NATIONAL OPEN UNIVERSITY OF NIGERIA DEPARTMENT OF ECONOMICS FACULTY OF SOCIAL SCIENCES 2019_2 EXAMINATION COURSE TITLE: INTERNATIONAL ECONOMICS

COURSE CODE: ECO 344

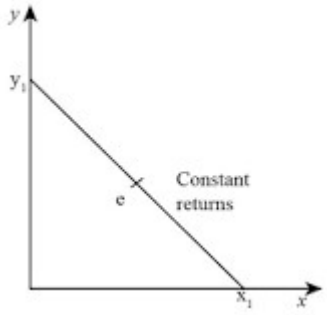
1a. Discuss the importance of international trade. **(10 Marks)**

International trade allows countries to expand their markets and access goods and services that otherwise may not have been available domestically. As a result of international trade, the market is more competitive.

International business plays a significant role in the global economy by promoting economic growth, job creation, and the transfer of technology and knowledge. It fosters competition, innovation, and the efficient allocation of resources, contributing to overall prosperity

b. Suppose the production functions for commodities X and Y are identical. How will this affect the shape of the efficiency loci?

The production functions for both the goods are the same. The efficiency locus is located when the production possibility curve is tangent to the budget line. Both the goods are

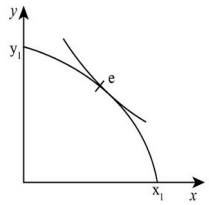


equally produced at this level that is Y1 and X1.

What will the production possibility curve look like for the case of

(i)

constant returns to scale and With constant returns to scale the production possibility curve is downward sloping straight line. This is because the opportunity cost remains constant throughout the production. With increasing returns to scale, the production possibility curve



will be downward sloping concave curve and will shift to the right.

(ii)

increasing returns to scale. With increasing returns to scale, the production possibility curve will be downward sloping concave curve and will shift to the right. The rightward shift is due to increase in output assuming technical improvement with increasing returns.



How will the efficiency loci differ for these two cases? **(15 marks)**

2a. List and explain the factors affecting gains from trade. (10 marks)

Gains from trade are commonly described as resulting from: specialization in production from division of labor, economies of scale, scope, and agglomeration and relative availability of factor resources in types of output by farms, businesses, location and economies. a resulting increase in total output possibilities.

Gains from trade are commonly described as resulting from:specialization in production from division of labor, economies of scale, scope, and agglomeration[5] and relative availability of factor resources in types of output by farms, businesses, location[6] and economies
a resulting increase in total output possibilities
trade through markets from sale of one type of output for other, more highly valued goods

b. Explain the effects of international trade on underdeveloped countries. **(5 marks)**

Trade leads to faster productivity growth, especially for sectors and countries engaged in global value chains (GVCs). These links allow developing countries to specialize in making a single component, like a keyboard, rather than a finished product, like a personal computer.

3a. Make a distinction, with specific example, between absolute and comparative advantage (10 marks)

b. What are the differences between factor endowments and factor intensities? **(5 marks)**

A country may have an absolute advantage in producing oil due to its abundant reserves and advanced extraction methods. A country may have a comparative advantage in producing agricultural goods because it can produce them at a lower opportunity cost compared to manufacturing goods

4. Write short notes on the following concepts

(i) Productivity of labor

Labour productivity is defined as output per worker or per hour worked.Labor productivity is a measure of economic performance that compares the amount of output with the amount of labor used to produce that output

(ii) Factor Price Equalization theorem

Factor price equalization is an economic theory, by Paul A. Samuelson (1948), which states that the prices of identical factors of production, such as the wage rate or the rent of capital, will be equalized across countries as a result of international trade in commodities.

