

# Question Paper

1. In operations research, the ..... are prepared for situations.

- A. mathematical models
- B. physical models diagrammatic
- C. diagrammatic models
- D. None of the above

2. Which of the following is not the phase of OR methodology?

- A. Formulating a problem
- B. Constructing a model
- C. Establishing controls
- D. Controlling the environment

3. Operations research is the application of ..... methods to arrive at the optimal solutions to the problems.

- A. economical
- B. scientific
- C. Both (A) and (B)
- D. artistic

4. Which technique is used in finding a solution for optimizing a given objective, such as profit maximization or cost reduction under certain constraints?

- A. Queuing Theory
- B. Waiting Line
- C. Both (A) and (B)
- D. Linear Programming

5. The operations research technique which helps in minimizing total waiting and service costs is .....

- A. Queuing Theory
- B. Decision Theory
- C. Both (A) and (B)
- D. None of the above

6. In graphical representation the bounded region is known as ..... region.

- A. solution
- B. basic solution
- C. feasible solution
- D. optimal

7. Maximize  $Z = 11x + 8y$  subject to  $4x + 6y \leq 24$ ,  $6x + 0y \leq 24$ ,  $0x + 0y \leq 0$ ,  $x \geq 0$ ,  $y \geq 0$

- A. 44 at (4, 2)
- B. 60 at (4, 2)
- C. 62 at (4, 0)
- D. 48 at (4, 2)

8. The occurrence of degeneracy while solving a transportation problem means that :

- A. total supply equals total demand
- B. the solution so obtained is not feasible
- C. the few allocations become negative
- D. None of the above

9. The initial solution of a transportation problem can be obtained by applying any known method. However, the only condition is that :

- A. The solution be optimal
- B. The rim conditions are satisfied
- C. The solution not be degenerate
- D. All of the above

10. The solution to a transportation problem with „m rows (supplies) and „n columns (destination) is feasible if number of positive allocations are :

- A.  $m + n$
- B.  $m \cdot n$
- C.  $m + n - 1$
- D.  $m + n + 1$

11. The total time required to complete all the jobs in a job sequencing problem is known as .....

- A. processing time
- B. waiting time
- C. elapsed time
- D. idle time

12. The minimum number of line covering all zeros in a reduced cost matrix of order n can be .....

- A. At least n
- B. At most n
- C.  $n - 1$
- D.  $n + 1$

13. One disadvantage of using North-West Corner Rule to find initial solution to

the transportation problem is that :

- A. It is complicated to use
- B. It does not take into account cost of transportation
- C. It leads to a degenerate initial solution
- D. All of the above

14. The unused materials are returned to stores with a material and ..... note.

- A. Acceptance
- B. Transfer
- C. Return
- D. None of the above

15. The optimum level of inventory is popularly referred to as the .....

- A. Minimum stock level
- B. Re-order stock level
- C. Economic order quantity
- D. None of the above

16. Which of the following is not an inventory?

- A. Machines
- B. Raw Material
- C. Finished Products
- D. Consumable tools

17. The replacement policy that is imposed on an item irrespective of its failure is .....

- A. Group replacement
- B. Individual replacement
- C. Repair spare replacement
- D. Successive replacement

18. Customer behaviour in which the customer moves from one queue to another in a multiple channel situation is :

- A. balking
- B. reneging
- C. jockeying
- D. alternating

19. The right-hand side constant of a constraint in a primal problem appears in the corresponding dual as.....

A. coefficient in the objective function

B. a right-hand side constant of a function

C. an input output coefficient

D. a left-hand side constraint coefficient variable

20. If a job is having minimum processing time under both the machines, then the job is placed in :

A. any one (first or last) position

B. available last position

C. available first position

D. Both first and last position