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| Unit | Marks allocated in QP | 1 mark MCQ | 2 marks MCQ |
| 2 Linear Programming Problem | 12 | 6 | 3 |
| 3- Transportation & Assignment Problem | 10 | 4 | 3 |
| 4- PERT CPM | 9 | 3 | 3 |
| 5- Inventory Control | 6 | 2 | 2 |
| 6- Queuing Theory | 7 | 3 | 2 |
| 7- Simulation Methodology | 6 | 2 | 2 |
| Total | 50 | 20 | 15 |

**Approximate marks distribution for OR.**

**Instruction to students will be given 30 minutes before the start of the exam.**

**OR Sample Questions**

1. A feasible solution to a linear programming problem \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. must satisfy all the constraints of the problem simultaneously
3. need not satisfy all of the constraints, only some of them
4. must be a corner point of the feasible region.
5. must optimize the value of the objective function
6. For any primal problem and its dual\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. optimal value of objective function is same
8. dual will have an optimal solution iff primal does too
9. primal will have an optimal solution iff dual does too
10. both primal and dual cannot be infeasible
11. Select the correct statement
12. EOQ is that quantity at which price paid by the buyer is minimum
13. If annual demand doubles with all other parameters remaining constant, the Economic Order Quantity is doubled
14. Total ordering cost equals holding cost
15. Stock out cost is never permitted
16. The objective of network analysis is to\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
17. minimize total project duration
18. minimize total project cost.
19. minimize production delays, interruption and conflicts
20. maximize total project duration
21. If there is no non-negative replacement ratio in solving a Linear Programming Problem then the solution is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
22. feasible
23. bounded
24. unbounded
25. infinite
26. The calling population is considered to be infinite when \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
27. all customers arrive at once
28. capacity of the system is infinite
29. service rate is faster than arrival rate
30. arrivals are independent of each other
31. In marking assignments, which of the following should be preferred?
32. Only row having single zero
33. Only column having single zero
34. Only row/column having single zero
35. Column having more than one zero
36. A petrol pump has one pump; 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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
37. 3/5
38. 4/5
39. 5/3
40. 6/5
41. If the order quantity (size of order) is increased, \_\_\_\_\_\_\_\_\_\_\_\_\_\_
42. holding costs decrease and ordering costs increase
43. holding costs increase and ordering costs decrease
44. the total costs increase and then decrease
45. storage cost as well as stock-out cost increase
46. The activity cost corresponding to the crash time is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
47. critical time
48. normal time
49. cost slope
50. crash cost
51. A set of feasible solution to a Linear Programming Problem is \_\_\_\_\_\_\_\_\_\_\_\_\_\_
52. convex
53. polygon
54. triangle
55. bold
56. The solution to a transportation problem with m-sources and n-destinations is feasible if the numbers of allocations are \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
57. m+n
58. mn
59. m-n
60. m+n-1
61. An assignment problem is a particular case of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
62. transportation Problem
63. assignment Problem
64. travelling salesman problem
65. replacement Problem
66. Mathematical model of linear programming problem is important because \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
67. it helps in converting the verbal description and numerical data into mathematical expression
68. decision makers prefer to work with formal models
69. it captures the relevant relationship among decision factors
70. it enables the use of algebraic technique
71. For a 2.5% increase in order quantity (under fundamental EOQ problem) the total relevant cost would \_\_\_\_\_\_\_\_\_\_\_\_\_\_
72. increase by 2.5%.
73. decrease by 2.5%.
74. increase by 0.25%.
75. decrease by 0.25%.
76. In the basic EOQ model, if the lead time increases from 2 to 4 days, the EOQ will \_\_\_\_\_\_\_\_\_\_\_\_\_\_
77. double increase
78. remain constant
79. but not double
80. decrease by a factor of two
81. In a transportation table, an ordered set of\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or more cells is said to form a loop
82. 2
83. 3
84. 4
85. 5
86. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a queuing system is the state where the probability of the number of customers in the system depends upon time
87. pure birth model
88. pure death model
89. transient state
90. steady state
91. An activity in a network diagram is said to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_ if the delay in its start will further delay the project completion time.
92. forward pass
93. backward pass
94. critical.
95. non-critical.
96. When D=18000, holding cost=Rs.1.20, set-up cost=Rs.400 ,EOQ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_
97. 3465
98. 3750
99. 3500
100. 4000
101. Given arrival rate = 15/hr., service rate = 20/hr., the value of traffic intensity is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
102. 3/4
103. 4/3
104. 3/5
105. 4/5
106. Identify the type of the feasible region given by the set of inequalities  
     x - y <= 1  
     x - y >= 2  
     where both x and y are positive.
107. A triangle
108. A rectangle
109. An unbounded region
110. An empty region
111. With the transportation technique, the initial solution can be generated in any fashion one chooses. The only restriction is that
112. the edge constraints for supply and demand are satisfied.
113. the solution is not degenerate.
114. the solution must be optimal.
115. one must use the northwest-corner method.