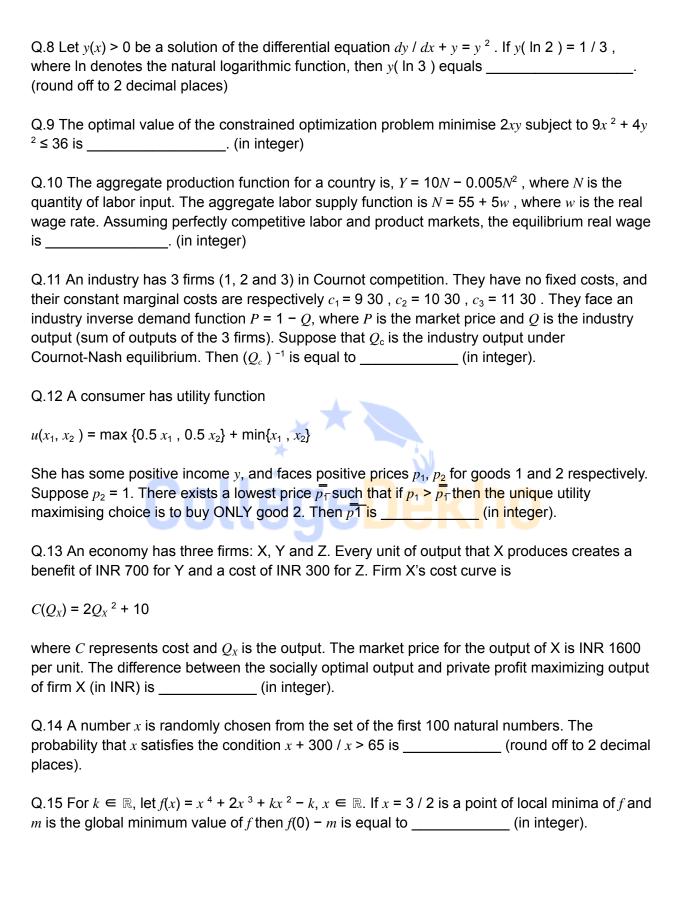
IIT JAM 2024 NAT Model Questions

Subject - Economics (EN)

Q.1 Suppose that the full employment level of output of an economy is Rs. 2200 million, expenditure determined level of output is Rs. 2163 million, and the marginal propensity to consume is 0.75. The deflationary gap equals Rs million (round off to 2 decimal places).
Q.2 The Total Variable Cost (TVC) for a firm is given by $TVC = x^3 - bx^2$. The Total Fixed Cost is 848. The value of b for which the Marginal Cost is minimum at $x = 16$ is (in integer)
Q.3 Let the consumption function, tax function, and income identity be given by $C = C_0 + b(Y - T)$, $T = T_0 + t_Y$, and $Y = C + I_0 + G_0$, respectively, where C_0 , I_0 , G_0 , and G_0 are autonomous consumption, investment, government expenditure, and tax, respectively. If G_0 by Rs. 20 million will increase G_0 by Rs.
Q.4 Let the system of equations be $au + w = 0$, $u + av = 0$, where $a \in \Re$. Then the system has infinite solutions if (in integer).
Q.5 Assume that the cost function for the i th firm in an industry is given by $C_i = 0.25q_i^2 + 2qi + 5$, $i = 1, 2,, 150$ where C_i and Q_i are cost and output for the Q_i firm, respectively. Let the aggregate inverse demand function be Q_i = 10 – 0.01 Q_i , where Q_i is the unit price and Q_i is the aggregate output. Assuming perfect competition, the equilibrium quantity is (in integer).
Q.6 The supply and demand curves of a vaccine are $q = 14 + 5p$ and $q = 329 - 5p$, respectively, where p is price per unit of vaccine and q is quantity of vaccine. The government decided that the maximum price of the vaccine would be Rs. 25 per unit. To avoid any shortage in supply at the ceiling price, the government also decides to subsidise the sellers so that the market clears. Subsidy is given on a per unit basis. The total expenditure of the government in providing the subsidy is Rs
Q.7 A firm has two manufacturing plants, 1 and 2 to produce the same product. The total costs of production are given by $TC_1 = 500 + 30Q_1$ and $TC_2 = 1500 + 20Q_2$
in plants 1 and 2, respectively, where Q_1 and Q_2 are the respective quantities. The demand for the product is given by $Q^d = 150 - P/3$, where P is the price per unit. The value of Q_1 that maximises the profit of the firm is (in integer)



ANSWER KEY

Question No.	Question Type (QT)	Subject Name (SN)	Key/Range (KY)	Mark (MK)
1	NAT	EN	4	1
2	NAT	EN	-5 or 5	1
3	NAT	EN	4	1
4	NAT	EN	22	1
5	NAT	EN	1300	1
6	NAT	EN	2652	2
7	NAT	EN	0	2
8	NAT	EN	0.25	2
9	NAT	EN	-6	2
10	NAT	EN	9	2
11	NAT	EN	2 to 2	2
12	NAT	EN	2 to 2	2
13	NAT	EN	100 or 160,000	2
14	NAT	EN	0.44 to 0.44	2
15	NAT	EN	54 to 54	2