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National University of Computer and Emerging Sciences, Lahore Campus

Course Name:	Network Security	Course Code:	CS525
Program:	BS (Computer Science)	Semester:	Spring 2020
Duration:	90 Minutes	Total Marks:	41
Paper Date:	11-03-2019	Weight	20
Section:	-	Page(s):	6
Exam Type:	Midterm		

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Instruction/Notes:
1. **Points for each question are roughly related to the time that needs to be spent on that question. Avoid spending excessive time on questions with less points and less time on questions with more points.**
2. **Any kind of dishonesty will result in a minimum penalty of F in the exam.**

MCQ1. One of the empirical studies found out that if an error in the requirement phase is not corrected, it could result in as much as _____ rework cost (if corrected at later stages of development). (1)

A) 10 times
B) 50 times
C) 100 times
D) 200 times
E) 300 times

MCQ2. Which of the following statements are true (1)

i. Many requirements error are made
ii. Many of these errors are not detected early
iii. Many of these error are detected early
iv. Some of these error are detected early
v. Many of these errors can be detected early
vi. Many of these cannot be detected early
vii. Requirements error are usually not very common

A) i, iii, v
B) i, ii, iv, vi
C) ii, iv, v, vii
D) i, ii, iv, v
E) ii, iv, vi, vii

MCQ3. Gold-plating refers to the practice of (1)

A) Assigning correctly the highest priority to a requirement
B) Assigning incorrectly the highest priority to a requirement
C) Defining a useless requirement not desired by the customer in the hopes of impressing them
D) Taking a requirement and assigning it the highest importance

(2)

MCQ4. Following are the features that most customers do not want. Identify the one which a small percentage would want. (1)

A) Undesirable performance characteristics
B) Esthetic features
C) Gold plating
D) Hazards

MCQ5. Which is not one of the objectives of an interview. (1)

A. Record
B. Reassure
C. Discover
D. Refine

Q1. Suppose a smart home system is to be designed. One of the stakeholders is an illiterate man from one of the villages of Pakistan. Write a short persona of such a person that could affect the development of the smart home system (5).

Abdullah lives in a village. his age is 42. he belongs to a middle class family. He is a former. The house in which he lives is not designed by an architect. There is electricity issues in his village. low voltage is a major issue. His house is wide open which covers a lot of area. Door locks are old fashioned and there is only one light and one fan in every room. They used to sleep in open area. He saves electicity cost. He usually sleeps early and wakes up early in morning. He did not likes to use cell phone very much. Internet connection is very poor in his village. There is only one cell phone in whole house.

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(2)

Q2. What is the relationship between a goal and a requirement? Explain with at least 2 examples (1+1+1=3)

A goal is our final output. what it actually perform at the end. requirements how it should be done. for example

goal. unathroced person cannot enter in house requirements. we need a biometric system to authenticate the each personal.

Q3. Describe 10 different security requirements for a smart home monitoring system. (10 points)

1. First and important requirement is that it should be on a secure network.
2. There should be a mode that no one is at home when everyone gone. So if there is any activity after that it could generate notification.
3. Their should be a guest mode that can be enabled when any guest arrives.
4. Auto notification should generate when some one try to open main door but fails.
5. Sensors on the outer wall if someone try to cross them alarm should activate.
6. Cameras that could record movement at unusual time. like movement at rooftop at night.
7. unathroseed person should not able to commands the voice control system unless guest mode is active.
8. Alert for the kids who try to go outside from main door.

9. There should be atleast four days of backup data of servaliance cameras. ✓

10. security alaram autmatically call police in specified cases. ✓

Q4. Imagine a system such as FELX. Write one desired behavior, one specified behavior, one missing behavior and one unwanted behavior. (1+1+1+1=4)

1. Desired: This system should be available everytime. It goes down most of times. ✓

2. specified: ~~(Their is a forum where we can discuss the issues with other fellows and teachers).~~ It shows marks and attendance ✓

3. Missing: ~~There should be plug ins where we can open files like powerPoint and pdf etc~~ we Should be able to cannot take the printout of out transcript. 0.5

4. unwanted: when we add a subject a lot of times it add ~~d~~ twice that book. ?? x (2.5)

Q5. Imagine a system such as FELX. Write two forbidden behaviors. (2)

1. Server should be good that can manage a number of users. availability issues. x.

2. There should be two way varification. security is one of the issue. x.

This is desirable (0)

Q6. Should a requirements engineer make assumptions? Explain your answer with an example. (2)

No, requirements engineer should not make assumptions. client does not need any extra (2)

(4.5)

functionalities. for example requirement engineer assume that in hospital system. complete biodata of patient should save but hospital only concerns with their medical record.

Q7. In CMMI Level 2, how does having cost and schedule planning processes affect the overall development process? (2)

0.5

it is a good practice that you should always schedule your proces according to time and cost. because there is a cost associate to the time. If an orgnization deliver their project late it will cost extra amount.

Q8. Describe briefly the four major requirements engineering activities. (1+1+1+1=4)

1. Requirement elicitation where we discover requirements and collect them from all the stakeholders.
2. ~~Analyzing~~ requirements in second step. in this step we analyze the collected requirements and go through them.
3. Manage the requirements in third step where we make grouping of likewise requirements.
4. Validating requirements at the end that we have. is these requirements are enough and ensure the correctness.

Q9. Why do we need to analyze a current system that is going to be replaced with a new one which we are being tasked to build? (4)

1. we need to analyze current system to understand the actuall functionality of system. what it actually do.

2. what is missing in current system.

3. problems in current system so we can avoid them.

4. functionalities which is difficult to use for customers so we can make our new system more affective.

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