MCOHC-3.2

Sl.No. :

Total No. of Pages : 3

III Semester M.Com. Degree Examination, February - 2024
(SLM Scheme CBCS)
COMMERCE
Course-II : Quantitative Techniques

Time : 3 Hours **Max. Marks : 80**

SECTION- A

Answer any four questions. Each questions carries five marks. **[4×5=20]**

Q1) Briefly discuss the importance of Hungarian method of Solving the assignment problem.

Q2) What are the essential characteristics of linear programming?

Q3) Write a note on game theory when saddle point exists.

Q4) What are the differences between free float and independent float?

Q5) Give the importance of quantitative techniques in decision making.

Q6) Bring out the procedure for converting linear programming into duality.

SECTION- B

Answer any three questions. Each questions carries ten marks. **[3×10=30]**

Q7) Explain the differences between transportation problem and assignment problem.

Q8) Explain the following: lead time, Re-order point, EOQ and Inventory carrying cost.

Q9) What is a replacement problem? Describe various types of replacement problems.

Q10) A company has 3 factories 1, 2 and 3 which supply to 5 warehouses its small car fans. The production capacity of factories and the demand of customes-assumed constant. and distribution costs are given in the following table. The objective is to supply the wholesalers with their demand in a cheapest way. Use North-West Corner Rule.

Wholesalers		A	B	C	D	E	Available Units
Factories	1	5	7	10	5	3	5
	2	8	6	9	12	4	10
	3	10	9	8	10	15	10
Requirement		3	3	10	5	4	25

Q11) Given the following data for an item of uniform demand, instantaneous delivery time and back order facility: Annual demand 800 Units, Cost of an item ₹ 40, ordering cost ₹ 800, Inventory carrying cost:40%, Back Order cost ₹10.

Find out:

a) Minimum cost order quantity

b) Maximum number of back orders

c) Minimum Inventory levels

d) Time between orders

SECTION - C

Answer any two questions. Each questions carries fifteen marks. **[2×15=30]**

Q12) Explain the simplex procedure to solve the linear Programming problem.

Q13) Explain the following terms of decision theory.

a) Expected monetary value

b) Expected opportunity loss

c) Expected value of perfect information.

Q14) A project has the following time schedule:

Activity	1-2	1-3	1-4	2-5	3-6	3-7	4-6	5-8	6-9	7-8	8-9
Time (Weeks)	2	2	1	4	8	5	3	1	5	4	3

Construct PERT network and computer critical path and its duration.

Q15) Solve the following LPP by using graphical method.

Minimise $Z=3X_1 + 2.25X_2$

Subject to

$2X_1 + 4X_2 \geq 40,$

$5X_1 + 2X_2 \geq 50,$

$X_1, X_2 \geq 0$