

1. The process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards is called:

- A. Quality Assurance
- B. Quality Control
- C. Quality Planning
- D. Quality Review

2. The process of monitoring specific project results to determine if they comply with relevant quality standards is called:

- A. Quality Assurance
- B. Quality Control
- C. Quality Planning
- D. Quality Review

3. A histogram ordered by frequency of occurrence that shows how many results were generated by each identified cause is:

- A. Statistical Histogram
- B. Juran Histogram
- C. Fishbone Diagram
- D. Pareto Diagram

4. Tools and techniques used during the Quality Planning process include:

- A. Benefit / cost analysis
- B. Benchmarking
- C. Quality audits
- D. a and b
- E. all of the above

4. The overall intentions and direction of an organization with regard to quality as formally expressed by top management is a:

- A. Quality Plan
- B. Quality Statement
- C. Quality Policy
- D. TQM

6. CIP is:

- A. Continuous improvement process
- B. A sustained, gradual change
- C. Includes constancy of purpose and commitment to quality as part of its focus
- D. a and b
- E. all of the above

7. The practice of ceasing mass inspections and ending awards based on price is credited to:

- A. Edward Deming
- B. Philip Crosby
- C. Juran
- D. Pareto

8. Quality is:

- A. Zero defects found
- B. Conformance to requirements
- C. The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs
- D. b and c
- E. all the above

9. The concept of making a giant leap forward followed by a period of maturity is:

- A. Innovation
- B. Continuous improvement
- C. Just in time
- D. Paradigm

10. The concept that it is easier and less costly to do the work right the first time is called:

- A. Zero defects
- B. Continuous improvement
- C. DTRTRTFT

D. The customer is the next person in the process

11. The ability of a product to be used for different purposes at different capacities and under different conditions determines its:

- A. Usability
- B. Flexibility
- C. Operability
- D. Availability

12. Which of the following is not considered a cost of nonconformance to quality?

- A. Scrap
- B. Rework
- C. Expediting
- D. Process control
- E. all of the above are considered nonconformance costs

13. Cost of quality includes:

- A. Cost of all work to build a product or service that conforms to the requirements
- B. Training programs
- C. Cost of all work resulting from nonconformance to the requirements
- D. a and b
- E. all of the above

14. What percentage of sales is estimated to be the cost of non-quality?

- A. 3-5%
- B. 12-20%
- C. 30-40%
- D. 6-8%

15. A series of consecutive points on the same side of the average is called:

- A. Run
- B. Trend
- C. Outliers

D. Cycle

16. Which of the following statements concerning acceptance sampling is false?

- A. Used when expensive and time-consuming to test the product 100%.
- B. The number of allowable defects before lot is rejected is predetermined.
- C. Inspection and test standards must be established to ensure that procedures can adequately determine conformance and nonconformance.
- D. If the number of defects found in the sample exceeds the predetermined amount, the entire lot is rejected.
- E. All of the above are true

17. 80% of the problems are found in 20% of the work is a concept of:

- A. Edward Deming
- B. Philip Crosby
- C. Juran
- D. Pareto

18. A structured tool, usually industry or activity specific, used to verify that a set of required steps has been performed is called:

- A. Quality Policy
- B. Check list
- C. Trend analysis
- D. Pareto diagram

19. A tool that analyzes the Input to a process to identify the causes of errors is called:

- A. Cause and effect diagram
- B. Scatter diagram
- C. Ishikawa diagram
- D. Pareto diagram
- E. a and c

20. The concept of zero inventory is called:

- A. Six sigma

- B. Continuous improvement
- C. Just in Time
- D. Zero defects

21. All of the following statements about acceptance sampling plans are true except:

- A. Acceptance sampling plans are beneficial when the cost of inspections is high and the resulting loss of passing non-conforming units is not great
- B. Acceptance sampling plans are necessary when destructive inspections are required
- C. Acceptance sampling plans are never as effective at rejecting non-conforming units as 100 percent inspection, even when the inspection process is very tedious
- D. Acceptance sampling plans do not directly control the quality of a series of lots; they instead specify the risk of accepting lots of given quality
- E. Acceptance sampling plans are not very effective for inspecting small lots of custom-made products

22. A quality control (QC) manager for a manufacturing firm is calculating the expected standard deviation (s) for the length of hex bolts being produced on the assembly line. There are two sources of variation in the length of the hex bolts: production variation and measurement error. The QC manager knows that the standard deviations from these two sources is 0.24 inch and 0.43 inch, respectively. Assuming that there are no other significant sources of error, what answer should the QC manager calculate for the total standard deviation of the length of the hex bolts?

