Dr.G.R.Damodaran College of Science

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CRISL rated 'A' (TN) for MBA and MIB Programmes

II BSc(Computer Science)-[2016-2019]
Semester-III
Allied:Operations Research-307C
Multiple Choice Questions.

1. Operations Research approach is _____.
    A. multi-disciplinary
    B. scientific
    C. intuitive
    D. collect essential data
  ANSWER: A

2. Operation research approach is typically based on the use of _____.
    A. physical model.
    B. mathematical model.
    C. iconic model.
    D. descriptive model.
  ANSWER: B

3. Mathematical model of linear programming problem is important because_____.
    A. it helps in converting the verbal description and numerical data into mathematical expression
    B. decision makers prefer to work with formal models
    C. it captures the relevant relationship among decision factors
    D. it enables the use of algebraic technique
  ANSWER: A

4. Graphical method of linear programming is useful when the number of decision variable are _____.
    A. 1
    B. 2
    C. 3
    D. 4
  ANSWER: B

5. In a given system of m simultaneous linear equations in n unknowns (m<n) there will be _____.

A. n basic variables
B. m basic variables
C. (n-m) basic variables
D. (n+m) basic variables
ANSWER: B

6. A feasible solution to a linear programming problem _____.
   A. must satisfy all the constraints of the problem 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 optimize the value of the objective function
   ANSWER: A

7. An Iso-profit line represents_____.
   A. a boundary of the feasible region
   B. an infinite number of solution all of which yield the same cost
   C. an infinite number of solutions all of which yield the same profit
   D. an infinite number of optimal solutions
   ANSWER: C

8. While solving a linear programming problem infeasibility may be removed by _____.
   A. adding another constraint
   B. adding another variable
   C. removing a constraint
   D. removing a variable
   ANSWER: C

9. In the optimal simplex table, Zj-Cj=0 value indicates _____.
   A. alternative solution
   B. bounded solution
   C. infeasible solution
   D. unbounded solution
   ANSWER: A

10. If any value in XB column of final simplex table is negative, then the solution is___.
    A. infeasible
    B. infeasible
    C. bounded
    D. no solution
    ANSWER: B

11. If all aij values in the entering variable column of the simplex table are negative, then _____.
    A. solution is unbounded

B. solution is degenerate
C. there exist no solution
D. there are multiple solutions
ANSWER: A

12. If an artificial variable is present in the basic variable column of optimal simplex table, then the problem has _____ solution.
A. alternative
B. no solution
C. bounded
D. infeasible
ANSWER: D

13. For any primal problem and its dual_____.
A. optimal value of objective function is same
B. dual will have an optimal solution iff primal does too
C. primal will have an optimal solution iff dual does too
D. both primal and dual cannot be infeasible
ANSWER: C

14. The right hand side constant of a constraint in a primal problem appears in the corresponding dual as_____.
A. a coefficient in the objective function
B. a right hand side constant of a function
C. an input output coefficient a left hand side constraint
D. coefficient variable
ANSWER: A

15. If primal linear programming problem has a finite solution, then dual linear programming problem should _____.
A. have optimal solution
B. satisfy the Rim condition
C. have degenerate solution
D. have non-degenerate solution
ANSWER: B

16. The dummy source or destination in a transportation problem is added to_____.
A. satisfy rim conditions
B. prevent solution from becoming degenerate
C. ensure that total cost does not exceed a limit
D. the solution not be degenerate
ANSWER: A

17. The difference between total float and head event slack is _____
A. free float
B. independent float

C. interference float

D. linear float

ANSWER: A

18. An unoccupied cell in the transportation method is analogous to a_____.

A. Zj-Cj value in the simplex table.

B. variable in the B-column in the simplex table.

C. variable not in the B-column in the simplex table.

D. value in the XB column in the simplex table.

ANSWER: B

19. During iteration while moving from one solution to the next, degeneracy may occur when_____

A. the closed path indicates a diagonal move

B. two or more occupied cells are on the closed path but neither of them represents a corner of the path.

C. two or more occupied cells on the closed path with minus sign are tied for lowest circled value.

D. the closed path indicates a rectangle move.

ANSWER: C

20. Which of the following methods is used to verify the optimality of the current solution of the transportation problem_____.