(iii)Taxes and subsidies

Taxes are a charge the government imposes on individuals' and firms' income and revenue **(10 marks)**

1c. A country faces the production function (5 marks) (12 marks) and can buy the inputs K and L at prices per unit of N25 and N20 respectively. If the country has a budget of N500 what combination of K and L should the country use to produce the maximum possible output and what is the maximum output?

a. The given PF (or, production function) is- Q = 12KL°*L°6/
The PF has been assumed to be Q = 12(K^0.4)(L^0.6)|MPL
Upvotes= marginal labor productivity= dQ/dL|
ae
= 12x06 210-1
MPK = marginal productivity of capital= dQ/dK
=12x04x1*28806
= 4.8 × K*
The slope of the PF
= MPL/MPK|= MPL MPK x L-A
= 7.2× K04 × 2-04
48x10+04
The cost curve = TC (or, total cost) = wL + rK
Here w = price of L (or, labor) = R5
R = price of K (or, capital) = R40
Slope of TC = w/r = R5/R40 = 1/8|
At the profit-maximizing level of output, the PF (or, isoquant) is tangent to the TC (or, isocost)
Slope of PF = slope of TC
Or, 3K/2L = 1/8
Or, 24K = 2L
Or, L = 12K|
The given budget is 800.
Or, 800 = wL + rK
Or. 800 = 5L + 40K
9+Subsituting L=12K|
Or, 800 = 5*12K + 40K
Or, 800 = 60K + 40K
Or, 800 = 100K
Or, K = 800/100
Or, K = 8 units|
L = 12K = 12*8 = 96 units
The combination of K and L required to produce the maximum output is K=8 units and L=96 units.
The combination of K and L required to produce the maximum output is K=8 units and L=96 units.

ANSWER 2
The objective of the firm is to maximize output as,
Max Q = 12K^0.4 L^0.4
The budget constraint of the firm can be formulated as,
40K + 5L = 800
The output maximization can thus be formulated as,
Max Q = 12K^0.4 L^0.4|
such that 40K + 5L = 800
The Lagrangian function for the maximization problem would thus be,
| = 12K^0.4 L^0.4 -k(40K+5L-800)
The first order conditions for the maximization problem can be derived as,

MPK = dl/dK=4.8K^(-0.6)L^0.4=40k ...(1) |
MPL = di/dL = 4.8K^0.4 L^(-0.6)=5k ...(2)
dl/dk = 40K + 5L = 800 ... (3)
Simplifying the first two equations,
4.8^0.4/40K^0.6 = 4.8K^0.4/5 L^0.6
5L^0.4 L^0.6 = 40K^0.4 K^0.6
L = 8K|
Substituting the value of L into the third equation results as,
40K + 5L = 800
40K + 5*8K = 800
80K = 800|
K* = 10 units|
Substituting K* into L=8K, the resulting value of L* would be,
L* = 8*10 = 80 units
Therefore, in order to produce the maximum output, the firm should utilize 10 untis of K and 80 units of
4.8L10.4/40K^0.6 = 4.8K^0.4/5 L^0.6
5L10.4 LA0.6 = 40K^0.4 K^0.6
L = 8K
Substituting the value of L into the third equation results as,
40K + 5L = 800
40K + 5*8K = 800
80K = 800
K* = 10 units|
Substituting K* into L=8K, the resulting value of L* would be,
L* = 8*10 = 80 units
Therefore, in order to produce the maximum output, the firm should utilize 10 units of K and 80 units of L.

b. **A country faces the production function Q = 12K0.4L 0.4 and can buy the inputs K and L at prices per**
units of N40 and N5 respectively. If the country has a budget of N800 what combination of K and L
should the country use to produce the maximum possible output?
(5 marks)
for all inputs. This optimization condition can be written as
MPK = MPL
The marginal products can be determined by partial differentiation:
MPK- 20 - 4.8K-06204
MP1 = 42 = 48K° 4[- 0.6
4.8K-06 L0.4 = 4.8K0•4 L- 0.6
Dividing both sides by 4.8 and multiplying by 40 gives:
K-06 [0.4 = 8K0.4 L- 0.6
Multiplying both sides by K0.6 [0.6 gives:
L = 8K
40K + 5 × 8K = 800
40K + 40K = 800
80K = 800

