PSN COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Melathediyoor, Tirunelveli – 627152

Department of Mechanical and Automation Engineering

Subject Name & Code	**Total Quality Management & 509215**
Programme	**B. E Mechanical and Automation Engineering**
Year/ Semester/ Section	**IV / VII**
Course Coordinator	**S. Ananth**
Course Code	**509215**
Academic Year	**2024-2025 (ODD Semester)**

VISION AND MISSION OF THE DEPARTMENT

Department Vision	To originate the department into a centralized learning, teaching and research domain to produce proficient Mechanical and Automation Engineers encapsulated with entrepreneurship skill to compete the modernized automation Industries with their technical knowledge.	
Department Mission	**DM-1**	To develop the student's technical skill to the excel level of Mechanical and Automation engineers by offering standard engineering education by means of excellent teaching methodologies and creating professionalism with their learning's.
	DM-2	To strengthen the student capability of extracting knowledge and prepare them to compete the current scenario in Automated Industries and Research.
	DM-3	To amalgamate the technically enriched student to the stream line of Human values, ethics, communication skills, lifelong learning throughout the life and to work as a teamwork as well as individual.

DEPARTMENT OF MECHANICAL AND AUTOMATION ENGINEERING

MULTIPLE CHOICE QUESTIONS

VII SEMESTER

509215 – Total Quality Management

Regulation – 2018

Academic Year 2024 – 25 ODD Semester

1. _____is not a process tools for TQM systems

A. process flow analysis
B. histograms
C. pliers
D. control

charts Correct

answer: (C)

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

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

costs Correct

answer: (A)

3. 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)

4. 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)

5. _____is 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)

6. 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)

7. "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)

8. TQM stands for _____

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

management Correct answer:

(A)

9. 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)

10. 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

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

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

improvement Correct answer:

(B)

12. 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)

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

A. Group dynamics
B. Motivation principles
C. Communications
D. All of the three. (Not

sure) Correct answer: (D)

14. Quality Trilogy includes

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

three Correct

answer: (D

15. Inspection is part of the _____

A. quality control (not sure)
B. Quality Planning
C. Quality improvement
D. Quality circle

16. Elements of quality management system are _____

A. organizational structure
B. responsibilities
C. procedures
D. all the three (not

sure) Correct answer: (D)

17. 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)

18. 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)

19. 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)

20. 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)

21. 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).

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

Correct answer: (D)

22. _____ 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)

23. 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)

24. 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)

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

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

Correct answer: (D)

26. 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)

27. 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)

28. "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)

29. 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

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

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

improvement Correct answer:

(B)

31. ———— 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)

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

A. Group dynamics
B. Motivation principles
C. Communications
D. All of the three. (Not

sure) Correct answer: (D)

33. Quality Trilogy includes

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

three Correct

answer: (D)

34. Production issues should be addressed early

A. correct (not sure)
B. correct to some extent
C. correct to great extent
D. incorrect

Correct answer:

(A)

35. QFD stands for _____

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

decision Correct answer:

(C)

36. 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)

37. Kaizen is a_____process, the purpose of which goes beyond simple productivity improvement.

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

Correct answer:

(B)

38. Elements of quality management system are _____

A. organizational structure
B. responsibilities
C. procedures
D. all the three (not

sure) Correct answer: (D)

39. At the time of making a purchase agreement with a vendor, what is important to mention about inspection?

A. the characteristics of the product that are to be inspected
B. the tolerances that would be allowed
C. the reputation of the vendor
D. a & b both (not

sure) Correct answer: (D)

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

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

diagram Correct answer:

(B)

41. 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)

42. 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)

43. 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)

44. 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)

45. Fourteen points framework for quality and productivity improvement was suggested by _____

A. Crosby
B. Ishikawa

C. Deming
D. Juran

Correct answer:

(C)

46. 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)

47. 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)

48. 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)

49. 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)

50. Kaizen is a Japanese term meaning _____

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

51. 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)

52. 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) Correct answer: (D)

53. DMAIC is _____

A. develop, multiply, analyze, improve, check
B. define, muliply, analyze, improve, control
C. define, measure, analyze, improve, control
D. define, manufacture, analyze, improve,

control Correct answer: (C)

54. Quality fulfills a need or expectation that is:

A. Explicitly stated
B. Implied
C. Legally required
D. All of the

above Correct answer:

(D)

55. 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

56. Check Sheet is used during_____stage of DMAIC.

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

Correct answer:

(B)

57. _____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)

58. 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)

59. 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)

60. 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)

61. Let there be a data set {200,201,202,203,204,205,206,207,208}. This data set can be represented using stem and leaf where the_____is 20 and the_____ is
{0,1,2,3,4,5,6,7,8}.

