

(MCQ) on Total Quality Management {semester master}

Thursday, August 13, 2020 12:12 PM

1. _____ is not a process tools for TQM systems.

- A. process flow analysis
- B. histograms
- C. ~~tier~~
- D. control charts

Correct answer: (C)

~~tier~~

2. Processes that operate with "six sigma quality" over the short term are assumed to produce long-term defect levels below _____ defects per million opportunities (DPMO).

3.4

- A. 2
- B. 2.4
- C. 3
- D. 3.4

Correct answer: (D)

3.4

3. Inspection, scrap, and repair are examples of _____

- A. internal costs
- B. external costs
- C. costs of dissatisfaction
- D. societal costs

Correct answer: (A)

internal costs

4. _____ are used in six sigma

- A. black belt
- B. green belt
- C. both black belt and green belt
- D. none of the Above

Correct answer: (C)

both black belt and green belt

5. Customers are primarily concerned with _____

- A. Communication, courtesy, and credibility of the sales person
- B. Competence, courtesy, and security of the sales person
- C. Competence, responsiveness, and reliability of the sales person

d. Communication, responsiveness, and cleverness of the sales person

Correct answer: (A)

Communication, courtesy, and credibility of the sales person

6. Assured quality is necessary for building customer confidence.

- A. correct
- B. correct to some extent
- C. correct to great extent
- D. incorrect

Correct answer: (A)

correct

7. _____ is about supplying customers with what they want when they want it.

- A. JUT
- B. HET
- C. JAT
- D. JIT

Correct answer: (D)

JIT

8. _____ are the areas that will be covered by the organization's processes

- A. process areas
- B. product Areas
- C. private areas
- D. preset areas

Correct answer: (A)

process areas

9. All of the following costs are likely to decrease as a result of better quality except _____

- A. customer dissatisfaction costs
- B. inspection costs
- C. maintenance costs
- D. warranty and service costs

Correct answer: (C)

maintenance costs

10. "Quality is defined by the customer" is


- A. An unrealistic definition of quality
- B. A user-based definition of quality
- C. A manufacturing-based definition of quality

d. A product-based definition of quality

Correct answer: (B)

A user-based definition of quality


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11. TQM stands for 

- A. Total Quality Management
- B. Total Quantity Management
- C. Total Qualitative Management
- D. To question management

Correct answer: (A)

Total Quality Management

12. After E. deming, who is considered to have the greatest impact in quality management? 

- A. Kauro Ishikawa
- B. Joseph M. Juran
- C. W.E. Deming
- D. Genichi Tagucchi

Correct answer: (B)

Joseph M. Juran

13. Deming's 4 step cycle for improvement is _____

- A. plan, do, check, act
- B. schedule, do, act, check
- C. do, act, check, monitor
- D. plan, control, act, sustain

Correct answer: (A)

plan, do, check, act

14. In Six Sigma, a  is defined as any process output that does not meet customer specifications

- A. error
- B. cost
- C. quality
- D. defect

Correct answer: (D)

defect

15. Plan-do-study-act cycle is a procedure to _____

- A. Overall improvement
- B. Continuous improvement
- C. Permanent improvement
- D. Immediate improvement

Correct answer: (B)

Continuous improvement

16. Quality practices must be carried out _____

- A. at the start of the project
- B. throughout the life of the project
- C. at the end of the project
- D. no need to carry out quality practices

Correct answer: (B)

throughout the life of the project

17. ----- are the charts that identify potential causes for particular quality problems.

- A. Control Chart
- B. Flow chart
- C. Cause and Effect Diagram
- D. Pareto chart



Correct answer: (C)

Cause and Effect Diagram

18. Quality circles work best if employees are initially trained in _____

- A. Group dynamics
- B. Motivation principles
- C. Communications
- D. All of the three.

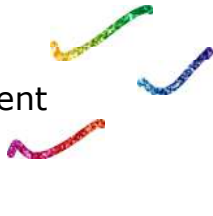


Correct answer: (D)

All of the three.

