

1. The “father” of scientific management is
 - (A) Eli Whitney
 - (B) Henry Ford
 - (C) Michael Schumacher
 - (D) Frederick W. Taylor

2. Which of these is NOT one of the basic functions of the management process ?
 - (A) Controlling
 - (B) Leading
 - (C) Staffing
 - (D) Inspecting

3. Productivity increases when
 - (A) inputs and outputs increase proportionately.
 - (B) inputs decrease while outputs remain the same.
 - (C) inputs increase while outputs remain the same.
 - (D) outputs decrease while inputs remain the same.

4. The person who introduced standardized interchangeable parts was
 - (A) Adam Smith
 - (B) Eli Whitney
 - (C) W. Edwards Deming
 - (D) Henry Ford

5. The person who developed plant-wide quality control systems was
 - (A) Frederick Taylor
 - (B) Henry Ford
 - (C) W. Edwards Deming
 - (D) Eli Whitney

6. When a tangible product is NOT included in the service, it is called
 - (A) a pure service.
 - (B) an intangible product.
 - (C) a knowledge-based service
 - (D) a direct service.

7. One type of control chart for attributes is a
- (A) p-chart
 - (B) x-bar chart
 - (C) R-chart
 - (D) C_{PK} chart
8. C-charts are based on the
- (A) Normal distribution.
 - (B) Erlang distribution.
 - (C) Binomial distribution.
 - (D) Poisson distribution.
9. If a sample of parts is measured and the mean of the sample measurements is outside the control limits
- (A) The process is within the established control limits with only natural causes of variation.
 - (B) The process variance must also be in control.
 - (C) The process is in control, but not capable of producing within the established control limits.
 - (D) The process is out of control and the cause can be established.
10. Process capability
- (A) exists when C_{PK} is less than 1.0.
 - (B) cannot be measured.
 - (C) exists when the process is perfectly centered.
 - (D) means that the natural variation of the process must be small enough to produce products that meet the standard.
11. The object of a statistical process control (SPC) system is to
- (A) eliminate natural variation.
 - (B) assess the customer expectations.
 - (C) provide a signal when assignable variations are present.
 - (D) provide a signal when natural variations are present.
12. In acceptance sampling, the producer's risk is the risk of having a
- (A) good lot accepted
 - (B) bad lot accepted
 - (C) good lot rejected
 - (D) bad lot rejected

13. Twenty samples of size 100 are taken. The total number of defective items is 75. What is the UCL of the 3-sigma ($z=3$) p-chart ?
- (A) 0.094
 - (B) 0.793
 - (C) 0.165
 - (D) 0.0375
14. A customer service hotline has received an average of 7 complaints a day for the last 25 days. What type of control chart should be used to monitor this hotline ?
- (A) c-chart
 - (B) R-chart
 - (C) p-chart
 - (D) X-bar chart
15. A bottling company runs a filling process that should fill bottles with 12 plus or minus 0.04 ounces. A capability study reveals that the process mean is 12 ounces and the standard deviation is 0.01 ounces. What is the capability of the bottling process ?
- (A) 1.33
 - (B) 0.75
 - (C) 1.5
 - (D) 0.67
16. A manufacturing engineer is designing a process that must be able to produce a shaft with a diameter of 2.5 cm plus or minus 0.01 cm. If the process capability must be 1.5, what is the maximum process standard deviation ?
- (A) 2.49
 - (B) 0.0133
 - (C) 0.02
 - (D) 0.00222
17. One of the India's National Quality Award is named after
- (A) Lal Bahadur Shastri
 - (B) Indira Gandhi
 - (C) Rajiv Gandhi
 - (D) JRD Tata