A. Stem, Leaf
B. Leaf, Stem
C. Tree, Stem
D. Tree, Leaf

Correct answer:

(A)

62. A_____diagram shows the location of defects in any unit. This diagram is used in the analyze step of DMAIC.

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

Correct answer:

(C)

63. 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)

64. The defect concentration diagram can be used in the_____stage of the DMAIC.

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

Correct answer:

(C)

65. 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)

66. 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)

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

A. Mixture
B. Cyclic Pattern
C. Trend
D. Stratificatio

n Correct answer:

(C)

68. 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)

69. 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)

70. 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)

71. 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)

72. Consider the first method of p bar estimation where each sample is of varying size. If the 3rd sample has p bar =.01, and the sample size of the 3rd sample is 10, what will be the upper control limit for the 3rd sample?

A. 0.5
B. 0.6
C. 0.1 ((p bar + 3* √p bar*(1-p bar)/n) is a measure of the upper control limit)
D. None of the above

Correct answer: (C)

73. 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)

74. 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)

75. Which of the following is not true regarding when to select a p, c or u chart?

A. The process is a complex assembly operation and product quality is measured in terms of the occurrence of nonconformities, successful or unsuccessful product function, and so forth.
B. Process control is necessary, but measurement data cannot be obtained.
C. A historical summary of process performance is necessary.
D. Destructive testing (or such other expensive testing procedures) is required.

Correct answer: (D)

76. 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)

77. From a consumer perspective quality is determined by_____while from a producers perspective quality is determined by_____.

A. Variability, Cost
B. Cost, Price
C. Price, Cost
D. Cost, Variability Correct answer: (C)

78. 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)

79. 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)

80. The standard normal distribution has mean=_____and standard deviation= _____.

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

Correct answer: (B)

81. A_____chart can be used to identify the most frequently occurring defect.

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

Correct answer:

(A)

82. 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)

83. 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)

84. 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)

85. 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)

86. For the above table, what is the value corresponding to the central line for the x bar chart?

A. 10.08
B. 10.05
C. 9.89
D. 9.78

Correct answer: (A)

87. The x bar chart monitors:

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

variability Correct

answer: (A)

88. In case someone is interested in process standard deviation, he should construct the _____chart.

A. X bar
B. R chart
C. S chart
D. None of the

above Correct answer:

(C)

89. 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)

90. A sample of size 10 contains 50 non-conformities. The average number of non-conformities is:

A. 7
B. 4
C. 5 (50/10 i.e. total non-conformities/sample size)
D. 1

Correct answer: (C)

91. 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)

92. Bias reflects the:

A. The differences in observed accuracy and/or precision experienced over the range of measurements made by the system.
B. The difference between observed measurements and a "true" value obtained from a master or gold standard
C. Different levels of variability in different operating regimes, resulting from warm-up effects, environmental factors, inconsistent operator performance
D. None of the

above Correct answer:

(B)

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

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

decrease Correct answer: (C)

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

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

Focus Correct answer: (C)

95. 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)

96. An unbiased dice is rolled once. The probability of getting a number greater than 4 is:

A. ¼

B. 1/6

C. ½

D. 1/3

Correct answer: (D)

97. 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)

98. 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

99. 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

100. Let p0 be the incoming fraction defective and p1 be the outgoing fraction defective (Assume both p1 and p0 is greater than 0). If rectifying inspection is performed then:

A. P0<p1

B. P1<p0

C. None of the above

D. Cannot be

determined Correct answer:

(B)

101. 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)

102. If only_____causes of variation are present, the output of a process forms a distribution that is table over time and is predictable.

