

**United International University (UIU)**

**Dept. of Computer Science & Engineering (CSE)**

Mid Term Exam Trimester: Fall 2018 Marks: 30 Time: 1 hr 45 mins

Code: CSI 311 Course Title: System Analysis & Design

Answer **ALL** of the following questions:

**QUESTION 1 [CO3] 10**

Consider the following scenario of UIU Online Ticket Booking Website:

“UIU has opened an online service to book tickets for the events that takes place in UIU. The services are only available to the students of UIU. Students are allowed to book only 1 event ticket at a time.

Initially, the student needs to go to the log in page of the website and **Log In** using his/her student ID and password. Logging in requires data to be retrieved from the STUDENT file in the database for verification. If the log in is unsuccessful, the student is asked to re-enter the information, otherwise, he/she is redirected to the website’s event page. Events can be **searched** and the details of the events can also be **viewed** on this page. All the data of the events are stored in the EVENT database.

In order to search an event, the student needs to type the event name in the search bar. The EVENT database is searched and if it is not found then an error message is displayed. However, if it is found then the student can either choose to view the details of the event or search another event.

After viewing the event, the student needs to select it to proceed to the **booking** process. If the event is fully booked, the student won’t be able to book any ticket. After booking an event, the EVENT\_TICKET database is updated first then the process sends back a receipt, containing all the details of the booking and also the deadline of making the payment, to the student. The amount to be paid is updated in the STUDENT\_ACCOUNTS database and the payment cannot be done on the ticket booking website.   
  
The student has to pay for the ticket in the usual way i.e. by going to the bank or online through UCAM. If the payment has not been made within the given date, the booking will automatically be cancelled.

1. Draw DATA FLOW DIAGRAM for the above scenario. [3]
2. Draw ACTIVITY Diagram **from logging in till** **viewing event details**. [2]
3. Draw the USE CASE Diagram. Show both “include” and “extend”. [2]
4. Write down the USE CASE Descriptive Form for **selecting and booking an event**. [3]

**QUESTION 2 [CO1] 7**

1. Show the different levels of skills an analyst should have in the different levels of SDLC? [1]
2. What is organogram? Give 2 different examples of organogram. [1+1]
3. Show the Prototyping SDLC (diagram with label). [1]
4. Mention the major features of the following: [1+1]
   1. DSS
   2. MIS

**QUESTION 3 [CO2] 8**

Olympia Café in UIU canteen is wishing to convert its manual system into a computer system   
one and has hired you to design the software for them.

1. Briefly explain **any two** types of feasibility study that you would need to carry out in order to determine the practicality of the new system. [2]
2. Mention the main contents of the feasibility report for the above mentioned case (brief shortly). [2]
3. What would be the **advantages and disadvantages** of gathering information using the following methods:
   1. Interview [2]
   2. Reviewing existing documents and forms. [2]

**QUESTION 4 [CO4] 6**

1. Perform SWOT analysis of your CSI 312 lab project group with respect to your group’s project respectively. [2]
2. Suppose you are going to develop a software product for which you need to invest $6000   
   at moment and $5000 after two years. In return you will get $3000 and $4000 after 3 and   
   5 years respectively.
3. Show the cash flow of the project. [2]
4. Determine if the project is profitable or not using the Net Present Value. [2]