MINISTRY OF EDUCATION

ECONOMICS

for Senior High Schools

TEACHER MANUAL

YEAR TWO

NATIONAL COUNCIL FOR CURRICULUM & ASSESSMENT OF MINISTRY OF EDUCATION

MINISTRY OF EDUCATION

REPUBLIC OF GHANA

ECONOMICS

For Senior High Schools

Teacher Manual

Year Two

NATIONAL COUNCIL FOR
CURRICULUM & ASSESSMENT
OF MINISTRY OF EDUCATION

ECONOMICS TEACHER MANUAL

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Introduction

The National Council for Curriculum and Assessment (NaCCA) has developed a new Senior High School (SHS) curriculum which aims to ensure that all learners achieve their potential by equipping them with 21st Century skills, competencies, character qualities and shared Ghanaian values. This will prepare learners to live a responsible adult life, further their education and enter the world of work.

This is the first time that Ghana has developed an SHS Curriculum which focuses on national values, attempting to educate a generation of Ghanaian youth who are proud of our country and can contribute effectively to its development.

This Teacher Manual for is a single reference document which covers all aspects of the content, pedagogy, teaching and learning resources and assessment required to effectively teach Year Two of the new curriculum. It contains information for all 24 weeks of Year Two including the nine key assessments required for the Student Transcript Portal (STP).

Thank you for your continued efforts in teaching our children to become responsible citizens.

It is our belief that, if implemented effectively, this new curriculum will go a long way to transforming our Senior High Schools and developing Ghana so that we become a proud, prosperous and values-driven nation where our people are our greatest national asset.

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SECTION 1: TOOLS IN ECONOMIC ANALYSIS

Strand: Consumers' Rational Decision Making

Sub-Strand: Introduction to the subject of Economics

Learning Outcome: Use the appropriate economic tools to explain everyday economic issues

Content Standard: *Apply knowledge and understanding of the tools used in Economics*

Hint

Remember to assign a Group Project to learners in Week 2. The Group Project should be submitted in Week 8. See Appendix A at the end of this section for guidelines on the group project work.

INTRODUCTION AND SECTION SUMMARY

Section one of the Year Two Teacher Manual for Economics covers consumers' rational decision-making. It focuses on the introduction to the subject. Section one emphasises the application of economic tools by explaining relationships, phenomena, and concepts in Economics. This section looks at how learners can apply economic words, infographics, and algebra in dealing with real-world scenarios. It is anticipated that at the end of the section; learners will be able to apply the knowledge of economic tools to explain everyday economic issues.

Teachers should note that the application of economic tools is linked to Mathematics and English.

The weeks covered by the section are:

Week 1: Tools in Economic Analysis – Words and Infographics

Week 2: Tools in Economic Analysis - Algebra

SUMMARY OF PEDAGOGICAL EXEMPLARS

The pedagogy to be employed in this section is problem-based. The teacher can use any other innovative pedagogy to achieve the learning outcome.

Teachers must apply this pedagogy to meet the abilities and learning styles of the learners in the class.

Approaching Proficiency (AP) - learners who have a low ability to perform a given learning task and need extra support from teachers and peers to be able to undertake the given task.

Proficiency (P) - learners who have a clear understanding of a given learning task and possess the ability to undertake the given task without much support from teachers. Such learners would need a little more advanced task.

High Proficiency (HP) - learners who demonstrate a high level of understanding of a given learning task and show the ability to undertake the learning task with ease. Such learners need more advanced learning tasks and little guidance.

ASSESSMENT SUMMARY

The assessments in this section cover all the levels. Teachers should note that the level-one items are designed to enable learners to demonstrate the ability to recall and reproduce basic concepts and demonstrate basic understanding. The teacher is expected to ask closed and open-ended questions. Teachers should note that the level two items require that the learner undertake a basic application of economic tools. The teacher is expected to use funnel and probing questions in this regard. The teacher should use level three items to promote strategic thinking and complex reasoning in the learners. The teacher must ask leading and hypothetical questions to draw out level 3 items and strategic thinking and complex reasoning for level 4.

The teacher should use multiple strategies such as discussion, class exercises, homework and case studies (Refer to teacher assessment manual).

You are encouraged to administer the recommended assessments for each week, carefully recording the results, and submitting the appropriate recordable assessment to the **Student Transcript Portal (STP)** for documentation.

The recommended assessment modes for this section are;

Week 1: Class Exercise

Week 2: Computational Task

Refer to the “Hint” at the key assessment for each week for additional information on how to effectively administer these assessment modes. Always remember to score learners’ work with rubric/marking scheme and provide prompt feedback to learners on their performance.

Week 1

Learning Indicators

1. *Apply words (economese) in explaining peculiar economic issues*
2. *Apply infographics to explain peculiar economic issues*

Focal Area 1: Tools in economic analysis – Words

Definition

Economic Tools: Economic tools are methods, techniques, or instruments used by economists, policymakers, businesses, and researchers to analyse economic data, understand economic phenomena, and make decisions.

Words (Economese): Economese refers to the specialised language and jargon used by economists, policymakers, financial analysts, and other professionals in the field of Economics. It is characterised by its technical terms, abbreviations, and often complex concepts that are specific to economic theory, analysis, and policymaking. This language can sometimes be challenging for those outside the field to understand.

Introduction

Words play a very important role in economic analysis. The economist can communicate economic issues and principles using words. It is important to note, however, that some words used in Economics have different meanings from our everyday usage of the words. This makes words a powerful tool for economic analysis. Words used in economic analysis could be presented as single words, phrases, or full sentences.

An example of a single word is 'Demand'. Demand in everyday language implies "an insistent and peremptory request, made as of right." However, in Economics demand connotes a more complex meaning, referring to the quantity of a good or service that consumers are willing and able to purchase at various prices over a given period.

An example of 'full sentences' is the law of Demand - "All things being equal, the higher the price of a commodity or service, the lower the quantity demanded, and the lower the price of a commodity or service, the higher the quantity demanded". This is an attempt by the economist to use a sentence to explain or analyse human behaviour, specifically the behaviour of buyers.

Economics has a specialised vocabulary used to describe concepts, theories, processes, and phenomena within the field. Words (economese) include a wide array of specialised terms such as "marginal utility", "elasticity", "opportunity cost", "fiscal policy", and "monetary policy." Each term has a specific meaning within the context of economic discussions.

Examples of words as a tool for economic analysis

1. Gross Domestic Product (GDP): A measure of the total economic output of a country.
2. Inflation: The rate at which the general level of prices for goods and services is rising.
3. Unemployment Rate: The percentage of the labour force that is without work but actively seeking employment

4. Market equilibrium: A fundamental concept in Economics that describes a state in which the supply of a good or service matches its demand. At this point, the market is in a state of balance, and there is no inherent tendency for change.
5. Market failure: This occurs when a market, operating on its own, does not allocate resources efficiently, leading to a loss of economic and social welfare. In other words, market failures are situations where the pursuit of individual self-interest does not lead to optimal outcomes for society as a whole

Learning Tasks

1. Identify the economic words
2. Match the economic words with their respective meaning
3. Relate the economic words and their meanings to real-life scenarios

Refer to the sample problem under pedagogical exemplars

Note

1. Support should be given to learners who find it difficult to understand economic words by providing frequent feedback, encouraging peer support, and using visual aids and other hands-on materials to enhance understanding and engagement to help them identify economic words. They should also focus on their personal experience where applicable.
2. Learners who understand the economic words should be given some level of support by encouraging and motivating learners to match the economic words and their respective meanings.
3. The learners who show a high level of understanding should be allowed to pursue independent study projects by relating the economic words and their respective meanings to real-world scenarios.

Pedagogical Exemplars

Problem-Based Learning: Learners work in teacher-nominated mixed ability and gender groups to identify various economic issues that can be explained using the word (economese). Such as the law of demand, the law of diminishing marginal utility, the law of supply, etc**.**

Sample Problem

Read the following passage and identify key economic words that match the explanations in Part 2.

The relationship between composite demand and diminishing marginal utility profoundly influences the allocation of factors of production, thereby impacting productivity. As industries localise, concentrating in specific regions, they benefit from increased efficiency through the division of labour. This localisation enables firms to leverage specialised skills and resources, enhancing overall productivity. However, the diminishing marginal utility experienced by consumers necessitates a strategic approach to managing composite demand, ensuring that the allocation of factors of production aligns with market needs. Thus, understanding these

interconnected elements is crucial for optimising economic performance and fostering sustainable industrial growth.

Part 2

1. The tendency of similar or related businesses to locate near one another in specific geographic areas
2. The resources used to produce goods and services
3. The specialisation of tasks or jobs within a production process or organisation, where each worker focuses on a specific aspect or stage of production rather than performing all tasks.
4. The demand for a good that has multiple uses.
5. An economic principle that states that as a person consumes more units of a good or service, the additional satisfaction (utility) gained from consuming each additional unit tends to decrease.
6. The measure of the efficiency of production.

Note

1. The teacher moves from group to group and gives targeted support and feedback to learners less confident in identifying the economic words from the case study. Teachers should provide additional learning materials to aid in the case study analysis (AP).
2. The teacher encourages learners' reflection on the explanation of the economic words by asking probing questions to guide learners who demonstrate a clear understanding of the economic words and their meanings (P).
3. The teacher assists learners who show a high level of understanding of the economic words to engage in extended thinking by relating the economic words and their respective meanings to real-world examples (HP).

Key assessment

DoK Level 1 Reproduction/Recall

1. List five words (economese) used in Economics
2. Match the following words to their meanings: *Composite Demand*, *Diminishing Marginal Utility, Factors of Production, Productivity, Localisation of Industries and Division of Labour*

Words	Meaning
	The economic concept states that as a person consumes more units of a particular good or service, the additional utility or satisfaction derived from each additional unit tends to diminish or decrease.
	The efficiency with which resources are utilised to produce goods and services.
	The concentration of businesses in a location that are in the same or related industries.

	An economic concept that refers to the process of breaking down the production of goods or services into smaller tasks, with each task assigned to specific individuals or groups
	Occurs when a good or service is demanded for multiple uses or purposes.
	All natural, human, and manufactured resources go into the production of goods and services.

DoK Level 2: Skills of conceptual understanding

Relate the economic words and their meanings to real-world scenarios.

Hint

- The recommended mode of assessment for Week 1 is class exercise. Refer to the Teacher Assessment Manual and Toolkit pages 63 to 65 and 139 for more information on administering class exercises as an assessment strategy.

Focal Area 2: Tools in economic analysis - Infographics

Definition

Infographics: Infographics are visual representations of information, data, or knowledge intended to present complex information quickly and clearly. They are used to communicate messages, tell stories, or display data in an engaging and easily understandable format.

Market Demand: Market demand refers to the total quantity of a good or service that all consumers in a market are willing and able to purchase at various prices during a specific period

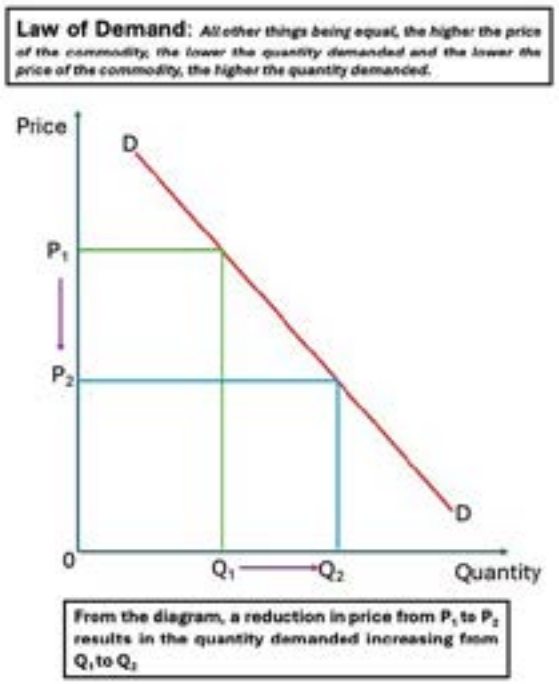
Introduction

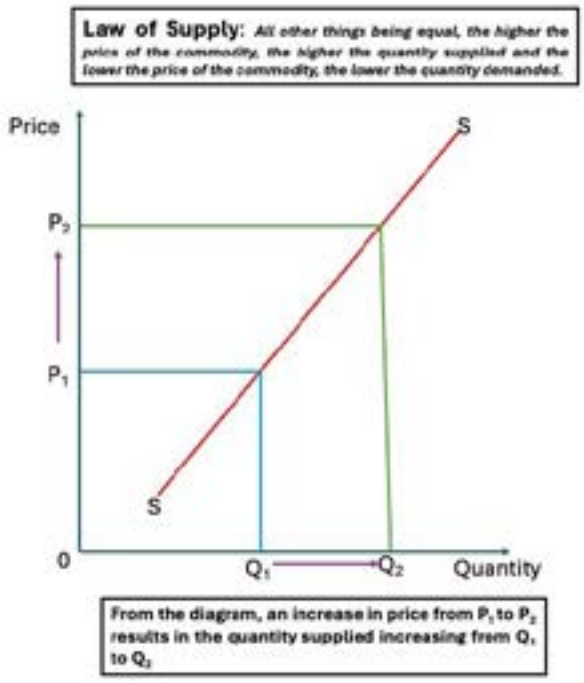
Infographics, as economic tools, bridge the gap between complex economic data and the need for clear, understandable communication, making them invaluable for a wide range of economic applications.

Infographics convert large datasets into charts, graphs, and maps to illustrate economic trends, comparisons, and distributions. This helps in quickly conveying the essence of the data.

Infographics can break down complex economic theories, models, and relationships into simple, visual explanations that are more accessible to a broader audience. They can improve the communication of economic findings, policies, and insights to stakeholders, including policymakers, investors, businesses, and the general public.

Examples of Infographics as a tool for economic analysis





Learning Tasks

1. **Individual Demand Schedule**

The schedule below is the demand schedule of Kwame for his purchase of Gobe (Gari and Beans) during the month. Create a visual representation of and analyse Kwame's demand schedule using infographics.

Price (Ghȼ)	Quantity Demanded (Bowls)
5	10
7	8
12	7
15	5
20	3
26	2
30	1

2. **Market Demand Schedule**

Copy the table which shows the market demand schedule for four consumers. Draw a graph of the data for each consumer and describe what the curves show using infographics. Note that market demand is derived from the summation of individual demand.

Assuming there are only four consumers in the market, consider the schedule below, which shows the demand schedule of Esi, Adwoa, Yaw and Fiifi for their purchase of Gari during the month.

Price (Ghȼ)	Quantity Demanded (Bowls)				
	Esi	Adwoa	Yaw	Fiifi	Market Demand
10	10	12	8	7	
18	7	10	7	5	
22	5	7	5	4	
30	3	5	3	2	
35	2	3	1	1	
42	1	2	0.5	0.5	

Note

1. Support should be given to learners who find it difficult to use the demand schedule to generate infographics by providing frequent feedback and encouraging peer support to enhance the graphical analysis of the individual demand schedule.
2. Learners who can graphically analyse the individual demand schedule using infographics should be given some level of support by encouraging and motivating learners to graphically analyse the market demand schedule.
3. The learners who show a high level of understanding should be allowed to pursue independent study projects by relating the market demand curve derived to everyday life experiences.

Pedagogical Exemplars

Problem-Based Learning: Learners work in teacher-nominated mixed ability and gender groups to identify various economic issues, such as the law of demand, the law of diminishing marginal utility, law of supply that can be explained using infographics.

Imagine you are an economist who has been asked to analyse the demand for gari in the local community using an infographic. You have been provided with the demand schedule, which gives the demand for gari for a sample of four consumers. Work out the market demand from the data and present all the information as an infographic.

Price (Ghȼ)	Quantity Demanded (Bowls)				
	Esi	Adwoa	Yaw	Fiifi	Market Demand
10	10	12	8	7	
18	7	10	7	5	

22	5	7	5	4	
30	3	5	3	2	
35	2	3	1	1	
42	1	2	0.5	0.5	

Note

1. The teacher moves from group to group and gives targeted support and feedback to learners less confident in using infographics to analyse the individual demand schedule. The teacher should provide additional support to aid in drawing the demand curve for one of the consumers in the schedule (AP).
2. The teacher encourages learners' reflection on the graphical analysis of the individual demand by asking probing questions to guide learners who demonstrate a clear understanding of how to graphically analyse the market demand using infographics (P).
3. The teacher assists learners who show a high level of understanding of the graphical analysis of the market demand to engage in extended thinking by relating the market demand curve derived to everyday life experiences (HP).

Key Assessment

Assuming there are only six maize sellers in the market. Table XX presents the quantity of bowls of maize sold by each seller in the market at various prices.

Table XX

Price (Gh¢)	Quantity Supplied of Maize (Bowls)						
	Araba	Aseye	Naa	Bawa	Opoku	Yidana	Market Supply
2	0	1	2	3	4	5	
4	1	2	3	4	5	6	
6	2	3	4	5	6	7	
8	3	4	5	6	7	8	
10	4	5	6	7	8	9	

DoK Level 3: Strategic Reasoning

1. Construct the individual supply curve for each seller using the data from **Table XX**.
2. Construct the market supply curve using the data from **Table XX**.

DoK Level 4: Extended Thinking

Compare and contrast the individual supply with the market supply curve.

Week 2

Learning Indicator: *Apply algebra in explaining peculiar economic issues*

Focal Area: Tools in economic analysis – Algebra

Definition

Algebra: Algebra is a fundamental tool in economic analysis. It is used to model and solve a wide range of economic issues.

Introduction

Demand Function

$$Qd = f(P)$$

The demand function shows that for each possible input value this leads to exactly one output value. In the demand function Qd = Quantity Demanded, P = Price

This function can be written as an equation

$$Qd = a - bP$$

Qd: This is the quantity demanded of the product. It represents the amount of the product that consumers are willing to purchase at a given price.

P: This stands for the price of the product. It indicates how much consumers must pay for each unit of the product.

a: This is the intercept of the demand function. It represents the quantity demanded when the price P is zero or when other factors Y, Pr, and T (like income, prices of related goods, and consumer preferences) are at their base levels or neutralised. Essentially, 'a' captures the level of demand that exists independent of the price.

b: This is the slope of the demand function. It indicates how much the quantity demanded changes in response to a change in price P. A positive 'b' suggests a negative relationship between price and quantity demanded (as price increases, quantity demanded decreases), while a negative 'b' suggests a positive relationship (as price increases, quantity demanded increases).

Examples of algebra as a tool for economic analysis

1. Suppose the demand equation for local Rice in a market is given by:

$$Qd = 500 - 20P$$

Interpretation of a: Here, a = 500. This means that when the price of local rice P is zero (hypothetically) or when the local rice is offered for free, consumers would demand 500 units of local rice. This could be interpreted as the base demand when price is not a factor.

Interpretation of b: In this case, b = −20. This indicates that for every Gh¢1 increase in the price of local rice P, the quantity demanded Qd decreases by 20 units. Conversely, for every Gh¢1 decrease in price, the quantity demanded would increase by 20 units.

The behaviour of the Demand Function: If the price of local rice P is Gh¢20, substituting into the equation gives:

$$Qd = 500 - 20*20$$

$$Qd = 500 - 400$$

$$Qd = 100$$

Therefore, when the price of local rice is GH¢20, consumers would demand 100 units.

Other algebraic expressions of Economics concepts are:

1. Supply function =

   Where Qs = quantity supplied, a = intercept of the supply function and b = slope of the supply function

3. Production function =

   Where Q = total output, L = Labour and K = Capital

5. Utility function =

   U = Utility,

Learning Tasks

Consider Kwame consuming two different commodities, x and y; the combination of the two commodities will give a certain level of utility.

1. Determine the utility for Kwame if his utility functions are:
   a. U=2x+3y when x=5 and y=7
   b. U=x2+5y when x=4 and y=2
   c. U=7x2+5y3 when x=2 and y=2
2. Compare and comment on the three different utilities by Kwame. Indicate which of the three is most preferable for Kwame and why.

Note

1. Support should be given to learners who find it difficult to solve simple linear equations by providing frequent feedback, encouraging peer support, and using other hands-on materials to enhance understanding and engagement to help them solve the simple linear Utility function in question 1a. They should also focus on their personal experience, where applicable.
2. Learners who understand how to solve simple linear equations should be given some level of support by encouraging and motivating learners to solve the quadratic utility function in question 1b.
3. The learners who show a high level of understanding should be allowed to pursue independent study projects that will help them solve the complex utility function in question 1c.

Pedagogical Exemplars

Problem-Based Learning: Learners work in teacher-nominated mixed ability and gender groups to identify various economic issues, such as the law of demand, the law of diminishing marginal utility and the law of supply that can be explained using algebra.

Sample Problem Case

Kwame returned from the farm in the morning and informed his mother that he was very hungry and was offered kenkey (x) and fried fish (y).

The total utility of his first bowl is given as $U=7x^2+5y^3$

where x = 2 and y = 2.

The total utility of his second bowl is also given as $U = x^2 + 5y$

where x = 4 and y = 2.

The total utility of his third bowl is given as U = 2x + 3y, where x = 5 and y = 7.

Find the utility for each bowl of kenkey and fried fish.

a. Learners who have low confidence in solving simple linear equations should be supported by teachers through the provision of other hands-on materials, frequent feedback, and peer support to find the utility of Kwame's third bowl of kenkey and fried fish.

b. For learners who show clear understanding and ability to perform tasks (P), the teacher should minimise support by encouraging and motivating learners to find the Kwame's Utility for the third and second bowls of kenkey and fried fish.

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to pursue independent study projects by finding Kwame's utility for all three bowls and explaining what is happening to Kwame's utility.

Key Assessment

DoK Level 2: Skills of conceptual understanding

1. Calculate the utility for Afi when x = 2 and y = 3, if her utility function is given as:

$$U = x + 2y$$

2. Solve the utility for Kojo when x=3 and y=3 if his utility function is:

$$U = 2x^2 + 3y$$

DoK Level 3: Strategic Reasoning

Consider two consumers, Nana Yaw and Habiba, who are deciding how to allocate their income between two goods: mango (M) and bananas (B). Both consumers have the same budget constraint, and their utility functions are as follows:

Nana Yaw's Utility Function: $(M, B) = M^2 + B$

Habiba's Utility Function: $(M, B) = 2M + B^2$

Calculate the utility for both consumers when M = 1 and B = 1

Give reasons for the two differences in utility between the two consumers based on the preferences of each consumer.

Hint

- The recommended mode of assessment for Week 2 is computational task. Refer to the Teacher Assessment Manual and Toolkit pages 39 to 41 and 129 for details on administering computational tasks as an assessment strategy.
- Remember to assign a Group Project to learners this week. The Group Project should be submitted in Week 8 for scoring and recording. See Appendix A at the end of this section for guidelines on the group project work.

SECTION 1 REVIEW

The lessons taught in section one focused on the application of economic tools. Section one dealt with the economic words (economese), infographics and algebra. The teacher applied problem-based pedagogical skills and assessment techniques subject to the abilities of the learners to achieve the learning indicators for each week.

Week one dealt with the application of economic words and infographics in explaining and representing relationships, concepts and phenomena in Economics. By the end of the week, using problem-based pedagogy, learners will have learned how to apply economic words and infographics in analysing economic situations in their everyday lives.

Week two focused on the application of algebra in analysing economic relationships, concepts and phenomena. By the end of the week, using problem-based pedagogy, learners will have gained knowledge of how to apply algebra in analysing real-world examples.

APPENDIX A: SAMPLE GROUP PROJECT WORK

Task

E.g.

Consider a local market in Ghana having only six maize sellers. Table XX presents the quantity of bowls of maize sold by each seller in the market at various prices.

Table XX:

Price (Gh¢)	Quantity Supplied for Maize (Bowls)						
	Araba	Aseye	Naa	Bawa	Opoku	Yidana	Market Supply
2	0	1	2	3	4	5	
4	1	2	3	4	5	6	
6	2	3	4	5	6	7	
8	3	4	5	6	7	8	
10	4	5	6	7	8	9	

a. *Give an appropriate title to Table XX*

b. *Using plain A4 papers or official sheets, construct individual supply curves for each seller using the data from the table*

c. *Compute the market supply for each price level and draw the market supply curve* ***on a manila card*** *or on any large piece of paper*

Refer to Section 1 of the Teacher Manual and Learner Material for more assessment task(s) that could be used for the group project.

Submission: Group Project should be submitted for scoring in Week 8 of the first semester.

Rubrics for scoring

E.g.

25 marks in all

1. ***Title of table*** *– Market Supply Schedule for 6 Maize Sellers* *[1 mark]*
2. *The 6 individual supply curves with the criteria below for each*
   - i. *Correct labelling of x and y axis* *[1 mark]*
   - ii. *Correctness of curve/graph* *[1 mark]*
   - iii. *Title of graph – Individual supply curve for….* *[1 mark]*

c. *Construction of market supply curve on a manila card or any large paper with criteria below*

i. *Correct labelling of the x and y axis* *[1 mark]*

ii. *Title of graph – Market supply curve for 6 maize sellers* *[1 mark]*

iii. *Correctness of curve/graph* *[2 marks]*

4. *Teamwork attributes* *[2 marks]*

Scores	2 marks	1 mark	0 mark
Teamwork attributes	• Exhibits at least 2 of these attributes in the group. • Respecting the views of others • Tolerating others • Resolving conflicts • Sharing roles • Good presentation skills	• Exhibits only 1 of these attributes in the group • Respecting the views of others • Tolerating others • Resolving conflicts • Sharing roles • Good presentation skills	• Does not exhibit any of these attributes in the group • Respecting the views of others • Tolerating others • Resolving conflicts • Sharing roles • Good presentation skills

Administering

E.g.

1. *At the beginning of lessons for week 2, inform learners that there will be a group project.*
2. *Help the learners to form convenient groups, share the task and explain it to them, etc.*

Refer to the Teacher Assessment Manual and Toolkit pages 27 to 27 and 125 to 127 for more information on administering project work as an assessment strategy.

Feedback

E.g.

1. *Discuss the scoring rubrics with the learners and share the results with them to reflect and make corrections.*
2. *Let each group share their success and challenging stories during the course of working on the project, and do the necessary corrections as appropriate, etc.*

SECTION 2: DEMAND

Strand: Consumers' Rational Decision Making

Sub-Strand: Demand for Goods and Services

Learning Outcome : Use the appropriate factors of demand to explain the differences between change in quantity demanded and change in demand

Content Standard: Apply knowledge of concept of demand to distinguish between change in quantity demanded and change in demand

Hint

- Give an Individual Portfolio assignment to learners in Week 3. The Portfolio should be submitted in week 22. See Appendix A at the end of this section for a guide on the portfolio task.
- The scores of the Individual class exercise or homework should be ready by week 4 for entry in the student transcript portal. This score should be the average of all class works done over the 4 weeks.

INTRODUCTION AND SECTION SUMMARY

Section two covers consumers' rational decision making, focusing on demand for goods and services. The content focuses on the determinants of demand and the difference between change in demand and change in quantity demanded. The section divides the determinants of demand into two; the price of the commodity and the other factors that determine demand.

The price of the commodity is linked to change in quantity demanded and the other determinants are linked to change in demand. There is a graphical representation of both the change in quantity demanded and change in demand to clearly differentiate the two.

Teachers should note that the concept of demand for goods and service is linked to entrepreneurship in Social Studies.

The week covered by the section are:

Week 3: Factors that affect the demand for commodity

Week 4: Change in demand vs. change in quantity demanded

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents two different pedagogies to the teacher. These are collaborative learning and building on what others say through collaborative discussion. In Collaborative learning, the teacher is expected to assist learners to form mixed ability and gender groups in order to discuss the determinants of demand. In building on what others say, the teacher is expected to assist learners to brainstorm and discuss how the price as a factor that affect demand can lead

to a change in quantity demanded. By using the same pedagogy, learners are to brainstorm and discuss how the other factors that determine demand can lead to a change in demand.

Teachers should apply these pedagogies based on the abilities and learning styles of the learners in the class.

ASSESSMENT SUMMARY

The assessments in this section cover levels one to four. Teachers should note that the level one items are supposed to enable learners to demonstrate the ability to recall and reproduce basic concepts and demonstrate basic understanding. The teacher is expected to ask closed and open-ended questions. The level two items require basic application of concepts and skills about the content in this section. The teacher is expected to use funnel and probing questions in this regard. The teacher is supposed to use level three items to promote strategic thinking and complex reasoning in the learners. The teacher is supposed to ask leading and hypothetical questions.

The teacher should use multiple strategies such as discussion, class exercises, homework, and case studies (Refer to the teacher assessment manual and toolkit).

You are encouraged to administer the recommended assessments for each week.

The recommended assessment modes for this section are;

Week 3: Test of practical knowledge

Week 4: Group presentation

*Refer to the "**Hint**" at the key assessment for each week for additional information on how to effectively administer these assessment modes. Always remember to score learners' work with a rubric/marking scheme and provide prompt feedback to learners on their performance.*

Week 3

Learning Indicator: Determine the factors that affect demand for a commodity

Focal Area 1: Price as a Factor that affects demand for a commodity and change in quantity demanded

Introduction

Price is one of the most significant factors that influence the demand for a commodity. The relationship between price and demand is generally captured by the law of demand, which states that, all things being equal, as the price of a commodity decreases, the quantity demanded increases, and as the price increases, the quantity demanded decreases. This inverse relationship can be illustrated through a demand curve on a graph, where the price is plotted on the vertical axis and the quantity demanded on the horizontal axis.

When the price of a commodity rises, consumers may substitute it with a cheaper alternative, leading to a decrease in demand for the more expensive commodity. When the price of a commodity increases, the real income (purchasing power) of consumers decreases, leading to a reduction in the quantity demanded. Conversely, when prices fall, consumers feel wealthier and can purchase more. This leads to a movement along the demand curve due to a change in the price of the commodity which is also known as change in quantity demanded. For example, if the price of a product drops, the quantity demanded increases, represented by a movement from one point to another along the same demand curve.

A change in quantity demanded is the change in quantity when the price of the commodity changes. This confirms the law of demand which explains the relationship between the price and quantity of a commodity.

Example 2.1

1. Movement along the demand curve which is caused by a change in the price of the commodity. This is the same as change in quantity demanded represented by moving up or down the same demand curve.

