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Reg. No.................................

Name....................................

M.Sc. (BIOMEDICAL INSTRUMENTATION) DEGREE EXAMINATION AUGUST 2025

Second Semester

BMI 203—OBJECT ORIENTED PROGRAMMING

(2024 Admissions—Regular/2021—2023 Admissions—Supplementary/2020 Admissions—First Mercy Chance/2019 Admissions—Second Mercy Chance/2018 Admissions—Final Mercy Chance)

Time : Three Hours | Maximum Marks : 100

Part A

Answer any **five** *questions.*
Each question carries 10 *marks.*

1. Explain with examples the concepts of data abstraction and encapsulation in OOP.
2. Explain with examples exception handling in OOP.
3. Explain with examples the impact of type modifiers on basic data types.
4. Describe the different styles of writing function prototypes in C^{++}.
5. Explain the methods of achieving polymorphism in C^{++}.
6. Write C^{++} program that reads three strings and prints the longest and smallest strings.

$(5 \times 10 = 50)$

Part B

Answer any **ten** *questions.*
Each question carries 5 *marks.*

1. Differentiate between object and class. Give suitable examples.
2. Explain how inheritance supports reusability.
3. Explain the concept of polymorphism with a suitable example.

Turn over

4. What is Dynamic Binding ?
5. Write a note on the data types used in C^{++}.
6. Explain how pointers are declared and initialized.
7. Explain how virtual functions are created in C^{++}.
8. What are the uses of constructors and destructors in C^{++} ?
9. Explain the concept and uses of function overloading.
10. Compare single, multilevel and multiple inheritances.
11. Write a note on virtual functions.
12. What is a Union ? Explain its syntax and uses.

$(10 \times 5 = 50)$