



**National University of Computer & Emerging Sciences, Karachi**  
**Fall-2019 CS-Department**  
**Mid-Term 01**  
**25 February 2020**



<b>Course Code: CS-303</b>	<b>Course Name: Software Engineering</b>
<b>Instructor Name / Names:</b>	
<b>Student Roll No:</b>	<b>Section No:</b>

Max Marks:25

Time Limit: 1 Hour

Question#01:

- a) List functional and Non-Functional Requirements of the given project scenario.

3+2

Scenario:

The problem is that currently there are no applications dedicated to students in universities. Students want to participate in university courses and see announcements in these courses, but have this information spread out on multiple websites, which are hard to find. They want to find fellow students with the same interests and share their opinion about courses and course material, however this is not possible yet. They also want to discuss exam questions and find the right place where the exam takes place without searching on Google. The required app has to be developed in java.

Arjun, an incoming student from India, is studying computer science at TUM. He has business administration as minor subject and is already used to visit the courses in the computer science building. The business administration courses however, are located in a lecture hall in another building in the city center of Munich. He never visited the other building before, so he does not know how to find the lecture halls for his minor subject. He browses through the courses in the course catalog of the University App and finds the course "Foundations of Business Administration" with course times and the location of the lecture hall on a map.

While he is attending the course, he makes contact with fellow students who also attend the course and reads their comments. He requests friendship with Jenny and adds a new comment about exam questions from earlier exams. While he is browsing, Jenny is notified about the friend request and accepts it. Arjun, in turn, is notified that Jenny has accepted his request and now browses through all the courses that Jenny is visiting.

- b) How can developers make sure that a software's non-functional requirements are verifiable? Give example using any non-functional requirement

Question#02:

2.5+2.5

- a) Let's say there is a solution company that basically expert in developing a particular HR management system in big retailers. So let's say company X need to develop a well-known HR management system for a big retailers headquarter. And they have done

this kind of project many times before. So the question is, which process model would be best suited in this situation? Justify your answer by citing characteristics of the process model you think is best suited.

- b) Draw diagram for V-Model and using the diagram as reference, clearly explain how each quality assurance activity relates to each development activity.

Question#03:

5

- a) show how given below scenario might be portrayed in WBS format.

Scenario:

Suppose you and your friends is planning a camping trip there are some activities you need to address for a successful trip. Firstly, you need to prepare a camping site so that it's got protected from animal visit and rainy stormy weather and also protection from criminal's activities, after that arrangement for supplies and equipment to provide necessary medical first aid and food items for survival. Make sure you camp should be mosquito free, now it time to pack your suitcase and list down all the necessary work packages.

Question#04:

5+5

- a) With the help of "The Scrum Sprint Cycle" describe what is sprint, types of backlogs and type of meetings that's the ritual of Scrum.
- b) State Agile principles and describe how XP support these principles?