PRICE	QUANTITY DEMANDED
10	12
20	8
30	5
40	2

2. Graphical illustration of change in quantity demanded (movement along the demand curve);

Learning Tasks

1. Using everyday life examples, explain how price as a factor affects the quantity demanded of a commodity.
2. Use the data below to draw a graph showing change in quantity demanded.

Price (Ghȼ)	Quantity Demanded
2	5
4	4
6	3
8	2
10	1

3. Explain what your graph shows

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can describe price as a factor that affects the demand curve and sketch the demand curve.
2. Learners who understand the concept should be required to apply their knowledge and skills to illustrate change in quantity demanded as a result of changes in price in a graph.
3. The learners who show a high level of understanding should foster a culture of reflective practice where they can reflect and explain change in quantity demanded using graphic illustration.

Pedagogical Exemplars

Collaborative Learning: Group learners into different groups to discuss price as a factor that affects the demand for a commodity. Each group should present their work using examples from their everyday life as students.

Building on What Others Say: Brainstorm and discuss how the price as a factor that affects demand can lead to a change in quantity demanded.

a. Learners who have low ability in discussing how price as a factor affects demand for a commodity (using their everyday life experience) should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)

b. Where learners show clear understanding and the ability to explain price as a factor that affects demand for a commodity using their everyday life, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to illustrate change in quantity demanded as a result of changes in price in a graph. (P)

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to explaining change in quantity demanded using graphic illustrations with real-world scenarios.

Key Assessment

DoK Level 2: Skills of conceptual understanding

Explain how price affects the demand curve

DoK Level 3: Strategic reasoning

Illustrate a change in quantity demanded in a graph using your everyday life.

DoK Level 4: Extended thinking

Explain change in quantity demanded using a real-world scenario.

Focal Area 2: Other Factors that affect demand for a commodity and change in demand

Definition

Normal Goods: A normal good is a type of good for which demand increases as consumer income rises. In other words, there is a positive relationship between income and the demand for normal goods. When people have more money to spend, they are more likely to buy more of these goods.

Inferior Goods: An inferior good is a type of good for which demand decreases as consumer income rises, and conversely, demand increases when consumer income falls. In other words, there is an inverse relationship between income and the demand for inferior goods.

Subsidy: A subsidy is a financial assistance the government provides to individuals, businesses, or other organisations to support or promote economic activities that are considered beneficial to the public.

Substitutes: Substitutes are goods or services that can replace each other in consumption because they satisfy similar needs or desires. When the price of one substitute rises, the demand for the other typically increases, as consumers switch to the relatively cheaper option.

Complements: Complements are goods or services that are typically consumed together, where the consumption of one good enhances the consumption of the other. When the price of one complement rises, the demand for the other usually decreases, and vice versa.

Introduction

Demand for a commodity is influenced by various factors beyond just its price. The other factors that affect the demand for a commodity includes but is not limited to; income of the consumer, price of related goods, expectation of future prices, number of consumers, government policies, taste and preferences. Any change in the quantity demand of a commodity which is not as a result of a change in the price of the commodity is due to a change in the other factors that affect demand. This will cause a bodily shift in the demand curve which is known as change in demand.

A change in demand refers to a shift in the entire demand curve due to changes in the factors listed above, rather than a movement along the demand curve, which is caused by a change in the commodity's price. The change can be an increase or a decrease. When factors such as higher consumer income, increased consumer preferences, or favourable government policies lead to an increase in the quantity demanded at every price level, the demand curve shifts to the right. When factors such as lower consumer income, decreased consumer preferences, or unfavourable government policies lead to a decrease in the quantity demanded at every price level, the demand curve shifts to the left.

Income of Consumers

Normal Goods: As consumer income increases, demand for normal goods also increases.

Inferior Goods: As consumer income increases, demand for inferior goods decreases.

Consumer Preferences and Tastes

Changes in consumer preferences or tastes due to trends, advertising, or changes in fashion can significantly affect demand.

For example, if a new health study reveals that a particular food is beneficial, its demand may increase.

Price of Related Goods

Substitutes: An increase in the price of a substitute good can increase demand for the commodity in question.

Complements: An increase in the price of a complementary good can decrease demand for the commodity.

Expectations of Future Prices

If consumers expect prices to rise in the future, they may purchase more now, increasing current demand.

Conversely, if they expect prices to fall, they might delay their purchases, decreasing current demand.

Number of Consumers

An increase in the number of consumers in the market (due to population growth, for example) can increase demand. A decrease in the number of consumers will have the opposite effect.

Seasonality

Some commodities have seasonal demand. For example, demand for warm clothing increases in winter.

Government Policies

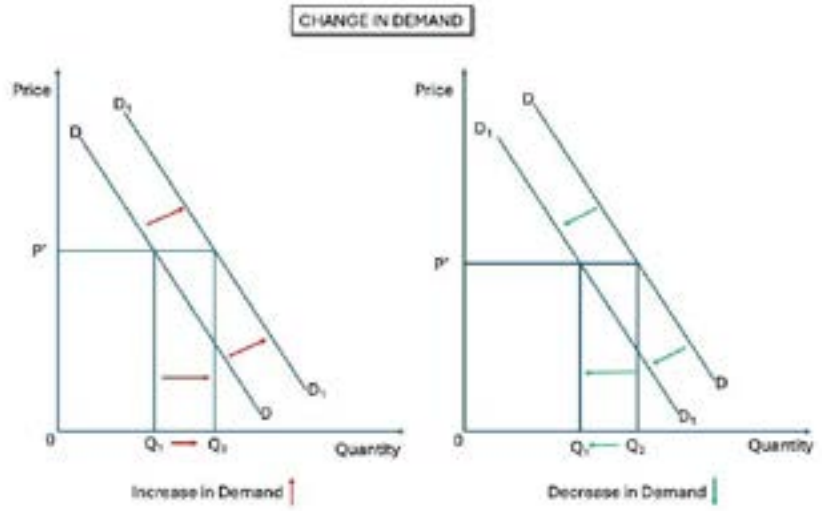
Taxes, subsidies, and regulations can influence demand. For example, a subsidy on electric cars can increase their demand.

Market Dynamics

Trends and fads can temporarily increase demand for certain commodities.

Technological advancements can make certain products more desirable, increasing demand.

Example 2.2



Learning Tasks

1. Identify three of the other factors that affect the demand for a commodity apart from price.
2. Explain any five factors that affect the demand for a commodity.
3. Graphically illustrate the increase and decrease in demand caused by factors other than price.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that, they can identify the other factors that affect the demand.
2. Learners who understand the concept should be required to apply their knowledge and skills to explain the other factors that affect demand.
3. The learners who show a high level of understanding should be allowed to foster a culture of reflective practice where they can reflect and illustrate graphically the change in demand using their everyday life examples.

Pedagogical Exemplars

Collaborative Learning: Group learners into at least six different groups based on at least six of the other factors that affect the demand for a commodity. Each group research their respective or assigned factors that determine the demand for a commodity. Each group should present their work using examples from their everyday lives as students.

Building on What Others Say: Learners brainstorm and discuss how the factors that determine demand can lead to a change in demand.

a. Learners who have low ability in identifying the other factors that affect demand for a commodity using their everyday life experience should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)

b. For learners who show clear understanding and ability to identify the other factors that affect demand for a commodity using their everyday life, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain the other factors that affect demand for a commodity using their everyday life experiences as students. (P)

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to explaining change in demand using graphical illustrations with real-world scenarios.

Key Assessment

DoK Level 1: Introduction/ Recall

Identify any three of the other factors that affect the demand for a commodity.

DoK Level 3: Strategic reasoning

1. Explain any five of the other factors that affect the demand for a commodity.
2. Link any three of the other factors that affect the demand for a commodity to change in demand.

DoK Level 4: Extended thinking

Graphically illustrate a change in demand using a real-world scenario.

Hint

- Give an Individual Portfolio assignment to leaners in Week 3. The Portfolio should be submitted in week 22. See Appendix B at the end of this section for a guide on the portfolio task.
- The recommended mode of assessment for Week 3 is test of practical knowledge. Refer to the Teacher Assessment Manual and Toolkit pages 33–35 for further information on administering test of practical knowledge as an assessment strategy.
- Remind learners about their Group Project Work and offer them the opportunity to seek clarification and support if they have any.

Week 4

Learning Indicator: Differentiate between change in quantity demanded and change in demand

Focal Area 1: Change in quantity demanded vs. Change in demand

Introduction

The concepts of "change in quantity demanded" and "change in demand" are fundamental to understanding how different factors influence market behaviour. A change in quantity demanded refers to a movement along the demand curve due to a change in the commodity's price, holding all other factors constant. This means that the demand curve itself does not shift; rather, there is a movement to a different point on the same curve.

When the price of the commodity decreases, the quantity demanded increases, resulting in a movement down the demand curve. When the commodity's price increases, the quantity demanded decreases, resulting in a movement up the demand curve.

A change in demand refers to a shift of the entire demand curve due to changes in factors other than the price of the commodity. These factors include consumer income, tastes and preferences, prices of related goods, expectations, number of buyers, and other external factors. When the demand for a commodity increases due to favourable changes in non-price factors (e.g., higher income, increased preference for the product, decrease in the price of complementary goods), the entire demand curve shifts to the right. When the demand for a commodity decreases due to unfavourable changes in non-price factors (e.g., lower income, decreased preference for the product, increase in the price of complementary goods), the entire demand curve shifts to the left.

Example 2.3

1. Change in Quantity Demanded (Movement Along the Curve)

   This is shown as a movement from one point to another on the same demand curve.

   If the price of baobab drops from GH¢3 to GH¢2, the quantity demanded increases from 10 units to 15 units, moving along the demand curve.

2. Change in Demand (Shift of the Curve)

   This is shown as the entire demand curve shifting to the right (an increase in demand) or the left (a decrease in demand). If consumer income increases, the demand for baobab might increase at every price level, shifting the entire demand curve to the right.

Learning Tasks

1. Explain the difference between a change in quantity demand and a change in demand.
3. Use the graphical illustration to differentiate a change in quantity demanded and a change in demand using your everyday life experience as a student.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can explain the difference between change in quantity demand and change in demand. (A)
2. Learners who understand the concept are required to apply their knowledge and skills to graphically illustrate the change in demand and change in quantity demanded using real-world examples. (P & HP)

Pedagogical Exemplars

Building on What Others Say: Learners brainstorm and discuss the differences between a change in demand and a change in quantity demanded.

1. Learners who have a low ability to explain the difference between a change in quantity demand and a change in demand by using their everyday life experience should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show clear understanding and ability to differentiate between a change in quantity demanded and a change in demand using their everyday life, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to graphically illustrate the difference between a change in quantity demand and a change in demand using their everyday life experiences as students. (P & HP)

Key Assessment

DoK Level 3: Strategic Reasoning

Explain the difference between a change in quantity demand and a change in demand using your everyday life experience as a student purchasing an Economics Textbook.

DoK Level 4: Extended Thinking

Graphically illustrate a change in quantity demand and a change in demand using different commodities.

Hint

- The Recommended Mode of Assessment for Week 4 is Group Presentation. Refer to the Teacher Assessment Manual and Toolkit pages 8–9 and 11 for notes on administering presentation as an assessment strategy. See Appendix C at end of this section for a sample rubric to score the group presentation.
- Scores on individual class exercise should be ready for submission to STP this week. It should be an average of the various class exercises you have conducted over the past four weeks.

SECTION 2 REVIEW

The lessons taught in section two focused on the determinants of demand, change in quantity demanded and change in demand. It brought to the fore how price alone affects quantity demanded and produces a movement along the demand curve and how non-price factors cause a change in demand and a shift of the demand curve. The session ended the differentiation between a change in quantity demanded and a change in demand. The teacher applied varied pedagogical skills, specifically collaborative learning and building on what others say and assessment techniques subject to the abilities of the learners to achieve the learning indicators for the week.

APPENDIX B: SAMPLE PORTFOLIO ASSIGNMENT

Purpose: The purpose of this portfolio is to showcase learners' growth, skills, reflections, and knowledge acquired throughout the academic year. It serves as a comprehensive record of learners' academic journey.

Task: *E.g.*

Create a portfolio to showcase your learning journey throughout the academic year, by considering the artefacts/items listed ***a*** *to* ***g****.*

Artefact (items) to be included in the Portfolio:

E.g.

1. *Learner's class exercise and homework book for Economics*
2. *Individual project work(s) done in the academic year*
3. *A copy of group project work (photocopied/handwritten)*
4. *Mid-semester exam scripts (first and second semester)*
5. *End-of-semester examination script (first semester)*
6. *Your reflection of not more than 60 words each, describing what you have learned on the 3 concepts below.*
    i. *Utility*
    ii. *Revenue*
    iii. *Market Equilibrium.* ***[Reflection/write-up should be done latest by week 14 of the second semester]***

g. *Your overall reflection for the academic year, not more than 60 words each to cover each of the 3 themes below.*
    i. *Why do I like/dislike economics as a subject?*
    ii. *What concepts do I still find challenging in economics?*
    iii. *What can I do as a learner, and what should my economics teacher do to help me improve my understanding of economic concepts in year 3?* ***[To be done by week 20 of the second semester]***

Submission of Portfolio: Week 22

Learners should submit their portfolios to the teacher for scoring.

Structure/Organisation of the Portfolio

E.g.

As part of the structure of the portfolio, learners should have the following details.

a. *Cover Page*
    i. *Title: Portfolio for the 20…../ 20…..Academic Year*

ii. *Name of School: ……*

iii. *Name of Student: ……..*

iv. *Subject: ……..*

v. *Class: ……..*

vi. *Date of submission……*

b. *List of Content*

c. ***Items/artefacts should be arranged in this order in a 'clear bag/file or in any other acceptable way;*** *thus Exercise/Homework book, Individual project work, A copy of group project work, Mid-semester exam scripts, End-of-first-semester exam script, Reflection on the 3 concepts, Overall reflection on the 3 themes, etc.*

Administering

E.g.

1. *Give the portfolio task to learners in week 1 of the first semester (printout, written or projected for learners to copy) and explain the requirements to them*
2. *Schedule periodic checks for the portfolio to assess the progress of learners*

   E.g. Weeks 10 and 14
3. *Remind learners in week 21 to compile and design a cover page for their portfolio.*
4. *Let learners submit the Portfolio in week 22 at an agreed time and place, etc.*

Refer to the Teacher Assessment Manual and Toolkit pages 22-25 and pages 119-123 for more information on administering a portfolio as an assessment strategy.

Marking scheme

E.g.

40 marks in all

1. *Cover page* *[1 mark]*
2. *List of content* *[1 mark]*
3. *Artefacts*

   i. *Class exercise or homework book* *[5 marks]*

   ii. *Individual project work* *[5 marks]*

   iii. *A copy of group project work (photocopied/handwritten)* *[5 marks]*

   iv. *Mid-semester exam scripts (first and second semester)* *[5 marks]*

   v. *End of Semester exam script (first semester)* *[5 marks]*

   vi. *Reflection on the 3 concepts (2 marks each)* *[6 marks]*

   vii. *Overall reflection (2 marks each)* *[6 marks]*

d. *Exhibition of independent work, reflection skills, and neatness of work.* *[1 mark]*

Rubric for scoring learners' reflections on concepts and themes in (vi and vii).

Item(s)	Very Good (2 marks)	Good (1 mark)	Needs Improvement (1/2 mark)
Reflection on concepts	A good reflection on the concepts/themes that has clarity of expression, and is within the 60-word limit.	A reflection on the concepts/themes with an appreciable level of clarity, and is either less or more than the words limit	A reflection on concepts/themes that lacks clarity of expression and does not make good meaning
Overall reflection on themes			

Feedback

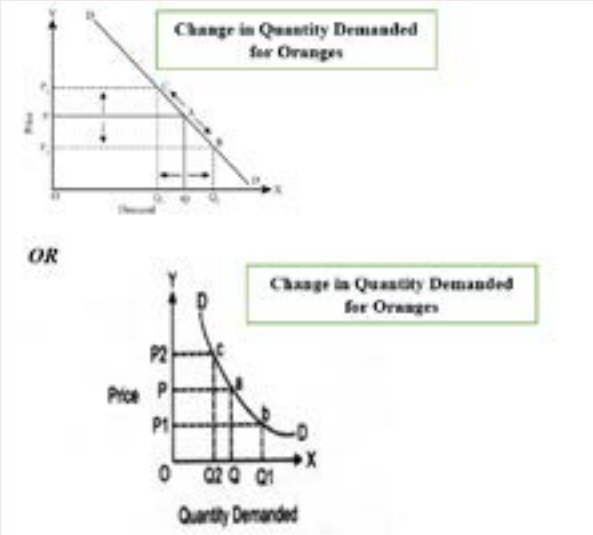
E.g.

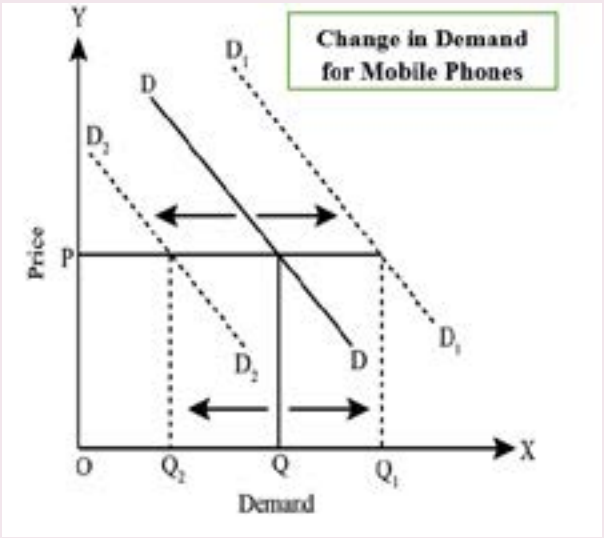
1. *Share the results of the portfolio with the learners and commend their efforts*
2. *Return the portfolio to the learners unless otherwise decided by the entire class*
3. *Encourage learners to continue practising the act of reflection as it helps their recall and retention, etc.*

APPENDIX C: RUBRICS FOR SCORING GROUP PRESENTATION

Sample Task: Using well-labelled diagrams, illustrate a change in quantity demanded and a change in demand. ***(10 marks)***

1. *1 mark for the title of each diagram*
2. *Correctness of the graph for the change in quantity demanded below;*
   - *i. Indicating the initial price (p) [½ mark]*
   - *ii. And indicating the corresponding quantity demanded (q) [½ mark]*
   - *iii. Indicating an increase in price (p to p_1) [½ mark]*
   - *iv. And indicating the corresponding decrease in quantity demanded (q to q_1) [½ mark]*
   - v. Indicating a decrease in price (p to p_2) [½ mark]
   - vi. And the corresponding increase in quantity demanded (q to q_2) [½ mark]





c. *Correctness of graph for change in demand below;*
   - *i. indicating constant price (P) [½ mark]*
   - *ii. and initial demand (DD and Q) [½ mark]*
   - *iii. indicating a rightward shift in the demand curve (DD to D1D1) [½ mark]*
   - *iv. and the corresponding increase in demand (Q to Q1) [½ mark]*
   - *v. indicating a leftward shift in the demand curve (DD to D2D2) [½ mark]*
   - *vi. and the corresponding decrease in demand (Q to Q2) [½ mark]*

d. *Teamwork attributes 2 marks]*

Scores	2 marks	1 mark	0 mark
Team work attributes	• Exhibits at least 2 of these attributes in the group. • Respecting the views of others • Tolerating others • Resolving conflicts • Sharing roles • Good presentation skills	• Exhibits only 1 of these attributes in the group • Respecting the views of others • Tolerating others • Resolving conflicts • Sharing roles • Good presentation skills	• Does not exhibit any of these attributes in the group • Respecting the views of others • Tolerating others • Resolving conflicts • Sharing roles • Good presentation skills

SECTION 3: UTILITY

Strand: Consumers' Rational Decision Making

Sub-Strand: Consumer Behaviour

Learning Outcome : Exhibit rational behaviour in determining the equilibrium in consumption of goods and services through practical experiences

Content Standard: Apply knowledge in utility concept as a rational consumer.

Hint

Mid-Semester Examination for the first semester is in Week 6. Refer to Appendix E at the end of this section for a Table of Test Specifications to guide you in setting the questions. Set questions to cover all the indicators covered for at least weeks 1 to 5.

INTRODUCTION AND SECTION SUMMARY

Section three covers consumer behaviour. It focused on equilibrium in utility, calculation of Total utility (TU), Marginal Utility (MU) and Average Utility (AU) as well as the graphical representation of the TU, MU and AU. The learning outcome of the section is to exhibit rational behaviour in determining the equilibrium in the consumption of goods and services through practical experiences. Specifically, it is expected that learners will use their everyday life experiences to explain equilibrium in utility, calculate TU, MU and AU as well as draw the TU, MU and AU curves.

Teachers should note that the concept of utility is linked to Home Economics, and the calculations use simple mathematical tools.

The weeks covered by the section are:

Week 5: Equilibrium in Utility and Calculation of Marginal Utility, Total Utility and Average Utility

Week 6: Total, Marginal and Average Utility Curves

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents two different pedagogies to the teacher. These are structuring talk for learning and building on what others say. In structuring talk for learning, the teacher is to support learners to discuss how equilibrium is attained by equating marginal utility to price and guide learners to use a given data to calculate TU, AU and MU. In building on what others say, the teacher is expected to support learners in using participatory feedback to draw the various utility curves.

Teachers should consider the needs of all learner ability groups as well as the accessibility of all disability in any learner when applying the proposed pedagogy.

ASSESSMENT SUMMARY

The assessments in this section cover levels one, two and four. The teacher is expected to use formative assessment during the lessons and assess the learners based on their abilities. The level one item requires that the teacher ask questions that will enable learners to be able to recall and reproduce concepts and content. The level two items require that the teacher use funnel and probing questions in this regard. The teacher is supposed to use the level four items to promote strategic thinking and complex reasoning in the learners. The teacher is supposed to ask leading and hypothetical questions.

The teacher should consider the needs of all learner ability groups when applying the proposed assessment. The teacher can use multiple strategies such as discussion, class exercises and dramatisation.

You are encouraged to administer these recommended assessments for each week, carefully recording the results of the Recordable Assessment (Mid-Sem) and submit it to the **Student Transcript Portal (STP)** for documentation.

The recommended assessment modes for this section are:

Week 5: Self-Assessment

Week 6: Mid-Semester Examination

*Refer to the "**Hint**" at the key assessment for each week for additional information on how to effectively administer these assessment modes.*

Week 5

Learning Indicator: Use the concept of utility to determine the equilibrium of a consumer

Focal Area: Equilibrium in Utility and Calculation of Marginal Utility, Total Utility and Average Utility

Definition

Utility: Utility is a fundamental concept in Economics that refers to the satisfaction, pleasure, or benefit that a consumer derives from consuming goods and services.

Equilibrium: In Economics, equilibrium refers to a state of balance.

Utils: Utils are a theoretical unit of measurement used in economics to quantify the level of satisfaction or happiness a consumer derives from consuming goods and services.

Introduction

Equilibrium in utility refers to a state in which a consumer has allocated their resources (usually income) in such a way that maximises their overall satisfaction or utility, given their budget constraints. This concept is central to consumer choice theory in Economics.

Consumers aim to distribute their income across different goods and services to achieve the highest possible total utility. This involves making choices about which combinations of goods and services provide the most satisfaction. In utility equilibrium, the consumer equalises the marginal utility per cedi spent across all goods and services. This is based on the principle that the last cedi spent on each good or service should yield the same amount of additional (marginal) utility.

Mathematically, this can be expressed as:

Equilibrium of the consumer (single commodity)

$$MU_x = P\_x$$

Where MU_x is Marginal Utility of commodity x and P_x is price of commodity x

Multiple Commodities $$\frac{MUx}{Px} = \frac{MUy}{Py}$$

Total Utility (TU)

Total utility is the overall satisfaction or pleasure that a consumer derives from consuming a certain quantity of goods or services. It is the sum of the utility gained from each unit of consumption. Total utility is the sum of the utilities from each unit consumed. If a consumer derives utility from each unit of a good consumed, total utility is the cumulative total of these utilities.

$$TU = U_1 + U_2 + U_3 + ... + U_n$$

U_i is the utility derived from the i^{th} unit of the good.

OR

$$TU\ (Q) = \sum_{i=1}^{Q} MU_i$$

Where TU = Total Utility, Q = Quantity, MU = Marginal Utility and i = 1, 2, 3 … n

Marginal Utility (MU)

Marginal utility is the additional satisfaction or utility that a consumer derives from consuming one more unit of a good or service. It measures the change in total utility resulting from a one-unit change in the quantity consumed. Marginal utility is calculated as the change in total utility divided by the change in quantity consumed. If the total utility increases from consuming an additional unit of a good, the marginal utility is:

$$MU = \frac{\Delta TU}{\Delta Q}$$

Where $\Delta TU = TU_2 - TU_1$ and $\Delta Q = Q_2 - Q_1$

This implies that

$$MU = \frac{\Delta TU}{\Delta Q} = \frac{TU_2 - TU_1}{Q_2 - Q_1}$$

Law of Diminishing Marginal Utility: This law states that as a person consumes more units of a good, the additional satisfaction (marginal utility) from each additional unit tends to decrease.

Average Utility (AU)

Average utility is the total utility divided by the number of units consumed. It provides a measure of the utility per unit of consumption. Average utility is calculated by dividing total utility by the quantity consumed;

$$AU = \frac{TU}{Q}$$

Where TU = Total Utility, and Q = Quantity

Example 2.4

Consider a consumer eating slices of yam, where the utility derived from each slice is as follows:

a. 1st slice: 10 utils
b. 2nd slice: 8 utils
c. 3rd slice: 5 utils
d. 4th slice: 2 utils

Total Utility (TU):

- After 1 slice: TU=10
- After 2 slices: TU=10+8=18
- After 3 slices: TU=10+8+5=23
- After 4 slices: TU=10+8+5+2=25

Marginal Utility (MU):

- From 1st to 2nd slice: MU=8
- From 2nd to 3rd slice: MU=5
- From 3rd to 4th slice: MU=2

Average Utility (AU):

- After 1 slice: $AU = \frac{10}{1} = 10$
- After 2 slices: $AU = \frac{18}{2} = 6$
- After 3 slices: $AU = \frac{23}{3} \approx 7.67$
- After 4 slices: $AU = \frac{25}{4} = 6.25$

Learning Tasks

Q	TU	AU	MU	P
1	10			5
2	18			5
3	25			5
4	31			5
5	36			5
6	40			5
7	43			5
8	X			5
9	46			5
10	X			5

1. Find the TU for quantities 8 and 10
2. Find the AU and MU for all quantities
3. Indicate the equilibrium of the consumer

Note

1. Guidance should be given to learners who are less confident in doing simple additions to calculate Total Utility (TU).
2. Learners who show a clear understanding of how to calculate Total Utility (TU) should be stretched to calculate Average Utility (AU) and Marginal Utility (MU)
3. Learners who demonstrate a high level of calculating TU, MU and AU should be engaged in critical and complex thinking to demonstrate how the equilibrium of utility of the consumer can be attained.

Pedagogical Exemplars

Structuring Talk for Learning

1. Learners discuss how equilibrium is attained by equating marginal utility to price.
2. Learners use the given data to calculate TU, AU and MU.
    a. Teachers should provide targeted support for learners who may be struggling to calculate TU. They should be supported to use their everyday life experiences and other relevant illustrations. (AP)
    b. Teachers should offer the opportunity to learners who understand the calculation of TU to proceed and calculate MU and AU. (P)
    c. Teachers should encourage reflective learning practices by asking learners to critically reflect on the calculation of TU, MU and AU to explain how the equilibrium in the utility of the consumer is attained. (HP)

Key Assessment

DoK Level 2: Skills of conceptual understanding

1. Explain Total Utility using real-world examples.
2. Examine the difference between Marginal Utility and Average Utility.

DoK Level 4: Extended Thinking

Analyse the equilibrium level of the consumer using algebra.

Hint

- The recommended mode of assessment for Week 5 is **Self-Assessment.** Refer to the Teacher Assessment Manual and Toolkit pages 72 -73 for more information on administering self-assessment or review as an assessment strategy. See **Appendix D** for a sample rubric to guide/score the Self-Assessment.
- Prepare for mid-semester examination by setting your test items ahead of time, proofread and prepare the scoring rubrics or marking scheme.

Week 6

Learning Indicator: Sketch the utility curves (Total, Marginal and Average)

Focal Area 1: Total, Marginal and Average Utility Curves

Introduction

Total utility, marginal utility, and average utility curves are graphical representations that help illustrate how utility changes with the consumption of additional units of a good or service.

Total Utility Curve

The total utility curve shows the total satisfaction or utility a consumer derives from consuming different quantities of a good or service. The total utility curve typically starts at the origin (0, 0) because zero consumption leads to zero utility. As consumption increases, total utility initially rises at an increasing rate, then at a decreasing rate, and eventually may level off or decline if consumption leads to negative utility (dissatisfaction). On a graph, the quantity of the good is on the horizontal axis, and the total utility is on the vertical axis. The curve generally slopes upward, reflecting that more consumption leads to higher total utility, but it flattens out due to diminishing marginal utility.

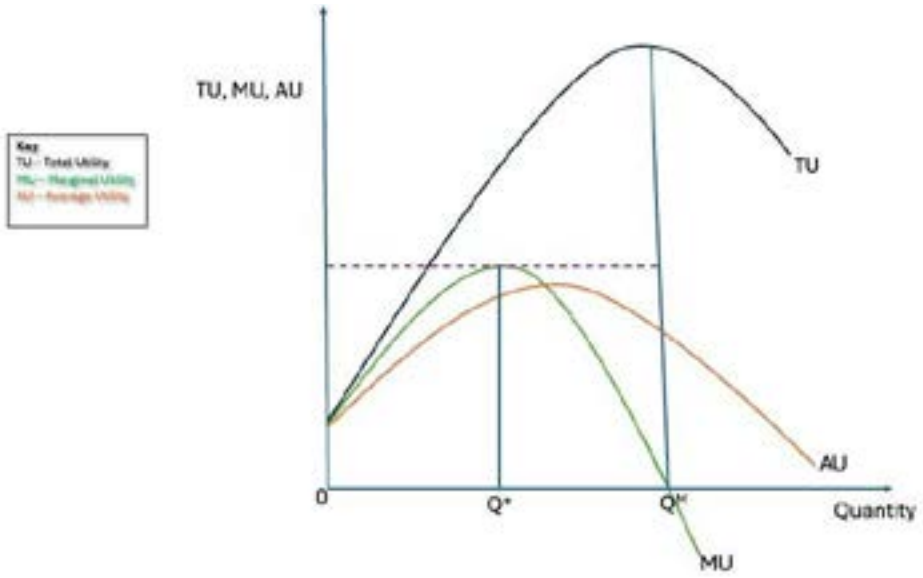
Marginal Utility Curve

The marginal utility curve shows the additional utility a consumer gains from consuming one more unit of a good or service. The marginal utility curve typically slopes downward, reflecting the law of diminishing marginal utility, which states that the additional satisfaction from consuming each additional unit decreases. If the marginal utility becomes negative, the curve will cross below the horizontal axis, indicating that additional consumption reduces total utility. On a graph, the quantity of the good is on the horizontal axis, and marginal utility is on the vertical axis. The curve generally slopes downward and can intersect the horizontal axis if marginal utility becomes zero or negative.

