# Jagan Institute of Management Studies

### 3, Institutional Area, Sector-5, Rohini, Delhi-110085

## 205 OOP using C++ : Assignment 1

**Objective: To assess the performance of candidate on CO3**

*Marks: 30 (team work 10, concept and solution 10, implementation 10)*
*Time Duration*: 1 weeks

*Project Teams*: 2-3 members per team. Roles should be properly assigned and contribution of each member justified.

*Mode of submission:*
1. Written submission should include case description, objectives, designs, data descriptions, file descriptions, screenshots and conclusions
2. Soft copy submission in a zip folder with source code, sample data files and any third-party software used.

*Project Description:*

Define Point class and an Arc class. Define a graph class which represents graph as a collection of Point Objects and collection of Arc objects. Find the shortest distance between any two points (use Dijiksta's algorithm). You may also design your own algorithm.

OR

Team has to decide about developing a software solution for a client. After a detailed discussion with client, note down details of business transactions and problems faced by client. Prepare a detailed description design of existing systems and analyze the problem situation. Now using OOP design a solution which is to be implemented using C++. Prepare description of classes, associations, containers, inheritance, constructors, virtual functions etc. Also prepare a list of data files (if to be used) and format of data to be stored.

Using C++ implement the proposed solution.