K = 10
L = 8 × 10 = 80

The theory of the firm tells us that a firm is optimally allocating a fixed budget if the last £1 spent on each input adds the same amount to output, i.e. marginal product over price should be equal for all inputs. This optimization condition can be written as

5. Discuss the following:(i)
Trade mid factor prices
Simply stated the theorem says that when the **prices** of the output goods are equalized between countries as they move to free **trade**, then the **prices** of the **input**
(ii)Endowment Changes and Outputs
The Rybczynski theorem displays how changes in an endowment affects the outputs of the goods when full employment is sustained. The theorem is useful in analyzing the effects of capital investment, immigration and emigration within the context of a Heckscher-Ohlin model.
(iii)Factor endowments and outputs
(iv)The Pattern of Trade in a specific-factor model
Factor endowments are the resources a country can use for economic activity, such as land, minerals, capital, and labor. Countries with large or diverse factor endowments can produce more goods than countries with smaller factor endowments
(15 marks)
6a. Differentiate between Rybezynski theorem and Factor content theorem (10 marks)
factor proportions theory makes sharp predictions when there are two factors and two goods (e.g. as the labor endowment increases, the labor intensive industry expands while the capital intensive industry contracts), it makes no clear prediction about how the endowment of a given factor affects the output of a given industry in the case of multiple goods and factors, even if the number of goods equals the number of factors. For example, it is possible that the most capital intensive industry 2 contracts when the capital endowment increases (Harrigan 2003).
This makes it difficult to see whether the estimated Rybczynski coefficients of a given industry are consistent with theory. For example, suppose (hypothetically) it is found that the skilled labor endowment tends to increase the output of the food industry
b. Briefly discuss Stolper Samuelson theory (5 marks)
an increase in the price of a good will cause an increase in the price of the factor used intensively in that industry and a decrease in the price of the other factor

ECO 344 UNITS: 3 TIME ALLOWED: 3 HOURS INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS.
1a. Define and explain the concept of international trade. (5.5 marks)
International trade is the purchase and sale of goods and services by companies in different countries. Consumer goods, raw materials, food, and machinery all are bought and sold in the international marketplace.

b. Enumerate the importance of international trade in the global economy. (12 marks)

International trade allows countries to expand their markets and access goods and services that otherwise may not have been available domestically. As a result of international trade, the market is more competitive. This can ultimately result in more competitive pricing and cheaper products.

Economic growth,Employment opportunities,Risk management,Currency,Comparative benefits.Decreased competition,Enhanced reputation,Increased revenues.Opportunities to specialize,Economies of scale,Greater choice for consumers

2a. State and discuss the law of returns to scale (5.5 marks)

Changes in output when all factors change in the same proportion are referred to as the law of return to scale. This law applies only in the long run when no factor is fixed, and all factors are increased in the same proportion to boost production.

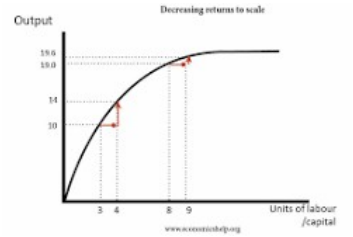
There are three stages in all.

Increasing the scale's return, Constant scale returns,Decrease in Returns on the scale

b. Write short notes on the following concepts: (12 marks)

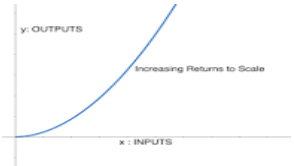
(i). Constant returns to scale

Constant returns to scale occur when the long-run average between a company's inputs and outputs are proportional to each other. In other words, as the cost of total production increases, the value of their goods goes up by the same percentage of increase.



