KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY
DEEMED TO BE UNIVERSITY, BHUBANESWAR – 24
(Decld. U/S 3 of UGC Act, 1956)
OFFICE OF THE CONTROLLER OF EXAMINATIONS

Sample Question Format

KIIT Deemed to be University
Online Mid Semester Examination(Autumn Semester-2021)

Subject Name & Code: HS 2002 **Applicable to Courses: B.Tech**

Full Marks=20 **Time:1 Hour**

SECTION-A(Answer All Questions. All questions carry 2 Marks)
Time:20 Minutes **(5×2=10 Marks)**

Question No	Question Type(MCQ/SAT)	Question	CO Mapping	KEY
Q.No:1 (a)	MCQ	Law of supply includes A. Goods market only for a specified time B. Goods and Service market both for a specified time C. Goods market only for a specified time and price D. Goods and Service market both for a specified time and price	CO1	d
	MCQ	Rise and fall in demand is A. Shift in demand B. Movement in demand C. Both shift and movement in demand (situation specific) D. Neither shift nor movement	CO1	a
	MCQ	If supply of fish increases in the market, then the income of fish mongers A. Increases B. Decreases C. Remains constant D. Depends on other factors	CO1	d
	MCQ	If demand of fish increases in the market, then the income of fish mongers A. Increases B. Decreases C. Remains constant D. Depends on other factors	CO1	d
Q.No:1 (b)	MCQ	Following are the demand and supply data of a product obtained from a recent market research in the USA. Price($) / Demand (000) / Supply (000) 400 / 200 / 440 360 / 240 / 400 320 / 280 / 360 280 / 320 / 320 240 / 360 / 280	CO2	a

		200 | 400 | 240 The equilibrium price of the product is (a)$280 (b)$240 (c) $200 (d) None of these		
	MCQ	The demand and supply equations for a commodity are Q = 1800 - 20P (Demand) Q = 50P - 1000 (Supply) The demand quantity at the equilibrium point is A. 2000 B. (b)1000 C. 1800 D. None of these	CO2	b
	MCQ	If the supply curve shifts to the left demand condition remaining unchanged then the market price A. Decreases B. Increases C. Remains the same D. None of these	CO2	b
	MCQ	Suppose the demand for a product is more elastic. If the government imposes a GST (Indirect tax) then less burden of tax will fall on A. Seller B. Consumer C. Both seller and consumer D. None of these	CO2	b
Q.No:1 (c)	**MCQ**	You have drawn an indifference curve (IC) taking two bundles of goods X & Y and your IC is convex to the origin. The MRS_{XY} of your IC A. Increases B. Decreases C. Remains constant D. None of these	CO3	b
	MCQ	You have drawn your budget line for the month of September, 2021. You have considered your money income (M), Price of X (P_x) and Price of Y (P_y). The slope of your budget line is A. P_x/P_y B. M/P_x C. M/P_y D. None of these	CO3	a
	MCQ	In the normal case the indifference curve is convex to the origin because A. Goods are perfect substitutes B. Goods are not perfect substitutes C. Goods are perfect complementary D. None of these	CO3	b
	MCQ	A consumer has the income of $24. He wants to buy good X & Y and reach the equilibrium point. Price of X(P_x) is $2 and Price of Y ($P_y$) is $3. From the following table identify the equilibrium combination for the consumer. Unit of goods | 1 | 2 | 3 | 4 | 5 | 6 MUX/P_x | 10 | 9 | 8 | 7 | 6 | 5	CO3	c

		MUY/P_y | 8 | 7 | 6 | 5 | 4 | 3 (a)3X + Y (b)4X + 2Y (c) 6X + 4Y (d) 5X + 3Y		
Q.No:1 (d)	**MCQ**	Suppose the GDP at market price of a country in a particular year was Rs 1,100 crores. Net Factor Income from Abroad was Rs 100 crores. The value of Indirect taxes – Subsidies was Rs 150 crores and National Income was Rs 850 crores. The aggregate value of depreciation will be a) 190 b) 200 c) 250 d) 280	CO4	b
	MCQ	Suppose the GDP at market price of a country in a particular year was Rs 1,100 crores. Net Factor Income from Abroad was Rs 100 crores. The value of Indirect taxes – Subsidies was Rs 160 crores and National Income was Rs 850 crores. The aggregate value of depreciation will be a) 190 b) 200 c) 250 d) 280	CO4	a
	MCQ	Suppose the GDP at market price of a country in a particular year was Rs 1,100 crores. Net Factor Income from Abroad was Rs 100 crores. The value of Indirect taxes – Subsidies was Rs 70 crores and National Income was Rs 850 crores. The aggregate value of depreciation will be a) 190 b) 200 c) 250 d) 280	CO4	d
	MCQ	Suppose the GDP at market price of a country in a particular year was Rs 1,100 crores. Net Factor Income from Abroad was Rs 100 crores. The value of Indirect taxes – Subsidies was Rs 100 crores and National Income was Rs 850 crores. The aggregate value of depreciation will be a) 190 b) 200 c) 250 d) 280	CO4	c
Q.No:1 (e)	**MCQ**	If the demand Function is : P=5000 – 2Q, the price elastcity at P=1000 is (a) 0.10 (b) 0.25 (c) 0.88 (d) 0.75	CO3	b
	MCQ	If the demand Function is : P=5000 – 2Q, the price elastcity at P=1500 is (a) 0.52 (b) 0.428 (c) 0.77 (d) 0.82	CO3	b
	MCQ	If the demand Function is : P=5000 – 2Q, the price elastcity at P=2000 is	CO3	c