18. Cause-and-effect diagrams are also known as
- (A) process charts
 - (B) target specification graphs
 - (C) fish-bone charts
 - (D) Pareto charts
19. One hundred percent inspection
- (A) means that every part is checked to see whether or not it is defective.
 - (B) catches all of the defective parts.
 - (C) is practical and an excellent fit for world-class manufacturers.
 - (D) means that only good parts will be shipped to a customer.
20. In which of the four major categories of quality costs would the costs associated with scrap and rework belong ?
- (A) internal failure
 - (B) prevention
 - (C) appraisal
 - (D) external
21. A device or technique that ensures production of a good unit every time is
- (A) Zero defect
 - (B) Poka Yoke
 - (C) Control Chart
 - (D) Pareto Chart
22. Match List I (Charts) with List II (Details) and select the correct answer using the codes given below :

List I

List II

- | | |
|----------------------------|---|
| a. Multiple activity chart | 1. Work Measurement |
| b. SIMO chart | 2. Movement of material |
| c. String diagram | 3. Motion analysis |
| d. MTM | 4. Working and idle time of two or more men/machine |

Codes :

- | | a | b | c | d |
|-----|---|---|---|---|
| (A) | 4 | 3 | 1 | 2 |
| (B) | 3 | 4 | 2 | 1 |
| (C) | 4 | 3 | 2 | 1 |
| (D) | 3 | 4 | 1 | 2 |

23. The difference(s) between the basic EOQ model and the production order quantity model is (are) that
- (A) the EOQ model does not require the assumption of known, constant lead time.
 - (B) the production order quantity model does not require the assumption of instantaneous delivery.
 - (C) the production order quantity model does not require the assumption of known, constant demand.
 - (D) there are no holding costs in the production order quantity model.
24. Extra units that are held in inventory to reduce stockouts are called
- (A) safety stock.
 - (B) reorder point.
 - (C) demand variance.
 - (D) just-in-time inventory.
25. Which of the following is NOT a type of inventory ?
- (A) work-in-process
 - (B) finished goods
 - (C) MRP
 - (D) raw material
26. In the probabilistic model, increasing the service level will
- (A) reduce the cost of the inventory policy.
 - (B) cannot be determined.
 - (C) have no impact on the cost of the inventory policy.
 - (D) increase the cost of the inventory policy.
27. A system that keeps track of each withdrawal or addition to inventory continuously is
- (A) a fixed quantity system.
 - (B) a fixed period system.
 - (C) a perpetual inventory system.
 - (D) a continuous inventory system.
28. With regard to a regression-based forecast, the standard error of the estimate gives a measure of
- (A) the time period for which the forecast is valid.
 - (B) the time required to derive the forecast equation
 - (C) the maximum error of the forecast
 - (D) the variability around the regression line

29. When using exponential smoothing, the smoothing constant
- (A) is typically between .75 and .95 for most business applications
 - (B) indicates the accuracy of the previous forecast
 - (C) can be determined using MAD
 - (D) should be chosen to maximize positive bias
30. Time series patterns that repeat themselves after a period of days or weeks are called
- (A) seasonality
 - (B) trend
 - (C) cycles
 - (D) random variation
31. Which of the following methods best considers intangible costs related to a location decision ?
- (A) transportation method
 - (B) factor-rating method
 - (C) assignment method
 - (D) locational break-even analysis
32. What is the major difference in focus between location decision in the service sector and in the manufacturing center ?
- (A) The focus in manufacturing is revenue maximization, while the focus in service is cost minimization.
 - (B) The focus in service is revenue maximization, while the focus in manufacturing is cost minimization.
 - (C) The focus in manufacturing is on labour, while the focus in service is on raw materials.
 - (D) There is no difference in focus.
33. Which of the following methods is a mathematical technique used for finding the best location for a single distribution point that services several stores or areas ?
- (A) locational break-even
 - (B) transportation model
 - (C) center-of-gravity
 - (D) factor-rating

