**ANSWER EACH QUESTION**

**Q1) Software quality factors (6 Marks)**

Read the following passage and answer questions

“The new version of our loan contract software is really accurate. We have already processed 1200 customer requests, and checked each of the output contracts. There were no errors. **But** we did face a severe unexpected problem – training a new staff member to use this software takes about two weeks. This is a real problem in customer departments suffering from high employee turnover

1. What quality factor is missing
2. How can you reformulate requirements document in order to ensure the problem described above will not happen.
3. Explain the following factors: **testability, portability, reusability**

**Q2) Software quality assurance components (4 Marks)**

1. What are the main elements discussed in software quality plan. Explain each.
2. In the software project life cycle component, a **review** is one component to ensure software quality. List and explain two other components
3. What are templates and checklists? How can they contribute to wards the improvement of software quality ?

**Q3) Software Quality Planning and control (6 Marks)**

1. Define **Quality control** and **Quality assurance**. Give an example for each one.
2. "After Mohammad finished the preparation of testing plans for the hotel booking application, he has given a copy of the plan to his colleague Ali to review the plan and list his comments or concerns" what do we call this type of review ? Is there another review type ?
3. What is software document **sign-off**

**Classify this errors to The causes of software errors which can be further classified as follows according to the stages of the software development process in which they occur.**

1. Absence of vital requirements.
2. Due to time or budget pressures, the developer decides to omit part of therequired functions in an attempt to cope with these pressures.
3. Definitions that represent software requirements by means of erroneous algorithms.
4. Incomplete test plans leave untreated portions of the software or the application functions and states of the system.
5. Failures to document and report detected errors and faults.
6. Omission of software functions
7. Erroneous definition of boundary conditions
8. Individuals replacing the “non-complying” team member.
9. Process definitions that contain sequencing errors
10. Misunderstanding of the client’s responses to the design problems
11. **-The objective of ISO-9000 family of Quality management is**
12. Customer satisfaction
13. Employee satisfaction
14. Skill enhancement
15. Environmental issues

(Ans:a)

1. **-Total Quality Management (TQM) focuses on**
2. Employee
3. Customer
4. Both (a) and (b)
5. None of the above

(Ans:c)

1. **-Which of the following is responsible for quality objective?**
2. Top level management
3. Middle level management
4. Frontline management
5. All of the above

(Ans:a)

1. **Software engineers don’t strive to control the**
2. process applied
3. resources expended
4. end product quality attributes
5. None of the above

(Ans:d)

1. **The degree to which a system, component, or process meets specified requirements is definition of.**
2. Software quality
3. Quality assurance
4. quality attributes
5. None of the above

(Ans:A)

1. **A systematic, planned set of actions necessary to provide adequate confidence that the software development process or the maintenance process of a software system product conforms to established functional technical requirements as well as with the managerial requirements of keeping the schedule and operating within the budgetary confines.**
2. Software quality
3. Quality assurance
4. quality attributes
5. None of the above

(Ans:B)

1. **Software quality can be seen from different perspectives Complete requirement is the :**
2. Customer
3. Project manager
4. Maintenance engineer
5. User
6. (Ans: A)
7. **Defects in software products can be detected by sight**

**True**

**False**

1. **Quality assurance activities are part of the total range of quality control activities**

True

False

1. **Some software faults end with software failures**

True

False

1. **Contract review activities include:**

**A .Clarification and documentation of the customer’s requirements**

**b. Evaluation of the professional staff’s capacity to carry out the proposed project**

**c.All of the above**

**d.Review of the project’s schedule and resource requirement estimates**

1. **\_\_\_\_\_ provide detailed directions for the use of methods that are applied in unique instances and employed by specialized teams**

a.Work instructions

b.Configuration management

C.None of the above

d. QA procedures

1. **The main components of software project life cycle component are:**

a.Expert opinions

b.Software testing

c.All of the above

d.Reviews

1. **Quality checklists are used to:**  
     
     
   a. **Ensure that Quality Assurance steps were**  
   **followed**  
     
   b. Keep quality inspectors busy  
     
   c. Inform upper management where failures occur  
     
   d. Prevent project audits

1. **Documentation and data on existing products are  
   the examples of \_\_\_\_\_\_\_\_\_\_\_**

External inputs

Internal inputs

Other inputs

None of the above options

The main objective of the Peer review process is



a.To suggest improvements to SQA components.



b.to detect as many design and programming faults as possible



c.to issue the DR report



d.To detect deviations from SQA procedures and methodology