- A. 0.10 inch
- B. 0.19 inch
- C. 0.34 inch
- D. 0.49 inch
- E. 0.67 inch

23. The rule of seven is used by quality control engineers to determine whether a process is out of control. If a run of seven or more samples lays on one side of the process mean, the process is said to be out of control. What is the probability that a run of seven on either side of the Process mean is due to random variation?

- A. 14.3%
- B. 3.12%
- C. 2.73%
- D. 1.56%
- E.0.78%

24. Control chart theory is based on the differences of the causes of variations in quality. Variations in quality may be produced by assignable causes. All of the following are examples of assignable causes except:

- A. Differences among machines
- B. Differences among workers
- C. Differences among materials
- D. Differences in each of these factors over time
- E.None of the above (all are examples)

25. The same quality control manager decides to increase his daily sample size from three to six. The size of the control band will:

- A. Increase
- B. Decrease
- C. Remain unchanged
- D. Not determinable from given data
- E.None of the above

26. All of the following statements about control charts are true except:

- A. Control charts can be used to establish as well as maintain process control
- B. Control charts are used to determine acceptance limits when no limits are stipulated by the product specification; otherwise, one should use the limits dictated by the specification
- C. All data points outside the control chart limits are variations explained by
- D. A and B
- E.B and C

27. Japanese quality control has improved dramatically in the last 30 years for all of the following reasons except:

- A. The use of quality control circles
- B. Small, continuous improvements in quality control
- C. The use of worker suggestion systems
- D. The use of quality control charts
- E. Focusing quality control efforts on production output

28. *Quality management deals with all of the following topics except:*

- A. Conformance to requirements / specifications
- B. Satisfying the needs of the customer
- C. Making products more desirable and luxurious
- D. A and C
- E. B and C

29. *Which of the following statements about the cost of quality are true?*

- A. The cost of quality is the expense of non-conformance to requirements and specifications
- B. The costs of quality are mostly the direct responsibility of workers who are manufacturing the product
- C. Quality control programs should only be implemented when the costs of quality is low
- D. A and B
- E. A and C

30. *The zero defects concept*

- A. is a performance standard for management
- B. is a motivational technique that promotes "doing it right the first time"
- C. is used by management to communicate to all employees that everyone should do things right the first time
- D. A and C
- E. B and C

31. *Quality assurance*

- A. refers to the prevention of product defects
- B. is an auditing function that provides feedback to the project team and client about the quality of output being produced

- C. is the technical process that includes the construction of control charts which specify acceptability limits for conforming output
- D. A and B
- E. B and C

32. Financial compensation is the primary motivational tool for which of the following management theories or programs?

- A. Zero Defects program
- B. Theory X management
- C. Theory Y management
- D. Quality Control Circles
- E. A and C

33. In the project environment, the individual ultimately responsible for quality control is:

- A. The line workers who must strive "to do things right the first time" to avoid quality problems
- B. The company's quality control manager who must work with the project members to ensure the quality control program is effective
- C. The head of the production department who retains ultimate quality control responsibility for all the company's projects
- D. The project manager who has ultimately responsibility for the entire project
- E. The customer who must ensure that he is receiving a quality product from the vendor

34. An acceptance control chart has limits that are based on the specification limits for the product rather than limits which differentiate between random and assignable causes. Under which of the following circumstances should a QC manager consider using an acceptance control chart?