A. Least cost method

B. Vogel's Approximation method

C. Row minima method

D. Modified Distribution method

ANSWER: D

21. An optimal assignment requires that the maximum number of lines which can be drawn through squares with zero opportunity cost should be equal to the number of_____.

A. rows or columns

B. rows and columns.

C. rows+columns- 1

D. rows-columns.

ANSWER: A

22. While solving an assignment problem, an activity is assigned to a resource through a square with zero opportunity cost because the objective is to_____.

A. minimize total cost of assignment.

B. reduce the cost of assignment to zero

C. reduce the cost of that particular assignment to zero

D. reduce total cost of assignment

ANSWER: A

23. Maximization assignment problem is transformed into a minimization problem by_____.

A. adding each entry in a column from the maximum value in that column

B. subtracting each entry in a column from the maximum value in that column
C. subtracting each entry in the table from the maximum value in that table
D. adding each entry in the table from the maximum value in that table
ANSWER: C

24. For a salesman who has to visit n cities, following are the ways of his tour plan____.
   A. n!
   B. (n+a)!
   C. (n-a)!
   D. n
ANSWER: C

25. To proceed with the MODI algorithm for solving an assignment problem, the number of dummy allocations need to be added are_____.
   A. n
   B. n-1
   C. 2n-1
   D. n-2
ANSWER: B

26. Every basic feasible solution of a general assignment problem having a square pay-off matrix of order n should have assignments equal to_____.
   A. 2n-1
   B. n
   C. n+1
   D. n-2
ANSWER: A

27. Economic order quantity results in _____
   A. equalisation of carrying cost and procurement cost
   B. favourable procurement price
   C. reduced chances of stock outs
   D. minimization of set up cost
ANSWER: A

28. If the procurement cost used in the formula to compute EOQ is half of the actual procurement cost, the EOQ so obtained will be _____
   A. half of EOQ
   B. one third of EOQ
   C. one fourth of EOQ
   D. 0.707 time EOQ
ANSWER: D

29. Select the correct statement
   A. EOQ is that quantity at which price paid by the buyer is minimum
   B. If annual demand doubles with all other parameters remaining constant, the Economic Order Quantity is doubled

C. Total ordering cost equals holding cost
D. Stock out cost is never permitted
ANSWER: C

30. Which of the following is correct?
   A. Re-order quantity in a fixed order-interval system equals EOQ
   B. Review period of the item is always kept higher than its lead time
   C. Re-order level of an item is always more than its minimum stock
   D. Buffer stock is the total stock kept to meet the demand during lead time
ANSWER: C

31. Priority queue discipline may be classified as_____.
   A. pre-emptive or non-pre-emptive
   B. limited
   C. unlimited
   D. finite
ANSWER: C

32. The calling population is assumed to be infinite when_____.
   A. capacity of the system is infinite
   B. arrivals are independent of each other
   C. service rate is faster than arrival rate
   D. all customers arrive at once
ANSWER: B

33. Service mechanism in a queuing system is characterized by_____.
   A. customers behavior
   B. servers behavior
   C. customers in the system
   D. server in the system
ANSWER: B

34. The problem of replacement is felt when job performing units fail_____.
   A. suddenly and gradually
   B. gradually
   C. suddenly
   D. neither gradually nor suddenly
ANSWER: A

35. Replace an item when_____.
   A. average cost upto date is equal to the current maintenance cost
   B. average cost upto date is greater than the current maintenance cost
   C. average cost upto date is less than the current maintenance cost.

