

Operation Research

- 1) From the solution of the LPP the values of ____ are determined
 - A. Objective Function
 - B. Decision Variables
 - C. Constraints
 - D. Opportunity costs

- 2) _____ specifies the goal of solving the LPP
 - A. Objective Function
 - B. Decision Variables
 - C. Constraints
 - D. Opportunity costs

- 3) Objective function is expressed in terms of the _____
 - A. Numbers
 - B. Symbols
 - C. Constraints
 - D. Decision Variables

- 4) The objective function of a LPP is Max Z if _____ is given for each decision variable
 - A. Cost
 - B. Profit
 - C. Time
 - D. Price

- 5) The objective function of a LPP is Min Z if _____ is given for each decision variable
 - A. Cost
 - B. Profit
 - C. Returns
 - D. Price

6) The incoming variable column in the simplex algorithm is called _____

- A. Key column
- B. Key row
- C. Variable column
- D. Important column

7) The outgoing variable row in the simplex algorithm is called _____

- A. Outgoing row
- B. Key row
- C. Interchanging row
- D. Basic row

8) In simplex algorithm, the intersection value of key column and key row is called _____.

- A. Row element
- B. Common element
- C. Key element
- D. Basic element

9) The objective function of two products A and B is specified as $\text{Max } Z = 300x_1 + 450x_2$. The profit per unit of A = Rs. ___ and B = Rs. ___

- A. 300 450
- B. 450 300
- C. 300 300
- D. 450 450

10) The objective function of two products A and B is specified as $\text{Min } Z = 8x_1 + 3x_2$. The cost per unit of A = Rs. ___ and B = Rs. ___

- A. 3 8
- B. 8 3
- C. 3 3
- D. 8 8

11) The objective function of a LPP is $\text{Min } Z = 8x_1 + 3x_2$. The solution to this LPP yields $x_1 = 500$ $x_2 = 375$. Then the value of $Z = \underline{\hspace{2cm}}$

- A. 5125
- B. 3125
- C. 4100
- D. 4500

12) The objective function of two products A and B is specified as $\text{Min } Z = 200x_1 + 125x_2$. The cost per unit of A = Rs. $\underline{\hspace{2cm}}$ and B = Rs. $\underline{\hspace{2cm}}$

- A. 125 200
- B. 200 125
- C. 200 200
- D. 125 325

13) The objective function of a LPP is $\text{Min } Z = 15x_1 + 18x_2$. The solution to this LPP yields $x_1 = 135$ $x_2 = 240$. Then the value of $Z = \underline{\hspace{2cm}}$

- A. 6345
- B. 3345
- C. 4345
- D. 4500

14) The objective function of a LPP is $\text{Min } Z = 5x_1 + 2x_2$. The solution to this LPP yields $x_1 = 200$ $x_2 = 115$. Then the value of $Z = \underline{\hspace{2cm}}$

- A. 1220
- B. 1330
- C. 1320
- D. 1230

15) The objective function of two products A and B is specified as $\text{Max } Z = 500x_1 + 450x_2$. The profit per unit of A = Rs. $\underline{\hspace{2cm}}$ and B = Rs. $\underline{\hspace{2cm}}$

- A. 500 450
- B. 450 500
- C. 500 500
- D. 450 450

16) The objective function of two products A and B is specified as $\text{Min } Z = 1750x_1 + 450x_2$. The cost per unit of A = Rs. ___ and B = Rs. ____

- A. 1750 450
- B. 450 1750
- C. 1750 1750
- D. 450 450

17) The objective function of two products A and B is specified as $\text{Min } Z = 105x_1 + 229x_2$. The cost per unit of A = Rs. ___ and B = Rs. ____

- A. 105 220
- B. 105 229
- C. 105 105
- D. 229 105

18) There exists an alternate optimal solution to a transportation problem if the delta value of any of the empty cells (unallocated cells) is ____

- A. 0
- B. Negative
- C. Infinity
- D. Positive

19) For a transportation problem ____ occurs when the number of allocated cells is less than the number of rows + the number of columns - 1

- A. Degeneracy
- B. Infeasibility
- C. Unbalanced
- D. Redundancy

20) ____ is added to balance a transportation problem

- A. Destination or source
- B. Units supplied or units demanded
- C. Dummy source or dummy destination

D. Dummy cell

21) A dummy source or destination added in a transportation problem to

- A. Ensure total supply = total demand
- B. Maximize profit
- C. Minimize cost
- D. Ensure that total cost does not exceed a limit

22) An event which is a merge as well as a burst event, is called

_____ .

- A. Merge event
- B. Burst event
- C. Merge and burst event
- D. Concurrent activity

23) Each arrow in a network diagram represents _____ activity.

- A. Multiple
- B. One and only one
- C. Two
- D. Five

24) A _____ activity does not consume any time or resources.

- A. Concurrent
- B. Dummy
- C. Successor
- D. Sequential

25) The purpose of _____ activity is to represent logical relationship of dependency

- A. Concurrent
- B. Dummy
- C. Successor
- D. Sequential