(ii). Increasing returns to scale

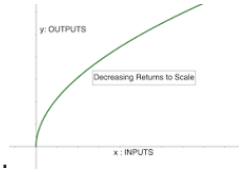
An increasing return to scale occurs when the output increases by a larger proportion than the increase in inputs during the production process. For example, if input is increased by 3 times, but output increases by 3.75 times, then the firm or economy has experienced an increasing returns to scale



(iii). Decreasing returns to scale

A decreasing returns to scale occurs when the proportion of output is less than the desired increased input during the production process. For example, if input is increased by 3 times,

but output is reduced 2 times, the firm or economy has experienced decreasing returns to scale.



3a. How can government policies affect trade and the gains from trade? (8.5 marks)

There are many different instruments that governments can use to affect trade, including: Tariffs, which protect domestic industries from foreign competition by increasing the cost of imported goods through a tax. Subsidies, which are low interest loans, tax breaks or cash grants

There are trade policies that affect which goods and services can be imported and how much. There are others that affect exports, currency exchange rates, or tourism. The job of trade policies though is to regulate imports and exports to the benefit of the domestic economy.

b. What would happen to the global economy if there is no trade? (9 marks)

Trade contributes to global efficiency. When a country opens up to trade, capital and labor shift toward industries in which they are used more efficiently. That movement provides society a higher level of economic welfare.

Trade allows economies to specialize and thus they can produce more goods. The standard of life would fall significantly across the world and many people would fall into poverty. However, this does hurt some countries more than others.

4a. Outline the conditions that will together guarantee the no-trade situation. (7.5 marks)

Trade allows economies to specialize and thus they can produce more goods. The standard of life would fall significantly across the world and many people would fall into poverty. The most direct barrier to trade is an embargo– a blockade or political agreement that limits a foreign country's ability to export or import.

b. Describe dual economic system as a consequence of international trade (10 marks)

An economy based upon two separate/distinct economic systems which co-exist in the same geographical space.

Dual economies are common in less developed countries, where one sector is geared towards local needs and another to the global export market. Dual economies may exist within the same sector, for example a modern plantation or other commercial agricultural entity operating in the midst of traditional cropping systems.

5a. Discuss in details the theory of wages (7.5 marks)

under the condition of perfect competition, every worker of same skill and efficiency in a given category will receive a wage equal to the value of the marginal product of that type of labor.

The wage-fund theory held that wages depended on the relative amounts of capital available for the payment of workers and the size of the labor force. Wages increase only with an increase in capital or a decrease in the number of workers.

b. Explain the relevance of the Marxian surplus-value theory in international trade analysis (10 marks)

In Marxian economics, **surplus value** is the difference between the amount raised through a sale of a product and the amount it cost to manufacture it: i.e. the amount raised through sale of the product minus the cost of the materials, plant and labour power.Marx thought that the gigantic increase in wealth and population from the 19th century onwards was mainly due to the competitive striving to obtain maximum surplus-value from the employment of labor, resulting in an equally gigantic increase of productivity and capital resources..

6. Discuss the contributions of Heckscher-Ohlin model to the history of international trade. (17.5 marks)

The Heckscher-Ohlin theorem states that if two countries produce two goods and use two factors of production (say, labour and capital) to produce these goods, each will export the good that makes the most use of the factor that is most abundant. The H-O model advances international trade theory by introducing the concept of factor endowments within a country as well as the underlying causes for differences in comparative costs between countries, while assuming countries will have identical production technologies.

QUESTION ONE

(a). Discuss the theory of absolute and comparative advantage. (10 marks)

Absolute advantage refers to the ability to produce more or better goods and services than somebody else. Comparative advantage refers to the ability to produce goods and services at a lower opportunity cost, not necessarily at a greater volume or quality.

(b). Briefly discuss four types of theories of wages (10 marks)

Wages Fund theory based on the basic assumption that workers are paid wages out of a predetermined fund of wealth.

Subsistence theory The laborers are paid to enable them to subsist and perpetuate the race without increase or diminution".

The Surplus Value Theory of Wages This theory is based on the basic assump-tion that like other articles, labor is also an article which could be purchased on payment of its price i.e. wages.