- A. When the engineering tolerance on a dimension greatly exceeds the natural dispersion of the manufacturing process
- B. When the number of samples outside the current control chart limits become too costly and cumbersome to investigate
- C. When a process is subject to constant but stable tool wear
- D. A and B
- E. A and C

35. The majority of product defects could be prevented in most processes if manufacturers would do the following:

- A. Increase the use of acceptance control charts instead of standard three-sigma control charts
- B. Make a concerted effort to eliminate the potential for product defects in the design stage
- C. Create a quality control department
- D. A and B
- E. A and C

36. Quality attributes

- A. are used to determine how effectively the organization accomplishes its goals
- B. can be objective or subjective in nature
- C. are specific quality characteristics for which a product is designed, built, and tested
- D. A and B
- E. B and C

37. Most quality problems

originate in the quality department where the ultimate responsibility for quality rests

- B. originate on the shop floor because of waste and product rework
- C. are the result of management's lack of attention to potential quality improvement ideas
- D. could be eliminated if shop supervisors monitored their workers more closely
- E. A and B

38. The Pareto Principle is a technique used by quality managers to determine which quality control problems concerning a particular service or manufacturing process should be corrected. Which of the following statements best represents the philosophy employed by this principle?

- A. In order to minimize financial losses from quality control problems, all problems which have a measurable cost associated with them should be corrected
- B. The majority of defects are caused by a small percentage of the identifiable problems.

- Improvement efforts should be reserved for those few vital problems
- C. In order to achieve zero defects, all quality control problems, including those which do not have a direct financial cost should be corrected
 - D. Generally, 80% of the quality control problems are justifiable for correction via cost-benefit analysis. The remaining 20% are not financially worthy of improvement efforts
- E.A and D

39. *The Japanese Quality Control (QC) Circle movement motivated its participants in many ways. Which of the following represents the most important motivation for the QC circle participant:*

- A. Improving the performance of the company
- B. Self-Improvement
- C. Financial Incentives
- D. Recognition among co-workers
- E. Strengthening of relationships between co-workers

40. *In order to achieve long-term quality improvements, management must do the following:*

- A. Motivate the employees with seminars, contests, and institution of programs such as "Quality Improvement" day
 - B. Create a quality control department and give the head of the department ultimate responsibility for quality improvement
 - C. Implement a formal quality control program with worker and management involvement
 - D. Establish financial incentive packages for workers
- E.A and D

41. *Quality assurance is*

- A. top management's intention regarding quality
 - B. functions determining implementation of the quality policy
 - C. actions to provide confidence of satisfying quality requirements
 - D. responsibilities and processes which implement quality management
- E.all of the above

42. *Quality is*

- A. zero defects
 - B. a problem
 - C. a specification
 - D. a cost
- E.A, C, and D

43. Which are the best two charts to show trends in a process?

- A. Pareto and Control
- B. Control and Run
- C. Histogram and Run
- D. Gantt and Pert
- E. Gantt and CPM

44. If the acceptance sampling attribute for a lot is 30%, this means that

- A. 30% of all lots must be tested
- B. 30% of all lots must pass the test
- C. any given lot must have 30% or fewer defects
- D. a sample of a given lot must have 30% or fewer defects to pass the entire lot
- E. C and D

45. The pillars of quality is (are)

- A. Quality is free
- B. Doing it right the first time
- C. Zero defects
- D. Process improvement
- E. B and C

46. When a product or service completely meets a customer's requirements:

- A. quality is achieved
- B. cost of quality is high
- C. cost of quality is low
- D. the customer pays the minimum price
- E. A and B

47. Using Pareto's Rule, and given the data in the following table, where should corrective action focus?

Origin of Problem	% of Problems
Design	80
Development	2

Prototype	9
Testing	6
Fabrication	3

- A. Design
- B. Design, development, and prototype
- C. Design and prototype
- D. Development, prototype, and fabrication
- E. None of the above

48. Cost of quality is a concept that includes:

- A. the cost necessary for ensuring conformance to requirements
- B. the life cycle cost of the project
- C. all research and development costs related to the project
- D. only the cost of the quality control function
- E. A and B

49. The process of determining that technical processes and procedures are being performed in conformance with scope requirements and quality plans is called quality:

