UNIVERSITY OF MANANGEMENT & TECHONOLOGY
Department of Informatics & Systems

Mid-Term Examination-S21   **Object Oriented Programming**   **Section Y6**

Scenario -X: A Software firm intends to keep record of all the deployed projects with following entities information and associated connections

Firm has Multiple employees working on the project Technical Managers Lead the Project with Development Staff develops the Projects.

System will store an Employee ID, Name, Designation, Salary, Grade for each Employee. Each Development Staff member will also have a Manager_ID

System will also maintain the Projects record including ProjectID, ProjectTitle, ClientName, Start and End Date. Each project will have one Technical Manager and five Development staff members.

Provide Solution for the following considering Scenario-X

Question 1) Write C++ for the followings

a) Declaration for both Manager and Developer class

b) Constructor, Getter and Setter functions for Developer Class

c) Main function creating Manager Object and Display its data

Question 2) Identify the relationships among following classes

Firm, Employee, Manager, Developer, Project, Date

Question 3) Provide C++ class definition for Project class with following functions

a) Default, Parametric & Copy Constructors

b) Assign a Project Lead to Project

c) Assign development staff to Project

d) Calculate Project Duration

Question 4) Provide C++ Program that constructs the following by getting all the requires values from user except employee or Project ID

a) Create a firm with 5 Technical managers with ID [1, 2, 3, 4, 5]
   with associated 5 development staff members for each manager

b) Create Two Project objects under the lead of Manager [2 & 4]

c) Assign Development staff

d) Display the Project Team for both Projects