Average Utility Curve

The average utility curve shows the utility per unit of consumption, calculated as total utility divided by the number of units consumed. The average utility curve typically follows a pattern similar to the total utility curve but normalised by the quantity consumed. It may initially rise, reflecting increasing utility per unit, but will eventually decline due to diminishing marginal utility. On a graph, the quantity of the good is on the horizontal axis, and average utility is on the vertical axis. The curve may rise initially, but then slopes downward as diminishing marginal utility takes effect.

Example 3.1



Learning task for practice

1. Graphically illustrate the TU, MU and AU curves.
2. Explain the relationship among the three curves.

Note

1. Guidance should be given to learners who are less confident in drawing curves to sketch the Total Utility (TU) curve.
2. Learners who show a clear understanding of how to sketch the Total Utility (TU) curve should be stretched to sketch Average Utility (AU) and Marginal Utility (MU) curves.
3. Learners who demonstrate a high level of sketching TU, MU and AU curves should be engaged in critical and complex thinking to analyse the relationships among the three curves.

Pedagogical Exemplars

Building on What Others Say: Learners use participatory feedback to draw the various utility curves.

1. Teachers should encourage peer support to learners to sketch the TU curve. (AP)
2. Teachers should offer opportunities for the application of personal experiences in graphically illustrating the TU, MU and AU. (P)
3. Teachers should engage learners in explaining the relationship between the three curves using real-world examples. (HP)

Key Assessment

DoK Level 1: Reproduction/ Recall

1. Draw the total utility curve.
2. Draw the marginal and average utility curves.

DoK Level 4: Extended thinking

Analyse the relationship among the TU, MU and AU curves using a graphical illustration.

Hint

- The recommended mode of assessment for this week is **Mid-Semester Examination.** Refer to **Appendix E** for guidelines and a Table of Specifications to guide you in setting the questions.
- Refer to the Teacher Assessment Manual and Toolkit pages 66-67 and 74-76 for more information on administering multiple-choice questions and essays as an assessment strategy.

SECTION 3 REVIEW

The lessons taught in section three are limited to equilibrium in utility, calculating TU, MU, AU and sketching TU, MU and AU curves.

Week five used the concept of utility to determine the equilibrium of the consumer through the calculation of TU, MU and AU. By the end of the week, learners will be able to use the formulae to calculate TU, MU and AU as well as explain how equilibrium in utility is determined.

The sixth week looked at how to graphically represent the TU, MU and AU, as well as explaining the relationship among the three curves. By the end of the week, learners will be able to draw the TU, MU and AU curves without difficulty.

APPENDIX D: SAMPLE RUBRICS FOR GUIDING SELF-ASSESSMENT

Sample Task: Consider a student who is eating and deriving utility from slices of yam at the school canteen and use the information to explain total utility and calculate the total utility for each slice of yam eaten by the student.

1. *1st slice: 10 utils*
2. *2nd slice: 8 utils*
3. *3rd slice: 5 utils*
4. *4th slice: 2 utils*

Sample guideline for learners to use in Self-assessment. (Teacher can allocate scores)

Criteria for self-assessment	Yes	No
1. Is my definition of total utility clear, accurate and captures keywords like overall satisfaction, consumer, goods, and services?		
2. Did I use any realistic example(s) like eating food, drinking water, watching a movie, surfing the internet, etc, to define the concept of utility?		
3. Did I correctly calculate the total utility for each slice and show working in steps? ***After 1 slice:*** $TU_1 = U_1$ TU_1=10 utils ***After 2 slices:*** $TU_2 = U_1 + U_2$ TU_2=10+8=18 utils ***After 3 slices:*** $TU_3 = U_1 + U_2 + U_3$ TU_3=10+8+5=23 utils ***After 4 slices:*** $TU_4 = U_1 + U_2 + U_3 + U_4$ TU_4=10+8+5+2=25 utils		
4. Did I state the formulae for each stage of calculating the total utility?		
5. Did I write the unit of measurement (utils) beside every answer?		

APPENDIX E: GUIDELINES AND TABLE OF TEST SPECIFICATION FOR MID-SEMESTER EXAMINATION

1. *Paper 2*
   i. *Two (2) essay/data response questions of which learners answer only 1*
   ii. *Essay/data response questions should cover DoK levels 3 - 4*
   iii. *Questions should cover the learning indicators in weeks 1 - 5 of the Teacher Manual*
   iv. *Each essay/data response question should be scored out of 20 marks*
2. *Paper 1*
   i. *30 objective test items (multiple choice) of which learners answer all*
   ii. *Objective test questions should cover DoK levels 1 - 3*
   ***iii. I mark** for each objective test question*
3. *Follow the 30,40,30 rule in crafting/writing the test items, thus DoK level 1=30%, DoK level 2=40% and DoK level 3&4=30%*
4. *Duration: 1 hour, 10 minutes*

Sample multiple-choice question.

The changes in the quantities demanded of a commodity mainly depend on the changes in ____

a. *all factors that affect demand except price.*
b. *all factors that affect demand.*
c. *the income of the consumer.*
d. *the price of the commodity.*

Table of Test Specification for Mid-Semester Examination (First Semester)

Week	Focal Area(s)	Type of Question	DoK Levels Total				
			1	2	3	4	-
1	Tools in economic analysis – Words; Tools in economic analysis –Infographics	Multiple Choice	2	3	1	–	6
2	Tools in economic analysis- Algebra	Multiple Choice	1	2	1	–	4
3	Factors that affect demand for a commodity-Price; Change in quantity demanded; Other Factors that affect demand for a commodity	Multiple Choice	2	4	2	–	8
		Essay	–	–	1	–	1

4	Change in demand; Change in quantity demanded Vs. Change in demand	Multiple Choice	2	2	3	-	6
5	Equilibrium in Utility; Calculation of MU, TU and AU	Multiple Choice	3	2	-	-	5
		Essay/Data response	-	-	-	1	1
Total			10	13	8	1	32

SECTION 4: PRODUCTION, COST & REVENUE

Strand: Firms' Innovative Decision Making

Sub-Strand: Production of Goods and Services

Learning Outcomes

1. *Use information gathered from the environment to determine the time-periods, TP, AP, MP, labour and capital-intensive methods and the cost of production.*
2. *Establish the relationships among Total Revenue (TR), Average Revenue (AR), and Marginal Revenue (MR)*

Content Standards

1. *Apply knowledge and understanding of production to pricing of goods.*
2. *Demonstrate understanding of Revenue Concepts.*

Hint

- The scores for Mid-Semester exams should be ready in week 8 for entry into the Student Transcript portal.
- Learners should submit their Group Project work to the teacher for scoring and subsequent recording into the STP.
- See Appendix F for a sample rubric on an essay.

INTRODUCTION AND SECTION SUMMARY

Section four of the second-year Economics Teacher Manual covers a firm's 'Innovative Decision Making'. It focuses on the concepts of production, cost and revenue. The learning outcomes of the section are: to use information gathered from the environment to determine the time periods, labour and capital-intensive methods and the cost of production and to establish the relationships among Total Revenue (TR), Average Revenue (AR), and Marginal Revenue (MR). Specifically, it is expected that learners demonstrate knowledge and understanding of the periods in production, methods of production, and the concept of cost and revenue.

Teachers should note that the concepts of production, cost and revenue are linked to Business Studies.

The weeks covered by the section are:

Week 7: Time Periods and Method of Production

Week 8: The Concept of Cost

Week 9: The Concept of Revenue

Week 10: Total, Average and Marginal Revenue Curves

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section requires hands-on activities where learners engage in practical ways of understanding how to calculate and graphically represent Total, Product, Average Product, Marginal Product, Fixed cost, Variable Cost, Total Cost, Average Fixed Cost, Average Variable Cost, Average Total Cost, Marginal Cost, Total Revenue, Average Revenue and Marginal Revenue. Hence, talk for learning, problem-based learning, experiential learning and building on what others say should dominate the lessons. All learners, irrespective of their gender, economic background as well or learning ability, should be encouraged to participate fully.

Consider different groups of learners in the class when facilitating this section. That is, offer learners approaching proficiency the opportunity to make oral presentations when explaining any of the concepts. Then, offer extend activities for the gifted and talented or highly proficient learners.

ASSESSMENT SUMMARY

The concept in this section requires learners to demonstrate conceptual understanding, including their real-life applications. Hence, the assessment should largely cover all the levels of DOK so that learners approaching proficiency and highly proficient learners will not be left out. Teachers should use a variety of formative assessment strategies, such as oral, written, reports, and home tasks, to gather information about learners' progress and give prompt feedback to them. The teacher should record what he or she deems necessary in the learners' transcripts.

The recommended assessment mode for the weeks in this section are;

Week 7: Computational task

Week 8: Essay

Week 9: Mini-Project

Week 10: Short Quiz

*Refer to the "**Hint**" at the key assessment for each week for additional information on how to effectively administer these assessment modes.*

Week 7

Learning Indicators

1. *Identify the time periods in production*
2. *Apply the concept of production to calculate Total Product (TP), Marginal Product (MP) and Average Product (AP)*
3. *Differentiate between labour-intensive and capital-intensive methods of production*

Focal Area 1: Time Periods in Production

Introduction

In Economics, production is analysed over different time periods to understand how producers can adjust their inputs and outputs. The main time periods considered are the short run and the long run. These periods are defined based on the flexibility of adjusting the various factors of production.

Short Run

The short run is a period during which at least one factor of production is fixed. Typically, capital (like buildings and machinery) is considered a fixed input, while labour and raw materials are variable inputs. Firms can adjust some inputs (e.g., labour, raw materials) but cannot change fixed inputs (e.g., capital, land). Production capacity is limited by the fixed inputs. Firms can increase or decrease output by varying the variable inputs within the constraints of the fixed inputs.

Long Run

The long run is a period during which all factors of production are variable. Firms have enough time to adjust all inputs, including capital and labour. Firms can change their production capacity by adjusting all inputs. There are no fixed inputs; all factors of production can be varied. Firms can enter or exit the industry.

Example 4.1

1. A factory may hire more workers (variable input) to increase production but cannot expand the factory size (fixed input) in the short run.
2. A company may decide to build a new factory, purchase new machinery, or enter a new market. These decisions involve changing capital, which is only feasible in the long run.

Learning Tasks

1. Identify the time periods in production.
2. Discuss the two time periods in production.
3. Differentiate between the short run and the long run time periods in production.

Note

1. Learners who find it difficult to identify the time periods in production should be assisted to connect the production in the real-world situation to identify the short and long run time periods.
2. Learners who show understanding of time periods in production should be allowed to use their knowledge to explain the two time periods in production using real-world examples.
3. Learners who show a high level of explaining the two time periods in production should design critical thinking exercises that challenge them to differentiate between the two time periods using real-world scenarios.

Pedagogical Exemplars

Talk for learning approaches (TfL): Learners discuss the short and long-run time periods in production.

Note

1. Teachers should provide targeted support for learners who struggle to identify the two time periods in production. They should be supported in using the practices of local producers to identify short and long-run time periods. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the time periods in production to apply their knowledge in explaining the short-run and long-run time periods in production. (P)
3. Teachers should encourage learners who show a high level of understanding of the two time periods in production to design critical thinking exercises that challenge them to differentiate between the short run and long run time periods in production. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Identify the two time periods in the production of goods.

DoK Level 2: Skills of conceptual understanding

Explain short-run and long-run time periods in the production of goods using real-world examples.

DoK Level 3: Strategic Reasoning

Differentiate between short-run and long-run time periods in the production of goods using real-world scenarios.

Focal Area 2: The Calculation and Drawing of Total Product (TP), Marginal Product (MP) and Average Product (AP)

Introduction

In production, total product, marginal product, and average product are key concepts used to understand the relationship between inputs and outputs in the production process.

Total Product (TP)

1. Total product refers to the total quantity of output produced by a firm using a given quantity of inputs over a specified period. It represents the overall production level when a specific amount of labour, capital, and other inputs are employed. Total product changes as the quantity of inputs used changes. Mathematically, the TP is given as;

$$TP\ (Q) = \sum_{i=1}^{Q} MP_{Ii}$$

$$TP\ (Q) = MP_1 + MP_2 + MP_3 \ldots + MP_n$$

Where TP = Total Product, Q = Quantity, MP = Marginal Product and i = 1, 2, 3 … n

The total product curve typically shows an initial increase in output at an increasing rate, followed by an increase at a decreasing rate, and eventually decreases due to diminishing returns.

Marginal Product (MP)

Marginal product is the additional output produced when one more unit of a variable input (e.g., labour) is added, while other inputs remain constant. The marginal product initially increases as additional units of the variable input are employed, due to increasing returns to the variable input. It eventually decreases due to the law of diminishing marginal returns, which states that adding more units of a variable input to a fixed input will eventually yield lower additional output.

Marginal product is calculated as the change in total product divided by the change in the quantity of the variable input.

$$MP = \frac{\Delta TP}{\Delta Q}$$

Where $\Delta TP = TP_2 - TP_1$ and $\Delta Q = Q_2 - Q_1$

This implies that

$$MP = \frac{\Delta TP}{\Delta Q} = \frac{TP_2 - TP_1}{Q_2 - Q_1}$$

The marginal product curve typically rises initially, reaches a peak, and then declines, reflecting the stages of increasing and then diminishing marginal returns.

Average Product (AP)

Average product is the average amount of output produced per unit of a variable input employed. The average product increases as long as the marginal product is greater than the average product. When the marginal product falls below the average product, the average product

begins to decline. Average product is calculated as the total product divided by the quantity of the variable input. That is,

$$AP = \frac{TP}{Q}$$

Where TP= Total Product, and Q = Quantity

The average product curve typically rises, reaches a peak, and then falls as more units of the variable input are added.

Total Factor Productivity

TFP represents the portion of output not explained by the number of inputs used in production. It captures the effects of technological advancements, efficiencies, innovations, and other factors that contribute to increased output without increasing the input quantities.

Total Factor Productivity

$$TFP = \frac{TP}{L + K}$$

Where TP = Total Product, L = Labour and K = Capital

The Stages of Production

The production process can be divided into three main stages based on the behaviour of total product, marginal product, and average product as inputs are varied. These stages help in understanding how output responds to changes in the number of inputs used, particularly labour.

Stage 1: Increasing Returns to the Variable Input

In this stage, as more units of a variable input (e.g., labour) are added to fixed inputs (e.g., capital), the total product increases at an increasing rate. Both marginal product (MP) and average product (AP) are rising. This stage is characterised by increasing marginal returns, meaning each additional unit of input contributes more to the total output than the previous unit. At this stage, the total product (TP) curve is concave upwards, the marginal product (MP) curve is rising, and the average product (AP) curve is rising but at a slower rate compared to the MP curve.

Stage 2: Decreasing Returns to the Variable Input

In this stage, the total product continues to increase, but at a decreasing rate. The marginal product (MP) begins to decline, although it remains positive. The average product (AP) also starts to decline after reaching its maximum. This stage is characterised by diminishing marginal returns, meaning each additional unit of input contributes less to the total output than the previous unit. The total product (TP) curve is concave downwards, the marginal product (MP) curve is declining, and the average product (AP) curve reaches its peak and then starts to decline.

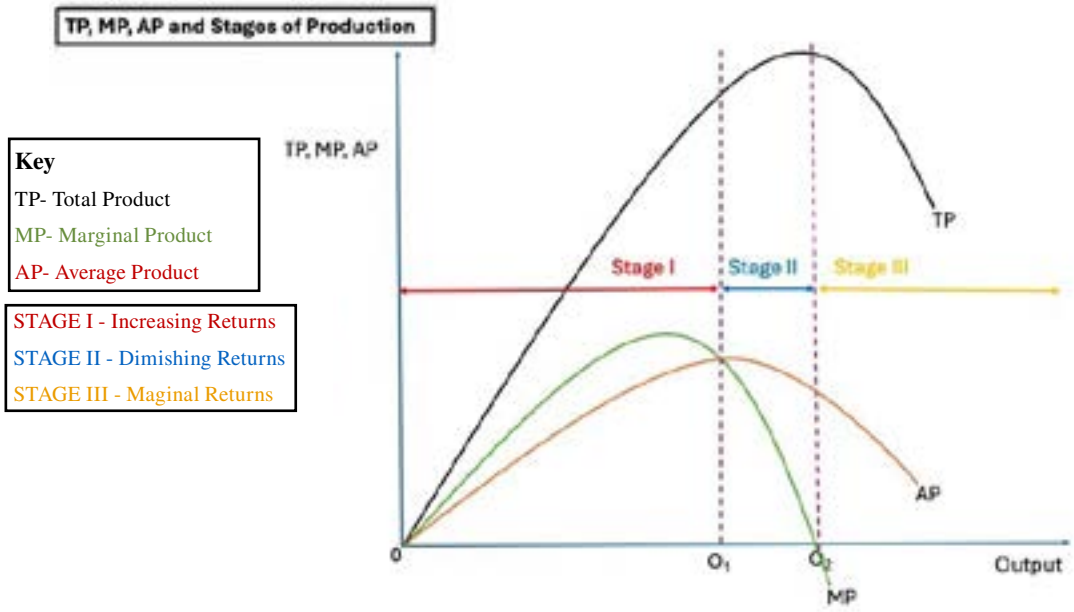
Stage 3: Negative Returns to the Variable Input

In this stage, the total product starts to decline as more units of the variable input are added. The marginal product (MP) becomes negative, indicating that additional units of input actually reduce the total output. The average product (AP) continues to decline. The total product (TP)

curve slopes downward, the marginal product (MP) curve falls below zero, and the average product (AP) curve continues to decline.

Example 4.2

Visualisation of these concepts with graphs.



Learning Tasks

L	K	TP	MP	AP	TFP
1	10	100			
2	10	180			
3	10	x			
4	10	280			
5	10	x			

1. Find the TP when labour is:
   a. 3
   b. 5
2. Calculate the MP and AP for all levels of Labour
3. Calculate the TFP for each level of labour and capital
4. Graphically Sketch the TP, MP, and AP
5. Explain the stages of production using a sketch.

Note

1. Learners who find it difficult to calculate TP, MP and AP should be assisted by giving them extra time and peer support.
2. Learners who show understanding of how to calculate TP, MP and AP should be allowed to use their knowledge to graphically sketch the TP, MP and AP.
3. Learners who show a high level of sketching the TP, MP and AP should design critical thinking exercises that challenge them to explain the stages of production.

Pedagogical Exemplars

Problem-Based Learning: Learners work in teacher nominated mixed ability and gender groups to calculate Total Product (AP), Marginal Product (MP) and Average Product (AP). Sketch the TP, MP and AP and explain the different stages of production.

Note

1. Teachers should provide targeted support for learners who struggle to calculate TP, MP and AP. They should be supported in using their previous knowledge to do the calculation. (AP)
2. Teachers should offer the opportunity to learners who show understanding of how to calculate TP, MP and AP to apply their knowledge to sketch the TP, MP and AP curves.
3. Teachers should encourage learners who show a high level of understanding of how to sketch the TP, MP and AP curves to design critical thinking exercises that challenge them to explain the stages of production using the TP, MP and AP curves. (HP)

Key Assessment

L	TP	MP	AP
1	10	10	X7
2	X1	15	12.5
3	45	X4	15
4	60	X5	X8
5	X2	10	14
6	75	5	X9
7	X3	0	10.7
8	70	X6	X10

DoK Level 1: Reproduction/Recall

Calculate the Total Product values for X_1, X_2, and X_3

DoK Level 2: Skills of conceptual understanding

1. Estimate the Marginal and Average Products for $X_4 - X_{10}$
2. Assuming a fixed capital of 10, estimate the Total Factor Productivity (TFP) for all levels of labour employed.

DoK Level 3: Strategic Reasoning

1. Use the data to sketch the TP, MP and AP curves.
2. Indicate the stages of production in the curve.
3. Explain the relationship among the TP, MP and AP.

Focal Area 3: The Methods of Production

Introduction

Production methods can be broadly classified into labour-intensive and capital-intensive methods, depending on the primary factors of production used.

Labour-Intensive Production

Labour-intensive production relies more on human labour than on machinery and automation. It involves significant use of manual labour to produce goods and services. A large portion of the production process is carried out by human workers and there is less investment in machinery, equipment, and technology. This method can be more adaptable to changes in demand and customisation needs. It may require a high level of skill and craftsmanship, or conversely, can rely on low-skilled labour depending on the industry. The Labour costs form a significant portion of the total production costs under the labour-intensive production.

Capital-Intensive Production

Capital-intensive production relies more on machinery, equipment, and technology than on human labour. It involves significant investment in capital assets to produce goods and services. A large portion of the production process is carried out using machinery and automated systems. There is less reliance on human labour, though skilled workers may be needed to operate and maintain machinery. This method of production has high levels of production efficiency and lower per-unit costs with large-scale production. There is a significant initial investment in machinery, equipment, and technology. The choice between labour-intensive and capital-intensive production methods depends on various factors such as the nature of the product, production scale, cost considerations, and the availability of labour and capital.

Examples 4.3

1. Many agricultural processes, especially in developing countries like Ghana, rely heavily on manual labour for planting, harvesting, and processing.
2. Manufacturing clothing and textiles often involves significant manual work, especially in cutting, sewing and finishing.
3. Production of goods like pottery, handmade jewellery, and traditional crafts relies heavily on skilled labour.

4. The production of cars involves automated assembly lines, robotic systems, and advanced machinery.
5. The process of refining crude oil into various petroleum products is highly automated and requires substantial investment in infrastructure and technology.
6. Production of electronic devices like smartphones, computers, and semiconductors involves advanced machinery and automation.

Comparison

Aspect	Labor-Intensive Production	Capital-Intensive Production
Primary Input	Human labour	Machinery, equipment, technology
Initial Investment	Lower investment in capital assets	High investment in capital assets
Flexibility	More adaptable to changes in demand and customisation	Less flexible, better suited for mass production
Cost Structure	A high proportion of labour costs	A high proportion of fixed capital costs
Skill Requirements	Can vary from low-skilled to highly skilled labour	Skilled labour for operating and maintaining equipment
Production Scale	Suitable for small to medium-scale production	Suitable for large-scale production
Example Industries	Agriculture, textiles, handicrafts	Automobile manufacturing, oil refining, and electronics

Learning Tasks

1. Identify the two methods of production.
2. Discuss capital-intensive and labour-intensive methods of production.
3. Differentiate between the two methods of production using real-world examples.

Note

1. Learners who find it difficult to identify the two methods of production should be assisted in connecting real-world situations to identify the methods of production.
2. Learners who show understanding of the two methods of production should be allowed to use their knowledge to discuss capital-intensive and labour–intensive methods of production
3. Learners who show a high level of explaining the two methods of production should design critical thinking exercises that challenge them to differentiate between the two methods of production using real-world scenarios.

Pedagogical Exemplars

Experiential Learning: Learners watch two different videos on how firms use labour-intensive methods and capital-intensive methods of production.

Note

1. Teachers should provide targeted support for learners who struggle to identify the two methods of production. They should be supported to use the practices of production from the video or local producers to identify the two methods of production. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the time periods in production to apply their knowledge in discussing capital-intensive and labour-intensive methods of production. (P)
3. Teachers should encourage learners who show a high level of discussing the two methods of production to design critical thinking exercises that challenge them to differentiate between the two methods of production using real-world examples. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Identify the two methods of production of goods.

DoK Level 2: Skills of conceptual understanding

Discuss capital-intensive and labour–intensive methods of production of goods using real-world examples.

DoK Level 3: Strategic Reasoning

Differentiate between capital-intensive and labour–intensive methods of production of goods using real-world scenarios.

Hint

The recommended mode of assessment is Computational Tasks. Refer to the Teacher Assessment Manual and Toolkit pages 39–41 for more information on administering computational tasks as an assessment strategy.

WEEK 8

Learning Indicator: Apply the concept of cost to calculate average, total and marginal costs

Focal Area 1: The Concept of Cost

Definition

Cost: Cost refers to the monetary value that a company or individual spends to produce goods or services.

Introduction

In Economics, cost represents the expenditure incurred in the process of generating revenue and can take various forms.

Fixed Costs (FC)

Costs that do not change with the level of output. These are expenses that a business incurs regardless of its production volume. Examples are rent, salaries of permanent staff, insurance, and depreciation of equipment. Graphically, Fixed Cost is represented by a horizontal line since fixed costs do not change with the level of output.

Variable Costs (VC)

Costs that vary directly with the level of output. These costs increase as production increases and decrease as production decreases. Examples include; the cost of raw materials, direct labour costs and utility costs directly tied to production. The VC curve is an upward-sloping line reflecting that variable costs increase with higher output.

Total Cost (TC)

This is the sum of fixed costs and variable costs at any given level of production. The TC curve is an upward-sloping line starting from the level of fixed costs, showing that total cost increases as output increases.

The other costs may include but are limited to;

Opportunity Cost

The cost of foregoing the next best alternative when making a decision. It represents the benefits that could have been obtained by choosing a different option. Examples are the income a student could have earned by working instead of attending college, the profit a company misses out on by investing in one project instead of another.

Sunk Cost

Costs that have already been incurred and cannot be recovered. These costs should not affect future economic decisions. E.g., Money spent on research and development, past advertising expenditures.

Explicit Costs

Direct, out-of-pocket payments for inputs to the production process. These are actual cash payments. E.g., Wages, rent, materials, and utilities.

Implicit Costs

Indirect, non-cash costs represent the opportunity cost of using resources owned by the firm. E.g., Owner's time, the use of the company's buildings or equipment.

Economic Cost

The sum of explicit and implicit costs. It represents the total cost of choosing one action over another, including both out-of-pocket expenses and opportunity costs.

Time Horizons

In Economics, the distinction between short-run and long-run costs is important for understanding how firms make production decisions over different time horizons.

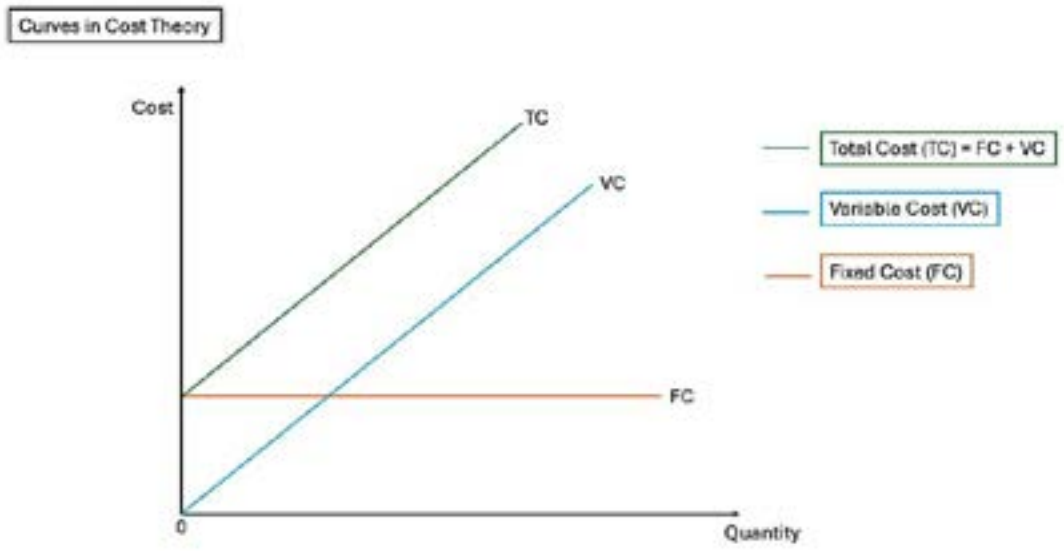
Short-Run Costs

In the short run, at least one factor of production is fixed, typically capital (e.g., machinery, buildings). This period is characterised by constraints on how much firms can adjust their production capacity.

Long-Run Costs

In the long run, all factors of production are variable. Firms can adjust all inputs, including capital, and there are no fixed costs. This period allows firms to fully adjust their production capacity to meet demand.

Examples 4.4



Learning Tasks

Sample Case Study (for day schools)

The school matron cooks rice water every Monday as breakfast. She uses 10 electric stoves, 15 pots, 10 bags of rice, 3 bags of sugar, 200 canteens of ideal milk and 20 cooks to prepare breakfast every Monday when school is in session. If she uses 20 gallons of water to prepare the rice water;

1. Identify the Fixed Cost and Variable Cost items for preparing rice water every Monday.

2. Explain fixed, variable and total costs using the case study.
3. Given that the 10 electric stoves cost 10,000 cedis, the 15 pots cost 1500 cedis, the 10 bags of rice cost 7000 cedis, the 3 bags of sugar cost 1200 cedis, the 200 canteens of ideal milk cost 12,000, the 20 cooks take a wage of 150 cedis per person for cooking breakfast on Mondays and the 20 gallons of water cost 100 cedis, sketch the FC, VC and TC curves.

Note

1. Learners who are less confident in understanding the concept of cost should be guided to use smaller manageable steps to be able to identify FC, VC and TC items.
2. Learners with a strong understanding of FC, VC and TC should be encouraged to explain FC, VC and TC using real-world examples.
3. Learners at a highly proficient level of understanding of the cost concept should be allowed to design critical thinking learning exercises that challenge them to sketch FC, VC and TC curves.