- A. management
- B. assurance
- C. process review
- D. control
- E. checks

50. Quality control is:

- A. identifying which quality standards are relevant to the project and determining how to satisfy them
- B. monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance
- C. evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards
- D. taking action to increase the effectiveness and efficiency of the project so as to provide added benefits to both the performing organization and the project customer
- E. assuming the production of goods that meet the highest standards of luxury

51. Quality planning is:

- A. identifying which quality standards are relevant to the project and determining how to satisfy them
- B. monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance
- C. evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards
- D. taking action to increase the effectiveness and efficiency of the project so as to provide added benefits to both the performing organization and the project customer
- E. assuring the production of goods that meet the highest standards of luxury

52. *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 the shortest possible time
- B. a product or service that conforms to the requirement specification
- C. an award-winning product that brings public recognition to the project
- D. an innovative project that establishes the qualifications of the project team
- E. B and C

53. *According to current quality management thinking, which of the following approaches to quality improvement is least likely to produce positive results?*

- A. increased inspection
- B. continuous improvement
- C. quality circles
- D. statistical quality control
- E. use of worker suggestion systems

54. *The concept that states: "the optimal quality level is reached at the point where the incremental revenue from product improvement equals the incremental cost to secure it" comes from:*

- A. quality control analysis
- B. marginal analysis
- C. standard quality analysis
- D. conformance analysis
- E. systems analysis

55. *Which of the following best characterizes the results of an increase in quality?*

- A. increased productivity, increased cost-effectiveness, and decreased cost risk
- B. reduced productivity and no change to cost-effectiveness or cost risk

- C. reduced productivity and an increase in overall product or service cost
- D. increased productivity and cost-effectiveness
- E. increased productivity, decreased cost-effectiveness and increased cost risk

56. Which of the following statements regarding quality is false?

- A. Quality improvements depends upon better definition and increased awareness of the requirements specifications
- B. Future gains in quality will often rely on advanced technology
- C. Recognition of key actions required of each team member is necessary to meet quality objectives
- D. Computer-aided design systems can improve quality, but only at the expense of an increase in the cost of design
- E. A and C

57. You are sampling items from a batch and plotting the results on a control chart. how will an increase in the number of items sample affect the value of the standard deviation used to set the control limit?

- A. increase it
- B. decrease it
- C. no effect on it
- D. first increase it, then decrease it
- E. first decrease it, then increase it

58. If the level of confidence directly increases as a result of new processes, different resources, or changed methods, the required cost of monitoring is likely to:

- A. increase as well
- B. remain the same
- C. decrease
- D. decrease initially then increase slightly
- E. increase then tend to level off

59. The primary driver(s) behind the demand for continual quality improvement is / are:

- A. an increase in the number of projects being worked
- B. the government cost improvement reports that have created widespread public interest in quality
- C. the prevalence of media reports on quality circles and other quality improvement techniques
- D. the need to both reduce costs and ensure consistency in the performance of products and services
- E. B and D

60. The concept of quality is based on:

- A. meeting luxury goods standards
- B. producing excellent products that are superior to other similar items
- C. conforming to the requirements specifications
- D. maintaining uniformity of design
- E. A and C

61. An assignable variance tells us:

- A. our equipment is becoming obsolete
- B. top management should initiate increased worker training
- C. there is an identifiable problem that must be fixed
- D. schedule variances will be reduced
- E. our use of quality circles is inadequate

62. From a high level perspective, quality:

- A. is ensured by having inspectors
- B. cannot be quantitatively measured
- C. and productivity are inconsistent objectives
- D. is primarily (85 - 95%) a management problem
- E. problems are usually caused by unmotivated employees

63. Which is not a commonly used quality management tool?

- A. Fishbone diagram
- B. CSSR report
- C. Pareto chart
- D. Control chart
- E. None of the above (all are commonly used)

64. Quality is often influenced by all of the following except:

- A. fabrication processes and methods
- B. supervision
- C. inspection
- D. cost of materials
- E. design

65. The _____ of a product or service mostly affects its reliability and maintenance characteristics.

- A. design
- B. concept
- C. fabrication
- D. performance
- E. cost

66. Random variance in a process, as measured by the standard deviation, can be directly reduced by:

- A. improving the overall system of production
- B. increasing the number of quality inspectors
- C. making use of run charts
- D. making better use of Pareto charts
- E. identifying patterns of variance using control charts

67. A project manager notices that all the measurements recorded on a control chart lie within the control band range. However, most of the measurements are below the midpoint (negative variance). Quality management practice offers us what guidance in dealing with this situation?

