

Indian Institute of Engineering Science and Technology, Shibpur  
B.Tech CST 4th Semester Mid Semester Examinations, April 2021

Programming Paradigm CS-2203

Full Marks: 30

Time: 45 Minutes

**Attempt all questions**

1. Answer any 4 from the following 6 questions
  - (a) Discuss the Object concept in Object Orientation.
  - (b) In C++, what is “Initialization list” and when it must be used?
  - (c) What is call by reference in C++?
  - (d) How inline function is different than macro?
  - (e) Explain concept of Inheritance in Object Orientation.
  - (f) What is Function Overloading or Static Polymorphism?

(4x4 = 16)
2. Write a class `JobLoad` using C++ programming language, whose objects represent working times (in whole hours) and salary rates (in rupees per hour). With this class, the following operations shall be possible:

```
JobLoad j11(250, 55);           // 250 rupees/hour, 55 hours working time

j11.addHrs(5);                  // add 5 hours working time

j11.printSalary();              // prints salary "15000" (250*60 Rupees)

Reset(j11);                     // reset working time to zero

bool okay =
    j11.subtractHrs(10);        // attempts to subtract 10 hours
                                // returns false, if not sufficient time
                                // available (time remains unchanged)

JobLoad j12(200);               // 200 rupees/hour, 40 hours working time

int r = j12.compreSal(j11);     // 0 if salaries of j11 and j12 are equal,
                                // 1, if j12's salary is bigger, -1, otherwise

j11 = j12;                      // j11 becomes a copy of j12
```

(14)