Pedagogical Exemplars

Experiential Learning: Learners work in teacher-nominated mixed ability and gender groups and interview the school matron on how much it costs to cook breakfast for the entire school (Total Cost [TC]) per student (Average Cost [AC]) and an additional student (Marginal Cost [MC]). Ask her about the fixed and variable cost elements. Or visit the school canteen and interview a seller on the above.

Note

1. Teachers should break down complex tasks into smaller, manageable steps for learners who are struggling to understand the concept of cost to be able to identify FC, VC and TC items. (AP)
2. Teachers should encourage learners with a deep understanding of the concept of cost to provide real-world examples to explain FC, VC and TC. (P)
3. Teachers should allow learners with extensive knowledge of the concept of cost to sketch FC, VC and TC curves using real-world examples. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Identify three items that are components of FC and VC.

DoK Level 3: Strategic Reasoning

Differentiate among FC, VC and TC.

DoK Level 4: Extended Thinking

Sketch the FC, VC and TC curves using real-world examples.

Hint

- The recommended mode of assessment is ***Essay.*** Refer to the Teacher Assessment Manual and Toolkit pages 74–76 for further information on administering essays as an assessment strategy.
- This week is the deadline for submitting Mid-Sem exam scores and the deadline for the learners to submit their Group Project work.

Focal Area 2: Calculation of total, average and marginal cost

Introduction

Total Cost (TC)

This is the sum of fixed costs and variable costs at any given level of production. The Total Cost (TC) is calculated as

$$TC = TFC + TVC$$

Where TFC = Total Fixed Cost and TVC = Total Variable Cost.

The TC curve is an upward-sloping line starting from the level of fixed costs, showing that total cost increases as output increases.

Average Fixed Cost (AFC)

Average fixed cost is the fixed cost per unit of output produced. As output increases, AFC decreases because the fixed cost is spread over a larger number of units. Examples are Rent, Salaries of permanent staff, Depreciation of equipment and Insurance premiums. It is calculated by dividing the total fixed costs by the quantity of output.

$$AFC = \frac{TFC}{Q}$$

The AFC curve slopes downward and approaches, but never touches the horizontal axis. It is a hyperbolic curve, reflecting the continuous decline in AFC as output increases.

Average Variable Coast (AVC)

Average variable cost is the variable cost per unit of output produced. Examples include but are not limited to; raw materials, direct labour costs, utilities tied to production (e.g., electricity, water), and packaging It is calculated by dividing the total variable costs by the quantity of output.

$$AVC = \frac{TVC}{Q}$$

The AVC curve is typically U-shaped. Initially, as output increases, AVC decreases due to increasing returns to the variable input (e.g., labour becomes more efficient). However, after a certain point, AVC starts to increase due to diminishing returns to the variable input (e.g., overcrowding or overutilisation of resources). The AVC curve intersects the marginal cost (MC) curve at its lowest point. When MC is below AVC, AVC is decreasing, and when MC is above AVC, AVC is increasing.

Average Cost (AC)

This is the total cost per unit of output produced. It is calculated by dividing the total cost by the quantity of output.

$$AC = \frac{TC}{Q}$$

Or AC = AFC + AVC

The average cost curve is typically U-shaped due to economies and diseconomies of scale.

Marginal Cost (MC)

The additional cost incurred by producing one more unit of output. It represents the change in total cost that arises from an extra unit of production. The calculation of MC is given by,

$$MC = \frac{\Delta TC}{\Delta Q}$$

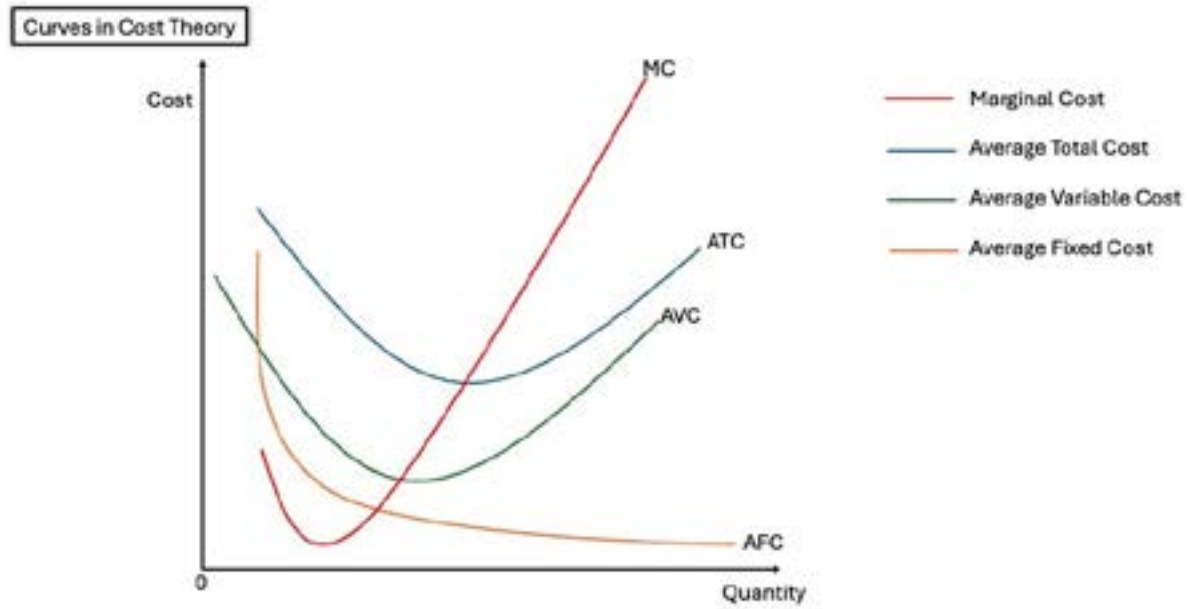
Where $\Delta TC = TC_2 - TC_1$ and $\Delta Q = Q_2 - Q_1$

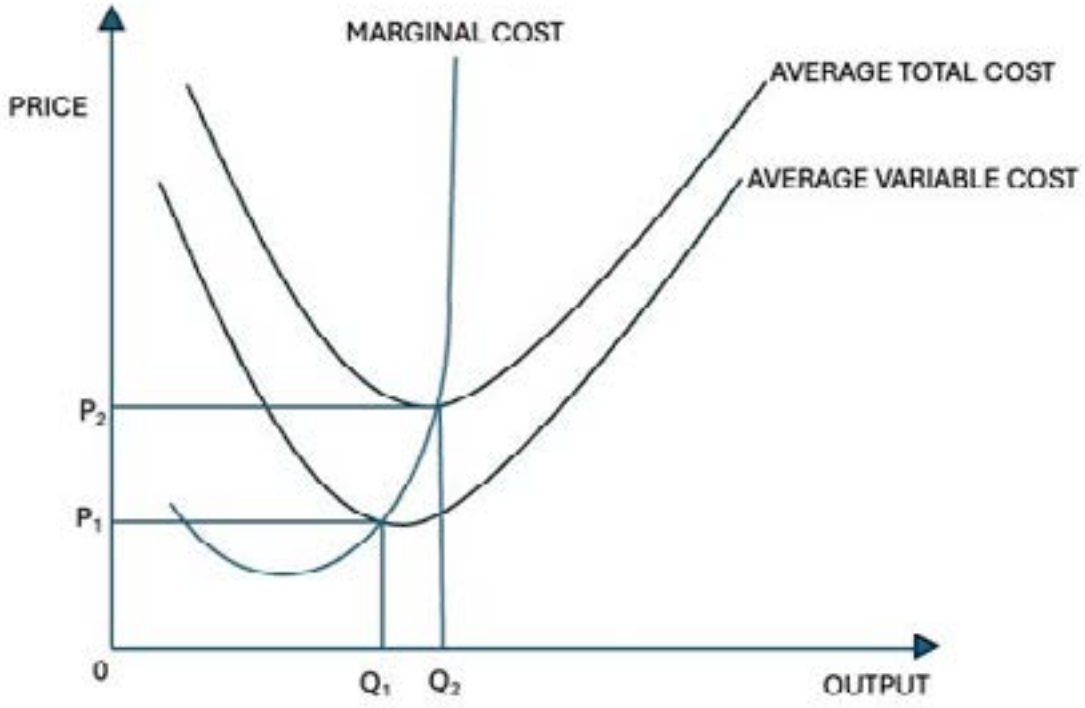
This implies that

$$MC = \frac{\Delta TC}{\Delta Q} = \frac{TC_2 - TC_1}{Q_2 - Q_1}$$

The MC curve is also typically U-shaped, intersecting the average cost curve at its lowest point.

Example 4.5





Learning Tasks

Case Study: Understanding Costs in a Small Business (option for Day Schools)

Imagine you are the owner of a small bakery called "Adinkra Bakery". Your bakery specialises in cakes and cookies. As the owner, the following are the various costs associated with running the bakery.

1. Rent for the bakery space: Gh¢1,000 per month
2. Salaries for two employees: Gh¢2,000 per month each
3. Insurance: Gh¢500 per month
4. Equipment lease: Gh¢300 per month
5. Utilities (fixed part): Gh¢200 per month
6. Ingredients for cupcakes and cookies: Gh¢1 per unit
7. Packaging: Gh¢0.20 per unit
8. Utilities (variable part): Gh¢0.05 per unit
9. Labour (overtime for peak hours): Gh¢0.50 per unit
10. In a given month, the bakery produces 1,000 units.

Learning Tasks

1. Calculate various types of costs, including Total Fixed Costs (TFC), Total Variable Costs (TVC), and Total Costs (TC).
2. Calculate Average Fixed Costs (AFC), Average Variable Costs (AVC), Marginal Costs (MC), and Average Total Costs (ATC).
3. Use the calculation to sketch the various cost curves.
4. Explain the relationship among the cost curves.

Note

1. Learners who still need to improve their knowledge of fixed cost, Variable cost and Total Cost should be guided to calculate TFC, TVC and TC.
2. Learners who have a comprehensive understanding of how to calculate TFC, TVC, and TC should be encouraged to calculate AFC, AVC, AC, and MC.
3. Learners who have an exceptional understanding of the concept of cost should be allowed to design critical thinking learning exercises that will challenge them to explain the relationship between the various cost curves using a graphical representation.

Pedagogical Exemplars

Experiential Learning: Learners use the data they obtain from their visit to calculate average, total and marginal costs. (This option is for those in the boarding schools, those in day schools should use the case study provided.)

Note

1. Teachers should provide additional learning materials to aid in the calculation of FC, VC and TC. (AP)
2. Teachers should encourage learners' reflection on the calculation of AFC, AVC, ATC and MC. (P)
3. Teachers should allow learners to design critical thinking exercises that will challenge learners to explain the relationship among the various cost curves using a graphical representation. (HP)

Key Assessment

Quantity	TFC	TVC	TC	AFC	AVC	MC	ATC
0	1000	0	1000	-	-	-	-
1	1000	200	1200				
2	1000	380	X				
3	1000	X	1540				

4	1000	680	X				
5	1000	800	1800				
6	1000	900	1900				
7	1000	X	1980				
8	1000	1040	2040				
9	1000	X	2080				
10	1000	1120	X				

DoK Level 1 Reproduction/Recall

1. Calculate TVC when quantity is 3, 7 and 9.
2. Calculate TC when the quantity is 2, 4 and 10.

DoK Level 2 Skills of conceptual understanding

Estimate the values for AFC, AVC, MC and ATC for all quantities.

DoK Level 4 Extended thinking

1. Explain why at Q = 0, TVC is 0 and AFC, AVC, MC and ATC are -.
2. Analyse the relationship among the various cost curves using a graphical representation.

Week 9

Learning Indicator: Determine Total, Average and Marginal Revenues

Focal Area 1: The concept of revenue

Definition

Revenue: Revenue is the total amount of money a business receives from its customers for the products and services it sells during a specific period. It is often referred to as "sales" or "turnover."

Introduction

Revenue is a fundamental concept in Economics that refers to the total income a company generates from its business activities, usually from selling goods and services to customers. Revenue is typically calculated by multiplying the price at which goods or services are sold by the number of units sold. The two types of revenues are operating revenue (income generated from the primary business activities, such as selling products or services) and non-operating revenue (income from secondary activities, such as interest income, dividend income, or income from the sale of assets).

Revenue is a critical indicator of a company's financial performance. It shows how effectively a company can generate sales from its core business activities. Higher revenue often indicates strong market demand and effective sales strategies. Revenue trends and patterns help businesses make informed decisions about production, marketing, and expansion. Consistent revenue growth is often a sign of a healthy and potentially growing business.

Revenue is different from profit. While revenue is the total income, profit is what remains after all expenses, costs, and taxes have been deducted from the revenue. Profit is a measure of profitability, whereas revenue is a measure of total sales.

Example 4.6

Hot Oven Bakery is a big bakery in Accra that sells various types of bread and pastries. If Hot Oven Bakery sells 10,000 loaves of bread per day at ¢20 per day and 2000 pastries at ¢10 per day then, the revenue generated by hot oven per day from selling bread is ¢200,000 (10,000 X ¢20) and that of pastries is ¢20,000 (2000 X ¢10).

Learning Tasks

1. Visit the school canteen or a nearby shop or market to collect data on the price of a product and the quantity available for sale. Use the data collected to explain the revenue of the seller or shop visited.

   OR

2. In a classroom activity, form various groups representing different firms. Each group decides on prices and quantities to sell. Explain revenue using the various prices and quantities of the different firms.

Note

1. Learners who find it difficult to explain revenue should be assisted in connecting the data collected from the visit to the school canteen or nearby shop to describe the meaning of revenue.
2. Learners who show understanding of the concept of revenue should be encouraged to use their knowledge to explain revenue using real-world examples.
3. Learners who show a high level of the concept of revenue should design critical thinking exercises that challenge them to differentiate between revenue and profit using real-world scenarios.

Pedagogical Exemplars

Experiential Learning: Learners work in teacher-nominated mixed groups of different abilities and genders and embark on a visit to the school canteen or nearby market or shop. They interview the sellers about how much they sell a given good (price) and the total quantity of the good available for sale. Based on their visit, learners discuss the meaning of revenue.

Note

1. Teachers should provide targeted support for learners who struggle to collect the data on price and quantity. They should be supported in using the data collected to explain the meaning or revenue. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the concept of revenue to apply their knowledge in explaining revenue using real-world examples. (P)
3. Teachers should encourage learners who show a high level of understanding of the concept of revenue to design critical thinking exercises that challenge them to differentiate between revenue and profit using real-world situations. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Explain the meaning of revenue.

DoK Level 2: Skills of conceptual understanding

Explain the concept of revenue using real-world examples.

DoK Level 3: Strategic Reasoning

Differentiate between revenue and profit of a firm using real-world scenarios.

Focal Area 2: Calculation of total, average and marginal revenue

Introduction

Total Revenue (TR)

Total Revenue is the total income a firm receives from selling a given quantity of goods or services. It is calculated by multiplying the price of the goods or services by the quantity sold.

Formula:

TR= Price × Quantity Sold

or

$$TR\ (Q) = \sum_{i=1}^{Q} MR_{Ii}$$

$$TR\ (Q) = MR_1 + MR_2 + MR_3 \ldots + MR_n$$

Where; TR = Total Revenue, Q = Quantity, MR = Marginal Revenue and i = 1, 2, 3 … n

Total Revenue helps in understanding the scale of business operations.

Average Revenue (AR)

Average Revenue is the revenue earned per unit of output sold. It is obtained by dividing the total revenue by the quantity sold. In a perfectly competitive market, AR is equal to the price of the product.

Formula:

$$AR = \frac{TR}{Q}$$

Where TR = Total Revenue, and Q = Quantity

Average Revenue helps in determining the pricing strategy and understanding revenue per unit sold.

Marginal Revenue (MR)

Marginal Revenue is the additional revenue that a firm earns when it sells one more unit of a good or service. It is the change in total revenue resulting from a one-unit increase in quantity sold.

Formula:

$$MR = \frac{\Delta TR}{\Delta Q}$$

Where $\Delta TR = TR_2 - TR_1$ and $\Delta Q = Q_2 - Q_1$

This implies that

$$MR = \frac{\Delta TR}{\Delta Q} = \frac{TR_2 - TR_1}{Q_2 - Q_1}$$

Marginal Revenue is crucial for decision-making regarding production levels. Firms will typically increase production as long as MR exceeds Marginal Cost (MC).

Example 4.7

Consider a fufu seller in the Dambai market of the Oti region who sells 100 bowls of fufu every market day at ¢ 10 per bowl. Calculate the TR and AR. If she sells 50 bowls on the day before the market day, calculate MR.

TR = 100 X10 = ¢ 1000

AR = TR/Q= 1000/100 = ¢10

MR = TR_2= ¢1000, TR_1= 50 X 10 = ¢500, Q_1= 50 Q_2= 100

$$MR = \frac{1000 - 500}{100 - 50}$$

MR = 500/50

MR = ¢10

Learning Tasks

Visit the school canteen or a nearby shop or market to collect data on the price of a product or commodity and the quantity available for sale. Use the data collected to calculate Total Revenue (TR), Average Revenue (AR) and Marginal Revenue (MR).

Note

1. Learners who find it difficult to use Excel to create a table should be assisted by giving them extra time and peer support to create a table in Excel using the data collected to calculate TR.
2. Learners who show understanding of how to create a table in Excel using the data collected and how to calculate TR should be encouraged to use their knowledge of using the TR calculated to calculate AR.
3. Learners who show a high level of calculating TR and AR after generating a table in Excel with the data collected should design critical thinking exercises that challenge them to calculate MR.

Pedagogical Exemplars

Experiential Learning: Learners use Excel to generate a table for at least five goods with their respective prices and quantities available for sale from the data they will obtain from the visit. Use the data collected to determine the TR, AR and MR.

Note

1. Teachers should provide targeted support for learners who struggle to create a table in Excel using the data collected from the visit and calculate TR. They should be supported to use their previous knowledge to do the calculation of TR. (AP)
2. Teachers should offer the opportunity to learners who show understanding of how to calculate TR to apply their knowledge to calculate AR using the calculated TR. (P)

3. Teachers should encourage learners who show a high level of understanding of how to calculate TR and AR from the table generated in Excel using the data collected from the visit, to design critical thinking exercises that challenge them to calculate MR. (HP)

Hint

How to create a table in Microsoft Excel

1. Launch Microsoft Excel from your computer.
2. Enter your data into the worksheet. Ensure your data is organised in rows and columns with headers in the first row.
3. Highlight the range of cells that you want to include in the table. This includes the header row and all the data rows.
4. Go to the ***Insert*** tab on the Ribbon.
5. Click on the ***Table*** button in the Tables group.
6. In the Create Table dialog box that appears, confirm the range of cells.
7. Ensure the checkbox for ***My table has headers*** is checked if your data includes headers.
8. Once the table is created, the ***Table Tools Design*** tab will appear on the Ribbon.
9. Use the design options to format your table. You can choose from various styles, add banded rows, and more.
10. You can add new rows or columns to your table by typing in the cells just below or beside the existing table.
11. To remove elements, right-click on the row or column and select ***Delete***.
12. After you have finished creating and formatting your table, save your workbook by clicking on ***File*** > ***Save As*** and choosing your preferred location and file format.

Key Assessment

DoK Level 1: Reproduction/Recall

Quantity (Q)	Price (P)	Total Revenue (TR)
1	10	
2	10	
3	10	
4	10	
5	10	

Calculate the Total Revenue.

DoK Level 3: Strategic Reasoning

Quantity (Q)	Price (P)	Total Revenue (TR)	Average Revenue (AR)	Marginal Revenue (MR)
1	10			
2	10			
3	10			
4	10			
5	10			

1. Design the above table using Excel.
2. Calculate TR, AR and MR.

Hint

*The recommended mode of assessment for this week is **Mini-Project.** Refer to the Teacher Assessment Manual and Toolkit page 27 – 29, and 127 – 127 for more information on administering project as an assessment strategy.*

WEEK 10

Learning Indicator: Sketch Total, Average and Marginal revenue curves.

Focal Area 1: Total, average and marginal revenue curves

Introduction

Total Revenue (TR) Curve

A total revenue curve represents the relationship between the total revenue a firm earns and the quantity of goods or services it sells. The curve has the quantity of goods and services sold represented on the horizontal axis and the total revenue earned by selling a given quantity on the vertical axis.

Average Revenue (AR) Curve

An average revenue curve shows the relationship between the average revenue (revenue per unit sold) and the quantity of goods or services sold. The AR curve has the quantity of goods and services sold represented on the horizontal axis and the average revenue earned per unit of the good or service on the vertical axis.

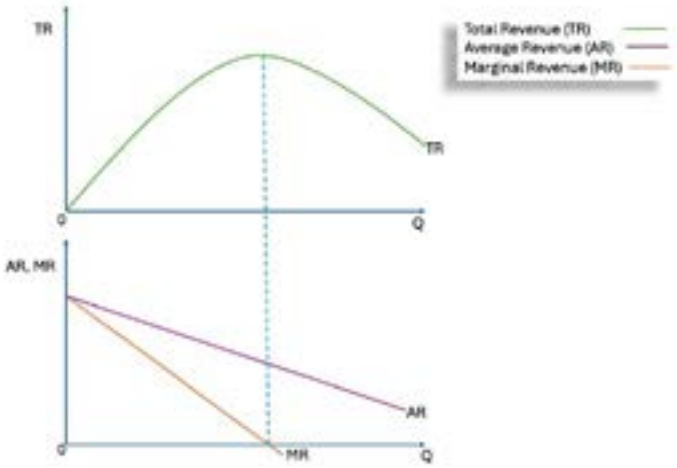
Marginal Revenue (MR) Curve

A marginal revenue curve illustrates the relationship between the marginal revenue (the additional revenue earned from selling one more unit of a good or service) and the quantity sold. The MR curve has the quantity of goods and services sold represented on the horizontal axis and the marginal revenue earned per additional unit sold on the vertical axis.

TR Curve and its Relationship with AR and MR:

- The slope of the TR curve at any quantity level corresponds to the MR.
- When the TR curve is increasing, MR is positive.
- When the TR curve reaches its maximum point, MR is zero.
- When the TR curve starts to decrease, MR becomes negative.

Example 4.8



Learning Tasks

In teacher nominated mixed groups, use the data collected and presented in Excel to plot the graph showing TR, AR and MR in graph book.

Note

1. Learners who are less confident in plotting the graph should be guided to use smaller, manageable steps to be able to sketch the TR, AR and MR curves.
2. Learners with a strong ability to sketch TR, AR and MR curves should be encouraged to plot the three curves in a graph book using the data collected from the field visit.
3. Learners at a highly proficient level in plotting the three curves should be allowed to design critical thinking learning exercises that challenge them to explain TR curves relationship with AR and MR curves.

Pedagogical Exemplars

Building on What Others Say: In teacher-nominated mixed ability and gender groups, learners use the knowledge acquired on Total Revenue (TR), Average Revenue (AR), and Marginal Revenue (MR) and with the data presented in an Excel sheet, plot the results in a graph book to draw TR, AR and MR curves.

Note

1. Teachers should break down complex tasks into smaller, manageable steps for learners who are struggling to plot TR, AR and MR curves in a graph book to be able to sketch the three curves. (AP)
2. Teachers should encourage learners with a deep understanding of how to sketch the three curves to plot the curves in the graph book using the data collected from the field visit. (P)
3. Teachers should allow learners with extensive knowledge of how to plot the TR, AR and MR curves to describe the relationship between the TR curve and AR and MR curves. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Sketch the TR, AR and MR curves.

DoK Level 3: Strategic Reasoning

Use the data below to plot the TR, AR and MR curves in a graph book.

Quantity (Q)	Total Revenue (TR)	Average Revenue (AR)	Marginal Revenue (MR)
1	10	10	10
2	18	8	9
3	24	6	8
4	28	4	7
5	30	2	6
6	30	0	5
7	28	-2	4
8	24	-4	3
9	18	-6	2
10	10	-8	1

DoK Level 4: Extended Thinking

Explain the TR curve relationship with AR and MR curves after plotting the curves using the above data.

Hint

The recommended mode of assessment for this week is Short Quiz. Refer to the Teacher Assessment Manual and Toolkit pages 9 and 11 for guidance on administering quizzes and tests as an assessment strategy.

SECTION 4 REVIEW

The lessons taught in section four focused on the concepts of production, cost and revenue. The teacher applied talk for learning, problem-based learning, experiential learning, and building on what others say pedagogical skills and assessment techniques.

Week seven dealt with time periods and methods of production. By the end of the week, using talk for learning pedagogy, learners will have learned how to identify the periods in production and apply the concept of production to calculate Total Product (TP), Marginal Product (MP), Average Product (AP) and Total Factor Productivity. Learners will also acquire knowledge of labour-intensive and capital-intensive methods of production

Week eight focused on the concept of cost. By the end of the week, using experiential learning pedagogy, learners will have gained knowledge of how to apply the concept of cost to calculate a range of different costs for example Total Cost (TC), Average Cost (AC) and Marginal Costs (MC).

Week nine focused on the concept of revenue. By the end of the week, using experiential learning pedagogy, learners will have gained knowledge of how to apply the concept of revenue to calculate Total Revenue (TR), Average Revenue (AR) and Marginal Revenue (MR).

Week 10 also focused on the concept of revenue. By the end of the week, using building on what others say pedagogy, learners will have gained knowledge of how to sketch and use a spreadsheet to show the TR, AR and MR curves and explain the relationship of TR with AR and MR.

Appendix F: Sample Rubric for Essay.

Sample Task: Distinguish between the Fixed Cost (FC) and Variable Cost (VC), by relating the differences to the ***definition, type of curve, and examples.***

Sample Rubric:

1. mark for appropriate use of conjunctions and, or clarity of expression.

Criteria	Excellent (3 Marks)	Very Good (2 Marks)	Good (1 Mark)
Definition of fixed cost and variable cost	***A writeup that is clear and complete, including keywords/phrases, such as:*** ***Fixed cost:*** *Remains constant, Independent, Long-term, Does not vary with output* ***Variable cost:*** *Fluctuates (changes directly with the level of production), Dependent on output volume, Short-term, Proportional (Varies in direct proportion to production)*	***A writeup that is clear but has only 1 keyword/ phrase, such as:*** ***Fixed cost:*** *Remains constant, Independent, Long-term, Does not vary with output* ***Variable cost:*** *Fluctuates (changes directly with the level of production), Dependent on output volume, Short-term, Proportional (Varies in direct proportion to production)*	***A writeup that makes meaning but has no keyword/phrase, such as:*** ***Fixed cost:*** *Remains constant, Independent, Long-term, Does not vary with output* ***Variable cost:*** *Fluctuates (changes directly with the level of production), Dependent on output volume, Short-term, Proportional (Varies in direct proportion to production)*
Type of curve	***Statement of the difference between the curves with 2 or more keywords such as:*** ***Fixed cost curve:*** *horizontal lines,* *do not change with the level of output* ***Variable cost curve:*** *upward-sloping lines,* *increase with higher output.*	***Statement of the difference between curves with only 1 keyword*** ***Fixed cost curve:*** *horizontal lines,* *do not change with the level of output* ***Variable cost curve:*** *upward-sloping lines,* *increase with higher output.*	***Statement of the difference without any appropriate keyword*** ***Fixed cost curve:*** *horizontal lines,* *do not change with the level of output* ***Variable cost curve:*** *upward-sloping lines,* *increase with higher output.*

Difference in Examples	***Statement of at least 3 examples of each type of curve***	***Statement of only two examples of each type of curve***	***Statement of only 1 example of each type of curve***
	Examples of fixed costs:	***Examples of fixed costs:***	***Examples of fixed costs:***
	i. Rent	*i. Rent*	*i. Rent*
	ii. Salaries of permanent staff	*ii. Salaries of permanent staff*	*ii. Salaries of permanent staff*
	iii. Insurance	*iii. Insurance*	*iii. Insurance*
	iv. Depreciation of equipment	*iv. Depreciation of equipment*	*iv. Depreciation of equipment*
	Examples of variable costs:	***Examples of variable costs:***	***Examples of variable costs:***
	i. Cost of raw materials	*i. Cost of raw materials*	*i. Cost of raw materials*
	ii. Direct labour cost	*ii. Direct labour cost*	*ii. Direct labour cost*
	iii. Cost of utilities	*iii. Cost of utilities*	*iii. Cost of utilities*
	iv. Cost of transport	*iv. Cost of transport*	*iv. Cost of transport*

SECTION 5: SUPPLY

Strand: Firms' Innovative Decision Making

Sub-Strand: Supply of Goods and Services

Learning Outcome: Use the factors of supply to explain the differences between change in quantity supplied and change in supply

Content Standard: Demonstrate knowledge of supply of goods and services

Hint

The End of Semester will be conducted in Week 12. Refer to Appendix G for a Table of Test Specification to guide you in setting the questions. Set questions to cover all the indicators covered for at least weeks 1 to 11.

INTRODUCTION AND SECTION SUMMARY

Section five covers firms' innovation decision making focusing on the supply of goods and services. The content focuses on the determinants of supply and the difference between change in supply and change in quantity supplied. The section divides the determinants of supply into two; the price of the commodity and the other factors that determine supply.

The price of the commodity is linked to "change in quantity supplied" and the other determinants are linked to "change in supply". There is a graphical representation of both the change in quantity supplied and the change in supply to differentiate the two.

Teachers should note that the concept of supply of goods and services is linked to entrepreneurship in Social Studies.

The week covered by the section are;

Week 11: Factors that affect the supply of a commodity

Week 12: Change in supply vs. change in quantity supplied

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents two different pedagogies to the teacher. These are experiential learning and building on what others say. In experiential learning, the teacher is expected to assist Learners to work in teacher nominated mixed ability and gender groups and visit a local market or school canteen to collect data on the factors that determine supply. In building on what others say, the teacher is expected to assist learners discuss in mixed ability and gender groups using previous knowledge acquired to differentiate between change in supply and change in quantity supplied.

It must be indicated that teachers apply these pedagogies based on the abilities and learning styles of the learners in the class.

ASSESSMENT SUMMARY

The assessments in this section cover levels one to four. Teachers should note that the level one items are supposed to enable learners to demonstrate the ability to recall and reproduce basic concepts and demonstrate basic understanding. The teacher is expected to ask closed and open-ended questions. The level two items require that the learner do a basic application of concepts and skills about the content in this section. The teacher is expected to use funnel and probing questions in this regard. The teacher is supposed to use level three items to promote strategic thinking and complex reasoning in the learners. The teacher is supposed to ask leading and hypothetical questions.

