**Lab Exercise on Inheritance & Abstract Class**

**Date : 22-03-2022**

1) VIT Chennai was established with UG courses like B.Tech and MS. The following details of UG students were stored: Name, Degree, Branch, GPA, Semester, Secondary School Name and % of marks in Secondary education. Later they started Master Degree Program for which some additional information of students' was stored: Basic Degree, College Name, and CGPA. After a couple of years, they offered PhD degree and for research students the following data was stored: Master Degree, College Name, CGPA, Area of Specialization, Supervisor's Name, in addition to the above information. Make sure that there must be the facility to store and display the data in every course.

Being a system programmer of VIT Chennai, you are asked to implement an application in Java with suitable inheritance.

2) Consider a particle falling down freely under the gravity with initial velocity u. Its position at time t is given by the formula s = ut + ½ gt2 where g = 9.8 m/sec2. Write a program to calculate s for the values of u from 1 to 10 increments by 2 and values of t from 0 to 2 increment by 0.5. Use abstract class to implement the above scenario.