

1. What type of studies assess the ability of a process to consistently meet performance and technical specifications?

- a) Attribute-process capability studies
- b) Variable-process capability studies
- c) Improvement studies
- d) Inspection studies

Answer: b) Variable-process capability studies

Explanation: Variable-process capability studies evaluate the capability of a process to meet specifications using continuous data, such as measurements or dimensions.

2. In unstable and stable process capability studies, stability refers to:

- a) The consistency of process output over time
- b) The ability of the process to meet specifications
- c) The presence of fluctuations in process output
- d) The capacity of the process to improve over time

Answer: a) The consistency of process output over time

Explanation: Stability in process capability studies refers to the consistency of process output over time. An unstable process exhibits fluctuations or variations that can impact its capability to meet specifications consistently.

3. Which type of improvement study focuses on discrete characteristics of a product or process?

- a) Attribute improvement study
- b) Variable improvement study
- c) Inspection improvement study

d) Capability improvement study

Answer: a) Attribute improvement study

Explanation: Attribute improvement studies focus on improving discrete characteristics or attributes of a product or process, such as pass/fail outcomes or categorical data.

4. Acceptance sampling plans are primarily used for:

- a) Process improvement
- b) Quality control
- c) Cost reduction
- d) Production scheduling

Answer: b) Quality control

Explanation: Acceptance sampling plans are used in quality control to determine whether a batch or lot of products meets specified quality criteria based on a sample inspection.

5. What does the operating characteristic (OC) curve depict in acceptance sampling?

- a) The relationship between producer and consumer risk
- b) The distribution of sample means
- c) The probability of accepting a lot for various levels of quality
- d) The impact of process improvements on product quality

Answer: c) The probability of accepting a lot for various levels of quality

Explanation: The operating characteristic (OC) curve shows the probability of accepting a lot for different levels of quality, based on the sampling plan's parameters.

6. In acceptance sampling, producer risk refers to the risk of:

- a) Rejecting a good lot

- b) Accepting a good lot
- c) Rejecting a defective lot
- d) Accepting a defective lot

Answer: c) Rejecting a defective lot

Explanation: Producer risk in acceptance sampling refers to the risk of incorrectly rejecting a lot that meets quality standards (i.e., a good lot).

7. Theoretical invalidation of acceptance sampling plans occurs when:

- a) The process capability exceeds specifications
- b) The sampling plan's parameters are not met
- c) The lot size is too small for sampling
- d) The process stability is uncertain

Answer: b) The sampling plan's parameters are not met

Explanation: Theoretical invalidation of acceptance sampling plans occurs when the parameters defined by the plan, such as sample size or acceptance criteria, are not appropriate for the situation, leading to unreliable quality assessments.

8. The kp rule is applied in acceptance sampling for:

- a) Stable processes
- b) Chaotic processes
- c) Unstable processes
- d) All of the above

Answer: d) All of the above

Explanation: The kp rule can be applied in acceptance sampling for stable, unstable, or

chaotic processes to determine sample sizes and acceptance criteria based on the process's characteristics.

9. Single sampling plans are most suitable for:

- a) Large lot sizes
- b) Small lot sizes
- c) Homogeneous lots
- d) Heterogeneous lots

Answer: b) Small lot sizes

Explanation: Single sampling plans are typically used for smaller lot sizes where inspecting the entire lot may be impractical or costly.

10. Which sampling plan involves inspecting additional samples if the initial sample fails to provide a conclusive decision?

- a) Single sampling plan
- b) Double sampling plan
- c) Multiple/Sequential sampling plan
- d) Continuous sampling plan

Answer: c) Multiple/Sequential sampling plan

Explanation: Multiple/Sequential sampling plans involve inspecting additional samples if the initial sample does not provide a clear decision regarding the acceptance or rejection of the lot.

11. Which risk is associated with accepting a lot that does not meet quality standards?

- a) Producer risk

- b) Consumer risk
- c) Sampling risk
- d) Inspection risk

Answer: b) Consumer risk

Explanation: Consumer risk is the risk associated with accepting a lot that does not meet quality standards, leading to potential quality issues for the end-user or consumer.