- A. The project manager should apply the "rule of seven"
- B. There is no problem as long as the variances lie within the control band
- C. Negative variance indicates a problem which should be remedied
- D. These variances are most likely caused by random factors
- E. Increased worker ownership should be encouraged

68. The project management team's for quality should:

- A. extend beyond the completion of the project
- B. stop at the point of delivery
- C. be significantly reduced by a good warranty
- D. be ignored by the project manager
- E. A and C

69. On a project, quality should generally be of

- A. equal priority with cost and schedule
- B. lower priority than cost and schedule
- C. equal priority with cost, but higher priority than schedule

- D. equal priority with schedule, but higher priority than cost
- E. higher priority than cost and schedule

70. 100% inspection for defects may be neither possible nor desirable. When is sampling for defects likely to be most useful?

- A. When destructive testing is required
- B. When the cost of 100% inspection is high
- C. When we believe there are not many defects
- D. A, B, and C
- E. A and B

71. A fundamental tenet of modern quality management holds that quality is most likely to be achieved:

- A. by planning it into the project
- B. by developing careful mechanisms to inspect for quality
- C. by developing prestigious products and processes
- D. by striving to do the best job possible
- E. by conducting quality circle activities

72. Poor quality in a design project is likely to directly affect _____ costs.

- A. manufacturing / building
- B. advertising
- C. overhead
- D. post-completion support
- E. A and D

73. From the project perspective, quality attributes:

- A. are used to determine how effectively the performing organization supports the project
- B. can be objective or subjective in nature
- C. are specific characteristics for which a product is designed, built, and tested
- D. B and C
- E. A and B

74. From the project manager's viewpoint, quality assurance involves:

- A. conducting studies to determine if design methods will support quality requirements
- B. identifying applicable laws, ordinances and regulations that the project must comply with

- C. monitoring inspection activities to ensure that the work is performed as specified
- D. A, B, and C
- E. A and C

75. Just-in-time (JIT) is the concept of reducing inventories to:

- A. 25% of former stock
- B. Less than half of former stock
- C. 75% of peak stock
- D. zero stock
- E. 15% of the cost of the product for a planned stock

76. Of the following statements, which one(s) is / are true?

- A. Quality is the usual result when skilled designers and skilled implementors work on the project
- B. Quality is 10% skill and 90% luck
- C. Quality can be achieved with the proper combination of personnel, materials, methods, and time to do the work
- D. None of the above
- E. A and C

77. Some organizations today are using "six sigma", to set the upper and lower limits on control charts rather than the traditional sigmas.

- A. two
- B. three
- C. four
- D. five
- E. twelve

78. The quality management tool that can be described as "a diagram that rank and displays defects in order of frequency of occurrence (from left to right)" is a:

- A. control chart
- B. vertical bar chart
- C. histograms
- D. Pareto chart
- E. run chart

79. From the project manager's perspective, quality management is _____ limited to assessing the

attributes of the tools provided to do the work.

- A. always
- B. usually
- C. not
- D. seldom
- E. intermittently

80. *The primary responsibility for establishing design and test specifications should rest with*

- A. senior management
- B. procurement or purchasing
- C. engineering
- D. manufacturing
- E. quality control

81. *Which of the following is least likely to contribute to developing an effective project team supportive of quality?*

- A. Commitment to the project
- B. Team member flexibility
- C. Frequent turnover of personnel
- D. Team interest in workmanship
- E. Clearly defined goals

82. *Primary responsibility for quality management in the project rests with the:*

- A. project engineer
- B. purchasing agent
- C. quality manager
- D. project manager
- E. company president

83. *The ISO 9000 series is:*

- A. a set of instructions for preparing control charts
- B. a set of guidelines for quality
- C. a set of forms and procedures to ensure quality
- D. an international standard that describes a recommended quality system
- E. intended to be applied only to manufactured products

84. Unless evidence indicates otherwise, a process is assured to be:

- A. in control
- B. out of control
- C. working at full capacity
- D. working at less than full capacity
- E. operating within required engineering tolerances

85. Which of the following statements best characterizes the quality management practice called benchmarking?

- A. The ISO term for progress measurement
- B. Comparing planned project practices to those of other projects
- C. A technique used to test certain types of electronic equipment
- D. The difference between grade and quality
- E. The measurement of customer satisfaction

86. Quality management is defined as the process of ensuring that a project meets the _____ of the project's clients, participants, and shareholders.

