**COMPUTER SCIENCE DEPARTMENT**

**MILITARY COLLEGE OF SIGNALS, NUST**

**SOFTWARE DESIGN AND ARCHITECTURE**

**BESE 15 A**

**Exam**: Midterm **Instructor**: Shahela Saif

**Type of Paper:** Regular **Maximum Marks**: 20

**Semester**: Spring 2011 **Time Allowed**: 150 min

**Note:**

1. Use of course work slides or other helping material is not allowed.

2. Copied submissions will be cancelled altogether.

**Question .No.1 (20)**

Consider the following case study:

Learning Management System is a software application for the administration, documentation, tracking, and reporting of training programs.

A teacher or instructor is responsible for uploading various reference materials regarding any course related to a particular batch/class. He/she can create online assignments or quizzes for which the students can make online submissions. Students need to register themselves to various courses to make these submissions. These assignments and quizzes are graded by the instructor. The instructor can also create posts to inform about any event or important news.

Students can access the online resources added by the instructor. They can send message to or receive message from other members of the system. There can be Guest users to the system that can only view the uploaded lectures and reference materials.

The administrator creates various courses and course categories. To each course he assigns instructors. Administrator can create new users or manipulate existing users.

Solve any three of the following:

1. Create a use case diagram for this system. (6)
2. Create a detailed use case description for any one use case designed in part 1. (6)
3. Create sequence diagram for the detailed use case as created in part 2. (6)
4. Create a class diagram for the system. (6)

2 marks for neatness and clarity.