A. Assignable

B. Non-Random

C. Natural

D. Cannot be

said Correct answer:

(C)

103. For an x bar chart, β risk can be defined as:

A. The probability of detecting the shift in process mean from μ_o (in control value) to μ_1

B. The probability of not detecting the shift in process mean from μ_0 (in control value) to μ_1

C. The probability of detecting the shift in process range from μ_0 (in control value) to μ_1

D. The probability of not detecting the shift in process range from μ_0 (in control value) to μ_1

104. Consider that for a process s bar (average standard deviation of 50 samples each of size 4) is found to be 10.04. The value of c4 (corresponding to sample size of .4) is .92. What is the estimated value of process standard deviation?

A. 10.91 (s bar/ c4 is an unbiased estimator of standard deviation)
B. 11.89
C. 12.67
D. 9.67

Correct answer: (A)

105. 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)

106. The g 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)

107. 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)

108. The thickness of the blade of a fan is specified to lie between 4 cm and 6 cm. The length of the blades must lie between 10 cm and 20 cm. A fan blade randomly selected from a sample of 100 blades has a thickness of 5cm and a length of 21cm. The number of defect(s) the blade has is

A. One

B. Two
C. There is no defect
D. Three

Correct answer:

(A)

109. The probability of getting a multiple of 2 on throwing a dice once is:

A. 1/6
B. ¼
C. ½
D. 1/3

Correct answer: (A)

110. 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)

111. 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)

112. diagram is used for identifying potential relationship between two variables.

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

Correct answer:

(D)

113. Lots for acceptance sampling should be and .

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

Large Correct answer: (A)

114. The roof of house of quality shows the interrelationship between:

A. Functional Requirements
B. Design Attributes
C. Service Process
D. Manufacturing

Process Correct answer: (B)

115. X bar charts are uses to control the of a process.

A. Dispersion
B. Central tendency
C. None of the above
D. Both a and

b Correct answer:

116. Given that for the three samples, the value of R bar is .66 and value of d2 corresponding to three is1.128, what is the estimated standard deviation?

(B)

A. .43
B. .67
C. .58
D. .75

Correct answer: (C)

117. Given L=3 and p=.03, estimate the sample size that can be used for construction of a p chart.

A. 534
B. 321
C. 123
D. 291 ((1-p)*L2/p gives us an estimate of sample

size) Correct answer: (D)

118. The chart used for tracking number non-conforming is:

A. P
B. Np
C. X bar
D. None of the

above Correct answer:

(B)

119. For a c chart, the OC curve plots the against .

A. Probability of Type 2 error, true mean number of defects
B. Probability of Type 1 error, true mean number of defects
C. Probability of Type 1 error, true total number of defects
D. Probability of Type 2 error, true total number of

defects Correct answer: (A)

120. Identification of customers and listening to the Voice of Customer (VoC) are a part of:

A. Quality Assurance
B. Quality Planning
C. Quality Control and Improvement
D. Quality

Execution Correct

answer: (B)

121. Ease of repair is associated with_____dimension of quality.

A. Serviceability
B. Performance
C. Durability
D. Perceived

Quality Correct answer:

122. SIPOC diagram, used for understanding the flow in a process is used in stage of DMAIC.

(A)

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

Correct answer:

(A)

123. Two major components of fitness of use are Quality of Design and_____.

A. Quality of Conformance
B. Quality of Service
C. Quality of

Specification Correct answer:

(A)

124. For new product development, the chosen methodology should be

A. DMADV
B. DMAIC
C. Structured Design Methodology
D. DMIE

Correct answer:

125. In DMAIC, redesigning of process to either remove bottlenecks or to reduce waste takes place in the stage.

(A)

A. Define
B. Measure
C. Improve
D. Control

Correct answer:

(C)

126. The critical path method determines the path from the beginning to the end of the project.

A. Shortest
B. Quickest
C. Longest
D. Middle

Correct answer:

(C)

127. The Operating characteristic curve shows the relationship between the probability of acceptance (on y axis) and (on x axis).