- A. specifications and statements of work
- B. legal and financial obligations
- C. expectations and desires
- D. needs and expectations
- E. legal and moral requirements

87. The primary components of quality management are quality _____.

- A. inspections, certifications, and validations
- B. philosophy, assurance, and control
- C. form, fit, and function
- D. reliability, maintainability, and availability
- E. insurance, assurance, and warranty

88. Quality assurance is defined as the managerial process that determines _____ that provide the customers with performance standards and feedback on the performance.

- A. time, scope, cost, and resources
- B. human resources, dollars, materials, and duration
- C. time, location, duration, and completion

- D. organization, design, objectives, and resources
- E. management, staff, workers, and contractors

89. Quality control is the technical processes that _____ the project's progress against the performance standards.

- A. inspect, certify, and verify
- B. examine, analyze, and report
- C. inspect, examine, and determine
- D. identify, measure, and report
- E. reveal, establish, and record

90. Responsibility within the project for quality must be defined and promulgated to everyone contributing to the end product. First and foremost, the _____ has the ultimate responsibility for conformance to requirements when provided with the tools, skills, knowledge, and opportunities.

- A. corporate president
- B. director of project management
- C. quality assurance manager
- D. project manager
- E. individual

91. Self-inspection by the individual performing the work is used to achieve quality in a product. The advantages of self-inspection include _____.

- A. immediate feedback to permit adjustments to the process
- B. early identification of errors prior to further integration
- C. minimization of end product repairs and material waste
- D. reduction in the number of end product inspections and tests
- E. all of the above

92. Zero Defects is an element of the quality management philosophy that is a _____ for all workers to be achieved _____.

- A. slogan; whenever possible
- B. slogan; most of the time
- C. standard; at all times
- D. standard; whenever possible
- E. standard; during critical operations

93. Statistical Process Control is used in quality programs to determine whether repetitive operations meet predictable standards. The process uses _____ to permit accurate monitoring of the operation.

- A. 100 percent inspection and random rejection
- B. acceptance sampling and automatic rejection
- C. continuous sampling and error detection methods
- D. random sampling and corrective procedures
- E. statistical sampling and control procedures

94. Statistical Decision Making includes Pareto Analysis as a means of reducing errors in the total project process. Pareto Analysis _____.

- A. is a method of rejecting errors or variances from standards following self-inspection
- B. is a procedure for ranking the errors to identify those contributing the most to failures [PMBOK p. B-2]
- C. counts errors or failures to determine the added cost of all operations that do not meet the requirements
- D. compares the error rate with the pass rate to determine the allowable number of errors per 1,000
- E. compares the error rate of individuals to determine the compensation for bonuses

95. Statistical sampling is a method to determine the conformance to requirement for some element or product of a project. The advantage of statistical sampling is that it _____.

- A. does not require an expenditure of resources
- B. is accurate enough with a sampling of less than one percent
- C. does not require 100 percent sampling of the elements to achieve a satisfactory inference of the population
- D. needs to be conducted only when there is a problem discovered with the end product or when the customer has some rejects
- E. is a good tool to gain customer confidence during a period of high rejects

96. Statistical Process Control uses diagrams called "Control Charts." These charts depict horizontal, parallel lines to represent _____ standard deviations.

- A. six
- B. five
- C. four
- D. three
- E. two

97. When data is plotted on the control charts, the data is of two types: R and -bar. The R data represent

points of a _____ while the X-bar data represent points of a(n) _____.