19. Quality Trilogy includes

- A. Quality planning
- B. quality improvement
- C. quality control
- D. All the three



Correct answer: (D)

All the three

20. production issues should be addressed early

- A. correct
- B. correct to some extent
- C. correct to great extent
- D. incorrect

Correct answer: (A)
correct

21. inspection is part of the _____

- A. quality control
- B. Quality Planning
- C. Quality improvement
- D. Quality circle

Correct answer: (A)
quality control

22. QFD stands for _____

- A. Quantity for deployment
- B. Quality for deployment
- C. Quality function deployment
- D. Quality for decision

Correct answer: (C)
Quality function deployment

23. reliability is the degree to which a unit of equipment performs its intended function under _____ for _____ of time.

- A. specified conditions; specified period
- B. any condition; specified period
- C. specified conditions; all periods
- D. any condition; any period

Correct answer: (A)
specified conditions; specified period

24. Kaizen is a _____ process, the purpose of which goes beyond simple productivity improvement.

- A. weekly
- B. daily
- C. monthly
- D. annual

Correct answer: (B)
daily

25. elements of quality management system are _____

- A. organizational structure
- B. responsibilities
- C. procedures
- D. all the three

- B. responsibilities
- C. procedures
- D. all the three

Correct answer: (D)
all the three

27. "Poka-yoke" is the Japanese term for _____

- A. Card
- B. Fool proof
- C. Continuous improvement
- D. Fishbone diagram

Correct answer: (B)
Fool proof

28. Based on his 14 Points, Deming is a strong proponent of _____

- A. inspection at the end of the production process
- B. an increase in numerical quotas to boost productivity
- C. looking for the cheapest supplier
- D. training and knowledge

Correct answer: (D)
training and knowledge

29. A fishbone diagram is also known as a _____

- A. cause-and-effect diagram
- B. poka-yoke diagram
- C. Kaizen diagram
- D. Taguchi diagram

Correct answer: (A)
cause-and-effect diagram

30. According to Deming most of the problems are related to systems and it is the responsibility of the management to improve the systems

- A. correct
- B. correct to some extent
- C. correct to great extent
- D. Taguchi

Correct answer: (A)
correct

31. A maturity model can be used as a benchmark for comparison and as an aid to understanding

- A. TRUE
- B. FALSE
- C. depends
- D. can't say

Correct answer: (A)
TRUE

32. fourteen points framework for quality and productivity improvement was suggested by _____

- A. Crosby
- B. Ishikawa
- C. Deming
- D. Juran

Correct answer: (C)
Deming

33. Juran's Quality trilogy emphasizes the roles of quality planning, quality control and _____

- A. Quality Definition
- B. Quality enhancement
- C. Quality improvement
- D. quality maintenance

Correct answer: (C)
Quality improvement

34. Quality Circles members are _____

- A. Paid according to their contribution to quality
- B. External consultants designed to provide training in the use of Quality tools
- C. Always machine operators
- D. None of the three.

Correct answer: (D)
None of the three.

35. Identify the cost not likely to reduce as a result of better quality.

- A. Maintenance costs
- B. Inspection costs
- C. Scrap costs
- D. Warranty and service costs

Correct answer: (A)
Maintenance costs

36. Costs of dissatisfaction, repair costs, and warranty costs are elements of cost in the _____

- A. Taguchi Loss Function
- B. Pareto Chart
- C. ISO 9000 Quality Cost Calculator
- D. Process Chart

Correct answer: (A)
Taguchi Loss Function

37. Kaizen is a Japanese term meaning _____

- A. continuous improvement
- B. just-in-time (JIT)
- C. a fishbone diagram
- D. setting standards

Correct answer: (A)
continuous improvement

38. Quality management includes forming and directing a team of people to achieve a qualitative goal within an effective cost and time frame that results in _____

- A. a project completed in shortest possible time.
- B. a product or service that conforms to the required specifications.
- C. an award-winning product that brings public recognition to the project
- D. an innovative project that establishes qualification of the project team

Correct answer: (B)
a product or service that conforms to the required specifications.