The teacher should use multiple strategies such as discussion, class exercises, homework, and case studies (Refer to teacher assessment manual).

The teacher must design various assessment strategies to meet the needs of each learner in the class.

The recommended assessment modes for this section are;

Week 11: Peer-Assessment

Week 12: End-of-Semester Examination

*Refer to the "**Hints**" at the key assessment for additional information on how to effectively administer the assessment modes for the STP.*

Week 11

Learning Indicator: Determine the factors that affect the supply of a commodity

Focal Area 1: Price as a Factor that affects the supply of a commodity and the change in quantity supplied

Introduction

Supply refers to the total amount of a specific good or service that is available to consumers at various price levels. It represents the quantity of a good or service that producers are willing and able to supply at different prices over a given period of time. In economic terms, the relationship between the price of a good or service and the quantity supplied is often depicted using a supply curve, which typically slopes upward, indicating that higher prices incentivise producers to supply more of the good or service. This direct relationship can be illustrated through a supply curve on a graph, where the price is plotted on the vertical axis and the quantity supply on the horizontal axis.

A change in quantity supplied refers to a movement along the same supply curve due to a change in the price of the good or service. This means that the quantity supplied changes in response to a change in the price, while other factors remain constant.

For example, if the price of a product increases, producers are generally willing to supply more of it, leading to a movement up along the supply curve. Conversely, if the price decreases, the quantity supplied will decrease, leading to a movement down along the supply curve.

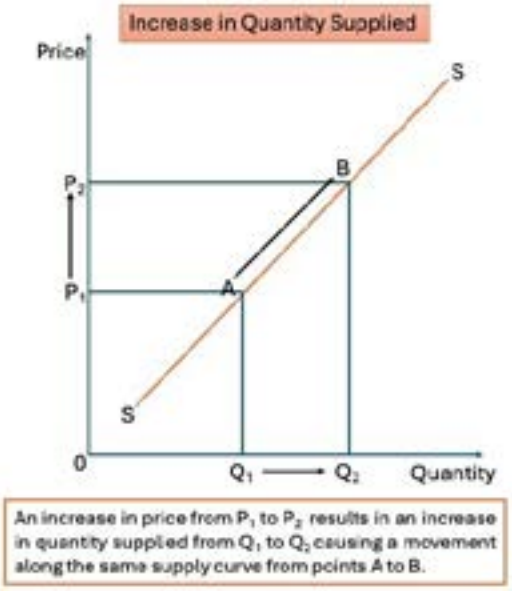
Example 5.1

1. Movement along the supply curve is caused by a change in the price of the commodity. This is the same as the "change in quantity supplied" represented by moving up or down the same supply curve, as shown in the table below;

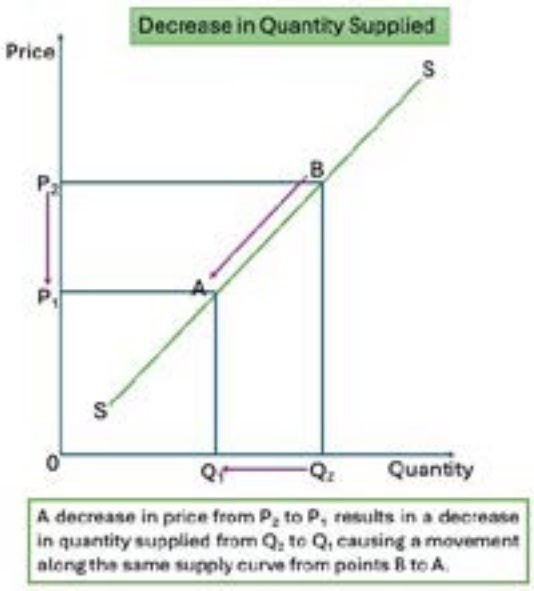
PRICE	QUANTITY SUPPLIED
10	2
20	5
30	8
40	12

2. Graphical illustration of change in quantity supplied (movement along the supply curve);

CHANGE IN QUANTITY SUPPLIED / MOVEMENT ALONG THE SUPPLY CURVE



An increase in price from P_1 to P_2 results in an increase in quantity supplied from Q_1 to Q_2 causing a movement along the same supply curve from points A to B.



A decrease in price from P_2 to P_1 results in a decrease in quantity supplied from Q_2 to Q_1 causing a movement along the same supply curve from points B to A.

Learning Tasks

Learners work in teacher-nominated mixed ability and gender groups and visit a local market or school canteen to collect data on the price and quantity of a specific commodity sold over a period. Learners should produce a report in PowerPoint and present it to the class

Note: Learners should develop a simple questionnaire to aid in collecting the data. It should include prices and quantities supplied over the term or semester. Learners should visit the local market or school canteen for five different days to collect the data over the period.

1. Using the data collected, explain how price as a factor affects the quantity supplied of a commodity.
2. Use the data to draw a graph showing a change in quantity supplied.
3. Explain what the graph shows.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that, they can describe price as a factor that affect the supply curve and sketch the supply curve.
2. Learners who understand the concept should be encouraged to apply their knowledge and skills to illustrate change in quantity supplied as a result of changes in price in a graph.
3. The learners who show a high level of understanding are allowed to foster a culture of reflective practice where they can reflect and explain change in quantity supplied using graphically illustration.

Pedagogical Exemplars

Experiential learning: Learners work in teacher-nominated mixed ability and gender groups and visit a local market or school canteen to collect data on the price and quantity of a specific commodity sold over a period. Learners should produce a report in PowerPoint and present it to the class.

Building on What Others Say: In teacher-nominated mixed ability and gender groups, and using previous knowledge acquired, learners discuss the change in quantity supplied.

a. Learners who struggle to discuss how price is a factor that affects supply for a commodity using the data collected from the field trip should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)

b. For learners who show clear understanding and ability to explain price as a factor that affects the supply of a commodity using the data collected, the teacher should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to illustrate changes in quantity supplied as a result of changes in price in a graph. (P)

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to explaining the change in quantity supplied using graphical illustrations with the data collected from the field visit.

Key Assessment

DoK Level 2: Skills of conceptual understanding

Explain the relationship between price and quantity supplied using a supply curve.

DoK Level 3: Strategic reasoning

Illustrate a change in quantity supplied in a graph using prices and quantities supplied from your everyday life.

DoK Level 4: Extended thinking

Explain the change in quantity supplied using real-world scenarios.

Focal Area 2: Other Factors that affect the supply of a commodity and change in supply.

Introduction

The supply of a commodity is influenced by various factors beyond just its price. The other factors that affect the supply of a commodity include, but are not limited to: production cost, technological advancement, number of suppliers, expectations, government policies and others. Any change in the quantity supplied of a commodity which is not a result of a change in the price of the commodity is due to a change in the other factors that affect supply. This will cause a bodily shift in the supply curve, which is known as “change in supply”.

A change in supply refers to a shift in the entire supply curve, which occurs when there is a change in any of the non-price determinants of supply. This means that for any given price level, the quantity supplied changes.

Production Costs

Changes in the costs of production inputs such as labour, raw materials, and technology can affect supply. If production costs decrease, supply may increase as it becomes more profitable to produce goods or services.

Technological Advances

Improvements in technology can lead to more efficient production processes, increasing the supply of goods and services, thereby shifting the supply curve to the right.

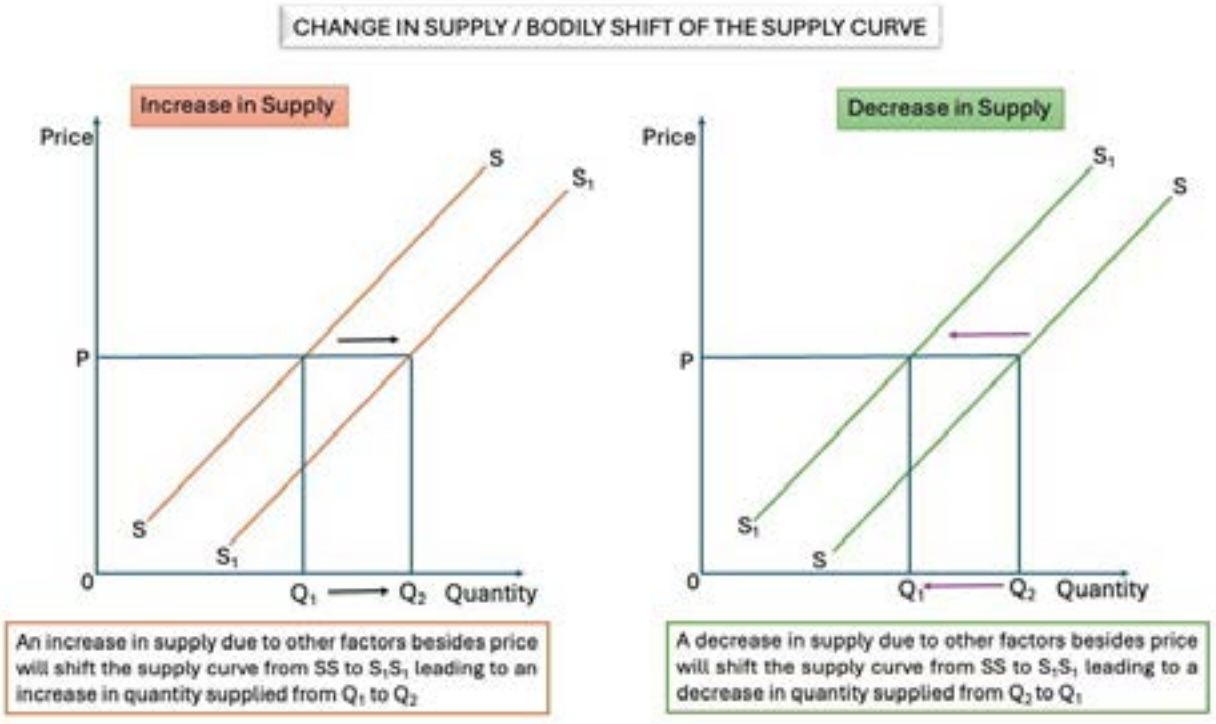
Number of Suppliers

An increase in the number of producers in the market generally leads to an increase in supply.

Government Policies

Taxes, subsidies, and regulations can impact supply. For example, subsidies might increase supply by reducing production costs, while taxes might decrease supply by increasing costs.

Example 5.2



Learning Tasks

Learners work in teacher nominated mixed ability and gender groups and visit a local market or school canteen to collect data on the other non-price factors that affect the supply of a commodity. Produce a report in PowerPoint and present it to the class.

Note: Investigating other factors should be undertaken as a group project where each group is given a number of goods and services. The group prepares a report based on discussion and research to show how each factor can affect supply. Develop a simple questionnaire to aid the data collection. It should include the other factors that affect the supply of goods and services. Sellers to be interviewed should be those who produce and sell, such as kenkey sellers, waakye sellers, cooked rice sellers, gobe (gari and beans) sellers, local farmers who sell in the local market, fish mongers who sell fish and any other.

1. Identify three of the other factors that affect the supply of a commodity apart from the price.
2. Explain any five factors that affect the supply of a commodity.
3. Graphically illustrate the increase and decrease in supply caused by factors other than price using the data collected from the field trip.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify the other factors that affect the supply of a commodity.
2. Learners who understand the concept should be required to apply their knowledge and skills to explain the other factors that affect the supply of a commodity.
3. Learners who show a high level of understanding should allowed to foster a culture of reflective practice where they can reflect and illustrate graphically the change in supply using the data collected.

Pedagogical Exemplars

Experiential Learning: Learners work in teacher nominated mixed ability and gender groups and visit a local market or school canteen to collect data on the other non-price factors that affect the supply of a commodity. Produce a report in PowerPoint and present it to the class.

Building on What Others Say: Learners discuss in mixed ability and gender groups using previous knowledge acquired to explain change in supply.

a. Learners who struggle to identify the other factors that affect the supply of a commodity using the data collected from the field trip should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)

b. Learners who show clear understanding and ability to identify the other factors that affect the supply of a commodity using the data collected, should be encouraged to share their knowledge, skills and perspectives and provide constructive feedback to

their peers. They should be encouraged to explain the other factors that affect the supply of a commodity using the data collected from the field trip. (P)

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to explaining the change in supply using graphical illustrations with the data collected from the field visit.

Key Assessment

DoK Level 1: Introduction/ Recall

Identify any three of the 'other factors' that affect the supply of a commodity.

DoK Level 3: Strategic Reasoning

1. Explain any five of the 'other factors' that affect the supply of a commodity.
2. Link any three of the 'other factors' that affect the supply of a commodity to change in supply.

DoK Level 4: Extended Thinking

Graphically illustrate a change in supply for any of the 'other factors' using real-world scenarios.

Hint

- The recommended mode of assessment is ***Peer Assessment***. Refer to the Teacher Assessment Manual and Toolkit pages 72–73 for more information on administering peer assessment or review as an assessment strategy.
- Prepare for the End of Semester Examination by writing the test items, proofreading and printing, etc. See ***Appendix G*** for guidelines.

Week 12

Learning Indicator: Differentiate between change in quantity supplied and change in supply

Focal Area 1: Change in quantity supplied Vs. Change in supply

Introduction

The concepts of "change in quantity supplied" and "change in supply" are fundamental to understanding how different factors influence market behaviour. A change in quantity supplied refers to a movement along the supply curve due to a change in the commodity's price, holding all other factors constant. This means that the supply curve itself does not shift; rather, there is a movement to a different point on the same curve.

When the price of the commodity decreases, the quantity supplied decreases, resulting in a movement down the supply curve. When the commodity's price increases, the quantity supplied increases, resulting in a movement up the supply curve.

A change in supply refers to a shift of the entire supply curve due to changes in factors other than the price of the commodity. These factors include production costs, technology, number of suppliers, government policies and regulations, expectations of future prices, prices of related goods and natural conditions. When the supply for a commodity increases due to favourable changes in non-price factors (e.g., production costs, technology, number of suppliers, government policies and regulations, expectations of future prices, prices of related goods and natural conditions), the entire supply curve shifts to the right. When the supply for a commodity decreases due to unfavourable changes in non-price factors (e.g., production costs, technology, number of suppliers, government policies and regulations, expectations of future prices, prices of related goods and natural conditions), the entire supply curve shifts to the left.

Example 5.3

1. Change in Quantity Supplied (Movement Along the Curve)

   This is shown as a movement from one point to another on the same supply curve.

   If the price of gari drops from GH¢3 to GH¢2, the quantity supplied decreases from 10 units to 4 units, moving along the supply curve.

2. Change in Supply (Shift of the Curve)

   This is shown as the entire supply curve shifting to the right (increase in supply) or the left (decrease in supply). If there is a new technology used in producing gari, this is a favourable change so the supply of gari might increase at the same price level, shifting the entire supply curve to the right.

Learning Tasks

1. Explain the difference between a change in quantity supplied and a change in supply.
2. Use the graphical illustration to differentiate a change in quantity supplied and a change in supply using your everyday life experience as a learner.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can explain the difference between a change in quantity supplied and a change in supply. (A)
2. Learners who understand the concept should be required to apply their knowledge and skills to graphically illustrate the change in supply and change in quantity supplied using real-world examples. (P & HP)

Pedagogical Exemplars

Building on What Others Say: Learners brainstorm and discuss the differences between a change in supply and a change in quantity supplied.

Learners who have a low ability to explain the difference between a change in quantity supplied and a change in supply by using their everyday life experience should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)

For learners who show clear understanding and ability to differentiate between a change in quantity supplied and a change in supply using their everyday life, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to graphically illustrate the difference between a change in quantity supplied and a change in supply using their everyday life experiences as students. (P & HP)

Key Assessment

DoK Level 3: Strategic Reasoning

Explain the difference between a change in quantity supplied and a change in supply assuming you are a producer of Economics Textbook.

DoK Level 4: Extended Thinking

Graphically illustrate a change in quantity supplied and a change in supply using different commodities.

SECTION 5 REVIEW

The lessons taught in section five focused on the determinants of supply, change in quantity supplied and change in supply. It brought to the fore how price alone affects quantity supplied and produces a movement along the supply curve, and how non-price factors cause a change in supply and a shift of the supply curve. The session ended with the differentiation between a change in quantity supplied and a change in supply. The teacher applied varied pedagogical skills, specifically collaborative learning and building on what others say and assessment techniques, subject to the abilities of the learners to achieve the learning indicators for the week.

APPENDIX G: END OF SEMESTER EXAMINATION (FIRST SEMESTER)

1. *Paper 2: Five (5) questions in all of which learners answer any 3*
   - i. ***Section A (data response)**: Two (2) questions, of which learners answer any 1*
   - ii. ***Section B (essay)**: Three (3) questions, of which learners answer any 2*
   - iii. *Each question should be scored out of 20 marks*
   - iv. *Questions should cover DoK levels 3 - 4*
   - v. ***Duration:** 1 hour 15 minutes*
2. *Paper 1: 40 objective test items (multiple choice), of which learners answer all*
   - i. *Objective test items/questions should cover DoK levels 1 - 3*
   - ii. *1 mark for each objective test question*
   - iii. ***Duration**: 1 hour*
3. *Follow the 30,40,30 rule in crafting/writing the test items, thus DoK level 1 = 30%, DoK level 2 = 40%, and DoK levels 3&4 = 30%*

Table Of Test Specification For End Of First Semester Examination

Week	Focal Area(s)	Type of Question	Dok Levels Total				
			1	2	3	4	-
1	Economics starts from the home; The Economic Tools in Economic Analysis – Words; Tools in economic analysis – Infographics	Multiple Choice	1	1	-	-	2
2	Tools in economic analysis- Algebra	Multiple Choice	1	1	-	-	2
3	Factors that affect demand for a commodity-Price; Change in quantity demanded; Other Factors that affect demand for a commodity	Multiple Choice	1	1	2	-	4
4	Change in demand; Change in quantity demanded Vs. Change in demand	Multiple Choice	2	1	-	-	3
		Essay	-	-	1	-	1
5	Equilibrium in Utility; Calculation of MU, TU and AU	Multiple Choice	1	1	1	-	3
		Essay/ Data response	-	-	1	-	1

6	Total, Marginal and Average Utility Curves	Multiple Choice	1	3	2	–	6
7	Time Periods and Method of Production	Multiple Choice	1	2	2	–	5
		Essay	–	–	1	–	1
8	The Concept of Cost	Multiple Choice	1	2	1	–	4
		Essay/ Data response	–	–	1	–	1
9	The Concept of Revenue	Multiple Choice	1	2	1	–	4
10	Total, Average and Marginal Revenue Curves	Multiple Choice	–	2	–	–	2
		Essay/ Data response	–	–	–	1	1
11	Factors that affect the supply of a commodity	Multiple Choice	3	–	–	–	3
12	Change in supply vs. change in quantity supplied	Multiple Choice	–	2	–	–	2
		Essay/ Data response	–	1	–	–	1
Total			13	18	13	1	45

Sample essay/data response question.

i. *Define the term Total Revenue and state how it is calculated* ***[5 marks]***

ii. *Define Marginal Revenue and state how it is calculated* ***[5 marks]***

iii. *The table below represents the various quantities and prices of products as sold by a shopkeeper. Use the information in the table to calculate the total revenue for each price level.* ***[10 marks]***

Quantity (Q)	Price (P) (Ghc)	Total Revenue (TR)
1	*10*	
2	*10*	
3	*10*	
4	*10*	
5	*10*	

Scheme/Rubric for essay/data response question **[20 marks in all]**.

i. ***Total Revenue (TR)*** *is the total income that a firm receives from selling a given quantity of goods or services. It is calculated by multiplying the price of the goods or services by the quantities sold.*

*[**3 marks** for good definition covering key terms like total income, firm/business, price, quantity, etc.]*

*[**2 marks** for a definition that has meaning and includes at least one keyword such as firm/business, price]*

*[**1 mark** for an incomplete definition that has no keyword related to revenue]*

*TR = Price × Quantity Sold [**2 marks** for stating the correct formula for calculating TR]*

ii. ***Marginal Revenue (MR)*** *is the additional revenue that a firm earns when it sells one more unit of a good or service. It is the change in total revenue resulting from a one-unit increase in quantity sold.*

*[**3 marks** for a correct definition covering key terms like additional income, one more unit, etc.]*

*[**2 marks** for a definition that has meaning and includes at least one keyword such as additional income]*

*[**1 mark** for a definition that has meaning but does not include any keyword]*

$$MR = \frac{\Delta TR}{\Delta Q} = \frac{TR_2 - TR_1}{Q_2 - Q_1}$$ *[**2 marks** for stating the correct formula of MR]*

iii. *TR = Price × Quantity Sold [**2 marks each** for every correct calculation as shown]*

$TR_1 = 1 \times 10 = Ghc10$

$TR_2 = 2 \times 10 = Ghc20$

$TR_3 = 3 \times 10 = Ghc30$

$TR_4 = 4 \times 10 = Ghc40$

$TR_5 = 5 \times 10 = Ghc50$

SECTION 6: MARKET STRUCTURE

Strand: Firms' Innovative Decision Making

Sub-Strand: Market Analysis

Learning Outcome : Analyse the various markets and determine the types of profits.

Content Standard: Demonstrate understanding of Market Structures

Hint

Individual Project Work should be assigned to learners by the end of Week 14. See Appendix H at the end of this section for a sample Individual Portfolio for learners. Ensure that the project covers several learning indicators and spans over several weeks. Also, develop a detailed rubric and share it with learners.

INTRODUCTION AND SECTION SUMMARY

Section six covers firms' innovative decision-making making focusing on market analysis. The content focuses on market structure and types of profits. The section defines market structure and explains the two forms of market structure. The lesson at this level of education covers only three types of market structures; perfect competition, monopoly and monopolistic. The characteristics (features), advantages and disadvantages are presented in the section. The short-run and long-run profits for each of the three market structures are also in this section.

Teachers should note that the concept of market structure is linked to Business Studies.

The week covered by the section are:

Week 13: Definition and types of market structures

Week 14: Types of profits in each market structure

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents two different pedagogies to the teacher. These are experiential learning and building on what others say. In experiential learning, the teacher is expected to assist learners in watching a video to discuss the meaning and types of market structures. In building on what others say, the teacher is expected to assist learners build on their previous knowledge of cost and revenue in small groups to discuss the conditions needed to determine profits and losses for the various markets.

It must be indicated that teachers apply these pedagogies based on the abilities and learning styles of the learners in the class.

ASSESSMENT SUMMARY

The modes of assessments outlined for this section are designed to provide a comprehensive evaluation of learners' grasp of key concepts and skills. These assessment methods will help identify strengths, address learning gaps, and guide instructional decisions to enhance student achievement. The recommended assessment mode for each week is:

Week 13: Discussion

Week 14: Posters

*Refer to the "**Hint**" at the key assessment for additional information on how to effectively administer these assessment modes.*

Week 13

Learning Indicator: Explain market structures and the types of market structures

Focal Area 1: Definition and Types of Market Structures

Definitions

Homogeneous: Homogeneous refers to goods or products that are identical in quality and characteristics, making them perfectly substitutable for one another.

Information Asymmetry: Information asymmetry refers to a situation in which one party in a transaction has more or better information than the other party.

Externalities: Externalities are costs or benefits that affect third parties who are not directly involved in an economic transaction. These impacts can be either positive or negative and are not reflected in the market prices of goods or services involved in the transaction.

Efficiency: Efficiency refers to the optimal use of resources to achieve the best possible outcome. It involves maximising outputs from given inputs or minimising the inputs needed to achieve a desired output.

Consumer Surplus: Consumer surplus is an economic measure of the benefit that consumers receive when they purchase a good or service at a price lower than what they are willing to pay.

Producer Surplus: Producer surplus is an economic measure of the benefit that producers receive when they sell a good or service at a price higher than the minimum price at which they are willing to sell.

Normal Profit: Normal profit is the minimum level of profit required to keep a firm in business in the long run, covering all explicit and implicit costs.

Supernormal Profit: Supernormal profit, also known as economic profit or abnormal profit, is the profit earned by a firm that exceeds the normal profit level.

Economies of Scales: Economies of scale refer to the cost advantages that a firm can achieve due to the expansion of its production scale.

Introduction

Market structures refer to the organisational and other characteristics of a market that influence the nature of competition and pricing within the market. There are two main forms of market structures; prefect completion (perfect market) and no competition (imperfect market). The perfect market has the following characteristics; a large number of small firms, none of which can control the market price, all firms produce identical or perfectly substitutable products, firms can freely enter or exit the market without significant cost or time, individual firms cannot influence the market price; they are price takers, all market participants (buyers and sellers) have complete and instant access to all relevant information about prices, products, and production methods, the market price is determined by the forces of supply and demand and firms produce where their marginal cost equals marginal revenue.

The imperfect form of the market has the following characteristics; the number of firms can vary widely depending on the specific type of imperfect market (e.g., oligopoly, monopolistic competition, monopoly), firms produce products that are differentiated in some way, either by

quality, features, branding, or other attributes, There can be significant barriers to entry and exit, such as high start-up costs, regulations, or control over essential resources, firms have some degree of market power, allowing them to influence prices. The extent of market power varies depending on the market structure,

Types of Market Structure

Note

1. At this level of education, the focus will be on the following three: Perfect Competition (perfect market), Monopoly and Monopolistic Competition (Imperfect markets).

a. Perfect Competition

Perfect competition is a theoretical market structure that serves as a benchmark for comparing other market structures. It is characterised by several ideal conditions that ensure no single firm can influence the market price.

Characteristics

1. Many Buyers and Sellers

There are a large number of small firms and individual buyers in the market. No single buyer or seller can influence the market price.

2. Homogeneous Products

The products offered by different firms are identical or perfect substitutes. Consumers see no difference between products from different suppliers.

3. No Barriers to Entry and Exit

Firms can enter or exit the market freely without facing significant costs or restrictions. This ensures that firms can respond quickly to changes in market conditions.

4. Perfect Information

All buyers and sellers have full and instant access to all relevant information about prices, product quality, and production methods. There is no information asymmetry.

5. Price Takers

Individual firms are price takers, meaning they must accept the market price determined by the overall supply and demand. They cannot influence the price on their own.

6. Profit Maximisation

Firms aim to maximise their profits by producing where marginal cost equals marginal revenue. In the short run, firms may make supernormal profits or losses, but in the long run, firms will make normal profits due to the free entry and exit of firms.

7. No Externalities

The actions of buyers and sellers do not have any external effects (positive or negative) on third parties that are not involved in the transaction.

Advantages of Perfect Competition

1. Efficient Allocation of Resources: Resources are allocated in the most efficient manner because firms produce at the lowest possible cost, and goods are sold at a price equal to marginal cost. This ensures that resources are not wasted and are used where they are most valued.
2. Consumer Benefits: Consumers benefit from the lowest possible prices due to the high level of competition. They also have access to a wide variety of products that meet their needs.
3. Incentive for Innovation: Firms are incentivised to innovate and improve their products and processes to reduce costs and stay competitive. Even though innovation is limited due to the lack of supernormal profits, firms strive for cost efficiency and incremental improvements.
4. Economic Welfare: Both consumer surplus and producer surplus are maximised, leading to the highest possible level of social welfare. There is no deadweight loss in a perfectly competitive market.
5. Transparency: Perfect information ensures that all participants are fully informed about prices, product quality, and production methods. This transparency helps consumers make better decisions and fosters trust in the market.

Disadvantages of Perfect Competition

1. Lack of Supernormal Profits: In the long run, firms only earn normal profits (zero economic profit). This lack of supernormal profits can limit the ability of firms to invest in significant research and development and long-term projects.
2. Limited Product Differentiation: Homogeneous products mean there is little to no product differentiation. Consumers may not have access to a variety of product choices, which can limit their satisfaction.
3. Assumption of Perfect Information: The assumption of perfect information is unrealistic in real-world markets. In reality, information asymmetry exists, and not all market participants have access to complete and accurate information.
4. No Economies of Scale: Firms in a perfectly competitive market are typically small and cannot exploit economies of scale. Larger firms in other market structures can achieve lower average costs due to economies of scale.
5. Dynamic Efficiency: Perfect competition may not foster dynamic efficiency as effectively as other market structures. Dynamic efficiency refers to the ability of an economy to improve over time through innovation and technological progress. Since firms in perfect competition cannot earn supernormal profits, their ability to fund and invest in research and development is limited.
6. Real-World Applicability: Perfect competition is a theoretical construct and does not exist in its pure form in the real world. Most markets have some degree of imperfection, such as barriers to entry, product differentiation, and information asymmetry.

b. Monopoly

A monopoly is a market structure in which a single firm controls the entire market for a particular good or service. This firm is the sole producer and seller, giving it significant power over the market. Here are the key characteristics and implications of a monopoly:

Characteristics of a Monopoly

1. Single Seller

There is only one firm that supplies the entire market with a particular product or service. This firm has complete control over the market supply.

2. Unique Product

The product or service offered by the monopolist has no close substitutes, making the firm the only source for that product.

3. High Barriers to Entry

Significant obstacles prevent other firms from entering the market. These barriers can be due to various factors, such as high startup costs, exclusive access to essential resources, legal restrictions, or economies of scale.

4. Price Maker

The monopolist has substantial control over the market price. Unlike in perfect competition, the monopolist can set the price higher than the marginal cost to maximise profits.

5. Market Power

The monopolist can influence market outcomes, including prices, output levels, and the availability of products. This market power can lead to inefficiencies and market distortions.

Advantages of Monopoly

1. Economies of Scale: Lower Average Costs: Monopolies can benefit from economies of scale, where the average costs of production decrease as the firm produces more. This can lead to lower prices for consumers if the cost savings are passed on.

   Efficient Production: Large-scale operations can lead to more efficient production processes and better utilisation of resources.

2. Research and Development (R&D): Innovation Incentive: Monopolies often have significant profits, which can be reinvested in research and development. This can lead to innovation and technological advancements.

   Sustainable Investment: Secure market positions allow monopolies to invest in long-term projects without the immediate pressure of competition.

3. Stable Prices: Monopolies can lead to more stable prices because a single firm controls the supply, avoiding the price wars that can occur in competitive markets.

4. Resource Allocation: Monopolies can allocate resources more efficiently for large infrastructure projects or industries that require substantial capital investment, such as utilities.

5. Standardisation: A monopoly can ensure product standardisation and consistency in quality, which can be beneficial in industries where uniformity is important (e.g., public utilities).

