Sr no	Topic	Question	Marks	Year
1	Differentiation and Integration and their application in economics.			
2	Optimisation techniques			
3	Sets			
4	Matrices and their application in economics			
5	Linear algebra and Linear programming in economics	LPP numericals	25	2021
		A firm is producing two goods *A* and *B*. It has two factories that jointly produce the two goods in the following quantities (per hour) : *Factory 1* *Factory 2* *Good A* 10 20 *Good B* 25 25 The firm receives an order for 300 units of *A* and 500 units of *B*. The costs of operating the two factories are 10,000 and 8,000 per hour. Formulate the linear programming problem of minimizing the total cost of meeting this order. Also find the minimum cost.	10	2019
		Distinguish between basic feasible solution, feasible solution and optimal solution of a Linear Programming Problem (LPP). Solve the following LPP graphically : **Maximize** $Y = q_1 + 2q_2$ **subject to** $q_1 + 3q_2 \leq 18$ $q_1 + q_2 \leq 8$ $2q_1 + q_2 \leq 14$ $q_1, q_2 \geq 0$		
6	Input-output model of Leontief.	IO numerical was asked	20	2016
		(a) An economy produces only coal and steel. The two commodities serve as intermediate inputs in each other's production. 0·4 tonne of steel and 0·7 tonne of coal are needed to produce a tonne of steel. Similarly, 0·1 tonne of steel and 0·6 tonne of coal are required to produce a tonne of coal. No capital inputs are needed. 2 and 5 labour days are required to produce a tonne of coal and steel respectively. If the economy needs 100 tonnes of coal and 50 tonnes of steel, (i) Calculate the gross output of the two commodities and the total labour required. (ii) Write down technology matrix. (iii) Do you think that the system is viable ? (iv) Determine the equilibrium prices, if the wage rate is ₹ 10 per man-day. *15*	15	2020
		Describe the Leontief static open input-output model along with its assumptions.	5	2017
		State the Howklns.Simon conditions and explain their economic meanlng and signil'icance	5	2017
		(c) Find out the total demand for industries 1, 2 and 3 if the coefficient matrix A and the final demand vector B are as follows : *15* $A = \begin{pmatrix} 0{\cdot}3 & 0{\cdot}4 & 0{\cdot}1 \\ 0{\cdot}5 & 0{\cdot}2 & 0{\cdot}6 \\ 0{\cdot}1 & 0{\cdot}3 & 0{\cdot}1 \end{pmatrix}$ and $B = \begin{pmatrix} 20 \\ 10 \\ 30 \end{pmatrix}$	15	2018
		Suppose that the Leontief input-output coefficient matrix is $A = \begin{bmatrix} 0{\cdot}1 & 0{\cdot}4 \\ 0{\cdot}2 & 0{\cdot}5 \end{bmatrix}$ and the final demand vector is $\begin{bmatrix} 1 \\ 1 \end{bmatrix}$. Find the total direct and indirect requirement of the second input to satisfy the final demand.	5	2018