- A. random sample; cross-matrix sample
- B. real sample; simulated sample
- C. 100 percent sampling; 10 percent sampling
- D. sampling run; average of several runs
- E. random sampling; continuous sampling

98. The cost of quality has been argued as being primarily driven by the workers. When items were produced that did not meet the customers' expectations, the workers were "found" to be at fault. Current thinking is that management has at least _____ percent of the responsibility for the cost of quality.

- A. 85
- B. 75
- C. 65
- D. 55
- E. 50

99. Statistical sampling methods are valid for most projects, regardless of the lack of repetitive processes, because _____.

- A. projects rely on external vendors for products that must meet contractual specifications to conform to the requirements
- B. purchased materials will never meet the requirements of the project
- C. services are amenable to statistical sampling even for small lots
- D. it looks good to the customer when there is a mathematical approach to quality
- E. statistics provide a basis for customer acceptance of the projects

100. A quality program within a project should be based on _____ of errors to improve productivity along with quality levels.

- A. early detection
- B. early correction
- C. late detection
- D. late correction
- E. prevention

101. The cost of quality is needed to identify opportunities for improvement. The cost of quality is, therefore, defined as the dollar value associated with _____.

- A. producing a product that meets the requirement

- B. nonconformance to the requirement
- C. any cost for quality personnel and tools
- D. any extra cost to hire a quality consultant
- E. all extra efforts to implement a quality program

102. In a project, the common parameters are cost, schedule, and quality. In relationship to the others, quality should be ranked _____.

- A. first as the prime driver for a project
- B. second behind cost but ahead of schedule
- C. second behind schedule but ahead of cost
- D. equal to cost and schedule
- E. third behind cost and schedule

103. When errors that affect quality are discovered, the procedure to improve the situation should be to _____.

- A. identify the specific error
- B. correct the specific error
- C. determine the root causes of the error
- D. correct the root cause of the error
- E. all of the above

104. A quality audit is a powerful tool in any quality improvement program. For a project that is starting a quality improvement program, the initial audit is used to _____.

- A. identify all the faculty work that has been completed
- B. identify all the work that has been correctly accomplished
- C. determine the single most urgent area for improvement
- D. determine the quality baseline from which improvements will be made
- E. evaluate the quality audit's effectiveness in identifying errors

105. Customers are the driving force in any project and determine the requirements to be met. In dealing with customers' complaints, it is important to _____.

- A. avoid commitment to correction on an "out of warranty" item
- B. talk to them until they see the reason the complaints are trivial
- C. give them something more than they contracted to receive to suppress any feelings of dissatisfaction
- D. provide them with the full scope of the contracted product or service
- E. realize that customers ask for too much and to change their perceptions about the product or service

requirements

106. In computing the cost of producing a quality product, the major areas of costs contribute to the sale price of the product. The ratio of the _____ costs determine whether an effective program is fully implemented.

- A. direct, indirect, and overhead
- B. one-time, recurring, and variable
- C. variable, fixed, and semi-fixed
- D. prevention, appraisal, and failure
- E. build, repair, and test

107. The 14-step process to quality improvement is a progressive to total involvement of everyone in a company toward the production of quality products and services. The 14-steps do not include _____.

- A. management commitment
- B. quality improvement team
- C. quality measurement
- D. goal achievement measures
- E. supervisor training

108. Trend charts reflect the relative status of a program. Trend charts are effective means of _____.

- A. visibility reinforcing the growth of quality improvements to the workers
- B. reflecting the precise status of quality failures
- C. identifying to customers the failure rates of products
- D. setting standards and goals for acceptable levels of quality
- E. showing that all goals have been achieved

109. In many projects, the end product is a "service" that does not have physical characteristics and attributes to be measured to ensure conformance to the requirement. When service is the end product of a project, measurements _____.

- A. do not apply to the service, but the criterion is pass or fail
- B. are always artificial and present only false indications of progress
- C. can be established based on customer expectations and the responsibility assigned to individuals
- D. are not applicable if the service is to an internal function of the project
- E. relate only to the actual expenditures of funds or receipt or revenues

110. Recognition of personnel achievements is an important building block to the attainment of a superior quality program. The form of recognition should be _____.

