

MT10C1 - Pre-Instructional Survey

Name _____ Date _____

1. 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

2. Which of these is usually most important in automation and control projects?
 - a. Cost
 - b. Schedule
 - c. Types of hardware and software used
 - d. Programming capabilities

3. A project's payback period is when:
 - a. Monthly revenue exceeds monthly costs.
 - b. Unit profit is realized
 - c. Profit maximum is realized
 - d. Cumulative revenue equals cumulative costs.

4. What is the best reason for going forward with a project
 - a. Management wants it
 - b. The project just exceeds the company's hurdle for justification
 - c. The control system vendor says that the control system cannot be maintained within eighteen months and must be replaced
 - d. The plant needs an up to date control system if it is to be competitive

5. Why should control engineers be assigned to manufacturing units?
 - a. To maintain the control systems
 - b. Identify and implement long term benefits
 - c. Make changes to the control system as needed by the operators
 - d. Deal with crises and keep the plant running.

6. When is the best time to do a project to replace the control equipment?
 - a. Manufacturing management thinks it is time to get new equipment
 - b. The control equipment vendor says the equipment is being declared obsolete.
 - c. Automation and control engineers in the plant want new equipment
 - d. Project justification exceeds the company hurdle rate.

7. What is the right time/reason to outsource?
 - a. When you want a fixed price contract to freeze costs
 - b. When you want competitive bidding to minimize cost
 - c. When there is more work than you want to do inside; or outside resources can do the specialized work more efficiently
 - d. When a contractor promises lower costs than company engineers have estimated.

8. 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

9. 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

10. The time of greatest impact on cost of the project is during which project phase:
 - a. Development
 - b. Construction
 - c. Front End Engineering
 - d. Detail Design

11. Which of the following is NOT a viable process for identifying benefits to justify new or improved control systems?
 - a. Opportunity Assessment
 - b. Dynamic Performance Measure
 - c. Brainstorming
 - d. Listing of the improved features of the new control system.

12. At what point in the project can one typically make a + or – 10% estimate?
- a. When the project scope is developed (when some companies “approve” the project)
 - b. After Requirements Definition (when the project is often put out for bid)
 - c. At the end of Front End Engineering
 - d. When construction bids are received
13. Which of the following are some of the 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, Front End Engineering and Design Freeze

MT10C1 – Pre-Instructional Survey Answer Sheet

1. b
2. a
3. d
4. b
5. b
6. d
7. c
8. c
9. c
10. a
11. d
12. c
13. c