

EVENING

09 MAR '2021

Please check that this question paper contains 9 questions and 1 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 1]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Object Oriented Programming using C++ and Data Structures

Subject Code: PCEC- 107

Paper ID: 16223

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part – A

[Marks: 02 each]

Q1.

- a) List features of object oriented programming.
- b) Define polymorphism.
- c) Define null pointer.
- d) Define data structure.
- e) Differentiate data structure and data types.
- f) Describe briefly the need of template.

Part – B

[Marks: 04 each]

- Q2. Explain the features and uses of pointers.
- Q3. Explain mechanism of exception handling.
- Q4. Discuss various types of data structures.
- Q5. Discuss the complexity of an algorithm? Also explain time space trade-off.
- Q6. Write a program to demonstrate the concept of function template.
- Q7. Write a program to declare and initialize a pointer.

Part – C

[Marks: 12 each]

- Q8. Discuss the features of object oriented programming in detail.

OR

Explain the types of inheritance in detail.

- Q9. Convert the following expression from infix to postfix using a stack.

$[a + (b - c)] * [(d - e) / (f - g + h)]$

OR

Demonstrate the concept of constructor and destructor with examples.
