Tribhuvan University
Institute of Science and Technology
SCHOOL OF MATHEMATICAL SCIENCES
First Assessment 2080

Subject **Economic Analysis**
Course No **MDS 658**
Level **MDS/II Year /IV Semester**

Full Marks 45
Pass Marks 22.5
Time 2hrs

Candidates are required to give their answers in their own words as far as practicable

Attempt ALL questions.

Group A **[5 × 3 = 15]**

1. Present the four properties and graphs of indifference curves.
2. In Table 2.1 price elasticity of demand is presented. Calculate the movement of the price elasticity formula from point B to point D and from D to B.

Table 2.1: Price Elasticity of Deman

Point	Px (Rs.)	Qx
A	8	0
B	7	1000
C	6	2000
D	5	3000
F	4	4000
G	3	5000
H	2	6000
L	1	7000
M	0	8000

3. Express the law of return to scales of the long-run production function.
4. Discuss the classification of market models, according to the number of firms, type of product, demand curve, and entry condition, and give examples of each of them.
5. Discuss Say's law in a money economy depends upon two conditions.

Group B **[5 × 6 = 30]**

6. Explain the Revealed Preference Approach and Assumptions. Draw a graph of the derivation of the indifference curve.

OR

Discuss the oligopoly market with the help of Figure. Why marginal curve (MC) disappears in this type of market? Are these types of markets being exacting in Nepal?

7. Cobb-Douglas Production Function is assumed, $Y = AK^{\frac{1}{2}}L^{\frac{1}{2}}$ (Y is output, A is the productivity of resources, K is capital and L is labor unit) Suppose A=12, K=36, L=4 Calculate Total Product (TP), Average Product (AP), and Marginal Product (MP) A & K held constant only labor inputs is variable i.e., Labor 8, 9, 10, 11, 12, 13, 14, and 15
8. Discuss the full employment level of the labor market equilibrium. Illustrate the graph of labor market equilibrium.

9. Calculate the total profit (TP) from the table given. Illustrate the figure showing TR, TC and TP from the table. Explain the total profit is maximized when the firm produces and sells how many units of the commodity per time period

Table: 9.1: Profit is Maximized of the Commodity

1(Q)	2(PS)	3(TRS)	4(TCS)	5(TPS)	1(Q)	2(PS)	3(TRS)	4(TCS)	5(TPS)
0	8	0	80		50	8	400	277	123
100	8	800	200	400	60	8	480	320	160
200	8	1600	230	1370	65	8	520	351	169
300	8	2400	240	2160	70	8	560	400	160
400	8	3200	252	2948	80	8	640	640	0

OR

Monopoly demand is downward sloping complete Table 10.1 and illustrates the graph from the table showing monopoly revenue and costs and profit maximization

Table 10.1:Profit Maximization

	Revenue Data			Cost Data			
Quantity of Output	Price(Average Revenue)	Total Revenue	Marginal Revenue	Average Total Cost ATC = TC/Q	Total Cost $\sum$ATC	Marginal Cost	Profit (+)or Loss (-)
		Rs.	Rs		Rs	Rs	Rs
0	172						
1	162			Rs.190.00			
2	152			135.00			
3	142			113.33			
4	132			100.00			
5	122			94.00			
6	112			91.67			
7	102			91.43			
8	92			93.75			
9	82			97.78			
10	72			103.00			

10. The three-sector macroeconomic model is defined as GDP = C+ I + G as a closed economy. Illustrate this condition of equilibrium in economics with the help of circular flow diagrams.

***

Tribhuvan University
Institute of Science and Technology
SCHOOL OF MATHEMATICAL SCIENCES
Second Assessment 2080

Subject: **Economic Analysis**
Course No: **MDS 658**
Level: **MDS/II Year /IV Semester**

Full Marks: 45
Pass Marks: 22.5
Time: 2hrs

Candidates are required to give their answers in their own words as far as practicable.

Attempt ALL questions.

Group A **[5 × 3 = 15]**

1. Production Possibility Curve/Frontier:
   a) Draw a production possibility curve marking points A, B, C, D, and E.
   b) Calculate the opportunity cost of increasing the output of Good X from 2 to 3 units.
   c) Why is the opportunity cost of producing higher levels of output of Good X
2. Production function means the functional relationship between inputs and outputs in the process of production. Discuss the Various concepts of production.
3. A perfect competition market is also known as a pure competition market. Discuss the assumptions of a pure competition market. Give an example of this type of market in Nepal.
4. Oligopoly is a market structure dominated by a few large producers of homogeneous or differentiated products. Discuss the three characteristics of oligopoly.
5. How does Keynesian theory disagree with classical economics?

