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