

MT10C2 - Pre-Instructional Survey

Name _____ Date _____

1. Which of these phases in automation and control projects is most often skipped?
 - a. Requirements Definition
 - b. Basis of Design
 - c. Detail Engineering
 - d. Simulation

2. What are the four key execution objectives that have to be balanced in an automation and control project?
 - a. cost, schedule, quality, and grade
 - b. cost, schedule, scope, and customer satisfaction
 - c. schedule, scope, quality, and cost
 - d. customer satisfaction, cost, grade, and schedule

3. What is the key planning item necessary for accurately estimating project cost?
 - a. Work Breakdown Structure
 - b. Earned value
 - c. Project budget
 - d. Expenditure curve

4. One deliverable from Basis of Design is:
 - a. Programming/coding for Safety systems
 - b. Wiring diagrams for control room wiring
 - c. Field junction box locations
 - d. Alarm software configuration

5. When is the single most important time to do a project review?
 - a. After requirements definition
 - b. After front end engineering
 - c. At the end of project
 - d. At the start of construction

6. A properly prepared Work Breakdown Structure...
 - a. is an outline of major work
 - b. lists all work of the project
 - c. is prepared by customer
 - d. should be finalized before front end engineering begins

7. Which of these is usually more important in automation and control projects?
 - a. Cost
 - b. Schedule
 - c. Types of instruments used
 - d. Programming capabilities

8. Contingency...
 - a. amount depends on the thoroughness of Basis of Design
 - b. is used for unforeseen scope changes
 - c. is set by the customer
 - d. is not needed in a job with a good estimate

9. During Detail Engineering on a project a change is proposed. Which one of the following is NOT a good reason for implementing the change:
 - a. The project will not work without the change
 - b. The change will introduce important new technology and a cost – benefit calculation shows a 50% greater rate of return than that of the original project
 - c. The operation will not be safe without the change

10. What is the best way for a company to get the lowest overall cost from vendors?
 - a. Competitive bidding on each project
 - b. Buy best product for each individual application
 - c. Long term alliances with blanket contracts
 - d. Personal relationship with salesperson

11. What is the primary rule about Customer Satisfaction in automation and control projects?
 - a. The customer must always be satisfied
 - b. Cost comes first
 - c. Balance customer satisfaction with other key objectives
 - d. Customers don't usually understand project tradeoffs

12. What is the best way to satisfy the customer?
- Work with the customer to develop a list of critical success factors for the project and then deliver those CSFs
 - Develop a satisfaction scorecard with the customer and work hard to score high on those items
 - Deliver the items in the Customer Requirements Definition since the customer will be satisfied with a good project
 - Minimize the cost of the project
13. Earned value is:
- Budgeted cost for activities completed
 - Actual cost of work done
 - Project budget minus work completed
 - Value of activities scheduled to date
14. When the purchase order is placed for automation and control equipment, it represents which of the following:
- Cost
 - Expenditure
 - Capital Investment
 - Commitment
15. The time of greatest impact on cost of the project is during which project phase:
- Development
 - Construction
 - Basis of Design
 - Detail Design
16. At what point in the project can one typically make a + or – 10% estimate?
- After Requirements Definition
 - At the end of Basis of Design
 - During Basic Engineering
 - When construction bids are received
17. Activities 1, 2 and 3 were estimated to cost \$4000. These activities have now been completed at a cost of \$5000. What is the cost variance?
- .8
 - 1000
 - 1000
 - 1.25

18. Which of the following is most true about a project review?

- a. Since the team knows the project best, they are the best ones to lead the review.
- b. The purpose is to determine that the deliverables of the previous phase have been completed
- c. It is important to determine the scoring criteria so that the project can get a good score in the review
- d. Reviews take a lot of the team's time so they are rarely worth holding.

19. When should Review meetings be facilitated by an impartial facilitator?

- a. When there is conflict between the provider organization and the customer.
- b. Only when the engineering group and the manufacturing operation are in the same company.
- c. Always, to ensure objectivity.
- d. Only on simpler projects since an outside facilitator will not be able to understand the more complex projects.

20. Which of the following are examples of best practice phases in automation projects:

- a. Initiating, Planning, Executing, Controlling, and Closing
- b. Definition, Scope, Budgeting, Planning, Scheduling, Tracking and Closeout
- c. Customer Requirements Definition, Basis of Design and Design Freeze

MT10C2 – Pre-Instructional Survey Answer Sheet

1. b
2. b
3. a
4. c
5. b
6. b
7. a
8. a
9. b
10. c
11. c
12. b
13. a
14. d
15. a
16. b
17. b
18. b
19. c
20. c