34. The transportation method
- (A) determines the best pattern of shipments from several points of supply to several points of demand.
 - (B) finds the location of a distribution center that minimizes distribution costs.
 - (C) performs a cost-volume analysis.
 - (D) uses both qualitative and quantitative factors.
35. Job enrichment
- (A) includes a modest increase in pay
 - (B) includes job enlargement.
 - (C) includes some of the planning and control necessary for job accomplishment.
 - (D) is a concept promoted by Adam Smith and Charles Babbage in books they wrote.
36. Ergonomics is the study of
- (A) the management of technology.
 - (B) work.
 - (C) the use of automation in a manufacturing organization.
 - (D) Ergos.
37. Methods analysis focuses on
- (A) how a task is accomplished.
 - (B) the raw materials that are consumed in performing a task.
 - (C) the design of the machines used to perform a task.
 - (D) reducing the number of steps required to perform a task.
38. Labour standards are necessary to determine which of the following ?
- (A) cost and time estimates prior to production.
 - (B) the steps necessary to perform a task.
 - (C) the amount of raw materials to be consumed in the process.
 - (D) the machines required by the process.
39. Which of the following DOES NOT relate to work scheduling ?
- (A) Ergonomics
 - (B) Flextime
 - (C) flexible workweek
 - (D) part-time status

40. A flow diagram is
- (A) a way of improving utilization of an operator and a machine.
 - (B) used to analyze the movement of people or materials.
 - (C) used to examine the ergonomics of a job.
 - (D) a chart depicting right- and left-hand motions.
41. With respect to PERT and CPM, slack
- (A) is the amount of time a task may be delayed without changing the overall project completion time.
 - (B) marks the start or completion of a task.
 - (C) is a task or subproject that must be completed.
 - (D) is the latest time an activity can be started without delaying the entire project.
42. A dummy activity is required when the network contains
- (A) two or more activities that have identical starting and ending events.
 - (B) two or more activities have the same starting events.
 - (C) two or more activities have different ending events.
 - (D) two or more activities have the same ending events.
43. Which of the following is a basic assumption of PERT ?
- (A) Only critical path activities in the network must be performed.
 - (B) Activity completion times are known with certainty.
 - (C) No activity in the network must be repeated.
 - (D) There is only one complete route from the start of a project to the end of a project.
44. PERT analysis computes the variance of the total project completion time as
- (A) the sum of the variances of all activities in the project.
 - (B) the variance of the final activity of the project.
 - (C) the sum of the variances of all activities not on the critical path.
 - (D) the sum of the variances of all activities on the critical path.
45. The critical path of a network is the
- (A) path with the fewest activities.
 - (B) path with the most activities.
 - (C) longest time path through the network.
 - (D) shortest time path through the network.

46. Which of the following is a direct responsibility of the project manager ?
- (A) Calculating completion probabilities for all tasks in the project.
 - (B) Drawing the network diagram.
 - (C) Making sure that the people assigned to the project receive the motivation, direction, and information needed to do their jobs.
 - (D) Performing all of the activities in the project.
47. An activity has an optimistic time of 15 days, a most likely time of 18 days, and a pessimistic time of 27 days. What is its expected time ?
- (A) 60 days
 - (B) 20 days
 - (C) 18 days
 - (D) 19 days
48. An activity has an optimistic time of 11 days, a most likely time of 15 days, and a pessimistic time of 23 days. What is its variance ?
- (A) 2
 - (B) 16.33
 - (C) 4
 - (D) 15.6
49. A project's critical path is composed of activities A, B, and C. Activity A has a standard deviation of 2, activity B has a standard deviation of 1, and activity C has a standard deviation of 2. What is the standard deviation of the critical path ?
- (A) 9
 - (B) 25
 - (C) 5
 - (D) 3
50. What is the probability that a project with a mean completion time of 23.9 days and a variance of 6 days will be finished in 26 days ?
- (A) 0.37
 - (B) 0.63
 - (C) 0.20
 - (D) 0.80
51. JIT is a philosophy of
- (A) waste reduction.
 - (B) re-engineering for breakthrough.
 - (C) variability increase.
 - (D) push production.

