

National University of Computer and Emerging Sciences, Lahore Campus



Course:	Software Quality Assurance & Management	Course Code:	CS 519
Program:	MS (SPM)	Semester:	Fall 2018
Duration:	120 minutes	Total Marks:	50
Paper Date:	24-10-2018	Weight	30
Section:	MS	Page(s):	2
Exam:	Mid Term		

Instruction/Notes: 1. State all your assumptions explicitly
2. Read and understand the cases/questions carefully before answering the questions

1) A software development firm is planning a new airport luggage control project. The system is to control luggage transfer from the terminal to the planes, from the planes to the terminal's luggage release system, and from plane to plane (for transit passengers). The airport requires a computerized system and wishes to initiate several new applications that have yet to be implemented in another airport. (10)

- What quality factors (top 4) will you select for the project and why?
- Which software methodology will you pick and why?
- How will you assure quality against each quality factor?

2) A small software house is approached to develop a 500 man-hours app. A similar app is already available in the market and your customer has asked you to develop the same. Your software house has decided to assure quality by using following quality assurance plan: (10)

	Artifact	Review	Defect Removal Effectiveness
1	Requirements	Walkthrough	50%
2	Technical Design	Formal Design Review	70%
3	Code	Inspections	70%
4	Code	Unit Test	40%
5	Integration	Integration Test	60%

- Determine the effectiveness of this plan
- Explain pros and cons of this plan
- Suggest your preferred quality assurance plan

3) Finding him/herself under time and budget pressures, the project leader of the app (refer to question 2) has decided to introduce “an economy plan” that limits the quality assurance activities to a standard design review (50% filter) and introduce a comprehensive system tests (60% filter). Considering the model's contribution to defect removal efficiency and costs: (10)

- a) What are the expected savings, if any, in resources invested for defect removal during the development process as opposed to the defined quality assurance plan?
- b) What are the expected effects of the “economy plan” on customer satisfaction?

4) What are the challenges faced by small organizations in conducting Formal Design Reviews? (5)

5) Your software house has just completed a web application. During the shipment preparation you have found out that data encryption, which is part of the contract, is not implemented. (5)

- a) What could be the possible cause(s) of missing this implementation?
- b) What preventive actions are required?

6) Explain Quality Assurance Infrastructure components with examples. (10)