CLO 1: Explain different views of quality

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Q1 ..... [1x10 = 10]

Indicate which (**ONE**) of the 11 quality factors of the McCall's model best fits each of the following requirements extracted from the SRS document of a home security system called SecureHome.

#	Requirement	Quality Factor
1	All software modules of SecureHome shall have less than 25 programming language statements.	Efficiency X maintainability
2	SecureHome shall be able to process all data generated by SecureCar (a car security system).	Interperability
3	A home owner shall be able to program SecureHome for detecting intrusions within 10 minutes.	Usability
4	SecureHome shall be able to detect poisonous gases other than CO by simply modifying the configuration file.	Flexibility
5	A fully charged intrusion detection sensor shall transmit data to the central unit of SecureHome for at least 2 weeks.	Reliability & efficiency
6	SecureHome shall not fail more than once in a year.	~~Correctness~~ reliability
7	The reaction time of the firmware installed on the equipment housing an intrusion detection sensor shall be less than 10 microseconds.	~~Flexibility~~ correctness
8	The mobile app of SecureHome shall be able to run on both Android and iOS.	Portability
9	Automatic diagnostics shall be performed to check the health of each sensor whenever SecureHome is restarted.	Testability
10	Only administrators shall be able to arm and disarm SecureHome.	Integrity

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Q2 [1x20 = 20]

Fill in the blanks with appropriate technical **words** or **phrases**. Answers must be clear. Cutting and over-writing may lead to disqualification of answer.

1. The origin of software failures lies in a _____ made by a software engineer.
2. A _____ becomes a software failure only when it is "activated".
3. Unlike the objective of software quality assurance, the main objective of _____ is the withholding of any software product that does not qualify for shipment.
4. _____ maintenance deals with fixing defects.
5. _____ factors deal with the adaptation of software to other environments and its interaction with other software systems.
6. Both alternative models (i.e. Evans & Marciniak factor model and Deutsch & Willis factor model) exclude only one of McCall's factors, namely the _____ factor.
7. Significant similarity exists between the _____ factor suggested by the Deutsch & Willis model and the reliability factor described in the MCall's model.
8. Staff training and staff certification are part of the _____ category of components of the comprehensive SQA system.
9. Unlike procedures, _____ provide detailed directions for the use of methods that are applied in unique instances and employed by specialized teams.
10. It is believed that **up to a certain level**, expanding the resources allocated to QA activities yields much larger savings in failure costs while reducing _____ costs.
11. IEEE 1012 standard is an example of a _____ standard
12. The _____ devotes itself fulltime to SQA matters.
13. Prototyping is a software development methodology that has been found to be efficient and effective mainly for _____ sized software.
14. As compared to the original Spiral process, the _____ Spiral process places extra emphasis on risk analysis and resolution.
15. _____ is the process used to determine whether a system or component is suitable for operational use.
16. _____ represents the customer's interest by examining the extent to which the customer's original requirements have been fulfilled.
17. Utilization of a quantitative SQA defect removal effectiveness and cost model enables _____ of different SQA plans.
18. The SQA defect removal effectiveness and cost model studied in this course assumes that various SQA activities (e.g. inspections, unit testing, etc.) serve as _____, removing a percentage of the entering defects and allowing the rest to pass to the next SQA activity.
19. Examination of customer's capacity to meet his commitments is one of the _____ review objectives.
20. The loose relationships maintained between the internal customer and the internal developer increase the probability of project _____