52. When using kanbans
- (A) the kanban cards provide a direct control on the amount of work-in-process between cells.
 - (B) if the producer and user are not in visual contact, a light or empty spot on the floor should be used as a signal.
 - (C) in an MRP system, the kanban can be thought of as a “build” authorization and the schedule can serve as the “pull” part of the system.
 - (D) each pull station can require only one resupply component.
53. This action tends to reduce variability.
- (A) Customer demands are made clear.
 - (B) Employees, machines, and suppliers produce units that do not conform to standards.
 - (C) Engineering drawings are inaccurate.
 - (D) Production personnel make product before specifications are complete.
54. Characteristics of just-in-time suppliers do NOT include
- (A) minimal release paperwork.
 - (B) scheduling inbound freight.
 - (C) the purchaser actually helping the supplier to meet the quality requirements.
 - (D) short-term contract agreements.
55. Which of the following is a Lean layout tactic ?
- (A) increased distance between workstations so problems are clearly visible.
 - (B) Sequential operations are adjacent to each other.
 - (C) Decreased flexibility so processes can be done only one way and machines are dedicated to a single product or model.
 - (D) Increased storage space so one product with all possible modules can be stored.
56. A production facility wants to determine the number of kanbans necessary for one of the parts used to make its most popular model of razor. This part’s daily demand is 200; it has a production lead time of 1/2 day; its safety stock is 1/4 day, and the container size is 10. How many kanbans are needed ?
- (A) 5
 - (B) 10
 - (C) 15
 - (D) 50
57. JIT, Lean Production, and the Toyota Production System (TPS) all emphasize continuous improvement, but what makes the TPS unique is its emphasis on
- (A) learning and employee empowerment.
 - (B) inventory reduction.
 - (C) techniques such as kanban.
 - (D) supplier relationships.

58. The 5S checklist item that calls for the removal of variation from the process via consistent training, tooling, and procedures is
- (A) simplify
 - (B) shine
 - (C) standardize
 - (D) segregate
59. What is an advantage of holding inventory ?
- (A) reduced material handling
 - (B) reduced obsolescence
 - (C) greater availability
 - (D) improved quality
60. Which of the following processes most likely uses batch production ?
- (A) Sugar Refinery
 - (B) Plastic Part Manufacturer
 - (C) Consumer Electronics
 - (D) Oil Refinery
61. All of the following will increase the capacity of process except
- (A) the purchase of additional equipment
 - (B) scheduled machine maintenance
 - (C) larger production lot sizes
 - (D) increasing the backlog before each machine
62. Which of the following layouts is suited for mass production ?
- (A) Process layout
 - (B) Product layout
 - (C) Fixed position layout
 - (D) Functional layout
63. In which of the following layouts, the lines need to be balanced ?
- (A) Process layout
 - (B) Product layout
 - (C) Fixed position layout
 - (D) Functional layout
64. A low unit cost can be achieved by following
- (A) Process layout
 - (B) Product layout
 - (C) Fixed position layout
 - (D) Functional layout

65. Consider the following basic steps involved in value analysis :

1. Create
2. Blast
3. Refine

The correct sequence of these steps is

- (A) 1, 2, 3
- (B) 3, 1, 2
- (C) 1, 3, 2
- (D) 2, 1, 3

66. The characteristic life-cycle of a product consists of four periods. The rate of consumption increases rapidly at the beginning of the

- (A) Incubation period
- (B) Growth period
- (C) Maturity period
- (D) Decline period

67. Which of the following cost elements are considered while determining the Economic Lot Size for purchase ?

1. Inventory carrying cost
2. Cost per Unit
3. Set up cost

- (A) 1, 2 and 3
- (B) 1 and 2
- (C) 2 and 3
- (D) 1 and 3

68. The assignment algorithm is applicable to which of the following combined situations for the purpose of improving productivity ?