		(a) 0.92 (b) 0.78 (c) 0.60 (d) 0.65		
	MCQ	If the demand Function is : P=5000 – 2Q, the price elastcity at P=2500 is (a) 1.25 (b) 1.50 (c) 1.05 (d) 1	CO3	d

SECTION-B(Answer Any One Question. Each Question carries 10 Marks)

Time: 30 Minutes **(1×10=10 Marks)**

Question No. (Question Bank)	Question	CO Mapping
Question No:2	(a) The demand function faced by a seller is Q = 90 - 2P (Q=demand, P=price) (i) Find the price elasticity of demand at P=10. (ii) Would you suggest for an increase in price if the seller is interested to have more revenue? Why? [5+5] **Ans: i. I ep I= 0.28 < 1, so inelastic.** **ii. Yes, as the ep is < 1, increase in price will increase his revenue.** (b) JHAMPURA deposits a sum of $15600 at the end of each year for 11 years. His account is growing at 5.6% interest compounded annually. Find the compound amount that JHAMPURA will receive at the end of his deposit period. JAMES, his friend wants to realize the same amount at the end of 11 years but wishes to deposit a single amount today as he is a rich man. Find the amount that JAMES should deposit in his account today. **Ans: F/A,i,n = 228633.6** **P/F,i,n = 125555.85**	CO3
Question No:3	(a) The Average Revenue function faced by a bike company is AR= 7000 - 2Q (i) Find the Price and Quantity at which Total Revenue is maximum. (iii) Calculate the price elasticity of demand corresponding to the maximum point of Total Revenue. [5+5] **Ans: P = 3500 and Q = 1750 units , at point of maximum TR** **At max TR, Iep I = 4** (b) Rohan deposited a sum of $8000 in his account at the end of each year for first 15 years and increased his deposit amount to $9000 each year for next 15 years. Find the Future value (F) of his deposits at the rate of interest of 8% compounded annually. **Ans: Final Future value of his deposits = 933345.13**	CO3
Question No:4	a) What is National Income? Explain in detail along with the formula:- GDP_{FC}, GNP_{FC}, NDP_{FC}, and NNP_{FC}. Why do we have four separate formulas to calculate national income at factor cost for a country? [5+5] **Ans: Will mention the formulas of these National income concepts and explain the significance of having different measures.** (b) If you invest Rs 11,000 per year for 23 year at 6%, how much would you accumulate at the end of the period. What annual rate of return is the	CO4

	investment offering? What would have been the one time payment from you to accumulate the same amount after 23 years? **Ans: F = 700287** **P = 183333.22**	
Question No:5	a)A company wants to find the trend of its annual profit (Rs in thousands) over the years. The following table presents the information for the last 9 years. Fit a trend line to the given data by Least Square Method and estimate the value for 2022. [5+5] Year | Annual Profit(Y) 2012 | 40 2013 | 45 2014 | 42 2015 | 41 2016 | 60 2017 | 30 2018 | 34 2019 | 25 2020 | 20 **Ans: a =37.44 and b= -2.78** **For 2022: Yc= 20.76** b) A bank gives a loan to a company to purchase equipment which is worth Rs. 14 lakhs, at an interest rate of 10% compounded annually. This amount should be repaid in 20 yearly instalments. Find the instalment amount that the company has to pay to the bank. What is the total future worth of this loan amount and how much is the absolute difference of this amount from the loan taken? **Ans: A/P,i,n = 164434.12** **F/P,i,n = 9418499.92** **Absolute difference from actual loan = 9418499.92 - 14lakh =8,018,499.92**	CO4
Question No:6	a) The Demand and Supply functions of a product is given below. Demand function > D = 30 – 2P Supply function > S= 5 + 3P i. Find the equilibrium price and quantity. ii. Find the new price and quantity after an indirect tax of Rs 5/3 is imposed on the product. iii. Calculate the tax revenue collected by the government. [5+5] **Ans. (i) P= 5 Q= 20** **(ii) P'= 7 Q'= 16** **iii. Tax collected= 26.66** b) Suppose Mr. Sharme wants to take Rs 30 lakhs home loan from the bank at an interest rate of 9% compounded annually. If he wants to repay the whole amount along with interest in 25 annual installments, then find the installment amount. How much is the total future worth of this loan. Find its absolute actual difference from the loan taken. **Ans: A = 305400** **FW of this loan = 25,869,242** **Difference with actual loan = 25869242 - 30L = 22,869,242**	CO4

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