

**Tribhuvan University**  
**Institute of Science and Technology**  
2067  
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Bachelor Level/ Second Year/ Third Semester/Science  
**Computer Science and Information Technology (CSc 202)**  
(Object Oriented Programming Language)

Full Marks: 60  
Pass Marks: 24  
Time: 3 Hours

*Candidates are required to give their answers in their own words as far as practicable.*  
The figures in the margin indicate full marks.

**Section A**

**Attempt any two questions:** (2x10=20)

1. Discuss the feature of the Object-Oriented Programming. Differentiate between Object Oriented Programming and Procedural Oriented Programming.
2. What is constructor? Explain their types? Discuss user defined parameterized constructor with suitable example.
3. Define a **clock** class (with necessary constructors and member functions) in Object Oriented Programming (abstract necessary attributes and their types). (Write a complete code in C++ programming language).
  - Derive a **wall\_clock** class from **clock** class adding necessary attributes.
  - Create two objects of **wall\_clock** class with all initial state to 0 or NULL.

**Section B**

**Attempt any eight questions:** (8x5 = 40)

4. How can you classify objects? Why dynamic objects are needed?
5. What is operator overloading? Explain their types with suitable examples.
6. Why type conversion is necessary in OOP? Explain with example, the type conversion routine.
7. What is Inheritance? Explain their types with their suitable examples.
8. What is friend function? Why it is used in OOP? Explain with an example.
9. What is container class? Differentiate container class from inheritance.
10. Explain the role of virtual function in Object Oriented Programming.
11. Explain about “this” pointer with suitable example.
12. Write a program to find the square of given integer using inline function.
13. Write a program to convert feet into meter.