1. Identification of the sales force-market
2. Scheduling of operator-machine
3. Fixing machine-location

- (A) 1, 2 and 3
- (B) 1 and 3
- (C) 2 and 3
- (D) 1 and 2

69. The standard time of an operation has been calculated as 10 min. The worker was rated at 80%. If the relaxation and other allowances were 25%, then the observed time would be
- (A) 12.5 min
 - (B) 10 min
 - (C) 8 min
 - (D) 6.5 min
70. MTM is a work measurement technique by
- (A) Stopwatch study
 - (B) Work sampling study
 - (C) Predetermined motion time system
 - (D) Past data comparison
71. Consider the following costs :
1. Cost of inspection and return of goods
 2. Cost of obsolescence
 3. Cost of scrap
 4. Cost of insurance
 5. Cost of negotiation with suppliers
- Which of these costs are related to inventory carrying cost ?
- (A) 1, 2 and 3
 - (B) 1, 3 and 4
 - (C) 2, 3 and 4
 - (D) 2, 4 and 5
72. When using a graphical solution procedure, the region bounded by the set of constraints is called the
- (A) infeasible region.
 - (B) maximum profit region.
 - (C) feasible region.
 - (D) solution.
73. A feasible solution to a linear programming problem
- (A) must satisfy all of the problem's constraints simultaneously.
 - (B) need not satisfy all of the constraints, only some of them.
 - (C) must be a corner point of the feasible region.
 - (D) must give the maximum possible profit.

74. Which of the following is NOT an example of an application of linear programming ?
- (A) picking blends of raw materials in feed mills to produce finished feed combinations at minimum cost
 - (B) scheduling school buses to minimize distance travelled when carrying students
 - (C) calculating the wages for an hourly worker if the time worked is unknown
 - (D) scheduling tellers at banks so service requirements are met during each hour of the day while minimizing the total cost of labour
75. Which of the following is a mathematical expression in linear programming that maximizes or minimizes some quantity ?
- (A) decision variables
 - (B) constraints
 - (C) shadow price
 - (D) objective function
76. In the objective function $\text{Max } Z = 8U + 4C + 2O$, the number 8 is a
- (A) shadow price
 - (B) dual
 - (C) parameter
 - (D) constraint
77. The simplex method of linear programming is valuable when
- (A) one or more of the constraints is quadratic.
 - (B) the objective function is a quadratic.
 - (C) There are more than two constraints.
 - (D) There are more than two decision variables.
78. Maintenance can be improved by
- (A) assigning fewer people to repair crews.
 - (B) abandoning preventive maintenance in favour of a breakdown maintenance only policy.
 - (C) increasing repair capabilities.
 - (D) holding a smaller inventory of replacement items thereby increasing pressure on repair skills.
79. The process that is intended to find potential failures and make changes or repairs is known as
- (A) failure maintenance
 - (B) breakdown maintenance
 - (C) preventive maintenance
 - (D) troubleshooting

80. Infant mortality
- (A) Is a very rare phenomenon in the life of products.
 - (B) is seldom due to improper use.
 - (C) is generally found from the MTBF (mean time between failure) rate.
 - (D) is the failure rate early in the life of a product or process.
81. Which of the following is NOT part of total productive maintenance ?
- (A) emphasizing total cost of ownership when purchasing machines
 - (B) designing machines that are reliable, easy to operate, and easy to maintain
 - (C) increasing variability by rotating machine operators and maintenance schedules on a regular basis
 - (D) training workers to operate and maintain their own machines
82. A product is made of two components in series; each component has a reliability of 0.90. What is the reliability of this product ?
- (A) 0.90
 - (B) 0.891
 - (C) 0.99
 - (D) 0.81
83. Which of the following is NOT an assumption in common queuing mathematical models ?
- (A) The average arrival rate is faster than the average service rate.
 - (B) Arrivals come from an infinite or very large population.
 - (C) Service times from one customer to the next are independent of each other.
 - (D) Arrivals are treated on a first-in, first-out basis.
84. Which of the following is NOT a key operating characteristic for a queuing system ?
- (A) percent idle time
 - (B) average time spent waiting in the system
 - (C) calling population
 - (D) utilization rate
85. If everything else remains constant, including the mean arrival rate and service rate, but the service time becomes constant instead of exponential, then
- (A) the average queue length will be halved.
 - (B) the average queue length will increase.
 - (C) the calling population will double.
 - (D) the average waiting time will be doubled.