39. establishing measurements based on customer needs for optimizing product design is known as _____

- A. Quality planning
- B. quality improvement
- C. quality control
- D. Quality planning (Actual answer is Quality planning roadmap)

c. quality control

d. Quality planning (Actual answer is Quality planning roadmap)

Correct answer: (D)

Quality planning (Actual answer is Quality planning roadmap)

40. DMAIC is _____

A. develop, multiply, analyze, improve, check

B. define, multiply, analyze, improve, control

C. define, measure, analyze, improve, control

D. define, manufacture, analyze, improve, control

Correct answer: (C)

define, measure, analyze, improve, control

41. Quality fulfills a need or expectation that is:

A. Explicitly stated

B. Implied

C. Legally required

D. All of the above

Correct answer: (D)

All of the above

42. The taste of burgers across all McDonald outlets should be same. This is an example of _____.

A. Sensory critical to quality Characteristic

B. Physical critical to Quality Characteristic

C. Time Orientation critical to Quality Characteristic

D. None of the above

Correct answer: (A)

Sensory critical to quality Characteristic

43. Check Sheet is used during _____ stage of DMAIC.

A. Define

B. Measure

C. Analyze

D. Improve

Correct answer: (B)

Measure

44. _____ is the set of activities that ensures the quality levels of products and services are properly maintained and that supplier and customer quality issues are properly resolved.

A. Quality Assurance

B. Quality Planning

C. Quality Control

D. Quality Management

Correct answer: (A)
Quality Assurance

45. Presence of _____ after every stage of DMAIC allows for review of project and incorporation of suggestions.

- A. Review gate
- B. Toll gate
- C. Decision gate
- D. None of the above

Correct answer: (B)
Toll gate

46. The Toyota Production System is based on two pillars namely _____ and _____.

- A. Kaizen, Six Sigma
- B. Lean, Six Sigma
- C. Just in Time, Jidoka
- D. Just in Time, Kaizen

Correct answer: (C)
Just in Time, Jidoka

47. Which of the following is not a target of Total Quality Management:

- A. Customer Satisfaction
- B. Reducing manpower
- C. Continuous Cost Reduction
- D. Continuous Operational Improvement

Correct answer: (B)
Reducing manpower

49. A _____ diagram shows the location of defects in any unit. This diagram is used in the analyse step of DMAIC.

- A. Affinity
- B. Relations
- C. Defect Concentration
- D. Scatter

Correct answer: (C)
Defect Concentration

50. The _____ is used to identify what might go wrong in a plan under development.

- A. Pareto Chart
- B. PDPC
- C. Arrow Diagram
- D. Matrix Diagram

Correct answer: (B)

D. Matrix Diagram

Correct answer: (B)
PDPC

51. The defect concentration diagram can be used in the _____ stage of the DMAIC.

- A. Define
- B. Measure
- C. Analyze
- D. Improve

Correct answer: (C)
Analyze

52. The taste of the burger can be categorized as good or bad This is an example of which type of data:

- A. Variable
- B. Attribute
- C. Cannot be determined
- D. None of the above

Correct answer: (A)
Variable

53. For a given sample size (n) and number of defects acceptable ©, the Average Total Inspection (of units) should _____ with increase in N (lot size).

- A. Increase
- B. Decrease
- C. Remain Constant
- D. None of the above



Correct answer: (A)
Increase

54. The pattern of continuous movement in one direction in a control chart is termed as:

- A. Mixture
- B. Cyclic Pattern
- C. Trend
- D. Stratification

Correct answer: (C)
Trend

55. Juran's quality management philosophy is based on three pillars namely planning, control and _____.

- A. Implementation
- B. Improvement
- C. Monitor
- D. Design

Correct answer: (B)
Improvement

56. For a point in the control chart to be out of control, it must lie

- A. Above UCL or Below LCL
- B. Between Central Line and LCL
- C. Between Central Line and UCL
- D. None of the above