A. Proportion defective
B. Proportion acceptable
C. Number of lots
D. Size of lot

Correct answer:

128. In a double sampling plan, let d1 be the number of defects in the first sample and d2 be the number of defects in the second sample. Let c2 be the acceptance number for both samples. The condition for rejection is:

(A)

A. D1+d2<c2
B. D1+d2>c2
C. D1∗d2>c2
D. D1∗d2<c2

Correct answer:

(B)

129. While random variability in a system can be removed by , non-random variability requires .

A. Operator or management action, Improvement in the system
B. Improvement in the system, operator or management action
C. Statistical Quality Control, Quality Checks
D. None of the

above Correct answer:

(B)

130. The concept of rational sub group means that subgroups or samples be selected such that if assignable causes are present the chances for differences between subgroups will be

A. minimized
B. maximized
C. neutralized
D. optimized

Correct answer:

131. Q-Q plot is used to check:/p>
(B)

A. Normality of the dataset
B. Number of defects
C. Process mean
D. Process standard

deviation Correct answer: (A)

132. The OC curve provides a measure of the of the control chart.

A. Sensitivity
B. Duality

Correct answer:

(A)

133. Which of the following is not a type of attribute chart?

A. P chart
B. C chart
C. U char
D. X bar chart

Correct answer:

(D)

134. The thickness of aluminum sheet is specified to be of 6±2 mm. The Upper Specification Limit and Lower Specification Limit for the sheet are:

A. 4mm, 8mm
B. 8mm, 4mm
C. 6mm, 8mm
D. 4mm, 6mm

Correct answer:

(B)

135. Failure Mode and Effects Analysis, which prioritizes different sources of error, is used in
stage.

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

Correct answer:

(D)

136. In a six sigma improvement project the least experienced individuals are:

A. Green Belt
B. Black belts
C. Red Belts
D. Master Black

Belts Correct answer: (A)

137. The diagram starts with one item which then branches of into two or more items. This diagram is used to breakdown broad categories into finer levels of detail.

A. Affinity
B. Tree
C. Relations
D. Matrix

Correct answer:

138. Lot tolerance percent defective (LTPD) is a level of lot quality specified by the

(B)

A. Consumer
B. Producer
C. Supplier

D. Sampling

Plan Correct answer:

(A)

139. Machine wear and tear is source of variation.

A. Random
B. Natural
C. Assignable
D. Cannot be

determined Correct answer:

(C)

140. Pattern in control charts which show the tendency to cluster around central line is termed as:

A. Stratification
B. Mixture
C. Cyclic pattern
D. Shift in process

level Correct answer: (A)

141. When output product of several sources is fed into a common stream, the pattern of the control chart expected is:

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

Pattern Correct

142. A fan blade is specified by length and thickness. While sampling, it was found that for one particular blade, the length was non-conforming while the thickness was as per specifications. Should the blade be considered non-conforming for construction of a p chart?

answer: (C)

A. Yes
B. No

Correct answer: (A)

143. Consider that for a particular process, the p has shifted to .4 and the process has gone out of control. The corresponding value of beta is found to be .3356. The value of Average Run Length is:

A. 2.5
B. 1.5 ((1/1-beta) provides us with average run length)
C. 1.0
D. 2.7

Correct answer: (B)

144. Consider for a process in control, the value of alpha is .0015. What is the value of the average run length?

A. 666 (1/alpha gives us an estimate of average run length)
B. 555
C. 444
D. None of the above

Correct answer: (A)

145. Identify the charts which might give an indication of process going out of control (before the process has actually changed)

A. X bar and c
B. P and c
C. R and u
D. X bar and

R Correct answer:

(D)

146. The four phases of the Shewart cycle are:

A. Plan, Do, Scan, Implement
B. Plan , Act , Do, Control
C. Plan, Do, Act, Check
D. Implement, Design, Control,

Plan Correct answer: (C)

147. For a process which is six sigma complaint, the percentage of products within specifications is:

A. 95.20%
B. 99.73%
C. 99.10%
D. 96.78%

Correct answer: (B)

148. Mistake proofing of process is done in the_____stage of DMAIC.

A. Define
B. Measure
C. Improve
D. Control

Correct answer:

(C)

149. In step of Quality Function Deployment, product or service requirements are collected and analyzed through techniques like market research.

A. Identify Customer Attributes
B. Identify Design Attributes / Requirements
C. Conduct an Evaluation of Competing Products.
D. Evaluate Design Attributes and

Develop Targets Correct answer: (A)

150. For a double sampling plan the probability of acceptance on the combined samples is calculated as:

A. Maximum of probability of acceptance of first and second sample
B. Product of probability of acceptance of first and second sample
C. Average of probability of acceptance of first and second sample
D. Sum of probability of acceptance of first

and second sample Correct answer: (D)