Residual claimant theory According to Walker, there are four factors of production or business activity, viz., land, labor, capital, and entrepreneurship

Marginal productivity theory . According to this theory, wages is determined based on the production contributed by the last worker, i.e. marginal worker. His/her production is called „marginal production". This theory state that, under the condition of of perfect competition, every worker of same skill and efficiency in a given category will receive a wage equal to the value of the marginal product of that type of labor.

The bargaining theory of wages the fixation of wages depends on the bargaining power of workers/trade unions and of employers. If workers are stronger in bargaining process, then wages tends to be high.

Behavioral theory of wages

Their theories are based on elements like employee"s acceptance to a wage level, the prevalent internal wage structure, employee"s consideration on money or" wages and salaries as motivators.

c). In the Heckscher-Ohlin model, comparative advantage and trade are determined by national differences in factor endowments. Discuss. (Smarks) (25marks)

asserts that differences in comparative advantage come from differences in factor abundance and in the factor intensity of goods. Specifically, Heckscher–Ohlin predicts that countries will produce relatively more of the goods that use their relatively abundant factors relatively intensively.

QUESTION TWO

(a). Discuss the effects of endowment difference in the Heckscher-Ohlin trade model. (Smarks)

The Heckscher-Ohlin model is an economic theory that proposes that countries export what **they can most efficiently and plentifully produce**.

(b). Briefly explain the Heckscher-Ohlin model.

The theory predicts that nations will export the goods that make the most of the factors that are abundant in their soil and will import those that are made with scarce factors.

Discuss extensively the Stolper Samuelson theorem.

The theorem states that—under specific economic assumptions (constant returns to scale, perfect competition, equality of the number of factors to the number of products)—a rise in the relative price of a good will lead to a rise in the real return to that factor which is used most intensively in the production of the good, and conversely, to a fall in the real return to the other factor.

QUESTION FOUR

(a). Briefly discuss the Rybczynski theorem. (10marks)

This theorem states that when a region is open to trade with other regions, changes in regional relative factor supplies can be fully accommodated by changes in regional outputs without requiring changes in regional factor prices.

(b). Discuss the factor-content theorem.

Their theory is based on a country's production factors – land, labor, and capital, which provide the funds for investment in plants and equipment. They determined that the cost of any factor or resource was a function of supply and demand.

QUESTION FIVE

(a). Differentiate between commodity prices and factor prices. Key Differences:

Purpose: Factor pricing aims to reward factors based on their contribution to production and ensure efficient resource allocation, whereas product pricing aims to set prices that maximize profitability, satisfy customer needs, and achieve business objectives.

(b). Discuss the factor price equalization theorem. the prices of identical factors of production, such as the wage rate or the rent of capital, will be equalized across countries as a result of international trade in commodities

(a). Discuss the assumptions of the Heckscher – Ohlin theory of factor endowment. (10 marks)

The main assumptions of the Heckscher-Ohlin trade theory are that countries have different factor endowments and that trade is based on comparative advantage. The main

assumptions of the Heckscher-Ohlin trade theory include factor intensity, factor mobility, and constant returns to scale

(b). Explain the Production Possibility Frontier

Key Points. The Production Possibilities Frontier (PPF) is a graph that shows all the different combinations of output of two goods that can be produced using available resources and technology.

QWhen a country opens up to trade, capital and labor shift toward industries in which they are used more efficiently. That movement provides society a higher level of economic welfare. However, these effects are only part of the story. Trade also brings dislocation to those firms and industries that cannot cut it.

qUESTION TWO Discuss in details the consequences of international trade in a country.

As a result of international trade, the market is more competitive. This can ultimately result in more competitive pricing and cheaper products. Some countries engage in national treatment of imported goods, treating them as equivalent to those same products produced domestically.

QUESTION THREE (a). What do you understand by the term „gain from trade"?

Expressed in economic terms, gains from trade are the consumer and producer surplus from engaging in trade. Gains from trade can be calculated by adding up consumer and producer surplus. Gains of trade will be at the maximum when a country produces the lowest opportunity cost product relative to other producers

(b). What are the factors that determines gains from international trade? (13 marks)

Gains from trade can be calculated by adding up consumer and producer surplus. Gains of trade will be at the maximum when a country produces the lowest opportunity cost product relative to other producers. Countries that produce the lowest opportunity cost products tend to improve the living standards of their people.