Disadvantages of Monopoly

1. Higher Prices: Monopolies can set prices higher than in competitive markets because they have significant market power. This can lead to higher costs for consumers. Lack of competition allows monopolists to exploit consumers, leading to higher prices and reduced consumer surplus.
2. Restricted Output: To maximise profits, monopolies may produce less than what would be produced in a competitive market, leading to shortages or restricted availability of products.
3. Economic Inefficiency: Resources may not be allocated most efficiently, leading to a misallocation of resources and deadweight loss. Without competitive pressure, monopolies may not operate at the lowest possible cost, leading to higher production costs and inefficiencies.
4. Lack of Innovation: While monopolies can invest in R&D, the lack of competitive pressure can lead to complacency and reduced incentives to innovate and improve products or services.
5. Poor Customer Service: Monopolies may not have strong incentives to provide good customer service because consumers have no alternative options. With no competition, monopolies might not respond to consumer demands and preferences effectively.
6. Barriers to Entry: High barriers to entry prevent new firms from entering the market, which can stifle competition and innovation in the long run.
7. Regulatory Challenges: Monopolies often face regulatory scrutiny and potential government intervention to prevent abuse of market power, which can lead to legal and compliance costs.

c. Monopolistic Competition

Monopolistic competition is a market structure that combines elements of both monopoly and competitive markets.

Monopolistic competition is a market structure where many firms sell similar but not identical products. Each firm has some control over its prices due to product differentiation, meaning consumers perceive differences between products based on brand, quality, features, or other attributes. To attract customers, firms in monopolistic competition engage in non-price competition, such as advertising and product innovation.

Characteristics

1. Numerous Firms: Many firms operate in the market, each with a small market share.
2. Product Differentiation: Products are differentiated through branding, quality, features, or other attributes, allowing firms to have some control over pricing.
3. Free Entry and Exit: Firms can enter or leave the market easily, leading to competitive pressures and preventing long-term supernormal profits.
4. Independent Pricing: Each firm sets its prices independently, without colluding with competitors.
5. Non-Price Competition: Firms compete on factors other than price, such as advertising, product quality, and customer service.

6. It must be noted that this structure provides consumers with a variety of choices and encourages innovation, but it can lead to inefficiencies due to the duplication of efforts and resources in advertising and marketing.

Advantages

1. Consumer Choice: A wide variety of products and brands are available, catering to different preferences and tastes.
2. Product Differentiation: Firms strive to differentiate their products, leading to innovation and improvements in quality, features, and services.
3. Competitive Prices: Despite some market power, competition among many firms keeps prices relatively competitive and fair.
4. Efficient Allocation of Resources: Firms aim to meet consumer demands effectively, which can lead to a more efficient allocation of resources compared to monopoly markets.
5. Flexibility: The presence of many firms allows for flexibility and adaptability in responding to changes in consumer preferences and market conditions.
6. Entry and Exit: The ease of entry and exit promotes a dynamic market environment where firms must continuously innovate and improve to maintain their market position.
7. Advertising and Information: Non-price competition through advertising helps inform consumers about product choices, enhancing their ability to make informed decisions.

Disadvantages

1. Inefficiency: Firms do not produce at the lowest possible cost due to excess capacity. They produce less than what would minimise average costs, leading to productive inefficiency.
2. Higher Prices: Due to the lack of perfect competition, prices can be higher than in perfectly competitive markets.
3. Excessive Spending on Advertising: Firms invest heavily in advertising and marketing to differentiate their products, which can lead to wasteful expenditures and higher prices for consumers.
4. Short-Term Profits: In the long run, the ease of entry and exit means that firms can only earn normal profits, which might reduce incentives for long-term investment and innovation.
5. Consumer Confusion: The multitude of choices and heavy advertising can lead to confusion and difficulty in making informed purchasing decisions.
6. Potential for Misleading Information: Aggressive marketing and advertising might sometimes lead to misinformation or exaggerated claims about product benefits.
7. Duplication of Effort: Multiple firms producing similar products can lead to a duplication of effort and resources, which could be more efficiently utilised in other areas.

Example 6.1

Perfect Competition: Agricultural markets for products like wheat or corn. Stock markets, where many buyers and sellers trade identical financial securities.

Natural Monopolies: Utilities such as electricity, water, and natural gas, where high infrastructure costs create significant barriers to entry.

Government Monopolies: Postal services in some countries where the government grants exclusive rights to a single entity.

Technological Monopolies: Companies with exclusive patents on a particular technology or drug.

Monopolistic: Retail Markets, e.g., Clothing brands, restaurants, and consumer electronics and Service Industries, e.g., Hotels, hair salons, and real estate agencies.

Learning Tasks

1. Learners watch a video of various market scenarios and undertake the following tasks:
2. Identify the type of market being exhibited in the video.
3. Explain each type of market identified in the video.
4. Compare and contrast any two of the identified markets.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify the various types of market structures shown in the video.
2. Learners who can identify the types of market structures depicted in the video should apply their knowledge and skills to explain each of the identified market structures.
3. The learners who show a high level of understanding should be allowed to foster a culture of reflective practice where they can compare and contrast any two of the identified market structures.

Pedagogical Exemplars

Experiential Learning: Learners watch a video to discuss the meaning of market structures and the different types of market structures, and their characteristics.

a. Learners who have a low ability to identify the types of market structures shown in the video should be supported by teachers through diverse perspectives and local and concrete references in the lesson to make learning more meaningful. (AP)

b. For learners who show clear understanding and ability to identify the types of markets after watching the video, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain the identified market structures. (P)

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to compare any two of the types of market structures identified.

Key Assessment

DoK Level 1: Introduction/ Recall

Identify three types of market structures.

DoK Level 3: Strategic Reasoning

1. Explain the following market structures using real-world examples:
    a. Perfect Competition
    b. Monopoly
    c. Monopolistic Competition
2. Differentiate a Monopolistic competition market from a Monopoly market.

DoK Level 4: Extended Thinking

Read the extract below and critique the operations in this market by identifying the type of market structure involved and the advantages and disadvantages.

In the heartland of a vast agricultural community in Kintampo lies a thriving yam market. Here, countless yam farmers dot the landscape, each cultivating their plots of land. These farmers, though numerous, produce a product so homogeneous that one farmer's yam is virtually indistinguishable from another's. Each morning, the farmers converge at a bustling marketplace, their trucks laden with freshly harvested yams. Buyers, ranging from large companies to local sellers, flood the market, eager to secure the day's supply. Both buyers and sellers operate with perfect knowledge, aware of current prices, weather conditions, and the quality of yams available. In this market, no single farmer can influence the price of yams. The market price is determined solely by the forces of supply and demand. Entry into the yam market is relatively straightforward. Likewise, those who find farming unprofitable can easily exit the market, selling their land or shifting to other agricultural pursuits.

Hint

The recommended assessment mode for this week is Discussion. Refer to the Teacher Assessment Manual and Toolkit pages 52–54 for more information on administering discussion as an assessment strategy

Week 14

Learning Indicator: Determine the types of profits (super-normal, normal and sub-normal)

Focal Area 1: Types of profits in each Market Structure

Definition

Sub-Normal Profit: Sub-normal profit, also known as an economic loss, occurs when a firm's total revenue is less than its total costs, including both explicit and implicit costs.

Introduction

Different market structures can influence the types of profits that firms can achieve. The profit can be normal, sub-normal and super–normal.

1. Perfect Competition

Normal Profit

The minimum level of profit needed for a company to remain competitive in the market; essentially, it covers all opportunity costs. In the long run, firms in a perfectly competitive market earn normal profits as economic profits are zero due to the free entry and exit of firms.

Super-Normal Profit

The surplus profit above the normal profit. Firms can earn super-normal profit in the short run due to temporary advantages, but in the long run, it tends to zero due to competition.

Sub-Normal Profit

Firms may experience sub-normal profit in the short run due to fluctuations in market demand or cost conditions. In a perfectly competitive market, if firms are unable to cover their total costs, they incur losses. In the short run, some firms may continue to operate to cover their variable costs even if they are making losses. Firms cannot sustain sub-normal profits in the long run. If firms continue to make sub-normal profits, they will exit the market, leading to a decrease in supply and a return to normal profit for the remaining firms

2. Monopoly

Normal Profit

The profit level required to keep the firm in the market. A monopolist always earns at least a normal profit, with the potential for significant super-normal profit due to the lack of competition.

Super-Normal Profit

Profit earned above the normal profit level due to the firm's ability to set prices above marginal cost. A monopolist can sustain super-normal profits in both the short and long run due to high barriers to entry and a lack of competition.

3. Monopolistic Competition

Normal Profit

In the long run, firms in monopolistic competition tend to earn normal profit due to the free entry and exit of firms in the market. The super-normal profits earned in the short run attract new firms to enter the market, increasing competition. Conversely, firms making losses will exit the market. This entry and exit continue until firms are making normal profits.

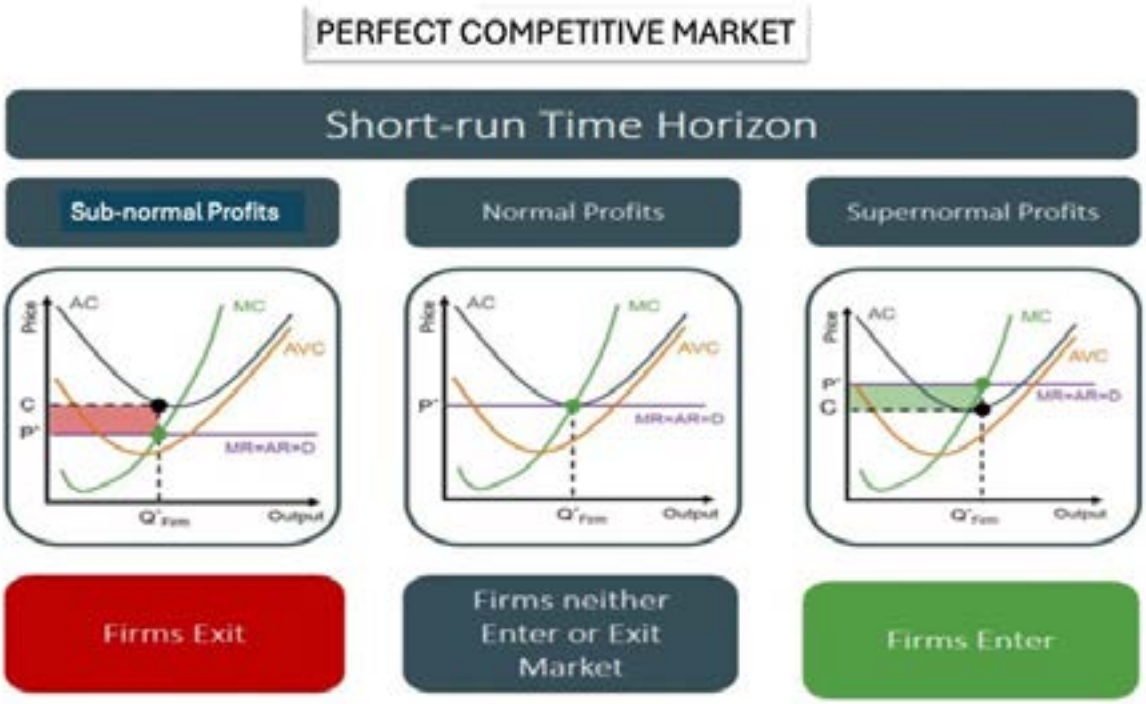
Super- Normal Profit

Profit is earned when firms have some degree of market power due to product differentiation. Firms can earn super-normal profits in the short run due to differentiated products and some control over pricing. In the long run, the entry of new firms reduces super-normal profit to normal profit. Due to the free entry and exit of firms, super-normal profits tend to zero in the long run.

Sub-Normal Profit

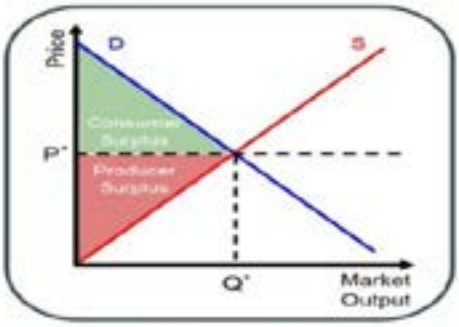
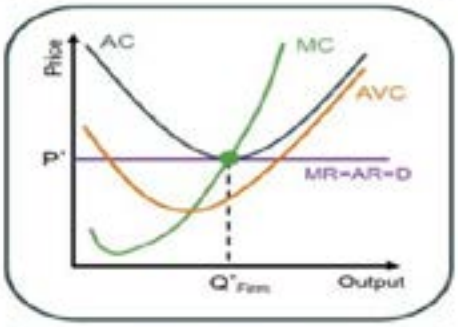
Firms may incur losses in the short run due to high competition and changing consumer preferences. Firms might continue operating in the short run to cover their variable costs, even if they are making losses overall. In the long run, firms that consistently make sub-normal profits will exit the market. The exit of firms reduces competition and can lead to the remaining firms achieving normal profit.

Example 6.2

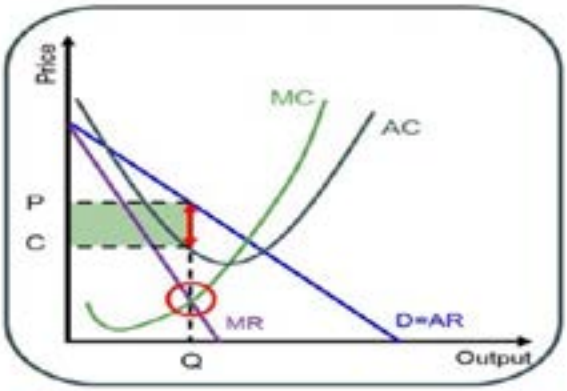


PERFECT COMPETITIVE MARKET

Long-run Time Horizon

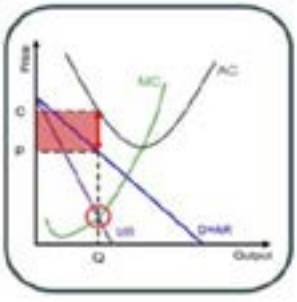
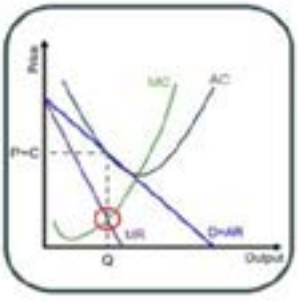
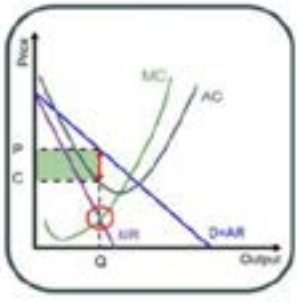
Market	Firm
	
Surplus Maximised	Firms always make Normal Profits

MONOPOLY



Super-normal Profit Earned

MONOPOLISTIC COMPETITION

Sub-normal Profits	Normal Profits	Super-normal Profit
		
Firms Exit	Firms neither Enter or Exit Market	Firms Enter

Learning Tasks

1. Identify the types of profits that exist in each of the market structures.
2. Explain the various types of profit for each of the market structures.
3. Differentiate between the short-run and the long-run profits for each of the market structures.

Note

1. Learners who find it difficult to identify the types of profit should be assisted in connecting real-world situations to identify the types of profits for each market structure.
2. Learners who show understanding of the types of profit that exist in each of the market structures should use their knowledge to explain the various types of profits
3. Learners who show a high level of explaining the types of profits in each of the market structures should design critical thinking exercises that challenge them to differentiate between the short-run and the long-run profits for each of the market structures.

Pedagogical Exemplars

Building on What Others Say: Learners build on their previous knowledge of cost and revenue in small groups to discuss the conditions needed to determine profits and losses for the various markets.

Note

1. Teachers should provide targeted support for learners who struggle to identify the types of profits that exist in each of the market structures. They should be supported in using their previous knowledge of cost and revenue to identify the types of profit for each market structure discussed. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the types of profits to apply their knowledge in explaining the various types of profit for each of the market structures. (P)
3. Teachers should encourage learners who show a high level of understanding of the types of profit to design critical thinking exercises that challenge them to differentiate between the short-run and the long-run profits for each of the market structures. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Identify the types of profits in each of the market structures.

DoK Level 2: Skills of conceptual understanding

Explain the various types of profit for each of the market structures.

DoK Level 3: Strategic Reasoning

Differentiate between the short-run and the long-run profits for each of the market structures.

Hint

- *The recommended assessment mode for this week is* ***Poster.*** *Refer to the Teacher Assessment Manual and Toolkit pages 76–78 for further information on administering posters as an* assessment strategy
- Individual Project Work should be assigned to learners by the end of this week. Ensure that the pr*oject covers several learning indicators and spans over several weeks. Also, develop a detailed rubric and share with learners.*

SECTION 6 REVIEW

The lessons taught in section six focused on the definition and three types of market structures and their characteristics, advantages and disadvantages. It brought to the fore the examples of the various types of market structures. The session ended with the various types of profits in the two time horizons for each market structure. The teacher applied varied pedagogical skills, specifically experiential learning and building on what others say and assessment techniques, subject to the abilities of the learners to achieve the learning indicators for the week.

APPENDIX H: SAMPLE INDIVIDUAL PROJECT WORK

Objective: To understand and apply economics concepts in creating graphical representations.

Task:

E.g.

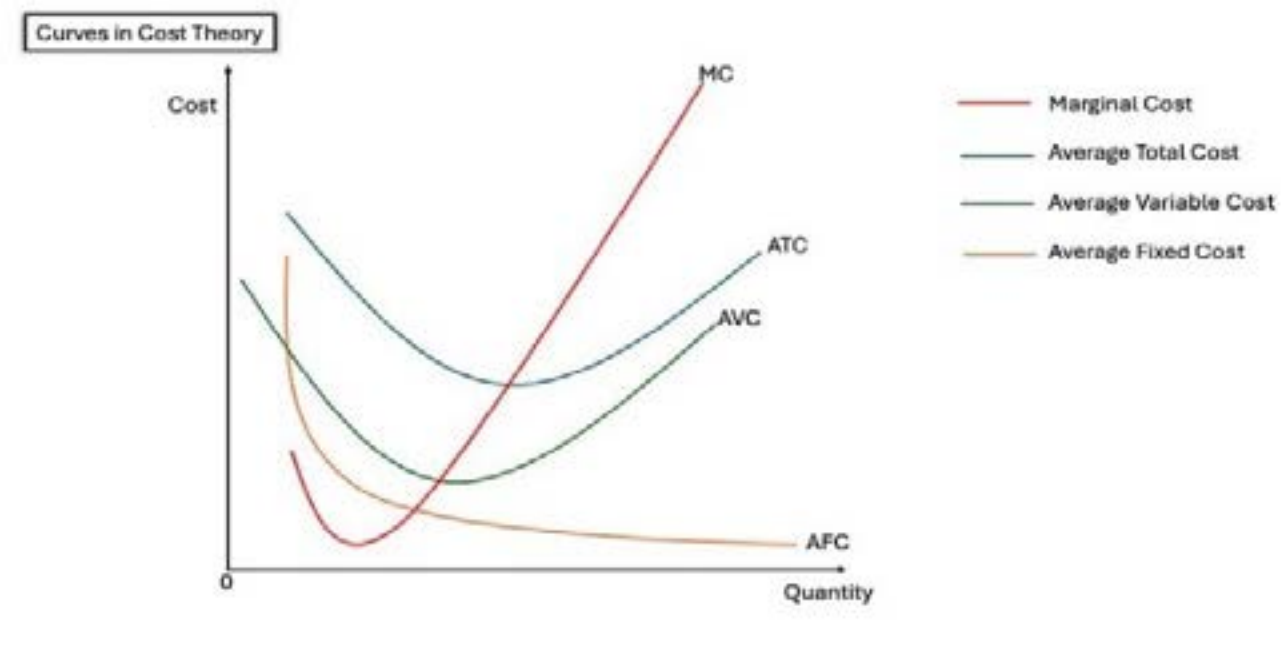
1. *Create a graphical representation of the Cost Theory curves, showing;*
   - Marginal Cost (MC) curve
   - Average Cost (AC) curve
   - Average Total Cost (ATC) curve
   - Average Fixed Cost (AFC) curve
2. *Briefly explain each cost curve and state any one assumption for each curve.*
3. *Submission: Week 17*

A single document or paper booklet containing the graph and explanations, with a cover page.

Refer to the Teacher Manual and Learner Manual for more tasks that can be used for the project.

Rubrics for scoring the individual project:

1. *15 marks in all*
2. *Cover page: [3 marks]*



Criteria	Excellent (4 Marks)	Very Good (3 Marks)	Good (2 Marks)	Needs Improvement (1 Mark)
Use of an appropriate diagram	***A well-drawn diagram with 4 of the following aspects correct:*** *Correct labelling of outline of the curve (axis; Cost and Quantity)* *Correct labelling of curves within the diagram (MC, ATC, AVC, AFC)* *Accurate curves drawn* *Heading or title for the curve* *Indicating a key for the lines if different colours are used*	***A diagram with 3 of the following aspects correct:*** *Correct labelling of outline of the curve (axis; Cost and Quantity)* *Correct labelling of curves within the diagram (MC, ATC, AVC, AFC)* *Accurate curves drawn* *Heading or title for the curve* *Indicating a key for the lines if different colours are used*	***A diagram with only 2 of the following aspects correct:*** *Correct labelling of outline of the curve (axis; Cost and Quantity)* *Correct labelling of curves within the diagram (MC, ATC, AVC, AFC)* *Accurate curves drawn* *Heading or title for the curve* *Indicating a key for the lines if different colours are used*	***A diagram with only 1 of the following aspects correct:*** *Correct labelling of outline of the curve (axis; Cost and Quantity)* *Correct labelling of curves within the diagram (MC, ATC, AVC, AFC)* *Accurate curves drawn* *Heading or title for the curve* *Indicating a key for the lines if different colours are used*
Explanation of curves	***Learner explains the Cost Curves to include 3 or more keywords;*** ***Marginal Cost Curve:*** *Change* *Cost* *Output* *Increment* ***Average Cost Curve:*** *Total* *Divided* *Output* *Per unit* ***Average Variable Cost Curve:*** *Variable* *Total* *Output* *Per unit* ***Average Fixed Cost** Curve:* *Fixed* *Constant* *Output* *Declines* ***Top of Form***	***Learner explains the Cost Curve, but may include only 2 keywords;*** ***Marginal Cost Curve:*** *Change* *Cost* *Output* *Increment* ***Average Cost Curve:*** *Total* *Divided* *Output* *Per unit* ***Average Variable Cost Curve:*** *Variable* *Total* *Output* *Per unit* ***Average Fixed Cost Curve:*** *Fixed* *Constant* *Output* *Declines*	***Learner explains the Cost Curves with only 1 keyword;*** ***Marginal Cost Curve:*** *Change* *Cost* *Output* *Increment* ***Average Cost Curve:*** *Total* *Divided* *Output* *Per unit* ***Average Variable Cost Curve:*** *Variable* *Totals* *Output* *Per unit* ***Average Fixed Cost Curve:*** *Fixed* *Constant* *Output* *Declines*	***Learner explains Curves without any keyword;*** ***Marginal Cost Curve:*** *Change* *Cost* *Output* *Increment* ***Average Cost Curve:*** *Total* *Divided* *Output* *Per unit* ***Average Variable Cost Curve:*** *Variable* *Total* *Output* *Per unit* ***Average Fixed Cost** Curve:* *Fixed* *Constant* *Output* *Declines*

Assumptions under the curves	***Learner states 4 assumptions, one under each curve.*** ***E.g., Marginal Cost (MC) Curve Assumption:*** *The MC curve assumes that the law of diminishing returns does not apply in the short run.*	***Learner states 3 assumptions, instead of 4.*** ***E.g., Marginal Cost (MC) Curve Assumption:*** *The MC curve assumes that the law of diminishing returns does not apply in the short run.*	***Learner states only 2 assumptions, instead of 4.*** ***E.g., Marginal Cost (MC) Curve Assumption:*** *The MC curve assumes that the law of diminishing returns does not apply in the short run.*	***The learner states only 1 assumption instead of 4.*** ***E.g., Marginal Cost (MC) Curve Assumption:*** *The MC curve assumes that the law of diminishing returns does not apply in the short run.*

Administering

E.g.

1. *Explain the project task and how it will be scored*
2. *The deadline for the submission of this project is Week 17*
3. *Remind learners in week 16 to design a cover page for their project, and submit it in week 17 for scoring, etc.*

Refer to the Teacher Assessment Manual and Toolkit pages 27-29 and 125-127 for more information on administering a project as an assessment strategy.

Feedback

E.g.

1. *Discuss the scoring rubrics with the learners and share the results with them for reflection*
2. *Allow learners to talk about their work, what challenges they faced when working on the individual project*
3. *Clarify difficulties and misconceptions of learners and give further support where necessary, etc.*

SECTION 7: MARKET EQUILIBRIUM

Strand: Price Analysis and Prediction in the Modern Economy

Sub-Strand: Price and Equilibrium Analysis

Learning Outcome: Use the concepts of demand and supply to determine the equilibrium in the market.

Content Standard: Apply quantitative skills in determining equilibrium

INTRODUCTION AND SECTION SUMMARY

Section seven covers the price analysis and prediction in the modern economy, focusing on equilibrium analysis. The content focuses on how the forces of demand and supply determine equilibrium in the market. The concept of market equilibrium is fundamental in Economics, representing a situation where the quantity demanded is the same as the quantity supplied at a market-clearing price. It is anticipated that at the end of the section; learners will be able to use quantitative skills to determine market equilibrium.

Teachers should note that the concept of market equilibrium is linked to Business Studies.

The week covered by the section is;

Week 15: Market Equilibrium and Determination of Equilibrium Price and Output

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents only one pedagogy to the teacher. That is building on what others say, the teacher is expected to assist the learners to work in teacher nominated mixed ability and gender groups, pose an open-ended question and encourage learners to build on each other's ideas by asking follow-up questions. The learners are to use their previous knowledge in demand and supply during the group discussion.

It must be indicated that teachers apply this pedagogy based on the abilities and learning styles of the learners in the class.

ASSESSMENT SUMMARY

The assessments in this section cover levels 1 to 4. Teachers should note that the level 1 items are supposed to enable learners to demonstrate the ability to recall and reproduce basic concepts and demonstrate basic understanding. The teacher is expected to ask closed and open-ended questions. The level 2 items require that the learner do a basic application of concepts and skills about the content in this section. The teacher is expected to use funnel and probing questions in this regard. The teacher is supposed to use level 3 items to promote strategic thinking and complex reasoning in the learners. The teacher is supposed to ask leading and hypothetical questions. Level 4 items promote extended thinking.

The teacher should use multiple strategies such as discussion, class exercises, homework and case studies (Refer to teacher assessment manual).

The recommended assessment mode for this week is;

Week 15: Homework.

*Refer to the "**Hint"** at the key assessment for additional information on how to effectively administer this assessment mode.*

Week 15

Learning Indicators

1. *Explain the equilibrium situation in the market*
2. *Determine the equilibrium quantity and price in the market*

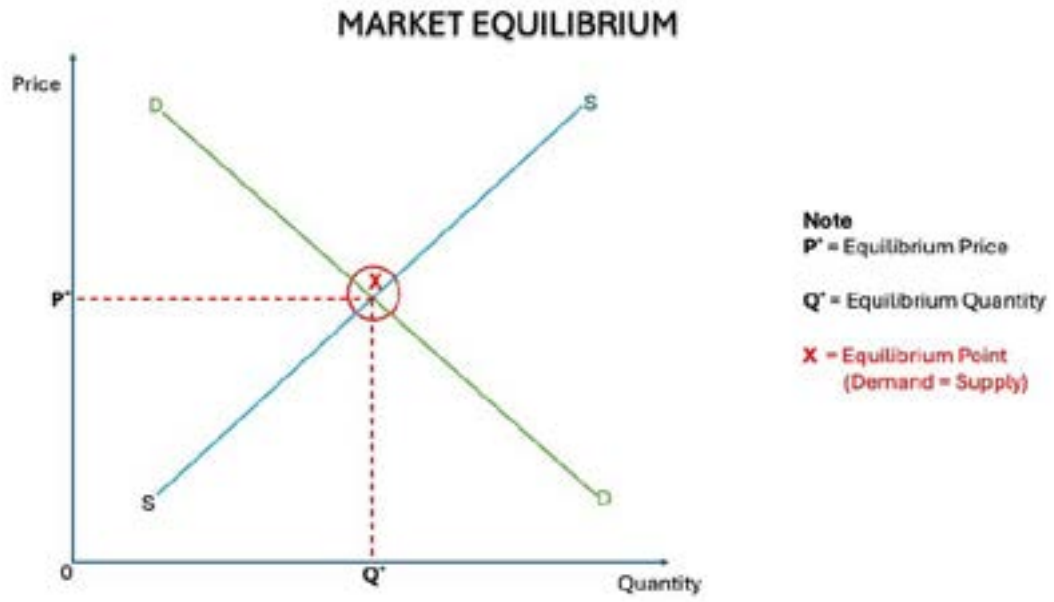
Focal Area 1: Market Equilibrium

Introduction

Market equilibrium is a condition in an economic market where the quantity of goods supplied is equal to the quantity of goods demanded. This balance results in a stable market price for the goods or services. Supply refers to the quantity of a product or service that producers are willing and able to sell at various prices. Demand refers to the quantity of a product or service that consumers are willing and able to purchase at various prices. The equilibrium price is the price at which the quantity of goods supplied equals the quantity of goods demanded. The equilibrium quantity is the amount of goods bought and sold at the equilibrium price. In mathematical terms, market equilibrium is achieved when the quantity demanded (Qd) equals the quantity supplied (Qs).

Example 7.1

1.



2. *Demand function: Qd = a - bP*

   Supply function: Qs = c + dP

   ***In Equilibrium** = Qd = Qs*

Learning Tasks

1. Explain market equilibrium.
2. Describe market equilibrium using infographics.
3. Analyse the equilibrium condition using algebra.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can explain a market equilibrium using words without any difficulty.
2. Learners who understand the concept of market equilibrium are required to apply their knowledge and skills to describe a market equilibrium using a graph.
3. The learners who show a high level of understanding of market equilibrium should be encouraged to foster a culture of reflective practice where they can reflect and explain market equilibrium using the demand and supply functions.

