Course Title: Software Engineering **Date: /1/ 2015** **No. of Questions: 3 Questions** **Time: 2 hours** **Using Calculator (No)**	**University of Palestine** **Final Exam** **2014/2015** **Total Grade: 50**	**Instructor Name: Eng. Eman Alajrami** **Student No.: _____** **Student Name: _____** **College Name: _____** **Dep. / Specialist: _____** **Using Dictionary (No)**

First Question	**No. of Branches (1)**	**5 Marks**

(5)

Put (√) or (X) for each of the following statements:

1) Context models show the position of a system in its environment with other systems and processes ( )
2) NL is recommended to be used in System requirements. ( )
3) Use should for mandatory requirements, shall for desirable requirements. ( )
4) The activities of design and implementation are closely related and may be inter-leaved ( )
5) Requirement completeness means that there are no requirements conflicts ( )

Second Question	**No. of Branches (1)**	**5 Marks**

(A) Define the following:

1. **Domain Requirements**

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2. **View points**

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3. **Realism**

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4. **Event scenarios**

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5. **Risk management**

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Third Question **No. Of Branches (8)** **40 marks**

(B) Answer All of the following questions:

1. **What are the main classifications of requirements? Explain them in details**

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2. **There are four ways to elicit requirements, name tem and explain them briefly.**

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3. **What are the problems with NL (Natural Language)?**

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4. **Write two functional and two non-functional requirements for the alarm clocksystem? (5 marks)**

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5. **What are the User Interface UI Golden Rules? Explain them briefly.**

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6. Draw a use case diagram for the following Alarm clock system:

Suppose we want to develop software for an alarm clock.
The clock shows the time of day. Using buttons, the user can set the hours and minutesfields individually, and choose between 12 and 24-hour display.It is possible to set one or two alarms. When an alarm fires, it will sound some noise. Theuser can turn it off, or choose to 'snooze'. If the user does not respond at all, the alarm willturn off itself after 2 minutes. 'Snoozing' means to turn off the sound, but the alarm will fire again after some minutes of delay. This 'snoozing time' is pre-adjustable.

7. **Draw a class diagram for student system which manipulates the student enrollment. Student may be a part time student or a full time student. Each student has one or more addresses. Each enrollment record is related to one student. Each student is enrolled in 0 or more unit.**

Give at least one method for each class and show the multiplicity.

8. **Draw Activity diagram for the withdrawal process of ATM.**

First the BankUser is authenticated with a card and password. If the password correct then the ATM activates the "Withdraw" function of the ATM system. Else the process is cancelled.

Flow of Events:

1. The ATM machine first displays menu of withdrawal amount and option to cancel. Then it inputs the menu selection.
2. If the user cancels the transaction, the menu program exits.
3. Otherwise (user selects an amount) it sets amount attribute, gets available balance of user's account from database.
4. If the required amount is greater than the available balance, it displays an appropriate error message.
5. Otherwise it tests whether sufficient cash is available in the cash dispenser. If there is insufficient cash in the cash dispenser, it displays an appropriate error message. Otherwise it interacts with the database to debit amount from user's account.
6. Then it dispenses cash and instructs the user to take cash.

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End of Questions
Good Luck