- Differences in Cost Ratios: ...
- Reciprocal Demand: ...
- Level of Income: ...
- Terms of Trade: ...
- Productive Efficiency: ...
- Nature of Commodities Exported: ...
- Technological Conditions

QUESTION FOUR (a). Briefly explain the term pattern of trade? These refer to the manner in which global trade—import and export of goods and services—occurs between countries, considering factors such as volume, direction, composition, and interdependence amongst nations.

(b). Discuss the concept of factor endowment

the resources a country can use for economic activity, such as land, minerals, capital, and labor. Countries with large or diverse factor endowments can produce more goods than countries with smaller factor endowments.

QUESTION FIVE (a). Explain what you understand by the term "international trade" International trade is referred to as the exchange or trade of goods and services between different nations. This kind of trade contributes and increases the world economy. The most commonly traded commodities are television sets, clothes, machinery, capital goods, food, raw material, etc.

(b). Discuss in detail the importance of international trade to Nigeria. **It indicates that a 1% rise in export trade would result in a 2% boost in Nigeria's economic growth. International business allows transfer of technology and ideas globally. - Nigeria has benefited from international business via importation of machinery, equipment, vehicles which has helped to increased productive capacity and by extension economic growth.**

QUESTION SIX Write short note on the following:

(a). Factor price equalization **factor-price equalization theorem says that when the product prices are equalized between countries as they move to free trade in the H-O model, then the prices of the factors (capital and labor) will also be equalized between countries**

(b). Gains from exchange **The benefits that each party gains from a transaction compared to how they would have fared without the exchange.** Trade occurs when people or countries exchange goods and services with each other, usually to make both parties better off. Gains from trade are the benefits an individual or country experiences when they engage in trade with others. The two main types of gains from trade are dynamic gains and static gains

(c). Factor market distortion Factor market distortion is a critical factor that affects environmental pollution, and technological innovation is regarded as a new opportunity to alleviate environmental pollution

(d). Gains from trade **The two types of gains from trade are dynamic gains and static gains where static gains are those that increase the social welfare of the people living in the nations and dynamic gains are those that help the nation's economy grow and develop faster**

. Question 1 a. Shortly discuss the link between trade and growth in economic interrelation International trade is a key factor in economic growth because it gives nations access to a greater range of commodities and services, permits manufacturing to be specialized, and promotes competitiveness, innovation, and efficiency. As nations trade goods with one another, everyone benefits.

b. Use an equation to briefly describe the concept of production functions (10marks)

The production function is expressed in the formula: Q = f(K, L, P, H), where the quantity produced is a function of the combined input amounts of each factor

c. Describe the term constant return to scale in International Economics In economic terms, constant returns to scale is when a firm changes their inputs (resources) with the results being exactly the same change in outputs (production). In other words, if a firm increases their inputs (or resources), they will see a proportional increase in production (or outputs).

Question

2 Using a graphical illustration, discuss the production possibility frontier



Key Points. The Production Possibilities Frontier (PPF) is a graph that shows all the different combinations of output of two goods that can be produced using available resources and technology.

Question 3 Use a graphical representation to demonstrate and explain how gains



from trade are achieved by countries.

increased production and export of textiles in which it has a comparative advantage, and from increased consumption and import of computers in which it has a comparative disadvantage.

Question

4 Briefly explain any five (5) factors affecting gains from international trade.

Exchange rates, competitiveness, growing globalization, tariffs and trade barriers, transportation costs, languages, cultures, various trade agreements affect companies by its decision to trade internationally

Question 5 Shortly discuss any five (5) consequences/effects of international trade International trade significantly impacts the global economy by stimulating economic growth, fostering technological progress, promoting competition, mitigating economic shocks, and creating jobs.