D. next year running cost in more than average cost of nth year

ANSWER: A

36. The group replacement policy is suitable for identical low cost items which are likely to_____.
   A. fail suddenly
   B. fail completely and suddenly
   C. fail over a period of time
   D. be progressive and retrogressive

ANSWER: C

37. The objective of network analysis is to_____.
   A. minimize total project duration
   B. minimize toal project cost
   C. minimize production delays, interruption and conflicts
   D. maximize total project duration

ANSWER: A

38. If an activity has zero slack, it implies that_____.
   A. the project is progressing well
   B. it is a dummy activity
   C. it lies on the critical path
   D. it lies a non critical path

ANSWER: C

39. In program evaluation review technique network each activity time assume a beta distribution because_____.
   A. it is a unimodal distribution that provides information regarding the uncertainty of time estimates of activities
   B. it has got finite non-negative error
   C. it need not be symmetrical about model value
   D. the project is progressing well

ANSWER: A

40. Float analysis is useful for_____.
   A. total float
   B. free float
   C. independent float
   D. variance of each float

ANSWER: B

41. In time cost trade off function analysis_____.
   A. cost decreases linearly as time increases
   B. cost increases linearly as time decreases
   C. cost at normal time is zero
   D. cost increases linearly as time increases

ANSWER: A

42. A degenerate solution is one that _____.
    A. gives an optimum solution to the Linear Programming Problem
    B. gives zero value to one or more of the basic variables
    C. yields more than one way to achieve the objective
    D. makes use of all the available resources
  ANSWER: B

43. If there is no non-negative replacement ratio in solving a Linear Programming Problem then the solution is _____.
    A. feasible
    B. bounded
    C. unbounded
    D. infinite
  ANSWER: C

44. The difference between free float and tail event slack is _____
    A. total float
    B. independent float
    C. interference float
    D. slack
  ANSWER: B

45. The transportation problem deals with the transportation of _____.
    A. a single product from a source to several destinations
    B. a single product from several sources to several destinations
    C. a single product from several sources to a destination
    D. a multi -product from several sources to several destinations
  ANSWER: A

46. The transportation problem is balanced, if _____.
    A. total demand and total supply are equal and the number of sources equals the number of destinations.
    B. none of the routes is prohibited
    C. total demand equals total supply irrespective of the number of sources and destinations
    D. number of sources matches with number of destinations
  ANSWER: C

47. The calling population is considered to be infinite when _____.
    A. all customers arrive at once
    B. capacity of the system is infinite
    C. service rate is faster than arrival rate
    D. arrivals are independent of each other
  ANSWER: B

48. The assignment problem is a special case of transportation problem in which _____.
   A. number of origins are less than the number of destinations
   B. number of origins are greater than the number of destinations
   C. number of origins are greater than or equal to the number of destinations
   D. number of origins equals the number of destinations
   ANSWER: D

49. Identify the correct statement
   A. an assignment problem may require the introduction of both dummy row and dummy column
   B. an assignment problem with m rows and n columns will involves a total of m x n possible assignments
   C. an unbalanced assignment is one where the number of rows is more than, or less than the number of columns
   D. balancing any unbalanced assignment problem involves adding one dummy row or column
   ANSWER: C

50. The minimum number of lines covering all zeros in a reduced cost matrix of order n can be _____.
   A. at the most n
   B. at the least n
   C. n-1
   D. n+1
   ANSWER: A

51. In an assignment problem involving 5 workers and 5 jobs, total number of assignments possible are _____.
   A. 5
   B. 10
   C. 15
   D. 20
   ANSWER: A

52. In marking assignments, which of the following should be preferred?
   A. Only row having single zero
   B. Only column having single zero
   C. Only row/column having single zero
   D. Column having more than one zero
   ANSWER: C

53. The average arrival rate in a single server queuing system is 10 customers per hour and average service rate is 15 customers per hour. The average time that a customer must wait before it is taken up for service shall be _____minutes.
   A. 6
   B. 8
   C. 10
   D. 12
   ANSWER: B

54. Customers arrive at a box office window, being manned ny single individual, according to Poisson input process with mean rate of 20 per hour, while the mean service time is 2 minutes. Which of the following is not true for this system?

   A. E(n) = 2 customers

   B. E(m) = 4/3 customers

   C. E(v) = 6 minutes

   D. E(w) = 16 minutes

  ANSWER: A

55. A petrol pump has two pumps; Vehicles arrive at the petrol pump according to poison input process at average of 12 per hour. The service time follows exponential distribution with a mean of 4 minutes. The pumps are expected to be idle for _____.

