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National University of Computer and Emerging Sciences, Lahore Campus

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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

(1)

the

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

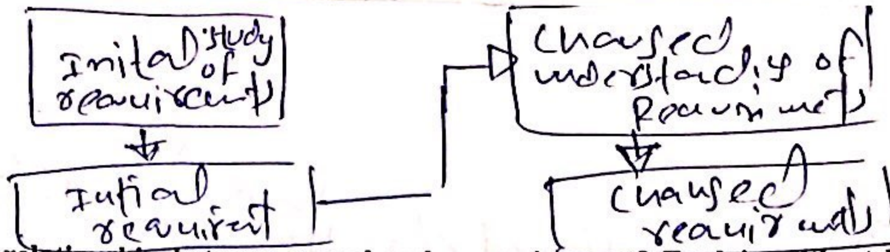
MCQ5. Which is not one of the objectives of an interview. (1)

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).

A village illiterate man, asked to design a smart home system. The illiterate stakeholder has a less knowledge of designing a home. Development of a smart home system requires an literate, intelligent and technical architects that can design a smart home in a best way. Illeterate stakeholder have less knowledge of how to gether requirements from the owner of the home who is want to design the smart home. Illeterate man dont know requirement elicitation, analysis, resolving techniques. which all are nessesary to make a smart home. Illiterate man have less knowledge that what stakeholder are required for design the home.

Not a persona



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

Requirement vs Goal

(Set of activities/input gathering from user) — (Major specific objective that is produced from the requirement elicitation)

1. Students need a portal where they can view their results, attendances, various courses percentages — (Flex) Specific system produced for the students.
2. Customer wants to build a software that calculates total, sales, discounts, tax accordingly — The Desired system is developed that perform accordingly. Print a receipt to each unique ID and and sales database

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

1. Security cameras should be implemented to avoid uncertainty.
2. Electrical instruments should be implemented efficiently and accurately.
3. Air conditioner should be placed in an accurate place from where room temperature remain stable in all seasons.
4. All electrical instruments / or electricity circuits should be connected to a main switch
5. For greater there should be a whole space for ventilation
6. For ~~kitchen~~ home there should be an automated garbage collector
7. For kitchen, Automated instruments should be available, smart fridge which can tell the owner about the inventory which is to be used.
8. For each room cameras should be implemented.

9. TV room should have also implanted cameras

10. We can also implement a unique system through which we can see our home from outside of the home.

Ubiquitous connectivity with your home you can drag lop. Any time, any where, and every where connectivity (3) 4

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. Flex should be availble 24 hours while doing registering subjects. (No exception should be made at resistration days)
2. Flex should provide student, CGPA, attendes, course resistration, quizes, assisment details.
3. Flex availibly while registering subjects students unable to resister subject when they need.
4. Only one student can see their marks, attendences. Each student should assign unique ID. So that other students cannot be able to see other students data.

(3.5)

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

1. One student (with unique ID) cannot see other student's data CGPA.
2. Student cannot update their marks, grades, attendences percentage, other than course registration. They can resister course only when they are being allowed by the Flex administrator.

(2)

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

(2)

Requirement engineers should not make assumptions at all.

7.5

Some RE consider requirement enough as it is
of the customer said. customer sometimes do not know
what they actually want and what they said.
Example: A company X, implemented audio alarms for
uncertain situations. On an uncertainty alarm rang,
The company employees switch off the alarms, because
of constant disturbance. But third Person thought
that alarms are not much needed, required
he made a wrong

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

repeated processes
All organization have basic cost and schedule management Process for the Projects in an application area. Basic budget/cost is scheduled. If error are not corrected early, they can lead to rework cost, that can expand organization budget. (0.5)

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

1. Requirement elicitation: RE should elicit requirements by asking/suggesting requirements to client.

2. Requirement analysis and negotiation
He should analysis and solved conflict through negotiation.

3. Requirement documentation
Agreed requirements are should be documented

4. Requirement validation
RE should have implemented specific requirement that the system required to be designed.

(2.5)

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. Analyzing the correct system can help developers to produce efficient system than before.

(2.5)

(5.5)

often the relative importance of real design patterns, relative importance of previous features/tasks.

2. The RE and developers can get background knowledge of the existing system.
3. what is to used in previous system and what benefit they can provide to the new customers in a better way.
4. Some user are too stick with their existing system that does don't get satisfied with the new system. To make them satisfied, developers need to realise more

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