



United International University (UIU)

Dept. of Computer Science & Engineering (CSE)

Mid Term Exam Trimester: Spring 2022 Marks: 30 Time: 1 hr 45 mins

Code: CSE 3411 Course Title: System Analysis & Design

“Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules.”

Answer **ALL** of the following questions:

QUESTION 1

[CO3]

14

Suppose you are going to develop an online platform to manage the leave applications of employees for a large distributing company. System admin will create account and provide credentials to the users. One employee will be assigned to play the role of a manager. To use the system, users need to login into the system. All user information will be stored in the USER_LIST table and all login attempts in LOGIN_DETAILS table in the database. Each employee can track how many leaves they have in different categories (Leave without Pay, Earned leave, Casual Leave, Emergency Leave). HR Admin can add, update, or delete users' information in the platform. HR Admin can also update leave categories, which will be in CAT_DETAILS table. Employees can apply for leave in a particular category if they have available leaves in that category. After an application is placed, Manager of that employee will review the application. HR admin will finally accept or reject the application based on Manager's recommendation. All the information of a leave application will be stored in APPLICATION_DETAILS table. User and Manager will be notified accordingly after HR admin completing the application's decision. If the application is accepted, then the Accounts & Finance team will also be notified. All the accepted applications information is stored in ACCEPTED_LEAVES table. An Employee can cancel the application any time before HR Admin finalized the decision regarding the application.

- a) Mention some major rules for drawing a DFD. Draw DATA FLOW DIAGRAM for the above scenario. [2+4]
- b) Draw the USE CASE Diagram maintaining “include” / “extend” connection properly. [4]
- c) Write down the USE CASE Descriptive Form for processing leave application. [4]

QUESTION 2

[CO1]

6

- a) Suppose you have been assigned as a system analyst for the development of an ERP system for a Pharmaceuticals Industry. Answer the following questions:
 - i. Define the system and show the major functional units for the scenario mentioned in question 2. [2]

- ii. Mention the major tasks when you are going to deploy the ERP product to an existing Textile Industry for automation. [2]
- b) Write down the full form of DSS. Mention the major features or purposes of this type of software. [2]

QUESTION 3 [CO2] **4**

- a) Suppose you are assigned to develop a Mobile Financial Services Software for a company that is going to operate in our country like **bKash**. Answer the following questions with that perspective:
 - i. Mention the major steps those are needed to finalizing the product's feature list. Consider the different required steps like information gathering, products comparison, gap analysis and features finalization etc. [4]

QUESTION 4 [CO4] **6**

- a) Mention the reasons of three types of feasibility analysis those are required to conduct during the feasibility analysis for any software product development. [2]
- b) Suppose you are investing \$6000, \$4000, and \$5000 at present, after 2 year and after 3 years respectively. In return after 2, 3 and 5 years you will get Revenue \$2000, \$4000 and \$10000 respectively. [4]
Find out Profit/Loss and ROI through
 - i. Cash Flow Method
 - ii. Net Present Value (NPV) MethodConsider bank interest 5%