   A. 33%

   B. 43%

   C. 53%

   D. 65%

  ANSWER: B

56. A game is said to be fair if_____.

   A. lower and upper values are zero

   B. only lower value to be zero

   C. only upper value to be zero

   D. lower and upper values are not equal to zero

  ANSWER: A

57. For a 2.5% increase in order quantity (under fundamental EOQ problem) the total relevant cost would _____

   A. increase by 2.5%.

   B. decrease by 2.5%.

   C. increase by 0.25%.

   D. decrease by 0.25%.

  ANSWER: A

58. The time between the placement of an order and its delivery is called as _____

   A. buffer time

   B. lead time

   C. Economic Order Quantity

   D. capital time

  ANSWER: B

59. If the order quantity (size of order) is increased, _____

   A. holding costs decrease and ordering costs increase

   B. holding costs increase and ordering costs decrease

   C. the total costs increase and then decrease

   D. storage cost as well as stock-out cost increase

ANSWER: B

60. All of the following are assumptions of the EOQ model except _____
  A. the usage rate is reasonably constant
  B. replenishment is not instantaneous
  C. only one product is involved
  D. there are no quantity discount price
  ANSWER: B

61. In the basic EOQ model, if the lead time increases from 2 to 4 days, the EOQ will_____
  A. double increase
  B. remain constant
  C. but not double
  D. decrease by a factor of two
  ANSWER: B

62. In Program Evaluation Review Technique the maximum time that is required to perform the activity under extremely bad conditions is known as_____.
  A. normal time
  B. optimistic time
  C. most likely time
  D. pessimistic time
  ANSWER: D

63. _____is a mathematical technique used to solve the problem of allocating limited resource among the competing activities
  A. Linear Programming problem
  B. Assignment Problem
  C. Replacement Problem
  D. Non linear Programming Problem
  ANSWER: A

64. Average number of trains spent in the yard is denoted by _____.
  A. E(n)
  B. E(m)
  C. E(v)
  D. E(w)
  ANSWER: C

65. A game is said to be strictly determinable if_____.
  A. maximin value equal to minimax value
  B. maximin value is less than or equal to minimax value
  C. maximin value is greater than or equal to minimax value
  D. maximin value is not equal to minimax value
  ANSWER: A

66. Which of the following is not a part of holding (or carrying) costs?
    A. Rent for storage space
    B. Extra expenses for an overnight express mail.
    C. Spoilage costs
    D. Electricity and heat for the buildings
  ANSWER: B

67. A mixed strategy game can be solved by _____.
    A. Simplex method
    B. Hungarian method
    C. Graphical method
    D. Degeneracy
  ANSWER: C

68. All of the following may be used to find the EOQ except_____.
    A. optimal number of days supply to order
    B. number of orders which minimize ordering costs optimal
    C. number of rupees per order optimal
    D. number of orders per year
  ANSWER: D

69. When the sum of gains of one player is equal to the sum of losses to another player in a game, this situation is known as_____.
    A. two-person game
    B. two-person zero-sum game
    C. zero-sum game
    D. non-zero-sum game
  ANSWER: C

70. Graphical method of linear programming is useful when the number of decision variable are _____
    A. 2
    B. 3
    C. 4
    D. 5
  ANSWER: A

71. The activity cost corresponding to the crash time is called the _____.
    A. critical time
    B. normal time
    C. cost slope
    D. crash cost
  ANSWER: D

72. The irreducible minimum duration of the project is called_____.
   A. critical time
   B. normal time
   C. cost slope
   D. crash duration
 ANSWER: D

73. In the network, one activity may connect any _____nodes
   A. 1
   B. 2
   C. 3
   D. 4
 ANSWER: B

74. A feasible solution of an Linear Programming Problem that optimizes the objective function is called _____
   A. basic feasible solution
   B. optimum solution
   C. feasible solution
   D. solution
 ANSWER: B

75. A set of feasible solution to a Linear Programming Problem is _____
   A. convex
   B. polygon
   C. triangle
   D. bold
 ANSWER: A