Group B **[5 × 6 = 30]**

6. Revealed preference theory, in economics, a theory, introduced by the American economist Paul Anthony Samuelson in 1938. Discuss the assumptions of the theory. Illustrate the derivation of the demand curve and discuss.
7. Cobb-Douglas Production Function is assumed, $Y=A\sqrt{K}\sqrt{L}$. (Y is output, A is the productivity of resources. K is capital and L is labor unit). Suppose, **A=12, K=36, L=4.**Calculate Total Product (TP), Average Product (AP), and Marginal Product (MP). L& K held constant only labor inputs are variable i.e., Labor 4, 5, 6, 7, 8, 9, and 10. What will be the output, supposed to, be **A=10, K=36, L=4.**

Tribhuvan University
Institute of Science and Technology
2080
✡

Subject: Economic Analysis
Course No: MDS 658
Level: MDS /II Year /IV Semester

Full Marks: 45
PassMarks:22.5
Time: 2hrs

Candidates are required to give their answers in their own words as far as practicable.

Attempt *ALL* questions.

Group A **[5 × 3 = 15]**

1. The production possibility curve (PPF) is the area on a graph representing production levels that cannot be obtained given the available resources; the curve represents optimal levels.
   a) Draw a production possibility curve marking points.
   b) PPF can be convex to the origin why?
   c) Present a hypothetical value to prove the (b) .

2. What are the Fixed inputs and Variable inputs in a production function?

3. Illustrate an Oligopolymarket kinked demand curve model which is a market structure dominated by a few large producers of homogeneous or differentiated products.

4. In Table 4.1 price elasticity of demand is presented. Calculate the movement of the price elasticity formula from point B to point D and from D to B.

Table 4.1: Price Elasticity of Demand

Point	Px (Rs.)	Qx.
A	8	0
B	7	1000
C	6	2000
D	5	3000
F	4	4000
G	3	5000
H	2	6000
L	1	7000
M	0	8000

5. If the real wage is stuck above the equilibrium level, then there are not enough jobs to go around. Express this statement into a figure.

Group B **[5 × 6 = 30]**

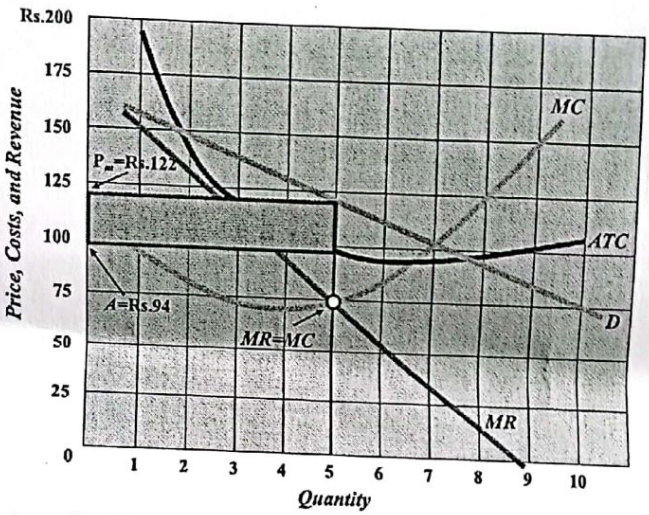
6. A consumer's preference among consumption bundles may be illustrated with indifference curves. Explain the statement. Discuss the properties of the indifference curve.

7. A Cobb-Douglas production function model is the relationship between production output and production inputs. The equation of a traditional Cobb-Douglas production function is $Y=A\sqrt{K}\sqrt{L}$. (Y is output, A is the productivity of resources, K is capital and L is labor unit). Suppose, **A=12, K=36, L=4.**Then, the total output is 144 units. Calculatethe Total Productivity of Labor (TP_L), Average Productivity of Labor (AP_L), and Marginal Productivityof Labor (MP_L). The **A& K** held constant only labor inputs **(L)** are variable i.e., units of Labor 3, 4, 5, 6, 7, 8, and 9.

8. Explain the Long-run profit maximization of the perfect competition market. Graphically express the condition of the Total Revenue Total Cost Approach.

OR

The graph illustrated below is a condition of profit maximization of a firm. Identify what type of market condition is in a firm. Discuss the assumption of a such firm and explain all given points of the illustrated graph.



9. Calculate the total profit (TP) from the table given. Illustrate the figure showing TR, TC, and TP from the table. Explain the total profit is maximized when the firm produces and sells how many units of the commodity per time period.

Table: 9.1: Profit is Maximized of the Commodity

1(Q)	2(P$)	3(TR$)	4(TC$)	5(TP$)	1(Q)	2(P$)	3(TR$)	4(TC$)	5(TP$)
0	8		80		50	8		277	
100	8		200		60	8		320	
200	8		230		65	8		351	
300	8		240		70	8		400	
400	8		252		80	8		640	

10. Explain the full employment level of the labor market equilibrium. Show the labor market equilibrium in a graphical version.

OR

The four-sector macroeconomic model is defined as the relationship between multiple macroeconomic variables. Show the equilibrium of macroeconomic variables. a) as an equation model. b) a circular flow diagram.