Course Code: ECN 401   Credit Units: 2
Course Title: Advanced Microeconomics
Instructions: Answer any 3 questions
Time Allowed: 2 hours

Question One

a) Given the market demand schedule below

Points	Px	Qx
A	8	0
B	7	1000
C	6	2000
D	5	3000
E	4	4000

Find the arc coefficient of elasticity for;
  i.   a movement in point B to D
  ii. a movement in point D to B

b) A perfectly competitive firm faces P=$4 and $TC = Q^3 - 7Q^2 + 12Q + 5$.
  i)   Determine the best level of output of the firm
  ii)   Find the total profit of the firm at this level of output

Question Two

a) Explain three practical ways in which the law of diminishing marginal returns can be applied
b) Explain five characteristics of a perfect competitive market
c) Write short notes on the following;
  i) inputs
  ii) short run

Question Three

a) What is consumer surplus?
b) Assume that the demand and supply of Notebooks by Elizade students are presented by the following equations;

$$Qd_n = 18 - 3p$$

$$Qs_n = 3p$$

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Where P is the price, Qd_n and Qs_n are the quantity demanded and quantity supplied for notebooks respectively.

   i.   Determine the equilibrium price of notebooks
   ii. Determine the equilibrium quantity of notebooks
   iii. What is the slope of the quantity demanded for notebook?

c) Explain **five** properties of the indifference curve

Question 4

The table below gives information about the number of cakes baked at Christabelle pastries as additional unit of workers are added to a fixed amount of land and capital equipment.

No of workers	0	1	2	3	4	5	6	7	8	9	10
Total Output (kg)	0	12	26	42	52	60	66	70	72	72	70

a) Use the data given above to calculate the Average product and the marginal product
b) Using relevant scales, represent the Marginal Product, Average Product and Total Product on a single graph and divide the graph into the three stages of production and explain each stage
c) What output level is the point of diminishing marginal returns? Explain your answer.

Question 5
   a) What is total revenue?

The table below gives the total utility schedule for the consumption of clothes and shoes by Dr Adelaja. Given that the unit price of shoes and clothes are $20 and $40 respectively and suppose he has $140 to spend on the two goods

Quantity	Total utility		MU_{shoes}	$MU_{clothes}$	$\dfrac{MU_{shoes}}{P_{shoes}}$	$\dfrac{MU_{clothes}}{P_{clothes}}$
	shoe(s)	clothe(s)				
1	100	400				
2	180	760				
3	240	1000				
4	280	1120				
5	300	1180				

b) Complete the table above
c) Determine how many units of each good he would buy to maximize his utility subject to his budget constraint (using both the necessary and sufficient condition)

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