76. The cost of a slack variable is _____.
   A. 0
   B. 1
   C. 2
   D. -1
 ANSWER: A

77. The cost of a surplus variable is _____.
   A. 0
   B. 1
   C. 2
   D. -1
 ANSWER: A

78. In an Linear Programming Problem functions to be maximized or minimized are called _____.

A. constraints
B. objective function
C. basic solution
D. feasible solution
ANSWER: B

79. Linear Programming Problem that can be solved by graphical method has_____.
   A. linear constraints
   B. quadratic constraints
   C. non linear constraints
   D. bi-quadratic constraints
   ANSWER: A

80. Charnes method of penalty is called _____
   A. Simplex Method
   B. Dual Simplex Method
   C. Big-M Method
   D. Graphical Method
   ANSWER: C

81. If the primal problem has n constraints and m variables then the number of constraints in the dual problem is _____.
   A. mn
   B. m+n
   C. m-n
   D. m/n
   ANSWER: A

82. Graphical method is also known as _____.
   A. Simplex Method
   B. Dual Simplex Method
   C. Big-M Method
   D. Search-Approach Method
   ANSWER: D

83. The area bounded by all the given constraints is called _____.
   A. feasible region
   B. basic solution
   C. non feasible region
   D. optimum basic feasible solution
   ANSWER: A

84. If one or more variable vanish then a basic solution to the system is called _____.
   A. non feasible region

B. feasible region
C. degenerate solution
D. basic solution
ANSWER: C

85. The non basic variables are called _____.
   A. shadow cost
   B. opportunity cost
   C. slack variable
   D. surplus variable
ANSWER: A

86. If the given Linear Programming Problem is in its canonical form then primal-dual pair is _____.
   A. symmetric
   B. un symmetric
   C. square
   D. non square
ANSWER: B

87. If the given Linear Programming Problem is in its standard form then primal-dual pair is _____.
   A. symmetric
   B. un symmetric
   C. square
   D. triangle
ANSWER: B

88. The dual of the dual is _____.
   A. dual-primal
   B. primal-dual
   C. dual
   D. primal
ANSWER: D

89. Key element is also known as _____.
   A. slack
   B. surplus
   C. artificial
   D. pivot
ANSWER: D

90. _____ method is an alternative method of solving a Linear Programming Problem involving artificial variables
   A. Simplex Method
   B. Big-M Method

C. Dual Simplex Method

D. Graphical Mehtod

ANSWER: B

91. The method used to solve Linear Programming Problem without use of the artificial variable is called _____.

A. Simplex Method

B. Big-M Method

C. Dual Simplex Method

D. Graphical Mehtod

ANSWER: C

92. All the basis for a transportation problem is _____.

A. square

B. rectangle

C. diagonal

D. triangle

ANSWER: D

93. The solution to a transportation problem with m-sources and n-destinations is feasible if the numbers of allocations are _____.

A. m+n

B. mn

C. m-n

D. m+n-1

ANSWER: D

94. Solution of a Linear Programming Problem when permitted to be infinitely large is called _____.

A. unbounded

B. bounded

C. optimum solution

D. no solution

ANSWER: C

95. The server utilization factor is also known as _____

A. erlang distribution

B. poisson distribution

C. exponential distribution

D. traffic intensity

ANSWER: D

96. When the total demand is equal to supply then the transportation problem is said to be _____

A. balanced

B. unbalanced

C. maximization

D. minimization

ANSWER: A

97. When the total demand is not equal to supply then it is said to be _____.

   A. balanced

   B. unbalanced

   C. maximization

   D. minimization

ANSWER: B

98. The allocation cells in the transportation table will be called _____ cell

   A. occupied

   B. unoccupied

   C. no

   D. finite

ANSWER: A

99. In the transportation table, empty cells will be called _____.

   A. occupied

   B. unoccupied

   C. no

   D. finite

ANSWER: B

100. In a transportation table, an ordered set of_____or more cells is said to form a loop

   A. 2

   B. 3

   C. 4

   D. 5

ANSWER: C

101. When D=18000, holding cost=Rs.1.20, set-up cost=Rs.400 ,EOQ = _____

   A. 3465

   B. 3750

   C. 3500

   D. 4000

ANSWER: A

102. To resolve degeneracy at the initial solution, a very small quantity is allocated in _____ cell

   A. occupied

   B. unoccupied

   C. no

   D. finite

ANSWER: B

103. For finding an optimum solution in transportation problem _____ method is used.
   A. Simplex
   B. Big-M
   C. Modi
   D. Hungarian
   ANSWER: C

