

323103

Mar. 2022

**B.Sc. (Maths/Physics) - I SEMESTER
Introduction to Programming (OCSC-101A)**

Time : 90 Minutes]

[Max. Marks : 25

Instructions :

1. *It is compulsory to answer all the questions (1 mark each) of Part-A in short.*
2. *Answer any three questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) Explain the utility of unions in C. (1)
- (b) Define polymorphism in C++. (1)
- (c) What are compound assignment operator? (1)
- (d) Can structure elements be initialized during declaration of the structure? (1)
- (e) Define the term 'row-major order'. (1)
- (f) What are inline functions? (1)
- (g) Define a class in C++. (1)

- (h) What is the major difference between a while and a do-while loop? (1)
- (i) How comments can be added to a C program? (1)
- (j) Define the term 'tokens'. (1)

PART-B

- 2. (a) Write a program which computes a raised to power b where a and b are of real and integer types respectively. (3)
- (b) The increment(++) and decrement(--) operators can either be used as prefix or postfix. Will they always yield the same result? (2)
- 3. (a) Write a program that copies the content of one file to another file. (2)
- (b) Explain the concept of array of structures with the help of an example. (3)
- 4. Explain nested if-else. Using it, write a program to find the largest of three numbers. (5)
- 5. (a) Write a program to calculate the length of a string without using in-built functions. (3)
- (b) Differentiate between declaration and definition of functions. (2)

- 6. (a) Write a program that reads two matrices A and B of order m*n and compare them for equality. (2)
 - (b) What is a constructor? Explain its different types in brief. (3)
-