

A. Multiple-choice questions:

1	Which the following is 4 steps of Deming's Quality Improvement Cycle?			
	A. Goal-QuestionIndicator-Metric	B. ImplementMeasure-AssessChange	C. Plan-DoCheck-Act	D. IdentifyCollectDataAction-Control
2	Inspections and testing are what kinds of Quality Costs?			
	A. Appraisal	B. External Failure	C. Internal Failure	D. Prevention
3	Which of the following is not a core step of Six Sigma?			
	A. Define	B. Measure	C. Control	D. Analyse
4	Fill in the blank (...): The process mapping is a ... diagram.			
	A. Data flow	B. Workflow	C. Circular	D. Audit
5	Which of the following is not included in prevention cost?			
	A. formal technical reviews	B. test equipment reviews	C. equipment calibration and maintenance	D. quality planning reviews
6	Select the option which is not an appraisal in Software Quality Assurance?			
	A. quality planning	B. inter-process inspection	C. maintenance	D. testing
7	There are 5 elements needed to change a process: Vision-Skills-Incentives-Resources-Action. What will happen if we are missing "Vision"?			
	A. Anxiety	B. Confusion	C. Slow change	D. Failure
8	There are 5 elements needed to change a process: Vision-Skills-Incentives-Resources-Action. What will happen if we are missing "Skills"			
	A. Confusion	B. Failure	C. E Frustrate	D. Anxiety
9	According to the PDCA model, what we will do in step "Plan"?			
	A. Decide what we want to do.	B. Make the change happen, take some actions.	C. Verify that the actions created the results planned.	D. Do what is needed to make the plan successful.
10	According to the PDCA model, what we will do in step "Do"?			
	A. Verify that the actions created the results planned.	B. Do what is needed to make the plan successful.	C. Decide what we want to do.	D. Make the change happen, take some actions.
11	Which is NOT correct about Cost of Quality?			
	A. Cost of quality includes Cost of poor quality and Cost of good quality.	B. Cost of quality do not include the iceberg cost	C. Cost of quality includes the cost of failing to do something right.	D. Cost of quality includes appraisal costs and prevention costs

	Which of the following statements is CORRECT about ‘good practice’?			
12	A. It can be used to drive an organization forward	B. It is always documented in international standards	C. It is something that is in wide industry use	D. It is always based on ITIL
13	What are NOT the elements of Quality management?			
	A. Responsibilities	B. Resources	C. Processes	D. People
14	Which is NOT the benefit of ISO 9000 verification?			
	A. Improves employee skills	B. It is a status symbol for the organizations.	C. Improves products and services.	D. Provides know-how for establishing a quality management system.
15	Fill in the blank (...): Quality management refers to what the organization does to ensure its services or products satisfy the customer’s quality requirements. It is ...			
	A. True	B. False		

B. Short answer questions:

Q1. What is quality improvement?

is the continual effort to analyze, enhance, and optimize existing work processes and systems to meet or exceed customer expectations and achieve better business efficiency. It is often driven by systematic models like the PDCA cycle (Plan-Do-Check-Act).

Q2. What is the main relationship between Process and Quality under the perspective of Quality Management?

The main relationship is: "Product quality is a direct result of process quality." Quality Management focuses on controlling and continually improving the processes used to create the product or service to ensure that the output consistently meets specifications and reduces errors.

Q3. List 5 Quality dimensions:

- Performance
- Features
- Reliability
- Conformance
- Durability

Q4. Let's consider 4 parameters as follows: D = dissatisfaction with the status quo; V = vision of a future state; F = first steps towards the vision; R = resistance to change; What is the “Conditions for Change”?

The "Conditions for Change" is known as the **Change Formula** (or Beckhard and Harris's Change Equation):

$$\text{Change} \sim D \times V \times F \times R$$

Q5. List any 3 benefits of software process improvement.

Improved Predictability: Projects are more likely to finish on time and within budget.

Enhanced Product Quality: Reduction in defects and increased customer satisfaction.

Reduced Costs: Lower costs due to less rework, testing, and post-delivery maintenance

Q6. What is process map?

A Process Map (or Workflow Diagram) is a visual tool that illustrates the detailed flow of steps, activities, decisions, inputs, and outputs involved in a particular work process from beginning to end. It is used to analyze, understand, and improve the process

Q7. List any 5 several popular process models used in software process improvement:

- CMMI (Capability Maturity Model Integration)
- PDCA (Plan-Do-Check-Act)
- Six Sigma (DMAIC)
- ISO 9001 (or ISO/IEC 15504 SPICE)
- TQM (Total Quality Management)

Q8. List 4 areas of cost of quality?

- Prevention Costs
- Appraisal Costs
- Internal Failure Costs
- External Failure Costs

Q9. List any 5 types of Internal Failure Cost?

- Rework/Repair
- Scrap/Waste
- Re-testing/Re-inspection
- Failure Analysis
- Downtime

Q10. List any 5 types of External Failure Cost?

1. Warranty Claims/Replacements
2. Customer Complaint Handling
3. Product Returns/Recalls
4. Liability Costs
5. Lost Sales/Lost Goodwill

C. Exercise (4 points)

Q1. Describes in short for each element (E, T, V, X) of ETVX model?

E (Entry Criteria): Conditions, prerequisites, or inputs that must be satisfied before starting the process/phase.

T (Task(s)): The specific, sequential work activities or procedures performed during the process.

V (Verification): Quality checks, reviews, or inspections performed during or immediately after the task execution to ensure the output meets standards.

X (Exit Criteria): Measurable conditions or requirements that must be satisfied to formally conclude the process and deliver its output to the next phase.

Q2. Consider the following list of factors/tasks. What factors/tasks belong to E, T, V and X? (Fill out the following table.):

- What is to be sold
- List of findings from meeting
- List of task assignment
- List of task monitoring/tracking
- Perceptions
- Resources involved
- Document involved
- Actions to work on people perceptions
- Meeting for whole company
- Show process
- Throw ideas of change
- Get feedback
- Feedback on meeting
- Feedback on individuals
- Get/Operate on perceptions
- Schedule in details
- Timeframes
- Responsible

E	T	V	X
What is to be sold Perceptions Resources involved Document involved Timeframes Responsible	List of task assignment Actions to work on people perceptions Meeting for whole company Show process Throw ideas of change Schedule in details	List of findings from meeting List of task monitoring/tracking Get feedback	Feedback on meeting Feedback on individuals Get/Operate on perceptions