- A. an annual bonus increase paid at the end of the year
- B. an immediate cash award that is commensurate with the deed
- C. a non-monetary award presented in a public forum as soon as the deed is identified
- D. a non-monetary award presented in private
- E. a combination of monetary and non-monetary award presented in private

111. Quality in a project's product is essential for the enhancement of the project manager and the selling organization. To ensure that the customer perceives a quality product, the project manager must inform the customer of the _____ to be used so the customer will not have a perception of _____.

- A. materials; inferior fabrication
- B. standards; gold plating
- C. practices; poor workmanship
- D. pricing; gouging
- E. warranty; poor service after product sale

112. As one of its goals the project organization has quality to specified performance measures. When compared with the functional organization, the project organization _____.

- A. achieves higher levels of quality
- B. is always tailored to meet the specific quality goals
- C. is less disciplined in the implementation of quality
- D. is more disciplined in the implementation of quality
- E. none of the above

113. The technical performance of the project is derived from the quality program instituted by the project manager. Quality control is one part of the quality program that _____.

- A. defines requirements and performance standards
- B. measures results of operations
- C. compares measured results to performance standards
- D. initiates corrective actions for variances
- E. all of the above

114. Quality control includes inspections to ensure the standards of performance are being met. Inspection includes _____ examinations of _____.

- A. visual and non-visual; processes and components
- B. visual and aural; processes and materials
- C. visual and technical; material and end products
- D. aural and tactile; materials and end products
- E. aural and tactile; processes and procedures

115. Quality control methods extend beyond the external characteristics of the product or components of the product. The types of testing of the product or components include _____.

- A. operator, maintainer, and environmental
- B. stress, destructive, and operating
- C. in-house, public, and private
- D. laboratory, destructive, and non-destructive
- E. laboratory, fabrication, and product

116. Each project needs a quality program plan to define the parameters of the overall approach to meeting quality requirements. As a minimum, the quality program plan addresses _____.

- A. the required processes and procedures
- B. the inspection plan
- C. the types of test to be conducted
- D. the documentation requirements for actions (testing, inspections, etc.)
- E. all of the above

117. In a quality management information system, there is a need to collect data and format such data into an information output that is useful to the project manager. In developing such an information system, it is good to remember that an optimum system does not supply all the information because _____.

- A. there is never enough information collected
- B. the system is incapable of processing all the required information
- C. some information costs more to collect than it is worth
- D. some information is not available for collection and input
- E. most information relies on related data to generate the proper output

118. Quality is one part of the three major parameters of a project. When the quality in a project exceeds the specifications, that is called _____.

- A. excellence
- B. superior quality
- C. deviation plus quality

- D. gold plating
- E. silver plating

119. In the quality area, process control is becoming an important element of the manufacturing to rigorous specifications to provide a consistently uniform output. The control of a process is divided into controlling temperatures, pressures, flows, _____, and levels in terms of rates and time.

- A. directions, elasticities
- B. volumes, distances
- C. speeds (velocities), volumes
- D. distances, speeds (velocities)
- E. lengths, widths

120. Process control is distinct and separate from the data gathering function in a quality program. While process control regulates the functions, data gathering is used to _____.

- A. collect information on the relative performance standards of the process so the output can be enhanced through continuous adjustments to the input functions
- B. validate the controlling function as performing correctly and provide information on equipment servicing intervals
- C. provide the historical records for production lots as to the specifications and actual measurements of a product
- D. generate the control charts to determine the variances in the product and the number on non-conforming products
- E. ensure the products are within tolerances and to identify those products that require reworking or scrapping

121. In the area of quality, project managers are struggling with the training and indoctrination of individuals in the need to do the work right the first time to conform to the requirement. Occasionally, the project manager will discover an individual, either in the planning or actual work, doing more than is called for in the specification. These individuals need training to reduce the level of "over building" because _____.

- A. the extra value given to the customer is not recognized or needed to complete the project
- B. the increase to the system specifications place that portion out of balance with the other system components
- C. it leads to increased customer requirements for other parts of the system
- D. exceeding the specified requirement is wasting time and money at no value added to the project
- E. the project must be reworked in other areas to increase the level of "goodness" to the same as the "over build"

