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**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)**



Ph.D. (First Semester) Examinations, December – 2024

**23SPPEEM1011 – Advances in Economic Theory and Policy
(Economics)**

Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

Answer ANY FIVE Questions.

(14 x 5 = 70 Marks) Marks

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|------|--|---|
| 1.a. | Illustrate the income, price, and substitution effects. Explain how the demand curve is derived from indifference curve analysis. | 7 |
| b. | Critically examine Hicksian Revised Theory of Demand and the concept of Consumer Choice under Risk and Uncertainty. | 7 |
| 2.a. | Explain the concepts of economies and diseconomies of scale. Differentiate between internal and external economies with examples. | 7 |
| b. | Define and derive the Short-Run and Long-Run Cost Curves. Discuss the relationship between Average Cost (AC) and Marginal Cost (MC). | 7 |
| 3.a. | Explain the Cobb-Douglas Production Function and Constant Elasticity of Substitution (CES) Production Function, along with their properties. | 7 |
| b. | Discuss the Price Determination under Perfect Competition. How does equilibrium differ for a firm and an industry? | 7 |
| 4.a. | Explain the concept of Price Discrimination under Monopoly. What are the equilibrium conditions under discriminating monopoly? | 7 |
| b. | Analyse the Kinked Demand Curve Model under Oligopoly. Discuss the role of cartels, mergers, and price leadership in collusive oligopoly. | 7 |
| 5.a. | What are the Pareto Optimality Conditions in welfare economics? Discuss their significance. | 7 |
| b. | Explain the Compensation Principle in welfare economics with an example. | 7 |
| 6.a. | The ranks of 6 students in two subjects are as follows: | 7 |

Student	:	A	B	C	D	E	F
Rank in English (X) :		1	2	3	4	5	6
Rank in History (Y) :		6	5	4	3	2	1

(a) Calculate Spearman's rank correlation coefficient.

(b) Interpret whether the correlation is positive, negative, or zero.

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|----|------------------------------|---|
| b. | A firm's revenue function is | 7 |
|----|------------------------------|---|

$TR=100Q-2Q^2$ and its cost function is $TC=20+10Q$:

- (a) Find the profit-maximizing output and profit.
- (b) Discuss how profit can serve as an incentive for innovation in firms.

7.a. The mean of the following frequency distribution is 50. Find the missing frequency f : 7

Class Interval 0-20 20-40 40-60 60-80 80-100

Frequency 7 10 f 5 8

b. Consider the frequency distribution below: 7

Class Interval 0-5 5-10 10-15 15-20 20-25

Frequency 4 6 10 8 2

- (a) Calculate the coefficient of skewness using Karl Pearson's formula.
- (b) Determine whether the distribution is positively or negatively skewed.

8.a. A study shows the following data on hours of study (X) and marks (Y): 7

X(Hours	Studied):	2	4	6	8	10
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Y	(Marks Obtained):	50	65	70	80	95
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- (a) Determine the regression line $Y = a + bX$
- (b) Predict marks for 12 hours of study.

b. A study shows $r = 0.6$ between two variables. 7

- (a) Find the coefficient of determination.
- (b) Explain how much variation in Y is explained by X.

---End of Paper---