86. Cars arrive at an automated car wash following a Poisson distribution. If their arrival rate is 20 per hour, and it takes exactly 2 minutes for a car wash, what is the average waiting time in line ?
- (A) 4 minutes
 - (B) 1 minute
 - (C) 3 minutes
 - (D) 2 minutes
87. A fast-food drive-through system that uses two windows in succession is an example of a
- (A) multiple-channel, multiple-phase system.
 - (B) single-channel, single-phase system.
 - (C) single-channel, multiple-phase system.
 - (D) multiple-channel, single-phase system.
88. A customer that gets in line for service but leaves before receiving service is
- (A) bailing
 - (B) blocking
 - (C) renegeing
 - (D) balking
89. The limited population model is different from the M/M/1, M/D/1, and M/M/S situations because
- (A) the amount of time in the queue is not an important performance metric
 - (B) the arrival rate should be greater than the service rate
 - (C) there can be more than one server
 - (D) there is a dependent relationship between the length of the queue and the arrival rate
90. The purpose of the stepping-stone method is to
- (A) develop the initial solution to the transportation problem.
 - (B) assist one in moving from an initial feasible solution to the optimal solution.
 - (C) identify the relevant costs in a transportation problem.
 - (D) determine whether a given solution is feasible or not.
91. The purpose of a dummy source or dummy destination in a transportation problem is to
- (A) prevent the solution from becoming degenerate.
 - (B) make certain that the total cost does not exceed some specified figure.
 - (C) provide a means of representing a dummy problem.
 - (D) obtain a balance between total supply and total demand.

92. Which of the following is NOT needed to use the transportation model ?
- (A) the cost of shipping one unit from each origin to each destination
 - (B) the destination points and the demand per period at each
 - (C) degeneracy
 - (D) the origin points and the capacity or supply per period at each
93. Which of the following is a method for improving an initial solution in a transportation problem ?
- (A) southeast-corner rule
 - (B) northwest-corner rule
 - (C) intuitive lowest-cost
 - (D) stepping-stone
94. The transportation method assumes that
- (A) there are no economies of scale if large quantities are shipped from one source to one destination.
 - (B) the number of dummy sources equals the number of dummy destinations.
 - (C) the number of occupied squares in any solution must be equal to the number of rows in the table plus the number of columns in the table plus 1.
 - (D) there is only one optimal solution for each problem.
95. A technique used to monitor jobs in process is the
- (A) Johnson's rule
 - (B) Gantt load chart
 - (C) Gantt schedule chart
 - (D) Assignment method
96. Which of the following dispatch rules tends to maximize the number of jobs completed on time ?
- (A) SPT: Shortest processing time
 - (B) FCFS: First come, first served
 - (C) LPT: Longest processing time
 - (D) EDD: Earliest due date
97. Which of the following dispatch rules tends to minimize the average number of jobs in the system ?
- (A) EDD: Earliest due date
 - (B) SPT: Shortest processing time
 - (C) LPT: Longest processing time
 - (D) FCFS: First come, first served

98. The theory of constraints pays special attention to
- (A) the number of part-time employees.
 - (B) cost of materials.
 - (C) the nature of the individual in charge of scheduling.
 - (D) bottleneck operations.
99. The list of quantities of components, ingredients, and materials required to produce a product is the
- (A) bill-of-materials
 - (B) master schedule
 - (C) engineering change notice
 - (D) purchase order
100. Breaking up the order and running part of it ahead of schedule is known as
- (A) lot splitting
 - (B) pegging
 - (C) operations splitting
 - (D) overlapping
101. An MRP system that provides feedback to the capacity plan, master production schedule, and production plans is called
- (A) closed-loop MRP
 - (B) load report
 - (C) lot-sizing
 - (D) system nervousness
102. A time-phased stock-replenishment plan for all levels of a supply chain is called
- (A) ERP
 - (B) DRP
 - (C) MRP II
 - (D) MRP
103. Which of the following is an advantage of ERP ?
- (A) is simple enough that companies have an easy time adjusting to it
 - (B) is very inexpensive to purchase
 - (C) requires major changes to the company and its processes
 - (D) creates commonality of databases