104. _____ is a completely degenerate form of a transportation problem
   A. Transportation Problem
   B. Assignment Problem
   C. Travelling salesman problem
   D. Replacement Problem
   ANSWER: B

105. The assignment algorithm was developed by _____.
   A. HUNGARIAN
   B. VOGELS
   C. MODI
   D. HUHN
   ANSWER: A

106. A Linear Programming Problem have _____ optimal solution
   A. 1
   B. 2
   C. more than 1
   D. more than 2
   ANSWER: C

107. All equality constraints can be replaced equivalently by _____ inequalities
   A. 1
   B. 2
   C. 3
   D. 4
   ANSWER: B

108. Linear Programming Problem is a technique of finding the _____.
   A. optimal value
   B. approximate value
   C. initial value
   D. infeasible value
   ANSWER: A

109. The linear function to be maximized or minimized is called _____function.
   A. injective
   B. surjective
   C. bijective
   D. optimal
ANSWER: D

110. An assignment problem is a particular case of _____.
   A. transportation Problem
   B. assignment Problem
   C. travelling salesman problem
   D. replacement Problem
ANSWER: A

111. An n-tuple of real numbers which satisfies the constraints of Linear Programming Problem is called _____
   A. solution
   B. basic solution
   C. basic feasible solution
   D. feasible solution
ANSWER: A

112. Any solution to a Linear Programming Problem which also satisfies the non- negative notifications of the problem has _____.
   A. solution
   B. basic solution
   C. basic feasible solution
   D. feasible solution
ANSWER: D

113. If the primal has an unbound objective function value then the dual has _____ .
   A. solution
   B. basic solution
   C. basic feasible solution
   D. no feasible solution
ANSWER: D

114. The coefficient of slack\surplus variables in the objective function are always assumed to be _____.
   A. 0
   B. 1
   C. M
   D. -M
ANSWER: A

115. The coefficient of an artificial variable in the objective function of penalty method are always assumed to be _____.
   A. 0
   B. 1
   C. M
   D. -M
 ANSWER: D

116. Chose the correct statement: A degenerate solution is one that_____.
   A. gives an optimum solution to the Linear Programming Problem
   B. gives zero value to one or more of the basic variables
   C. yields more than one way to achieve the objective
   D. makes use of all available resources
 ANSWER: B

117. If there is no non-negative replacement ratio in a solution which is sought to be improved, then the solution is_____.
   A. bounded
   B. unbounded
   C. no solution
   D. alternative solution
 ANSWER: B

118. At any iteration of the usual simplex method, if there is at least one basic variable in the basis at zero level and all the index numbers are non-negative, the current solution is_____.
   A. basic solution
   B. non basic solution
   C. degenerate
   D. non degenerate
 ANSWER: C

119. Using _____method, we can never have an unbounded solution
   A. Simplex
   B. Dual simplex
   C. Big M
   D. Modi
 ANSWER: B

120. The process that performs the services to the customer is known as _____.
   A. queue
   B. service channel
   C. customers
   D. server
 ANSWER: B

121. The customers of high priority are given service over the low priority customers is_____.
   A. Pre emptive
   B. FIFO
   C. LIFO
   D. SIRO
 ANSWER: A

122. Given arrival rate = 15/hr, service rate = 20/hr, the value of traffic intensity is _____.
   A. 3/4
   B. 4/3
   C. 3/5
   D. 4/5
 ANSWER: A

123. The model in which only arrivals are counted and no departure takes place are called _____.
   A. pure birth model
   B. pure death model
   C. birth death model
   D. death birth model
 ANSWER: A

124. A queuing system is said to be a _____ when its operating characteristic are dependent upon time
   A. pure birth model
   B. pure death model
   C. transient state
   D. steady state
 ANSWER: C

125. A queuing system is said to be a _____when its operating characteristic are independent upon time
   A. pure birth model
   B. pure death model
   C. transient state
   D. steady state
 ANSWER: D