Correct answer: (A)
Above UCL or Below LCL

57. X bar should never be interpreted when:

- A. R chart shows out of control points
- B. X bar chart shows out of control points
- C. The process mean is not known
- D. None of the above

Correct answer: (A)
R chart shows out of control points

58. The average run length can be defined as:

- A. The beta risk for an x bar chart
- B. The expected number of samples taken before any shift in process quality is detected
- C. The number of samples used in the construction of x bar chart
- D. The number of items per sample

Correct answer: (B)
The expected number of samples taken before any shift in process quality is detected

60. A major assumption for p chart is that all units produced are

- A. Independent
- B. Dependent
- C. None of the above
- D. Cannot be determined

Correct answer: (A)
Independent

61. Apart from Poisson distribution, another distribution that can be applied to events data is: _____

- A. Normal Distribution
- B. Geometric Distribution
- C. Lognormal Distribution
- D. Continuous Distribution

Correct answer: (B)
Geometric Distribution

63. The dimension of reliability is concerned with:

- A. How easy it is to repair the product ✓
- B. How long does the product last ✓
- C. Will the product do the intended job ✓
- D. How often does the product fail

Correct answer: (D)
How often does the product fail

64. From a consumer perspective quality is determined by _____ while from a producers perspective quality is determined by _____.

- A. Variability Cost

- A. Variability, Cost
- B. Cost, Price
- C. Price, Cost
- D. Cost, Variability

Correct answer: (C)
Price, Cost

65. The probability distribution function corresponding to tossing of a coin will be a:

- A. Probability Density function
- B. Probability Mass function
- C. Probability Measurement function
- D. Probability Cumulative Function

Correct answer: (B)
Probability Mass function

66. While the first generation of Six sigma focused on _____, the third generation of six sigma focused on _____.

- A. Variability reduction, creating value
- B. Variability reduction, improved business performance
- C. Creating value, Improved business performance
- D. None of the above

Correct answer: (A)
Variability reduction, creating value

67. The standard normal distribution has mean= _____ and standard deviation= _____.

- A. 1,0
- B. 0,1
- C. 0,0
- D. 1,1

Correct answer: (B)
0,1

68. A _____ chart can be used to identify the most frequently occurring defect.

- A. Pareto
- B. Ishikawa
- C. Histogram
- D. Scatter

Correct answer: (A)
Pareto

69. The main aim of QFD is to

69. The main aim of QFD is to

- A. Listen to the voice of customer
- B. Lower cost
- C. Reduce errors
- D. Reduce supplier defect

Correct answer: (A)

Listen to the voice of customer

70. Average Total Inspection is defined as:

- A. Average of rejected lots and accepted lots
- B. Average number of units inspected per lot
- C. Average of rejected Lots
- D. Average of accepted Lots

Correct answer: (B)

Average number of units inspected per lot

71. R charts are used for controlling _____ of a process.

- A. Central Tendency
- B. Dispersion
- C. None of the above
- D. Both a and b

Correct answer: (B)

Dispersion

72. If the Average outgoing Quality is plotted against the Incoming Fraction Defective, the Average Outgoing Quality Limit is the _____ point.

- A. Highest
- B. Lowest
- C. Middle
- D. Cannot be determined

Correct answer: (A)

Highest

74. The x bar chart monitors:

- A. Between sample variability
- B. Within sample variability
- C. Instantaneous variability
- D. Natural variability

Correct answer: (A)

Between sample variability

75. In case someone is interested in process standard deviation, he should construct the _____ chart.

- A. \bar{X} bar
- B. R chart
- C. S chart
- D. None of the above

Correct answer: (C)
S chart

76. If data for MR chat shows non-normality, it is better to determine the control limits for the individuals control chart based on the _____ of the correct underlying distribution.