Pedagogical Exemplars

Building on What Others Say: Learners, based on the knowledge acquired from demand and supply to explain equilibrium in the market by using curves and functions.

a. Learners who have low ability in explaining a market equilibrium should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful to enable them to explain market equilibrium with words. (AP)

b. For learners who show clear understanding and ability to explain a market equilibrium, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers by describing market equilibrium using a graph. (P)

c. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to analysing market equilibrium using algebra.

Key Assessment

DoK Level 2: Skills of conceptual understanding

Explain market equilibrium.

DoK Level 3: Strategic Reasoning

Describe market equilibrium using a graph.

DoK Level 4: Extended Thinking

Analyse a market equilibrium condition using demand and supply functions.

Focal Area 2: Determination of equilibrium price and quantity using Algebra

Introduction

To determine the equilibrium price and quantity in a market, we need to find the point where the quantity demanded equals the quantity supplied. This involves solving the equations for the demand and supply curves algebraically. Below is a step-by-step example:

Suppose we have the following demand and supply functions for a product:

$$\text{Demand function: } Qd = 100 - 2P$$

$$\text{Supply function: } Qs = 20 + 3P$$

Where *Qd* is the quantity demanded, *Qs* is the quantity supplied, and *P* is the price.

Step 1 - Set the Quantity Demanded Equal to the Quantity Supplied:

To find the equilibrium, set $Q^d = Q^s$:

$$100 - 2P = 20 + 3P$$

Step 2 - Solve for P (Equilibrium Price)

Combine like terms to isolate P on one side of the equation:

$$100 - 20 = 3P + 2P$$

$$80 = 5P$$

$$P = \frac{80}{5}$$

$$P = 16$$

So, the equilibrium price (P) is **16**.

Step 3 - Find the Equilibrium Quantity

Substitute the equilibrium price (P =16) back into either the demand or supply function to find the equilibrium quantity.

Using the demand function:

$$Qd = 100 - 2P$$

$$Qd = 100 - 2(16)$$

$$Qd = 100 - 32$$

$$Qd = 68$$

Alternatively, using the supply function:

$$Qs=20+3P$$

$$Qs=20+3(16)$$

$$Qs=20+48$$

$$Qs=68$$

So, the equilibrium quantity for both supply and demand (Q) is **68**.

Verification

To ensure the solution is correct, both the demand and supply equations should yield the same quantity when P = 16:

Demand function: Qd = 100 - 2(16) = 100 - 32 = 68

Supply function: Qs = 20 + 3(16) = 20 + 48 = 68

Both give Q = **68**, confirming the equilibrium quantity. Therefore, the **EQUILIBRIUM PRICE IS 16** and the **EQUILIBRIUM QUANTITY is 68**.

Learning Tasks

1. Calculate the equilibrium price.
2. Calculate the equilibrium quantity.
3. Explain the results.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can calculate the market equilibrium price and quantity without any difficulty.
2. Learners who understand the concept of market equilibrium should apply their knowledge and skills to explain the calculated market equilibrium price and quantity.

Pedagogical Exemplars

Building on What Others Say

Learners in mixed ability and gender groups, and based on the knowledge acquired from equilibrium, explain and determine the equilibrium price and quantity in a market.

a. Learners who have a low ability to calculate a market equilibrium price and quantity should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)

b. For learners who show a clear understanding and ability to calculate a market equilibrium price and quantity, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers by explaining the calculated market equilibrium price and quantity. (P & HP)

Key Assessment

In the Gomoa Dominase onion market, demand and supply for onions can be described by the following functions:

Demand function: Qd = 500 - 10P

Supply function: Qs = 100 + 5P

where:

- *Qd* is the quantity of onions demanded per week.
- *Qs* is the quantity of onions supplied per week.
- *P* is the price per bowl of onions in Ghana cedis.

DoK Level 1: Recall

State the equilibrium condition.

DoK Level 3: Strategic Reasoning

Determine the equilibrium price and quantity of onions in the Gomoa Dominase onion market.

DoK Level 4: Extended Thinking

Analyse what your result means in terms of the price, supply and demand for onions in the Gomoa Dominase market.

Hint

The recommended mode of assessment is Homework. Refer to the Teacher Assessment Manual and Toolkit pages 46–48 for more information on administering homework as an assessment strategy.

SECTION 7 REVIEW

The lessons taught in section seven focused on market equilibrium. It brought to the fore how to use words, graphs and algebra to explain equilibrium situations in the market. The session ended with the calculation of the equilibrium price and quantity. The teacher applied only building on what others say pedagogy and assessment techniques, subject to the abilities of the learners to achieve the learning indicators for the week.

SECTION 8: MACROECONOMICS VARIABLES

Strand: Government Economic Policy and Trade

Sub-Strand: Macroeconomic Variables (GDP, Inflation, Unemployment, Exchange Rate)

Learning Outcome: Determine the effects of changes in the fundamental macroeconomic variables on the economy and their control policies

Content Standards

1. *Demonstrate knowledge of the fundamental macroeconomic variables*
2. *Demonstrate understanding of the measurements, uses, and importance of National Income.*

Hint

- The End of Semester Exam will be conducted in Week 18. Refer to Appendix I for a Table of Test Specification to guide you in setting the questions. Set questions to cover all the indicators covered for at least weeks 13 to 17.
- Remind learners about their portfolio and offer support to those who may be struggling.
- Remind learners of their Individual Project that needs to be submitted in week 17.

INTRODUCTION AND SECTION SUMMARY

Section eight of the Economics Teacher Manual covers the effect of a change in inflation, exchange rate and unemployment rate on GDP. It focuses on the control policies for mitigating the effects of inflation. The learning outcome of the section is to determine the effects of changes in the fundamental macroeconomic variables on the economy and their control policies. Specifically, it is expected that learners demonstrate knowledge of the fundamental macroeconomic variables.

Teachers should note that the concept of economic system and macroeconomic variables are linked to the Government.

The weeks covered by the section are:

Week 16: Effects of changes in Fundamental Macroeconomic Variables on the Economy and Control policies

Week 17: Introduction to National Income

Week 18: Calculation of National Income

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section requires hands-on activities where learners engage in practical ways of understanding the effect of a change in the macroeconomic variables affect the economy, their control policies and the calculation of national income. Initiating talk for learning, problem-based learning and building on what others say should dominate the lessons. All learners, irrespective of their gender, economic background as well or learning ability, should be encouraged to participate fully. The teacher, in using initiating talk for learning pedagogy, is expected to assist the learners to work in mixed ability and gender groups to undertake brainstorming activities. With the problem-based learning pedagogy, the teacher is expected to assist learners in researching how Ghana and the rest of the world control the negative effects of the changes in the various macroeconomic variables and present their report in Microsoft PowerPoint. Teachers are to assist learners to brainstorm or create mind maps on national income calculation when using building on what others say pedagogy.

ASSESSMENT SUMMARY

The concept in this section requires learners to demonstrate conceptual understanding, including their real-life applications. Hence, the assessment should largely cover all the levels two to four of DOK so that learners approaching proficiency and highly proficient learners will not be left out. Teachers should use a variety of formative assessment strategies, such as oral, written, reports and home tasks, to gather information about learners' progress and give prompt feedback to them. Ensure to use a rubric/marking scheme to score learners' work and record them appropriately in the Student Transcript portal.

The recommended assessments for his section are;

Week 16: Debate

Week 17: Case study

Week 18: Mid-Semester Examination

*Refer to the "**Hint**" at the key assessment for additional information on how to effectively administer these assessment modes.*

Week 16

Learning Indicators

1. *Identify the effects of changes in fundamental macroeconomic variables on the economy.*
2. *Suggest control policies to mitigate the effect of the changes in the fundamental macroeconomic variables.*

Focal Area 1: Effects of Changes in Fundamental Macroeconomic Variables on the Economy

Definition

Macroeconomics: This is a branch of Economics that studies the overall behaviour and performance of the economy of a country. It analyses factors like GDP (gross domestic product), inflation and unemployment and exchange rate and their interactions.

Deflation: Deflation is the general decline in prices for goods and services across an economy.

Introduction

GDP (Gross Domestic Product) measures the total value of all goods and services produced within a country's borders. GDP is important to a country because it reflects overall economic performance and growth, standard of living, consumption, investment and employment. It gives the government and other nations an idea of how wealthy a country is.

Changes in fundamental macroeconomic variables can have wide-ranging effects on the GDP. At this level of education, the focus will be limited to the effect of change in inflation, unemployment and exchange rate on GDP.

Inflation

Inflation is the rate at which the general level of prices for goods and services rises, and subsequently, the purchasing power of currency falls. Changes in inflation can have various impacts on GDP, influencing multiple aspects of economic activity. Moderate and stable inflation is generally seen as beneficial for GDP, while high inflation or deflation can have adverse effects. Policymakers aim to balance inflation to promote economic stability and growth. Inflation can have both positive and negative effects on Gross Domestic Product (GDP). In the short term, moderate inflation can boost GDP by encouraging spending and investment. However, if inflation is too high or volatile, it can lead to economic instability and reduced growth. Persistent high inflation can harm GDP by creating uncertainty, reducing investment, and eroding consumer and business confidence. Conversely, very low or negative inflation (deflation) can also be detrimental by leading to decreased spending and investment. The optimal scenario for GDP is typically one of low and stable inflation, which provides a predictable economic environment that encourages investment, consumption, and sustainable economic growth.

Positive Effects

Stimulates Spending: Moderate inflation encourages consumption and investment because people and businesses prefer to spend or invest money rather than see its value erode due to rising prices.

Debt Relief: Inflation reduces the real value of debt, making it a sensible move for borrowers to repay loans. This can stimulate economic activity by increasing disposable income and encouraging borrowing.

Wage Adjustments: Inflation allows for nominal wage increases without necessarily increasing real wages, which can help maintain employment levels during economic adjustments.

Negative Effects

Uncertainty: High and unpredictable inflation creates uncertainty in the economy, making it difficult for businesses to plan and invest. This can reduce overall economic activity and growth.

Reduced Purchasing Power: Inflation erodes the purchasing power of consumers if wages do not keep pace with rising prices, leading to lower real consumption, and potentially reducing aggregate demand.

Interest Rates: To combat high inflation, central banks may raise interest rates, which can slow economic growth by increasing the cost of borrowing and reducing investment.

Cost-Push Inflation: Rising costs of inputs can lead to higher production costs, which can reduce profitability and output if businesses cannot pass these costs onto consumers.

Unemployment

Unemployment refers to the situation where individuals who are capable of working, and are actively seeking work, are unable to find employment. Unemployment has a significant impact on GDP, influencing the economy in various ways. Unemployment generally hurts the economy, reducing consumption, investment, and productivity, and increasing government spending on social safety nets. The key is to maintain unemployment at a low and stable level to promote sustainable economic growth. In the short term, rising unemployment typically leads to lower GDP due to reduced consumption, investment, and productivity. Persistently high unemployment can have long-term detrimental effects on GDP. It can lead to a loss of skills and human capital, making it harder for the economy to recover and grow.

Negative Effects

Reduced Consumption: Unemployed individuals typically have less income, leading to decreased consumer spending. This lower spending reduces overall economic output.

Lower Investment: High unemployment can lead to decreased business confidence, reducing investments in capital and innovation. Businesses may delay or cancel expansion plans due to uncertainty about future economic conditions.

Lost Productivity: Unemployment represents a loss of productive potential in the economy. People who could contribute to economic output are not doing so, leading to an overall decrease in the economy's efficiency and growth potential.

Decreased Tax Revenues: With fewer people employed, tax revenues decline. This can constrain government budgets and reduce public spending on infrastructure, education, and other areas that contribute to economic growth.

Increased Government Spending: High unemployment often leads to increased government spending on social safety nets, such as unemployment benefits and welfare programs. This can strain public finances and lead to higher deficits and debt.

Positive Effects

Wage Adjustments: High unemployment can put downward pressure on wages, which can help reduce labour costs for businesses. This might improve competitiveness and profitability, although it can also reduce overall consumer spending power.

Resource Reallocation: Unemployment can sometimes lead to the reallocation of resources. For instance, during economic downturns, less efficient businesses may close, and resources (including labour) can eventually shift to more productive sectors, potentially leading to stronger growth in the long run.

Exchange Rate

An exchange rate is the rate at which one currency can be exchanged for another. It represents the value of one country's currency in terms of another currency. It can have significant effects on a country's GDP. The effects of exchange rate on GDP can be both positive and negative, and can vary depending on whether the exchange rate is weak (low value compared to other currencies) or strong (high value compared to other currencies)

Positive effects of a weak currency exchange rate on GDP:

Boosts Exports: Makes domestic goods cheaper and more competitive abroad, increasing export volumes.

Encourages Domestic Production: Higher import costs can lead to increased demand for locally produced goods.

Attracts Tourism: A weaker currency makes the country a more affordable destination for foreign tourists.

Stimulates Foreign Investment: Lower currency value can attract foreign investors looking for cheaper investment opportunities.

Negative effects of a weak currency exchange rate on GDP:

Higher Inflation: Increased cost of imported goods can lead to higher overall prices.

Reduced Purchasing Power: Consumers may find that their money doesn't go as far, affecting their ability to buy goods and services.

Increased Debt Burden: If a country has debt denominated in foreign currencies, a weaker domestic currency makes it more expensive to repay.

Uncertainty for Businesses: Fluctuating exchange rates can create uncertainty, making it harder for businesses to plan and invest.

Potential Capital Flight: Investors might move their money out of the country to avoid losses from currency depreciation.

Positive effects of a strong currency exchange rate on GDP:

Lower Inflation: Cheaper imports can help keep inflation in check, as the cost of imported goods and services decreases.

Increased Purchasing Power: Consumers and businesses can buy more with their money, both domestically and internationally.

Reduced Debt Burden: If a country has debt denominated in foreign currencies, a stronger domestic currency makes it cheaper to repay.

Attracts Investment: Stability and strength in the currency can attract foreign investors looking for a safe investment environment.

Lower Production Costs: For businesses that rely on imported raw materials, a stronger currency reduces production costs, potentially increasing profitability.

Negative effects of a strong currency exchange rate on GDP:

Reduced Export Competitiveness: Domestic goods become more expensive abroad, potentially decreasing export volumes.

Lower Tourism: The country becomes a more expensive destination for foreign tourists.

Potential Trade Deficit: Higher imports and lower exports can lead to a trade deficit.

Economic Slowdown: Reduced demand for exports can slow down economic growth.

Pressure on Domestic Industries: Domestic industries may struggle to compete with cheaper imported goods.

Learning Tasks

1. Discuss the effect of a change in inflation on GDP.
2. Examine the effect of a change in the unemployment rate on GDP.
3. Examine the effect of a weak currency exchange rate and a strong currency exchange rate on GPD.

Note

1. Learners who find it difficult to understand the effect of a change in inflation on GDP should be assisted in connecting the concept of inflation to GDP. Focus content on the effect of inflation and deflation on GDP.
2. Learners who show understanding of unemployment should use their knowledge to examine the effect of a change in the unemployment rate on GDP.
3. Learners who show a high level of understanding of exchange rates should design critical thinking exercises that challenge them to analyse the effect of exchange rate appreciation and depreciation on GDP.

Pedagogical Exemplars

Initiating Talk for Learning: Learners work in teacher-nominated mixed ability and gender groups to brainstorm how a change in inflation, exchange rate and Unemployment rate will affect GDP and present their report in Microsoft PowerPoint.

Note

1. Teachers should provide targeted support for learners who struggle to understand the effect of change in inflation on GDP. They should be supported in using the real-world situation to aid them in explaining the effect of a change in inflation on GDP. (AP)
2. Teachers should offer the opportunity to learners who show understanding of unemployment to apply their knowledge in examining the effect of a change in the unemployment rate on GDP. (P)
3. Teachers should encourage learners who show a high level of understanding of exchange rates to design critical thinking exercises that challenge them to examine the appreciation and depreciation of the exchange rate on GDP. (HP)

Key Assessment

DoK Level 2: Skills of conceptual understanding

Explain the positive and negative effects of inflation and deflation on GDP.

DoK Level 3: Strategic Reasoning

Examine the effect of changes in the employment rate on GDP.

DoK Level 4: Extended Thinking

Analyse the effect on the GDP of Ghana of fluctuations in the currency exchange rate.

Focal Area 2: Control Policies

Introduction

Control policies refer to the strategies and measures governments or central banks implement to influence and stabilise the economy. These policies aim to achieve macroeconomic objectives such as sustainable growth, low inflation, full employment, and a stable currency. The effectiveness of these policies depends on various factors, including the current economic environment, the specific issues being addressed, and the overall policy framework.

1. Monetary Policy

Monetary policy involves managing the money supply and interest rates to influence economic activity. It is usually implemented by the central bank (e.g., Bank of Ghana). There are two main types of monetary policy:

a. Expansionary Monetary Policy: Used to combat unemployment in a recession by lowering interest rates and increasing the money supply to stimulate economic activity.

b. Contractionary Monetary Policy: Used to combat inflation by raising interest rates and decreasing the money supply to slow down economic activity.

2. Fiscal Policy

Fiscal policy involves using government spending and taxation to influence the economy. It is usually implemented by the government (e.g., the Treasury or Ministry of Finance). There are two main types of fiscal policy:

a. Expansionary Fiscal Policy: Involves increasing government spending and/or decreasing taxes to stimulate economic activity, typically used during recessions.

b. Contractionary Fiscal Policy: Involves decreasing government spending and/or increasing taxes to reduce economic activity, typically used to combat inflation.

3. Exchange-Rate Policy

Exchange rate policies involve managing the value of a country's currency relative to other currencies. There are different approaches to exchange rate policy:

a. Fixed Exchange Rate: The government or central bank pegs the currency to another major currency or a basket of currencies.

b. Floating Exchange Rate: The value of the currency is determined by market forces without direct government or central bank intervention.

c. Managed Float: The currency mostly floats in the open market, but the central bank may intervene occasionally to stabilise it.

4. Trade Policy

Trade policies involve regulations and agreements that control international trade. These can include:

a. Tariffs: Taxes on imported goods to protect industries that make products for the domestic markets.

b. Quotas: Limits on the quantity of a particular good that can be imported.

c. Trade Agreements: Agreements between countries to reduce trade barriers and promote trade. Ghana has an agreement with the UK and EU to import bananas, canned tuna and cocoa both quota-free and duty-free.

5. Income Policy

Income policies are measures aimed at controlling inflation by managing wages and prices. These policies are set up and controlled by the government. These can include:

a. Wage and Price Controls: Direct controls or guidelines to limit wage and price increases.

b. Indexation Policies: Adjusting wages, pensions, and other payments based on inflation.

Learning Tasks

1. Identify three control policies that are useful in Ghana.
2. Explain any two control policies that are used in Ghana.
3. Examine the effect of the control policies on inflation, exchange rate and unemployment.

Note

1. Learners who find it difficult to identify the control policies should be assisted in identifying at least three control policies without difficulty.
2. Learners who show understanding of the control policies are allowed to use their knowledge to explain at least three control policies that are useful in Ghana.
3. Learners who show a high level of understanding of control policies should design critical thinking exercises that challenge them to examine the effect of the control policies on inflation, exchange rate and unemployment.

Pedagogical Exemplars

Problem-Based Learning: Learners work in teacher nominated mixed ability and gender groups, visit the ICT lab and with the help of the internet and search engine, research on how Ghana and the rest of the world control the negative effects of the changes in the various macroeconomics variables and present their report in Microsoft PowerPoint.

Note

1. Teachers should provide targeted support for learners who struggle to understand the control policies. They should be supported in identifying the control policies. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the control policies to apply their knowledge to explain at least two control policies that are useful in Ghana. (P)
3. Teachers should encourage learners who show a high level of understanding of exchange rates to design critical thinking exercises that challenge them to examine the effect of the control policies on inflation, exchange rate and unemployment. They should be allowed to present their work using Microsoft PowerPoint. (HP)

Key Assessment

DoK Level 2: Skills of conceptual understanding

1. Identify at least two control policies that might be used by Ghana.
2. Explain at least two control policies that might be useful in Ghana.

DoK Level 3: Strategic Reasoning

Examine the effect of the control policies on inflation, exchange rate and unemployment. They should be allowed to present their work using Microsoft PowerPoint.

Hint

- The recommended mode of assessment for this week is Debate. Refer to the Teacher Assessment Manual and Toolkit pages 41–43 for further details on administering debate as an assessment strategy.
- Learners' scores on individual class exercise should be ready for submission into the STP. This could be an average of the number of exercises conducted from Week 13.

Week 17

Learning Indicator: Calculate National Income by using any of the three approaches

Focal Area 1: Introduction and Calculation of National Income Using the Product Approach

Definition

Depreciation: in the context of calculating national income, refers to the loss in value of fixed assets over time due to wear and tear, accidental damage, or obsolescence. It represents a loss of capital, like replacing a worn out machine.

Indirect taxes: are taxes imposed on goods and services rather than on income or profits. They are collected by an intermediary (like a retailer) from the person who bears the ultimate economic burden of the tax (like the consumer). Ghanaian examples are value added tax (VAT), excise duty on fuel, National Health Insurance Levy (NHIL).

Introduction

National income is a measure of the total economic activity of a country. It represents the total monetary value of all goods and services produced by a country over a specific period, typically one year. It includes wages, interest, rent and profits earned by individuals, business and government from home and abroad (GDP is similar but excludes earnings from abroad). National income is used to assess the economic performance of a country, determine policy measures, and make international comparisons. It also provides insights into the standard of living and economic well-being of the population. National income can be calculated in several ways, including:

1. Gross Domestic Product (GDP): The total value of all goods and services produced within a country's borders.
2. Gross National Product (GNP): GDP plus the net income from abroad (income from foreign investments minus payments to foreign investors).
3. Net National Product (NNP): GNP minus depreciation (the value of capital that has been used up or depreciated).
4. National Income (NI): NNP minus indirect taxes plus subsidies. This measure excludes indirect taxes (like sales tax) and includes subsidies.

There are three approaches to calculating National Income; product or output approach, income approach and the expenditure approach.

Below is an example of one approach.

Example 8.1: Product or Output Approach

The product approach, also known as the output approach, is one of the methods used to calculate national income. This approach measures the total value of all goods and services produced within a country during a specific period. It focuses on the output generated by various sectors of the economy. Here's how the product approach works:

1. Identify and Classify Production: Divide the economy into different sectors such as agriculture, manufacturing/ industry, services, etc.
2. Measure Gross Value of Output: Calculate the gross value of output for each sector. This is the total value of goods and services produced by that sector.
3. Calculate Intermediate Consumption: Determine the value of intermediate goods and services used in the production process. Intermediate goods are those that are used up in the production of other goods and services.
4. Subtract Intermediate Consumption from Gross Output: Subtract the value of intermediate consumption from the gross value of output to avoid double counting. This gives the Gross Value Added (GVA) for each sector.
5. Sum the Gross Value Added: Add up the GVA of all sectors to get the Gross Domestic Product (GDP).

$$\sum GVA_{Sector\ 1} + GVA_{Sector\ 2} + ... + GVA_{Sector\ n}$$

6. Adjust for Taxes and Subsidies: To move from GDP to Net National Product (NNP), subtract depreciation (consumption of fixed capital), add net income from abroad (to get Gross National Product, GNP), and then subtract indirect taxes and add subsidies.

Example 8.2

The data below is the national income statistics of a country in a specific year (All figures are in millions of Ghana cedis). *Use the information in the table to answer the questions that follow.*

Items	Amounts (m)
Manufacturing	840
Mining	420
Agriculture	350
Construction	200
Commerce	100
Net factor income from abroad	180
Depreciation	90
Subsidies	100
Indirect taxes	80

Compute the following:

a. Gross domestic product at market prices
b. Gross national product at market prices
c. Net national product at market prices
d. Net national product at factor cost

a. Gross Domestic Product (GDP) at Market Prices

To calculate GDP at market prices, we sum the output of all sectors and adjust for net indirect taxes.

Total Output of Sectors:

840+420+350+200+100 =1,910 million

Net Indirect Taxes:

Net Indirect Taxes = Indirect Taxes - Subsidies

Net Indirect Taxes = 80 −100 = −20 million

GDP at Market Prices:

GDP = Total Output + Net Indirect Taxes

GDP = 1,910 + (−20) =1,890 million

b. Gross National Product (GNP) at Market Prices

To calculate GNP at market prices, we add Net Factor Income from Abroad (NFIA) to GDP.

GNP at Market Prices:

GNP = GDP+NFIA

GNP = 1,890+180 = 2,070 million

c. Net National Product (NNP) at Market Prices

To calculate NNP at market prices, we subtract depreciation from GNP.

NNP at Market Prices:

NNP = GNP − Depreciation

NNP = 2,070 – 90 = 1,980 million

d. Net National Product (NNP) at Factor Cost

NNP at factor cost is calculated by subtracting net indirect taxes from NNP at market prices.

NNP at Factor Cost:

NNP at Factor Cost = NNP − Net Indirect Taxes

NNP at Factor Cost = 1,980+20 = 2,000 million

Learning Tasks

1. Explain National Income.
2. Describe the product approach to calculating National Income using real-world examples.
3. Consider data collected from the Ghanaian economy;

Sector	Gross Output (Million Ghc)	Intermediate Consumption (Million Ghc)	Gross Value Added (GVA) (Million Ghc)
Agriculture	500	150	350
Manufacturing	800	400	400
Service	700	200	500
Indirect taxes	50		
Subsidies	100		
Depreciation	100		
Net Factor Income from Abroad	30		

Using the product approach, **calculate**

a. Gross Domestic Product (GDP)

b. Gross National Product (GNP)

c. Net National Product (NNP)

d. Comment on the final answer

Note

1. Learners who find it difficult to explain National Income and to describe the product approach to calculating National Income should be assisted by using real-world examples to describe how the product approach can be used to calculate National Income.
2. Learners who show understanding of the product approach to calculating National Income are allowed to use their knowledge to calculate GDP and GNP.
3. Learners who show a high level of calculating GDP and GNP should design critical thinking exercises that challenge them to calculate NNP and comment on the final answer.

Pedagogical Exemplars

Building on What Others Say: Brainstorm and discuss how countries determine national income by using product, expenditure and income approaches.

Note

1. Teachers should provide targeted support for learners who struggle to explain National Income and to describe the product approach to calculating National Income. They should be supported to use real-world examples to describe how the product approach can be used to calculate the National Income. (AP)

2. Teachers should offer the opportunity to learners who show understanding of the product approach to calculating National Income to apply their knowledge in calculating GDP and GNP. (P)
3. Teachers should encourage learners who show a high level of calculating GDP and GNP to design critical thinking exercises that challenge them to calculate NNP and comment on the final answer. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Explain the meaning of National Income.

DoK Level 2: Skills of conceptual understanding

Explain the product approach to calculating National Income using real-world examples.

DoK Level 4: Extended Thinking

In a small economy, the government collects data on the output of various sectors to calculate the national income. The sectors are as follows:

a. **Agriculture** produces goods worth Ghc 500 million.
b. **Manufacturing** outputs goods valued at Ghc 1,200 million.
c. **Services** provide services worth Ghc 800 million.
d. **Construction** contributes Ghc 400 million to the economy.
e. **Mining** adds Ghc 300 million.

Additionally, the economy has:

- **Indirect taxes** (such as sales tax) totaling Ghc150 million.
- **Subsidies** provided to various industries amount to Ghc 50 million.
- **Depreciation** on capital goods is estimated at Ghc 200 million.
- **Net factor income from abroad** is reported as Ghc 100 million.

1. Calculate the Gross Domestic Product (GDP) at market prices.
2. Determine the Gross National Product (GNP) at market prices.
3. Find the Net National Product (NNP) at market prices.
4. Compute the Net National Product (NNP) at factor cost.

Hint

- The recommended mode of assessment is Case Study. Refer to the Teacher Assessment Manual and Toolkit pages 25–27 for more information on administering a case study as an assessment strategy.
- Learners should submit Individual Project work this week.
- Mid-Semester Examination should be conducted next week, Week 18.

WEEK 18

Learning Indicator: Explain the uses and importance of National Income (e.g., standard of living)

Focal Area 1: Calculation of National Income Using Income and Expenditure Approaches

Introduction

Income Approach

The income approach, also known as the factor income approach, is a method used to calculate national income by summing up all the incomes earned by factors of production in an economy during a specific period. This approach focuses on the income received by individuals and businesses for their contribution to the production process.

The steps of the income approach are:

1. Identify and Classify Income Sources: Identify the various sources of income that contribute to the national income. These typically include wages, rents, interest, and profits.
    a. Wages and Salaries (Compensation of Employees): Sum up all the earnings of employees, including wages, salaries, bonuses, and social contributions (e.g., employer's contributions to social security and pension funds).
    b. Rents: Include income received by property owners for the use of their land or property.
    c. Interest: Include income received by individuals and businesses for lending their money, such as interest on bank deposits, bonds, and loans.
    d. Profits (Corporate Profits and Proprietors' Income): Sum up the profits earned by businesses after deducting expenses and taxes. This includes profits of corporations and income of unincorporated businesses.
2. Adjust for Indirect Taxes and Subsidies: Add indirect taxes (such as sales tax, and excise tax) and subtract subsidies to adjust the income figures to reflect the market prices of goods and services.
3. Depreciation (Consumption of Fixed Capital): Add depreciation to account for the loss of value of capital assets over time.
4. Net Factor Income from Abroad: Include the net income earned from abroad, which is the difference between income earned by residents from overseas investments and income earned by foreigners from domestic investments.

The formula for national income (NI) using the income approach can be summarised as:

$$NI = Compensation\ of\ employees + Rents + Interest + Profits + Indirect\ Taxes - Subsidies + Depreciation + Net\ Factor\ Income\ Abroad$$

Expenditure Approach

The expenditure approach is a method of calculating national income by summing up all expenditures made in an economy during a specific period. This approach focuses on the total spending on final goods and services.

The expenditure approach involves:

1. Consumption (C): This includes all expenditures by households on goods and services. It covers spending on durable goods (like cars and appliances), nondurable goods (like food and clothing), and services (like healthcare and education).
2. Investment (I): This includes spending on capital goods that will be used for future production. It covers business investments in equipment and structures, residential construction, and changes in business inventories.
3. Government Spending (G): This includes all government expenditure on goods and services. It covers spending on defence, education, public safety, and infrastructure. It does not include transfer payments like pensions and unemployment benefits, as these are not payments for goods or services.
4. Net Exports (NX): This is the value of a country's exports minus the value of its imports. Exports are goods and services produced domestically and sold abroad, while imports are goods and services produced abroad and purchased domestically.