126. _____ of a queuing system is the state where the probability of the number of customers in the system depends upon time
   A. pure birth model
   B. pure death model
   C. transient state
   D. steady state
 ANSWER: D

127. An activity is represented by a/an_____.

A. arrow
B. straight line
C. curve
D. arc
ANSWER: A

128. An activity which does not consume neither any resource nor time is known as_____.
  A. predecessor activity
  B. successor activity
  C. dummy activity
  D. activity
ANSWER: C

129. The initial event which has all outgoing arrows with no incoming arrow is numbered _____.
  A. 0
  B. 1
  C. -1
  D. 2
ANSWER: A

130. Slack is also known as _____.
  A. float
  B. event
  C. activity
  D. path
ANSWER: A

131. An activity is critical if its _____float is zero
  A. total
  B. free
  C. independent
  D. interference
ANSWER: A

132. The difference between total and free float is _____.
  A. total
  B. free
  C. independent
  D. interference
ANSWER: D

133. What type of distribution does a time follow in program evaluation review technique model?
  A. Poisson

B. Exponential
C. Normal
D. Chi Square
ANSWER: C

134. In a network diagram an event is denoted by the symbol _____.
   A. arrow
   B. straight line
   C. curve
   D. circle
ANSWER: D

135. A project consists of a number of tasks which are called _____.
   A. activities
   B. floats
   C. events
   D. paths
ANSWER: A

136. The number of time estimates involved in Program Evaluation Review Technique problem is _____.
   A. 1
   B. 2
   C. 3
   D. 4
ANSWER: C

137. An _____ represent the start or completion of some activity and as such it consumes no time
   A. activity
   B. event
   C. slack
   D. path
ANSWER: B

138. A activity in a network diagram is said to be _____ if the delay in its start will further delay the project completion time.
   A. critical
   B. critical path
   C. crash
   D. non critical
ANSWER: A

139. _____ is used for non-repetitive jobs
   A. Queue
   B. Replacement

C. CPM
D. PERT
ANSWER: C

140. _____ is employed in construction and business problems
    A. Queue
    B. Replacement
    C. CPM
    D. PERT
ANSWER: D

141. The assignment problem is always a _____ matrix.
    A. circle
    B. square
    C. rectangle
    D. triangle
ANSWER: B

142. The similarity between assignment problem and transportation problem is _____.
    A. both are rectangular matrices
    B. both are square matrices
    C. both can be solved y graphical method
    D. both have objective function and non-negativity constraints
ANSWER: D

143. The assignment problem will have alternate solutions when the total opportunity cost matrix has _____
    A. atleast one zero in each row and column
    B. when all rows have two zeros
    C. when there is a tie between zero opportunity cost cells
    D. if two diagonal elements are zeros.
ANSWER: C

144. The total opportunity cost matrix is obtained by doing _____.
    A. row operation on row opportunity cost matrix
    B. column operation on row opportunity cost matrix
    C. column operation on column opportunity cost matrix
    D. none of the above.
ANSWER: B

145. The slack variables indicate _____.
    A. excess resource available.
    B. shortage of resource
    C. nil resource

D. idle resource

ANSWER: D

146. The penalty for not taking correct decision is known as _____.
   A. fine
   B. loss
   C. cost
   D. opportunity cost

ANSWER: D

147. The region common to all the constraints including the non-negativity restrictions is called the _____.
   A. solution space
   B. unique solution
   C. optimum solution
   D. infeasible solution

ANSWER: A

148. The simplex method is also called the _____.
   A. dual simplex method.
   B. Modi method
   C. simplex technique
   D. Big-M method

ANSWER: C

149. If the net evaluation corresponding to any non-basic variable is zero, it is an indication of the existence of an _____.
   A. initial basic feasible solution
   B. optimum basic feasible solution
   C. optimum solution.
   D. alternate optimum solution.

ANSWER: D

150. A activity in a network diagram is said to be _____ if the delay in its start will further delay the project completion time.
   A. forward pass
   B. backward pass
   C. critical.
   D. non-critical.

ANSWER: C

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