MANGEMENT SCIENCE

1. In a balanced transportation model where supply equals demand,
   a. all constraints are equalities
   b. none of the constraints are equalities
   c. all constraints are inequalities
   d. none of the constraints are inequalities
2. In a transportation problem, items are allocated from sources to destinations
   a. at a maximum cost
   b. at a minimum cost
   c. at a minimum profit
   d. at a minimum revenue
3. The assignment model is a special case of the _____ model.
   a. maximum-flow
   b. transportation
   c. shortest-route
   d. none of the above
4. The linear programming model for a transportation problem has constraints for supply at each _____ and _____ at each destination.
   a. destination / source
   b. source / destination
   c. demand / source
   d. source / demand
5. An assignment problem is a special form of transportation problem where all supply and demand values equal
   a. 0
   b. 1
   c. 2
   d. 3
6. The transshipment model is an extension of the transportation model in which intermediate transshipment points are _____ between the sources and destinations.
   a. decreased
   b. deleted
   c. subtracted
   d. added
7. Inventory costs include
   a. carrying
   b. ordering
   c. shortage costs
   d. all of the above
8. In a(an) _____ inventory system a constant amount is ordered when inventory declines to a predetermined level.
   a. optional
   b. economic
   c. periodic
   d. continuous
9. EOQ is a(an) _____ inventory system.
   a. periodic

b. continuous
c. optimal
d. economic

10. In the linear programming formulation of the shortest route problem, there is one constraint for each node indicating
a. capacity on each path
b. whatever comes into a node must also go out
c. capacity on each arc
d. a maximum capacity on a path

11. The minimal spanning tree problem determines the _____ total branch lengths connecting all nodes in the network
a. selected
b. maximum
c. minimum
d. divided

12. The objective of the maximal flow solution approach is to _____ the total amount of flow from an origin to a destination
a. minimize
b. maximize
c. discriminate
d. divide

13. If an activity cannot be delayed without affecting the entire project, it is a _____ activity
a. completed
b. critical
c. conjugated
d. none of the above

14. A _____ represents the beginning and end of activities, referred to as events.
a. path
b. arc
c. branch
d. node

15. When an activity is completed at a node, it has been
a. finished
b. ended
c. realized
d. completed

16. Project management differs from management for more traditional activities mainly because of
a. its limited time frame
b. its unique set of activities
c. a and b
d. none of the above

17. The critical path is the _____ time the network can be completed.
a. maximum
b. minimum
c. longest
d. shortest

18. Attributes of decision-making techniques include all of the following except:
a. payoffs

b. constraints
c. alternatives
d. states of nature

19. With the criterion _____, the decision maker attempts to avoid regret.
a. minimax regret
b. equal likelihood
c. Hurwicz
d. maximin

20. To lose the opportunity to make a defined profit by making the best decision is referred to as:
a. equal likelihood criterion
b. state
c. payoff
d. regret

21. The length of a queue
a. could be finite
b. could be infinite
c. can constantly change
d. all of the above

22. Items may be taken from a queue
a. on a first-come-first-serve basis
b. on a last-come-first-serve basis
c. according to the due date of the item
d. all of the above

23. Which of the following items is not a part of the queuing system?
a. arrival rate
b. service facility
c. waiting line
d. activity flow

24. In a single-server queuing model, the average number customers in the queuing system is calculated by dividing the arrival rate by:
a. service rate
b. service time
c. service rate minus arrival rate
d. service rate plus arrival rate

25. The most important factors to consider in analyzing a queuing system are
a. the service and arrival rate
b. the nature of the calling population
c. the queue discipline
d. all of the above

26. Queuing analysis is a deterministic technique.
a. True
b. False

27. The operating characteristics of a queuing system provide information rather than an optimization of a queuing system.
a. True
b. False