12. In attribute-process capability studies, attributes refer to:

- a) Continuous variables
- b) Discrete characteristics
- c) Process stability indicators
- d) Sampling parameters

Answer: b) Discrete characteristics

Explanation: Attributes in attribute-process capability studies refer to discrete characteristics or qualities of a product or process, such as pass/fail outcomes or categorical data.

13. Which type of inspection plan involves inspecting a fixed number of units from a lot?

- a) Single sampling plan
- b) Double sampling plan
- c) Multiple/Sequential sampling plan
- d) Continuous sampling plan

Answer: a) Single sampling plan

Explanation: Single sampling plans involve inspecting a fixed number of units from a lot to make a decision about its acceptance or rejection.

14. What does the kp rule determine in acceptance sampling for variable data?

- a) Sample size
- b) Acceptance criteria
- c) Inspection frequency
- d) Lot formation

Answer: a) Sample size

Explanation: The kp rule determines the appropriate sample size for acceptance sampling based on the variability of the data and the desired level of confidence.

15. Which type of process capability study assesses the ability of a process to produce outputs within specified limits?

- a) Attribute-process capability study
- b) Variable-process capability study
- c) Improvement study
- d) Inspection study

Answer: b) Variable-process capability study

Explanation: Variable-process capability studies assess the ability of a process to produce outputs within specified limits using continuous data, such as measurements or dimensions.

Related posts:

1. Steam generators and boilers MCQs
2. Vapour Cycles MCQs
3. Gas Dynamics MCQs
4. Air Compressors MCQs
5. Nozzles and Condensers MCQs

6. Introduction to stress in machine component MCQs
7. Shafts MCQS
8. Springs MCQs
9. Brakes & Clutches MCQs
10. Journal Bearing MCQs
11. Energy transfer in turbo machines MCQs
12. Steam turbines MCQs
13. Water turbines MCQs
14. Rotary Fans, Blowers and Compressors MCQs
15. Power transmitting turbo machines MCQs
16. Energy transfer in turbo machines MCQs
17. Steam turbines MCQs
18. Water turbines MCQS
19. Rotary Fans, Blowers and Compressors MCQs
20. Power transmitting turbo machines MCQs
21. Introduction to Computer Engineering MCQs
22. Types of Analysis MCQS
23. Heat Transfer and Conduction MCQs
24. Extended Surfaces (fins) MCQs
25. Convection MCQs
26. Thermal and Mass Transfer MCQs
27. Thermal Radiation & Boiling/Condensation MCQs
28. Mechanical processes MCQs
29. Electrochemical and chemical metal removal processes MCQs
30. Thermal metal removal processes MCQs
31. Rapid prototyping fabrication methods MCQs
32. Technologies of micro fabrication MCQs

33. Power Plant Engineering MCQs
34. Fossil fuel steam stations MCQs
35. Nuclear Power Station MCQs
36. Hydro-Power Station MCQs
37. Power Station Economics MCQs
38. Design of Belt, Rope and Chain Drives MCQs
39. Spur and Helical Gears MCQs
40. Bevel Gears MCQs
41. Design of I.C. Engine Components MCQs
42. Linear system and distribution models MCQs
43. Supply chain (SCM) MCQs
44. Inventory models MCQs
45. Queueing Theory & Game Theory MCQs
46. Project Management & Meta-heuristics MCQs
47. Overview of Systems Engineering MCQs
48. Structure of Complex Systems MCQs
49. Concept Development and Exploration MCQs
50. Engineering Development MCQs
51. Basic Concepts & Laws of Thermodynamics MCQs
52. Properties of Steam MCQs
53. Air standard cycles MCQs
54. Fuels & combustion MCQs
55. Materials Science MCQs
56. Alloys and Materials MCQs
57. Metal Heat Treatment MCQs
58. Material Testing and Properties MCQs
59. Chemical Analysis of Metal Alloys MCQs



- 60. Stress and strain MCQs
- 61. Bending MCQs
- 62. Torsion in shafts MCQs
- 63. Theories of failures MCQs
- 64. Columns & struts MCQs
- 65. Manufacturing Process MCQs