104. Which of these pieces of information is NOT contained in a bill of material ?
- (A) raw materials to be used
 - (B) quantities of components
 - (C) lead times
 - (D) physical dimensions
105. Personal time allowances are typically in the range of _____ of total time.
- (A) 1% - 3%
 - (B) 4% - 7%
 - (C) 10% - 15%
 - (D) 20% - 25%
106. Which of the following is NOT a method of determining time standards ?
- (A) predetermined time standards
 - (B) time study
 - (C) historical experience
 - (D) flow diagrams
107. If the average observed time for an element is 2.00 minutes and the performance rating is 80%, what is the normal time for this element ?
- (A) 1.60 minutes
 - (B) 2.50 minutes
 - (C) cannot be determined from the information given
 - (D) 2.00 minutes
108. One advantage of work sampling over time study methods is
- (A) timing devices are used to eliminate bias.
 - (B) it divides work elements more completely.
 - (C) the studies must be done in one uninterrupted block of time, so there is no delay in obtaining results.
 - (D) it is less expensive.
109. Which one of the following statements is correct ?
- (A) Time series analysis technique of forecasting is used for very long range forecasting
 - (B) Qualitative techniques are used for long range forecasting and quantitative techniques for short and medium range forecasting.
 - (C) Coefficient of correlation is calculated in case of time series technique
 - (D) Market survey and Delphi techniques are used for short range forecasting

- 110.** The proper sequence of activities for material requirement planning are
- (A) Master production schedule, capacity planning, MRP and order release
 - (B) Order release, master production schedule, MRP and capacity planning
 - (C) Master production schedule, order release, capacity planning and MRP
 - (D) Capacity planning, master production schedule, MRP and order release
- 111.** Which of the following hand-motion belongs to 'Therblings' in motion study ?
- 1. Unavoidable delay
 - 2. Preposition
 - 3. Select
 - 4. Reach
- (A) 1 and 4
 - (B) 1 and 2
 - (C) 1, 2 and 3
 - (D) 2, 3 and 4
- 112.** The term vertical integration means to
- (A) sell all products to every member of your customer chain simultaneously.
 - (B) produce goods or services previously purchased.
 - (C) develop the ability to produce the specified good more efficiently.
 - (D) develop the ability to produce products that complement or supplement the original product.
- 113.** Which of the following is a reason for making a component rather than buying it ?
- (A) inadequate capacity
 - (B) obtain desired quality
 - (C) obtain technical or managerial ability
 - (D) ensure alternate sources
- 114.** The advantage of many potential suppliers is their willingness to
- (A) provide technical expertise.
 - (B) participate in JIT.
 - (C) provide innovations.
 - (D) lower prices in the short term.

115. The vendor selection stage that requires the development of evaluation criteria and the importance of each is called
- (A) vendor development.
 - (B) vendor evaluation.
 - (C) logistics.
 - (D) negotiations.
116. A producer decides to implement new quality procedures and send their engineers and production personnel to a supplier's plant in order to train them on these new procedures. This activity takes place in the _____ stage of vendor selection.
- (A) evaluation
 - (B) training
 - (C) development
 - (D) negotiations
117. An unfilled order with a vendor that is a contract to purchase items but not an authorization to ship anything is known as
- (A) a blanket order.
 - (B) an advance shipping notice.
 - (C) drop shipping.
 - (D) channel assembly.
118. A lawnmower assembly plant uses a variety of nuts, bolts, screws, and other fasteners in their operation. Their supplier delivers these items directly to the point of use on the assembly line and ensures that there are always sufficient quantities of fasteners to maintain the production schedule. This is an example of
- (A) e-procurement.
 - (B) postponement.
 - (C) vendor-managed inventory.
 - (D) single stage control of replenishment.
119. To improve the Capacity Utilization Rate we can do which of the following ?
- (A) Reduce "capacity used"
 - (B) Increase "capacity used"
 - (C) Increase "best operating level"
 - (D) All of the above
120. The meaning of Kaizen is
- (A) Production planning
 - (B) Continuous Improvement
 - (C) Project Management
 - (D) Scheduling

Space For Rough Work