28. The applicability of forecasting methods depends on
a. the time frame of the forecast
b. the existence of patterns in the forecast

c. the number of variables to which the forecast is related
d. all of the above

29. Management Science process includes

a. defining problem b. developing model c. both a and b d. a only

30. ..... is an idealised representation of real life

a. model b. module c. analogue d. iconic model

31. If the value of the game is zero it is called

a. zero sum game b. two person zero game c. fair game d. none

32. Principles of modelling ?

a. simplicity b. validity c. clarity d. all the above

33. The outcome of a game in the form of gain or losses is called.....

a. pay off b. saddle point c. pay off matrix d. none

34. The loss incurred because of failure to take the best possible decision

a. opportunity loss b. contemporary loss c. opportunity cost d. expected loss

35. For a linear programming equations, convex set of equations is included in region of

a. feasible solutions b. disposed solutions c. profit solutions d.loss solutions

36. In graphical solutions of linear inequalities, solution can be divided into

a. one subset b. two subsets c. three subsets d. four subsets

37. Linear programming used to optimize mathematical procedure and is

a. subset of mathematical programming b. dimension of mathematical programming

c. linear mathematical programming d. all of above

38. In linear programming, objective function and objective constraints are

a. solved b. linear c. quadratic d. adjacent

39. Whatrefers toLinearProgrammingthatincludesanevaluationofrelativerisksanduncertaintiesinvariousalternativesofchoiceformanagementdecisions?

a) Probabilistic Programming b) Stochastic Programming c) Both A and B
d) Linear Programming

40. Whatenablesustodeterminetheearliestandthelatesttimesforeachoftheeventsandactivities andtherebyhelpsintheidentificationofthecriticalpath?

a. Programme Evaluation b. ReviewTechnique(PERT) c. BothAandB d. Deployment of resources

41. ----------models involves the allocation of resources to activities in such a manner that some measure of effectiveness is optimized.

a) Sequencing b) Allocation Models c) Queuing Theory d) Decision Theory

42. Allocationproblemscanbesolvedby

a) Linear Programming Technique b) Non – Linear Programming Technique c)Both A and B d) None of the above

43. Allocation Models are ----------

a) Iconic models b) Analogue Models c) Symbolic Models d) None of the above

44. Every LPP is associated with another LPP is called ----------

a) Primal b) Dual c) Non - linear programming d) None of the above

45. As for maximization in assignment problem, the objective is to maximize the ----------

a) Profit b) optimization c) cost d) None of the above

46. ---------- is one of the fundamental combinatorial optimization problems.

a) Assignment problem b) Transportation problem c) Optimization Problem d) None of the above

47. PERT and CPM

a. are most valuable when a small number of activities must be scheduled.

b. have different features and are not applied to the same situation.

c. do not require a chronological relationship among activities.

d. have been combined to develop a procedure that uses the best of each

48. Arcs in a project network indicate

a. completion times. b. precedence relationships. c. activities. d. the critical path.

49. Activities G, P, and R are the immediate predecessors for activity W. If the earliest finish times for the three are 12, 15, and 10, then the earliest start time for W

a. is 10. b. is 12. c. is 15. d. cannot be determined.

50. The critical path

a. is any path that goes from the starting node to the completion node.

b. is a combination of all paths.

c. is the shortest path. d. is the longest path

51. Times between two successive requests arriving, called the

a. Interarrival time b. Arrival time c. Poisson distribution d. Average residual service time

52. With the transportation technique, the initial solution can be generated in any fashion one chooses. The only restriction is that

a. the solution must be optimal.b. the solution is not degenerate. c. one must use the northwest-corner method. d. the edge constraints for supply and demand are satisfied.

53. Transportation models can be used for which of the following decisions?

a) facility location b) production mix c) media selection d) portfolio selection e) employee shift scheduling

54. The two most common objectives for the assignment problem are the minimization of _____.

a) uncertainty or inexperience b) total costs or inexperience c) total costs or total time d) total time or inexperience e) total costs or uncertainty

55. In an assignment problem

a) the number of rows and columns must be equal. b) the number of rows must exceed the number of columns. c) the number of rows must equal or exceed the number of columns d) the number of columns must equal or exceed the number of rows. e) none of the above

56. The decisions which are affect the business in the short run ?

a. tactical solutions b. strategic decisions c. management decisions d. none

57. Which of the following methods is used only with the assignment problem?

a) the Hungarian method b) stepping-stone method c) MODI method d) Vogel's approximation method e) the simplex method

58. Monte Carlo simulation gets its name from which of the following?

a. Model formulation b. Analysis c. Data collection d. Random-number assignment

59. Which of the following statistical methods are commonly used to analyze simulation results?

a. t-tests b. Regression analysis c. Analysis of variance d. All of the above

60. VAM stands for ----------

a) Vogeal's Approximation Method b) Vogel's Approximate Method c) Vangel's Approximation Method d) Vogel's Approximation Method