

Course No: MIS 3306  
Course Title: Business Systems  
Analysis and Design  
Date: 18/9/2014  
No. of Questions: (4)  
Time: 120 Minutes  
Total Grade:

University of Palestine



Final Exam  
Summer Semester 2013/2014

Instructor Name: Najwa Baraka  
College Name: Information  
Technology  
Dep. / Specialist: Management  
Information Systems  
Student No.:  
Student Name:

**Question One**

*(10 points)*

✓ Fill the following comparison table

<b>BA</b>	<b>IT BA</b>
<b>Class</b>	<b>Object</b>
<b>Parent</b>	<b>Child</b>
<b>Business use case</b>	<b>System use case</b>
<b>Composition</b>	<b>Aggregation</b>

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## **Question Two**

**(5 points)**

✓ **Write the appropriate term for the following definitions**

1. OO principle which require that only an object's operations are visible to other objects and attributes and methods remain hidden from view
2. An abstract representation of a clearly delimited area of a business.
3. A widely accepted standard language for OO.
4. The physical and conceptual things we find in the universe around us.
5. Something the business (and the it system that automates it) must keep track of, or that participates in business processes.

## **Question Three**

**(15 points)**

✓ **List and compare between all interview formats**

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✓ **Differentiae by example between the types of overlapping and explain how they can be modeled in UML**

✓ **Discuss the relationship between Cognitive Psychology and OO**

✓ **How can we find actors during analysis**

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## **Question Four**

**(30 points)**

The library in York University contains two kinds of items which are: books and journals. There may be multiple copies of an item in the library. There are many registered members belonging to the library, each of whom is issued with a number of tickets. Members can be students, lecturers and library staff. Students have to identify themselves with their Student\_Number; also lecturers have to identify themselves with their Work\_ID .

For each library items held by the library, the item contains the title, author's name and ISBN number. Some of the items are for short term loans only and others are for long term. All books may be borrowed by any library member for three weeks but only members of staff may borrow journals. Members of the library can normally borrow up to six items at a time, but members of staff can borrow up to 12 items at a time. New books and journals arrive regularly, and old ones are sometimes disposed of. The current year's journals are sent away to be bound into volumes at the end of each year .

Librarian can create/modify/delete item information. When a member want to read an item the system records the name and address of each reader and the check number of tickets that they have been issued with. Readers can borrow one item for each ticket and the system keeps a record of which items a reader has borrowed, along with the date by which the items must be returned.

Anybody can browse in the library, but only members can borrow items. It is essential that the system keeps track of when items are borrowed and returned. The system should also produce reminders when an item is overdue. There may in future be a requirement for uses to be able to extend the loan of an item if it is not reserved.

In addition, system should allow users to search for an item on a particular topic, by a particular author, etc., to check whether a copy of the item is available for loan and, if not, to reserve the item .

The system checks that the potential borrower is a member of the library, and that s/he does not already have a maximum permitted number of books on loan. This maximum is six unless the

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member is a staff member in which case it is twelve. If both checks succeed, this system records that this library member has this copy of the book on loan. Otherwise it refuses the loan.

1. Draw a class diagram for **Your University library**
2. Draw an object diagram for **Your University library**
3. Draw an activity diagram for **making up volumes** and also for **borrowing process**
4. Draw a use case diagram for **Your University library members**
5. Draw a complete sequence diagram for **borrowing and returning process**

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Best of Luck

“The only thing worse than being blind is having sight but no vision”

- **Helen Keller**