MCA 201: Computer Oriented Operations Research (COOR)

Important Questions

Unit-I

4M ① Define Linear Programming (LP) with an example
10M ② Explain the Importance / applications / Uses of LP
4M ③ what are the advantages and disadvantages of LP
4M ④ write the general form of LPP
4M ⑤ what are the steps in the formulation of LPP
10M ⑥ Explain the Computational procedure of graphical method of solution in a LPP
10M ⑦ Explain the Simplex algorithm / method of solution in LPP
4M ⑧ what are the principle of duality?
⑨ Problems on graphical method of LPP
⑩ Problems on Simplex / Big M / Two-Phase Simplex method of LPP

Unit-II

4M ① Define Transportation Problem (TP) with an example.
4M ② write the mathematical model for TP.
4M ③ what are the different types of Transportation Problems?
4M ④ Explain the method of finding an IBFS by NCWR / LCM / VAM.
10M ⑤ Explain the method of finding an optimum / optimal solution by U-V / MODI method.

4M ⑥ Define Assignment Problem (AP) with an example

4M ① write the mathematical model of AP

4M ⑧ write the applications/uses of AP

10M ⑨ Explain the Hungarian/Assignment method of solving an AP.

10M ⑩ Problems to find an IBFS/optimum solution of a TP

10M ⑪ Problems to find the optimum assignment schedule of an AP

Unit-III

5M/10M ① Explain the Systematic method/Dijkstras Algorithm/Floyd's algorithm in Shortest-Path model in Network techniques.

5M/10M ② Explain the Prim Algorithm/Kruskal's Algorithm & ~~Maximum flow problem~~ in Minimum Spanning tree Problem of Network techniques.

5M/10M ③ Explain the LP Modelling and Maximal Flow algorithm in Maximal Flow problems of Networks

Unit-IV

① what is a game? Also explain the different types of games.

② what are the properties of game?

③ Explain: Pure Strategy, Mixed Strategy and optimal Strategy.

④ Explain: pay-off matrix, Saddle Point and Value of the game

⑤ Explain the Maximin-Minimax principle in game theory

⑥ Explain the procedure for 2×2 games without Saddle Point.

⑦ Explain the dominance Property in game theory.

⑧ Explain the graphical method of Solution for 2×n and m×2 games.

⑨ Problems on game-theory (All the methods)

⑩ Explain the arithmetic method for n×n games.

Unit-V

① Explain the Queueing System and also elements in the queueing System.

② Explain the Basic Structure of Queueing models.

③ Explain the classification of Queueing models.

④ Define Queue (or) Waiting line. What are the advantages and limitations of Queueing theory.

⑤ Explain the Importance / applications of Queueing theory.

⑥ What are operating characteristics of Queueing theory?

⑦ problems on Queueing model-I & II.

⑧ Explain the Poisson and Non-Poisson queueing Systems.

(9) What is a network / Project analysis?

(10) What are the rules for Constructing the network?

(11) Explain the Computational Procedure for CPM in networks?

(12) Explain the Computational procedure for PERT analysis in networks?

(13) Distinguish between CPM and PERT

(14) Problems on CPM

(15) Problems on PERT