| Output | : | 05 |
| Sessional | : | 04 |
| Viva voce | : | 06 |

Answer *any one* question.

1. Write a program in C to print the following pattern based on given input. Here the input value is 5. Please note that the input value should be an odd number.

```
* * * * *
 * * *
  *
 * * *
 * * * * *
```

2. Write a program in C to print the Pascal's triangle (after taking the numbers of rows as input from the user) -

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
```

[Here, no. of rows = 6]

3. Write a program in C to take a list of numbers as input, and find the 2nd highest number without sorting.
 4. Write a program in C to calculate the value of x (without using library functions), using the formula $\cos(x) = 1 - x^2/2! + x^4/4! - x^6/6! + \dots$
 5. Write a program in C to remove multiple blank spaces from an inputted sentence, so that there is a single blank space between each word.
 6. Write a program to input two 'time' type structure (in 'hr' and 'min'), and calculate the difference between them. The answer is to be stored in a similar type structure variable.
 7. Write a program in C to output all Armstrong numbers within a given range (to be inputted by the user).
Eg. $153 = 1^3 + 5^3 + 3^3$ (where no. of digits = 3).
 8. Write a program in C to input a name, say Pranab Kumar Sen, and print P. K. Sen.
 9. Write a program in C to replace all upper cases present in a text file by its corresponding smaller cases.
 10. Write a program to print all twin prime numbers upto a given range (to be inputted by the user).
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