- A. Percentage
- B. Percentiles
- C. Rank
- D. Mean

Correct answer: (B)
Percentiles

78. When the number of defects is low, which of the following is true:

- A. We should use c or u chart
- B. Most samples will have non-zero defects
- C. Create a time between occurrence control chart
- D. None of the above

Correct answer: (C)
Create a time between occurrence control chart

80. If variability of a product decreases, its quality _____

- A. remains unchanged
- B. decreases
- C. increases
- D. may increase or decrease

Correct answer: (C)
increases

81. The focal point of all quality control should be:

- A. Price focus
- B. Cost Focus
- C. Customer Focus
- D. Manufacturing Focus

Correct answer: (C)
Customer Focus

82. The key process input variables (KPIV) and key process output variables are developed

82. The key process input variables (KPIV) and key process output variables are developed during the _____ phase.

- A. Define
- B. Analyze
- C. Measure
- D. Improve

Correct answer: (C)

Measure

84. Which of the following statement is false:

- A. Important step of strategic quality management is identification of those dimensions in which the organization will compete
- B. Selection of suppliers should be based on quality, schedule, and cost, rather than on cost alone
- C. All of the individuals in the organization must have an understanding of the basic tools of quality improvement
- D. Manufacturing Unit should be the unit focusing on Quality Improvement among all units in an organization

Correct answer: (D)

Manufacturing Unit should be the unit focusing on Quality Improvement among all units in an organization

85. Cause and Effect Diagram can be used in the _____ and _____ step of DMAIC.

- A. Define, Measure
- B. Analyze, Control
- C. Analyze, Improve
- D. Define, Improve

Correct answer: (C)

Analyze, Improve

86. Which of the following is false regarding when acceptance sampling is useful:

- A. When testing is destructive
- B. When 100% inspection cost is very low
- C. When there are potentially serious product liability risk
- D. When 100% inspection is not technically feasible

Correct answer: (B)

When 100% inspection cost is very low

87. Let p_0 be the incoming fraction defective and p_1 be the outgoing fraction defective (Assume both p_1 and p_0 is greater than 0). If rectifying inspection is performed then:


- A. $p_0 < p_1$
- B. $p_1 < p_0$
- C. None of the above
- D. Cannot be determined

$$p_1 < p_0$$

Correct answer: (B)

$P_1 < p_0$

88. A company wants to measure the length of a fan as a part of its quality control exercise. The type of data collected will be:

- A. Variable
-  B. Attribute
- C. Cannot be determined
- D. None of the above

Correct answer: (B)

Attribute


89. If only _____ causes of variation are present, the output of a process forms a distribution that is stable over time and is predictable.

- A. Assignable
- B. Non-Random
- C. Natural
- D. Cannot be said

Correct answer: (C)

Natural

92. The basic assumption of calculating the control limits based on average sample size (for a p chart) will _____ from/as those previously observed.

- A. Greatly differ
- B. Will be exactly the same
-  C. Not greatly differ
- D. None of the above

Correct answer: (C)

Not greatly differ

93. The  chart is the control chart for:

- A. Average number of events
- B. Total number of events
- C. Mean number of events
- D. None of the above

Correct answer: (B)

Total number of events

94. Attribute charts may be used when:

- A. Several characteristics can be jointly measured
- B. When one particular quality characteristic is of importance
- C. Specific information like process mean is required
- D. None of the above

Correct answer: (A)

Several characteristics can be jointly measured



97. Inspection of incoming/outgoing items is an example of _____.

- A. Prevention Cost
- B. Appraisal Cost
- C. Internal Failure Cost
- D. External Failure Cost

Correct answer: (B)

Appraisal Cost

98. Four basic characteristics of an optimal process are:

- A. Economy, efficiency, control, quality
- B. Quality, Improvement, efficiency, productivity
- C. Economy, efficiency, productivity, cost
- D. Economy, efficiency, productivity, quality

Correct answer: (D)

Economy, efficiency, productivity, quality

99. _____ diagram is used for identifying potential relationship between two variables.

- A. Pareto
- B. Ishikawa
- C. Histogram
- D. Scatter

Correct answer: (D)

Scatter

100. Lots for acceptance sampling should be _____ and _____.

- A. Homogeneous, Large
- B. Heterogeneous, Small
- C. Homogeneous, Small
- D. Heterogeneous, Large

Correct answer: (A)

Homogeneous, Large