

OPERATIONS RESEARCH

TYBMS SEM – VI

SAMPLE QUEESTIONS

1. Linear programming is a

- (a) Constrained optimization technique
- (b) Technique for economic allocation of limited resources.
- (c) Mathematical techniques
- (d) All of the above

(2) Constraints in an LP model represents

- (a) Limitation
- (b) Requirements
- (c) Balancing limitations and requirements
- (d) All of the above

(3) The distinguished feature of an LP model is

- (a) Relationship among all variables is linear
- (b) It has single objective function and constraints
- (c) Value of decision variables is non-negative
- (d) All of the above

4. The degeneracy in the transportation problem indicates that

- (a) Dummy allocation needs to be done
- (b) The problem has no feasible solution
- (c) The multiple optimal solution exists.
- (d) (a) and (b) only

5. When the total supply is not equal to total demand in a transportation problem then it is called

- (a) Balanced (b) Unbalanced
(c) Degenerate (d) None of these

6. The solution to a transportation problem with m-rows and n-columns is feasible if number of positive allocations are

- (a) $m + n$ (b) $m * n$
(c) $m + n - 1$ (d) $m + n + 1$

- (7) Operation research practitioners do not
(A) take responsibility for solution implementation
(B) collect essential data
(C) predict future actions/operations
(D) build more than one model.

8. An optimal solution of an assignment problem can be obtained only if

- A) each row and column has only one zero element
B) each row and column has at least one zero element
C) the data are arrangement in a square matrix
D) none of the above

9. Operations research is the application of _____ methods to arrive at the optimal Solutions to the problems.

- A. economical B. scientific C. a and b both D. artistic

10. Operations management can be defined as the application of -----to a problem within a system to yield the optimal solution.

- A. Suitable manpower
- B. mathematical techniques, models, and tools
- C. Financial operations
- D. Health Problems

11. Operations research is based upon collected information, knowledge and advanced study of various factors impacting a particular operation. This leads to more informed -----
-----.

- A. Management processes
- B. Decision making
- C. Procedures
- D. Manufacturing

12. OR can evaluate only the effects of -----.

- A. Personnel factors.
- B. Financial factors
- C. Numeric and quantifiable factors.
- D. Abstract factors

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

- A. Quailing Theory
- B. Waiting Line
- C. Both A and B
- D. Linear Programming

14. What is the objective function in linear programming problems?

- A) A constraint for available resource
- B) An objective for research and development of a company
- C) A linear function in an optimization problem
- D) A set of non-negativity conditions

15. Which statement is true?

- A) Objective function in Linear Programming problems has always finite value at the optimal solution
- B) A finite optimal solution can be not unique
- C) Feasible regions are classified into bounded, unbounded, empty and multiple
- D) Corner points of a feasible region are located at the intersections of the region and coordinate axes

16. The northwest corner rule requires that we start allocating units to shipping routes in the:
middle cell.

- A. Lower right corner of the table.
- B. Upper right corner of the table.
- C. Highest costly cell of the table.
- D. Upper left-hand corner of the table.