The formula for calculating GDP using the expenditure approach is:

$$GDP=C+I+G+(X-M)$$

where:

- C is Consumption
- I is Investment
- G is Government Spending
- X is Exports
- M is Imports

To calculate National Income (NI) from GDP, additional adjustments are needed:

1. Subtract Depreciation: To account for the consumption of fixed capital.
2. Add Net Foreign Factor Income: This is the income earned by residents from investments abroad minus the income earned by foreigners from domestic investments.
3. Subtract Indirect Taxes and Add Subsidies: To adjust for taxes that affect the market prices of goods and services.

The detailed formula for National Income (NI) can be expressed as:

NI=GDP-Depreciation+Net Foreign Factor Income-Indirect Taxes+Subsidies

Example 8.3

1. **Income Approach**

The data below is the national statistics of a country in the year 2023. *Use the information in the table to answer the questions that follow.*

Items	Amounts (Ghc million)
Corporate profits	3,050
Consumption of fixed capital (Depreciation)	4,790
Indirect taxes	3,700
Proprietor's (Self-employed) income	3,280
Compensation of employees (wages)	26,620
Subsidies	1,200
Rental income	330
Net interest	3,370
Income paid abroad	1,300
Income from abroad	800

Compute the following:

a. Gross domestic product (GDP)
b. Net Domestic Income (NDI)
c. Net National Income

a. Gross Domestic Income (GDI)

Gross Domestic Income can be calculated using the following formula:

GDI = Compensation of Employees + Corporate Profits + Rental Income + Net Interest + Proprietor's Income + Indirect Taxes − Subsidies

Plugging in the values:

- **Compensation of Employees**: 26,620
- **Corporate Profits**: 3,050
- **Rental Income**: 330
- **Net Interest**: 3,370
- **Proprietor's Income**: 3,280
- **Indirect Taxes**: 3,700
- **Subsidies**: 1,200

GDI = 26,620+3,050+330+3,370+3,280+3,700 − 1,200

GDI = **39,150** Ghc million

b. Net Domestic Income (NDI)

Net Domestic Income is Gross Domestic Income minus Consumption of Fixed Capital (Depreciation):

NDI = GDI−Depreciation

Given: **Depreciation (Consumption of Fixed Capital)**: 4,790

NDI = 39,150−4,790

NDI = **34,360** Ghc million

c. Net National Income (NNI)

Net National Income adjusts the Net Domestic Income for income received from abroad and income paid abroad:

NNI = NDI + Income from Abroad − Income Paid Abroad

Given:

- **Income from Abroad**: 800
- **Income Paid Abroad**: 1,300

NNI = 34,360+800 − 1,300NNI = 34,360+800 − 1,300

NNI = **33,860** Ghc million

2. Expenditure Approach

The following represents the output data of a hypothetical country. Use the information to answer the questions that follow.

Item	Amounts (Ghc)
Gross domestic private investment	5,960
Personal consumption expenditure	29,660
Consumption of fixed capital	4,790
Government consumption expenditure	9,240
Imports	5,470
Indirect taxes	3,700
Exports	4,270
Subsidies	1,100
Factor income paid abroad	1,500
Factor income received from abroad	1,640

From the data above, calculate:

a. Gross Domestic Expenditure
b. Gross National Expenditure
c. Net National Expenditure

a. Gros s Domestic Expenditure (GDE)

Gross Domestic Expenditure is calculated as the sum of Personal Consumption Expenditure, Gross Domestic Private Investment, and Government Consumption Expenditure, adjusted for net exports (Exports - Imports):

GDE=Personal Consumption Expenditure+Gross Domestic Private Investment+Government Consumption Expenditure+(Exports−Imports).

Plugging in the values:

GDE = 29,660+5,960+9,240+(4,270−5,470)

GDE = 44,860 + (−1,200)

GDE = **43,660** Ghc

b. Gross National Expenditure (GNE)

Gross National Expenditure adjusts Gross Domestic Expenditure by accounting for net factor income from abroad:

GNE=GDE+ (Factor Income Received from Abroad−Factor Income Paid Abroad)

Given:

- **Factor Income Received from Abroad**: 1,640 Ghc
- **Factor Income Paid Abroad**: 1,500 Ghc

GNE = 43,660+(1,640−1,500)

GNE = 43,660+140

GNE = **43,800** Ghc

c. Net National Expenditure (NNE)

Net National Expenditure is Gross National Expenditure minus Consumption of Fixed Capital (Depreciation):

NNE = GNE − Consumption of Fixed Capital

Given: **Consumption of Fixed Capital (Depreciation)**: 4,790 Ghc

NNE = 43,800 − 4,790

NNE = **39,010** Ghc

Learning Tasks

1. Explain the income approach to calculating national income.
2. Outline the steps involved in calculating national income using the income approach.
3. Explain the expenditure approach to calculating national income.
4. Identify the components of the expenditure approach.
5. Income Approach: The data below is the national statistics for a country in 2020. *Use the information in the table to answer the questions that follow.*

Items	Amounts (Ghc million)
Corporate profits	7,400
Consumption of fixed capital (Depreciation)	3,900
Indirect taxes	4,500
Proprietor's (Self-employed) income	4,960
Compensation of employees	76,709
Subsidies	2,500
Rental income	4500
Net interest	8970
Income paid abroad	2300
Income from abroad	600

Compute the following

a. Gross domestic income

b. Net domestic income

c. Net National Income

6. Expenditure Approach: *The following represents the output data of a hypothetical country. Use the information to answer the questions that follow.*

Item	Amounts (Ghc)
Gross domestic private investment	15,500
Personal consumption expenditure	40,660
Consumption of fixed capital	3,500
Government consumption expenditure	10,780
Imports	6,900
Indirect taxes	5,000
Exports	3,110
Subsidies	3,900
Factor income paid abroad	2,120
Factor income received from abroad	2,740

From the data above, calculate

a. Gross Domestic Expenditure

b. Gross National Expenditure

c. Net National Expenditure

Note

1. Learners who are less confident in calculating National Income using the income and expenditure approaches should be given guidance to explain the two approaches and outline the steps taken to calculate national income using the income and expenditure approaches.
2. Learners with a strong ability to explain the income and expenditure approaches to calculating national income should be encouraged to use the data provided to calculate national income using the income approach.
3. Learners at a highly proficient level in calculating national income using the income approach should be allowed to design critical thinking learning exercises that challenge them to calculate national income using the expenditure approach from the given data.

Pedagogical Exemplars

Building on What Others Say: Learners use the given data to calculate national income using expenditure and income approaches

Note

1. Teachers should break down complex tasks into smaller, manageable steps for learners who are struggling to calculate national income. They should describe the income and expenditure approaches in calculating national income. (AP)
2. Teachers should encourage learners with a deep understanding of how to describe the income and expenditure approaches to calculating national income, to calculate national income using the income approach. (P)
3. Teachers should allow learners with extensive knowledge of how to calculate national income using the income approach to use the expenditure approach to calculate national income. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

1. Explain the income approach to calculating national income.
2. Explain the expenditure approach to calculating national income.

DoK Level 4: Extended Thinking

Table below contains variables for both expenditure and income approaches to calculating the national income of a country. Study the table and answer the questions that follow.

Items	Amounts (Ghc million)
Corporate profits	7,400
Consumption of fixed capital (Depreciation)	3,900
Proprietor's (Self-employed) income	4,960

Compensation of employees	76,709
Rental income	4500
Net interest	8970
Gross domestic private investment	15,500
Personal consumption expenditure	40,660
Consumption of fixed capital	3,500
Government consumption expenditure	10,780
Imports	6,900
Indirect taxes	5,000
Exports	3,110
Subsidies	3,900
Factor income paid abroad	2,120
Factor income received from abroad	2,740

From the data above, calculate:

a. Gross Domestic Expenditure
b. Gross National Expenditure
c. Net National Expenditure
d. Gross domestic income
e. Net domestic income
f. Net National income

Focal Area 2: Uses and importance of national income

Introduction

National income is a comprehensive measure of a country's economic performance and is crucial for various reasons. It represents the total monetary value of all goods and services produced by a country over a specific period, typically one year. It includes wages, interest, rent and profits earned by individuals, business and government from home and abroad.

Uses of National Income

1. Economic Planning and Policy Making

National Income helps governments formulate budgets and allocate resources efficiently. It also guides the development of monetary, fiscal, and trade policies.

Example: The Ghanaian government uses national income data to formulate the Ghana Shared Growth and Development Agenda (GSGDA), which outlines policies to boost economic growth and development.

2. Measuring Economic Performance

National Income is used to evaluate the economic growth rate of a country and facilitates comparison with other countries' economic performances.

Example: Ghana monitors its GDP growth rates to evaluate economic performance. For instance, the government assesses whether growth targets are met and compares performance with other West African countries.

3. Standard of Living Assessment

National Income is used to assess the average income per person (per capita income), indicating the standard of living and it helps in understanding income inequality within the country.

Example: By analysing per capita income, Ghana can assess the standard of living across different regions, helping to identify areas needing targeted social interventions and development programs.

4. Investment and Savings

National Income is used to influence both public and private sector investment decisions and monitors the savings rate, crucial for future investment and growth.

Example: National income data helps the Ghanaian government and private sector identify trends in savings and investments. This information is used to encourage investments in key sectors like agriculture, mining, and technology.

5. International Economic Relations

National Income is used to determine eligibility and needs for foreign aid and loans. It also assists in formulating international trade policies and agreements.

Example: Ghana's national income data is critical when applying for international loans and aid. Organisations like the IMF and World Bank use this data to evaluate Ghana's economic health and creditworthiness.

6. Sectoral Analysis

National Income is used to evaluate the performance of various sectors like agriculture, manufacturing, and services. It helps in the effective allocation of resources among different sectors.

Example: By examining the contributions of various sectors to national income, Ghana can focus on boosting the performance of its cocoa industry, which is a significant part of the economy, as well as other sectors like oil and gold mining.

Importance of National Income

1. Indicator of Economic Health

National Income reflects the overall economic health and stability of a country. It helps monitor and control inflation and deflation.

Example: During economic downturns or periods of rapid growth, Ghana uses national income data to gauge the overall health of the economy. For instance, by tracking changes in National Income over time, Ghana can get an idea of the health of the economy by assessing whether it is growing, stagnating, or contracting.

2. Employment Generation

National income is important because it correlates with job creation and employment rates, and it influences wage levels and labour market conditions.

Example: Strong national income growth in Ghana, particularly from sectors like oil production, has led to job creation and reduced unemployment rates, especially among the youth.

3. Social and Economic Policies

National Income is important as it guides the formulation of social welfare and development programs and ensures the provision and improvement of public services like healthcare, education, and infrastructure.

Example: Ghana uses its national income to fund and expand social programs such as the National Health Insurance Scheme (NHIS) and the Free Senior High School (SHS) policy, which aim to improve healthcare and education access.

4. Economic Stability and Growth

National Income is important because it promotes sustainable economic growth and development. It also aids in managing economic crises and downturns.

Example: Continuous growth in national income has helped Ghana maintain economic stability and pursue long-term growth initiatives, such as the "Ghana Beyond Aid" vision, which aims to reduce dependency on foreign aid by boosting local production and self-reliance.

5. Public and Private Sector Decision Making

National income is important because it provides businesses with crucial information for strategic planning. It also informs government initiatives and public sector projects.

Example: Businesses in Ghana rely on national income statistics to make strategic decisions, such as expanding operations or entering new markets. Similarly, the government uses this data to prioritise infrastructure projects like roads, ports, and energy facilities.

6. Taxation and Revenue

It helps in designing effective tax policies and revenue systems and ensures adequate public revenue for government expenditures.

Example: The Ghana Revenue Authority (GRA) uses national income data to design effective tax policies and ensure efficient revenue collection, which is essential for funding public services and development projects.

Learning Tasks

1. Identify three uses of national income.
2. Explain three uses of national income using examples.
3. Explain five important aspects of national income using Ghana as an example.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify three uses of national income
2. Learners who understand the uses of national income should apply their knowledge and skills to explain three uses of national income using real-world examples.
3. The learners who show a high level of understanding should engage in reflective practice where they can reflect and explain five important aspects of national income using Ghana as an example.

Pedagogical Exemplars

Building on What Others Say: Learners brainstorm the uses and the importance of national income.

Note

1. Learners with a low ability to identify the uses of national income should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show a clear understanding and ability to identify the uses of national income, the teacher should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain the uses of national income using a real-world example. (P)
3. Learners who show a high level (HP) of understanding should explore ethical dilemmas and societal impacts related to explaining the importance of national income using Ghana as an example.

Key Assessment

DoK Level 2: Skills of conceptual understanding

1. Identify four uses of national income.
2. Identify three importance of national income.

DoK Level 3: Strategic reasoning

Using Ghana's national income, illustrate five importance of national income.

Hint

The Recommended Mode of Assessment for Week 18 is Mid-Semester Examination. (Refer to Appendix I for a Table of Specifications to guide you in setting the questions). Set questions to cover all the indicators covered for at least weeks 13 to 17.

SECTION 8 REVIEW

The lessons taught in section eight focused on the macroeconomic variables. The teacher applied initiating talk for learning, problem-based learning and building on what others say pedagogical skills and assessment techniques subject to the abilities of the learners to achieve the learning indicators for each week.

Week 16 dealt with the effects of changes in fundamental macroeconomic variables on the economy as well as the control policies. By the end of the week, using initiating talk for learning pedagogy, learners will have learned how the fundamental macroeconomic variables impact the economy. Learners will also have acquired knowledge of the control policies available through a problem-based learning pedagogy.

Week 17 focused on the concept of national income. By the end of the week, using building on what others say, learning pedagogy, learners will have gained knowledge of national income and how to calculate national income using the product approach.

Week 18 focused on the calculation of national income using the income and expenditure approaches. It also looked at the uses and importance of national income. By the end of the week, using building on what others say, learning pedagogy, learners will have gained knowledge of how to apply the income and expenditure approaches to calculate national income as well as discuss the uses and importance of national income

APPENDIX I: GUIDELINES FOR MID-SEMESTER EXAMINATION (SECOND SEMESTER)

1. **Paper 2**
   i. *Two (2) essay/data response questions, of which learners answer any 1*
   ii. *Essay/data response questions should cover DoK levels 3 - 4*
   iii. *Questions should cover weeks 13 – 17 of the Teacher Manual*
   iv. *Each essay/data response question should be scored out of 20 marks*
2. **Paper 1**
   i. *30 objective test items (multiple choice), of which learners answer all*
   ii. *Objective test questions should cover DoK levels 1 - 3*
   iii. *I mark for each objective test question*
3. *Follow the 30,40,30 rule in crafting/writing the test items, thus DoK level 1=30%, DoK level 2=40% and DoK level 3&4=30%*
4. *Duration: 1 hour, 10 minutes*

Table of Test Specification for Mid-Semester Examination (Second Semester)

Week	Focal Area(s)	Type of Question	DoK Levels				Total
			1	2	3	4	–
13	Definition of market structures; Types of market structures	Multiple Choice	3	2	1	–	6
14	Types of profits in each Market Structure	Multiple Choice	2	2	1	–	5
15	Market Equilibrium; Determination of equilibrium price and output	Multiple Choice	1	4	1	–	6
		Essay/ Data response	–	–	1	–	1
16	Effects of changes in fundamental macroeconomic variables on the economy; Control Policies	Multiple Choice	1	4	2	–	7
		Essay	–	–	–	1	1
17	Introduction to National Income; Calculation of national income using output approach	Multiple Choice	2	2	2	–	6
	Total		9	14	8	1	32

SECTION 9: MONEY, FINANCIAL INSTITUTIONS AND PUBLIC FINANCE

Strand: Government Economic Policy and Trade

Sub-Strand: Concept of Money, Financial Institutions, and Public Finance.

Learning Outcome: Employ relevant information in the environment to examine the reasons for holding money, role of financial institutions and taxation in an economy.

Content Standard: Demonstrate knowledge and understanding of the concept of money and financial institutions in an economy.

INTRODUCTION AND SECTION SUMMARY

Section nine covers government economic policy and trade. It focuses on the concept of money, financial institutions and public finance. The content focuses on the reasons for holding money, the role of financial institutions in an economy, the principles, types and classification of taxation, as well as the advantages and the disadvantages of taxation.

Teachers should note that the concepts of money, financial institutions and public finance are linked to Business Studies.

The weeks covered by the section are?

Week 19: Reasons for Holding Money and the Role of Financial Institutions in an Economy

Week 20: Principles, Types and Classification of Taxation

Week 21: Advantages and Disadvantages of Taxation

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents three different pedagogies to the teacher. These are building on what others say, collaborative learning and experiential learning. In building on what others say, teachers are expected to support learners to work in mixed ability and gender groups to discuss the reasons why they hold money. In collaborative learning, teachers are expected to assist learners in various groups to discuss the roles of financial institutions in an economy from watching a video. Using the same pedagogy, teachers are expected to support the groups to identify the principles, types and classifications of taxation.

In experiential learning, teachers are expected to assist learners to watch a video or role play the advantages and disadvantages of taxation.

Teachers should apply these pedagogies based on the abilities and learning styles of the learners in the class.

ASSESSMENT SUMMARY

The assessments in this section cover levels one to four. Teachers should note that the level one items are supposed to enable learners to demonstrate the ability to recall and reproduce basic concepts and demonstrate basic understanding. The teacher is expected to ask closed and open-ended questions. The level two items require that the learner undertake a basic application of concepts and skills about the content in this section. The teacher is expected to use a funnel and probing questions in this regard. The teacher is supposed to use level three items to promote strategic thinking and complex reasoning in the learners. The teacher is supposed to ask leading and hypothetical questions.

The recommended assessment mode for each week within this section is:

Week 19: Critiquing

Week 20: Research/Investigation

Week 21: Questioning

*Refer to the "**Hint**" at the key assessment for additional information on how to effectively administer these assessment modes.*

Week 19

Learning Indicators

1. *Describe the reasons for holding money*
2. *Describe the role of financial institutions in an economy*

Focal Area 1: Reasons for Holding Money

Introduction

People and organisations hold money for various reasons, which can be broadly categorised into three main motives:

1. Transaction Motive

a. **Daily Expenses:** To pay for everyday goods and services such as food, transportation, and utilities.

b. **Business Operations:** For businesses, to cover day-to-day operational expenses like salaries, rent, and supplies.

c. **Immediate Purchases:** Money is held for planned purchases that are expected to occur in the near future.

2. Precautionary Motive

a. **Unexpected Expenses:** To be prepared for unforeseen circumstances such as medical emergencies, car repairs, or sudden job loss.

b. **Business Contingencies:** Businesses hold money as a buffer against unexpected disruptions, like equipment breakdowns or unexpected drops in sales.

c. **Economic Uncertainty:** Individuals and businesses might hold more cash during periods of economic uncertainty or volatility.

3. Speculative Motive

a. **Investment Opportunities:** To take advantage of potential investment opportunities that may arise, such as buying stocks at a low price.

b. **Interest Rate Changes:** Holding money in anticipation of future changes in interest rates, where they might benefit from higher returns in the future.

c. **Market Timing:** Waiting for favourable conditions to make large purchases or investments, hoping to optimise returns or minimise costs.

Example 9.1

Transaction Motive

1. An individual keeps cash in their wallet to buy groceries, pay for public transportation, dine out, or pay for monthly bills such as rent, utilities, and internet services.
2. A retail store holds money to pay its employees' salaries every two weeks or a small business maintains a cash reserve to purchase inventory regularly.

3. Someone saves up money to buy a new smartphone they plan to purchase next month, or a family sets aside funds for an upcoming vacation.

Precautionary Motive

1. An individual keeps a savings account with a few hundred cedis for emergency medical expenses. Or a homeowner has an emergency fund for potential home repairs, like fixing a leaking roof.
2. A manufacturing company maintains a cash reserve to cover unexpected equipment breakdowns, or a freelancer saves money to cover periods when they might not have any clients.
3. A business builds a larger cash reserve to weather potential decreases in consumer spending during uncertain economic times.

Speculative Motive

1. A real estate investor keeps funds available to purchase properties that may come on the market at a bargain price.
2. An individual holds off on investing in long-term bonds, anticipating that interest rates will rise, and they can get a better return later.
3. A stock trader keeps cash ready to invest when they believe the market will drop, and they can buy shares at a lower price. Or a company postpones a major capital expenditure, like building a new factory, until economic conditions improve.

Learning Tasks

1. State the three motives for holding money.
2. Explain the three motives for holding money.
3. Use real-world situations to describe the three motives for holding money.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify the three motives for holding money.
2. Learners who understand the reason for holding money should apply their knowledge and skills to explain the three motives for holding money.
3. The learners who show a high level of understanding should engage in reflective practice where they can reflect and describe the three motives of holding money using real-world scenarios.

Pedagogical Exemplars

Building on What Others Say: Learners work in teacher-nominated mixed ability and gender groups and discuss the reason why they hold money.

Note

1. Learners who struggle to identify the three motives for holding money should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show clear understanding and the ability to identify the three motives for holding money, the teacher should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain the three motives for holding money. (P)
3. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to describing the three motives of holding money using real-world scenarios.

Key Assessment

DoK Level 1: Recall

Identify the three motives for holding money.

DoK Level 3: Strategic Reasoning

Use real-world scenarios to illustrate the three motives for holding money.

Focal Area 2: The Roles of Financial Institutions in an Economy

Introduction

Financial institutions play crucial roles in the economy by facilitating the flow of money, providing financial services, and supporting economic growth and stability. The primary roles of financial institutions:

1. Intermediation: Financial institutions act as intermediaries between savers and borrowers. They collect savings from individuals and businesses and lend these funds to others who need capital for various purposes. By allocating resources efficiently, financial institutions help ensure that funds are directed towards the most productive investments.

2. Facilitating Payments: Financial institutions provide mechanisms for making payments, such as checking accounts, credit and debit cards, and electronic transfer systems, which enable the smooth functioning of the economy. They manage the processes of clearing and settling transactions, ensuring that payments are executed accurately and promptly.

3. Providing Liquidity: Financial institutions offer short-term loans and credit lines, providing businesses and individuals with the liquidity needed to manage day-to-day operations and emergencies. By participating in financial markets, these institutions help maintain liquidity, allowing for the quick buying and selling of assets.

4. Risk Management: Financial institutions provide insurance products that help individuals and businesses manage various risks, such as health, life, property, and liability risks. They offer financial products like futures, options, and swaps that allow businesses to hedge against price fluctuations and other financial risks.

5. Mobilising Savings: By offering various types of savings accounts, financial institutions encourage individuals and businesses to save, which in turn provides a pool of funds available

for investment. They provide investment products like mutual funds, retirement accounts, and fixed deposits, helping savers earn returns on their investments.

6. Economic Stability and Growth: Central banks use financial institutions to implement monetary policy, influencing interest rates and money supply to maintain economic stability. By providing credit and financial services, these institutions support business development, entrepreneurship, and infrastructure projects, fostering economic growth.

7. Financial Inclusion: Financial institutions work towards including underserved populations by offering accessible banking services, microfinance, and affordable credit options. By providing financial services to low-income individuals, these institutions help reduce poverty and promote inclusive economic development.

8. Information Provision: Financial institutions collect and provide credit information, helping to assess the creditworthiness of borrowers. They offer valuable market insights and financial advice, aiding investors and businesses in making informed decisions.

Financial institutions are essential for the efficient functioning of an economy, supporting everything from personal financial management to large-scale economic development.

Examples of Financial Institutions and Their Roles

1. **Commercial Banks**
    a. Provide loans and credit to individuals and businesses.
    b. Offer deposit accounts for savings and transactions.
    c. Facilitate payment processing and money transfers.
2. **Central Banks**
    a. Implement a monetary policy to control inflation and stabilise the economy.
    b. Serve as a lender of last resort to financial institutions.
    c. Manage the country's foreign exchange and gold reserves.
3. **Investment Banks**
    a. Assist companies in raising capital through the issuance of stocks and bonds.
    b. Provide advisory services for mergers and acquisitions.
    c. Facilitate trading and market-making activities.
4. **Insurance Companies**
    a. Offer various insurance products to manage risk.
    b. Invest premiums collected from policyholders to generate returns.
5. **Credit Unions**
    a. Provide financial services to their members, including savings accounts and loans.
    b. Operate as not-for-profit organisations, often focusing on community development.
6. **Pension Funds**
    a. Manage retirement savings for individuals.
    b. Invest contributions to generate returns for future payouts.

Learning Tasks

1. Identify three roles financial institutions perform in an economy.
2. Explain any four roles financial institutions perform in an economy.
3. Tabulate the financial institutions and their roles in an economy.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify at least three roles financial institutions perform in an economy
2. Learners who understand the concept should apply their knowledge and skills to explain any four roles financial institutions perform in an economy
3. The learners who show a high level of understanding should engage in reflective practice where they can reflect and tabulate the financial institutions and their respective roles in an economy.

Pedagogical Exemplars

Collaborative Learning: Learners in teacher-nominated mixed ability and gender groups discuss the roles of a financial institution, such as banks, or insurance companies, etc. or watch a video of a stock exchange market or a bank or insurance company to discuss the roles of financial institutions. Groups share their views with the whole class.

Note

1. Learners who have a low ability to identify the roles of financial institutions in an economy should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show clear understanding and ability to identify the roles of financial institutions in an economy, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain any of the four roles of financial institutions in an economy. (P)
3. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to tabulating financial institutions and their respective roles in the economy.

Key Assessment

DoK Level 1: Introduction/ Recall

Identify any three roles performed by financial institutions in an economy.

DoK Level 3: Strategic Reasoning

Explain any five roles of financial institutions in an economy.

DoK Level 4: Extended Thinking

Tabulate the financial institutions and their respective roles.

Hint

The recommended mode of assessment is Critiquing. Refer to the Teacher Assessment Manual and Toolkit pages 58-61 for more information on administering critiquing as an assessment strategy.

Week 20

Learning Indicator: Identify the principles, types and classification of taxation

Focal Area 1: Principles, Types and Classification of Taxation

Definition

Taxation: Taxation is the process by which a government or its authorised authority imposes financial charges or levies on individuals, businesses, and other entities.

Introduction

The primary purpose of taxation is to generate revenue needed to fund public goods and services, such as infrastructure (e.g., roads, drainage, water supply), healthcare, education, defence, and social welfare programs. Taxation is an essential mechanism for the functioning of a government and the economy, playing a key role in resource distribution and economic stability. Taxation is a critical aspect of public finance and economic policy, involving the collection of revenue by governments to fund public services and infrastructure.

Principles of Taxation

1. **Equity**
    a. Horizontal Equity: Taxpayers with similar ability to pay should owe similar amounts in taxes.
    b. Vertical Equity: Taxpayers with a greater ability to pay should owe more in taxes, reflecting a progressive tax system.
2. **Efficiency**

    Taxes should be designed to achieve their objectives with minimal economic distortion. The tax system should not significantly alter economic behaviour or resource allocation unless intended.
3. **Simplicity**

    The tax system should be easy to understand and comply with. Administrative and compliance costs should be minimised.
4. **Certainty**

    Taxpayers should know how much tax they owe, when it is due, and how it should be paid. A predictable tax system helps taxpayers plan their finances better.
5. **Convenience**

    The method and timing of tax payments should be convenient for taxpayers. For example, taxes are often withheld at source (e.g., income tax on wages) to ease the payment process.
6. **Revenue Sufficiency**

    The tax system should generate adequate revenue to meet the government's expenditure needs. It should provide a stable and predictable source of funding.

Types of Taxes

1. **Direct Taxes**
    a. Income Tax: Levied on individuals' and businesses' earnings.
    b. Corporate Tax: Levied on a corporation's profits.
    c. Wealth Tax: Levied on an individual's net wealth or asset holdings.
    d. Property Tax: Levied on property ownership, such as real estate.
2. **Indirect Taxes**
    a. Sales Tax: Levied on the sale of goods and services.
    b. Value-Added Tax (VAT): Levied on the value added at each stage of production or distribution of goods and services.
    c. Excise Tax: Levied on specific goods, such as tobacco, alcohol, and fuel.
    d. Customs Duty: Levied on imported goods.
    e. Service Tax: Levied on specific services.

Classification of Taxes

1. **By Nature**
    a. Proportional Tax: The tax rate remains constant regardless of the income level. Example: Flat tax rate.
    b. Progressive Tax: The tax rate increases as the taxable amount increases. Example: Graduated income tax rates.
    c. Regressive Tax: The tax rate decreases as the taxable amount increases. Example: Sales tax can be regressive as it takes a larger percentage of income from low-income earners.
2. **By Incidence**
    a. Direct Taxes: Incidence falls directly on the taxpayer who pays the tax. Example: Income tax.
    b. Indirect Taxes: Incidence can be shifted to another party, typically the consumer. Example: VAT.
3. **By Base**
    a. Income-Based Taxes: Levied on income, profits, or earnings. Example: Income tax, corporate tax.
    b. Consumption-Based Taxes: Levied on the consumption of goods and services. Example: Sales tax, VAT.
    c. Property-Based Taxes: Levied on ownership or transfer of property. Example: Property tax, estate tax.
4. **By Purpose**
    a. Revenue Taxes: The main purpose is to generate revenue for the government. Example: Income tax.

b. Regulatory Taxes: Used to regulate certain behaviours or industries. Example: Carbon tax to reduce emissions.

c. Benefit Taxes: Levied to fund specific public services. Example: Fuel tax to fund road maintenance.

Example 9.2

1. **Income Tax**
   a. Principle: Vertical equity, as higher incomes are taxed at higher rates.
   b. Type: Direct, progressive tax.
   c. Example: Personal income tax in Ghana, where individuals with higher earnings fall into higher tax brackets and pay a larger percentage of their income in taxes.
2. **Sales Tax**
   a. Principle: Simplicity and convenience, as it is collected at the point of sale.
   b. Type: Indirect, regressive tax.
   c. Example: Value Added Tax (VAT) in Ghana, which is applied to most goods and services purchased in the country.
3. **Corporate Tax**
   a. Principle: Equity and revenue sufficiency, ensuring businesses contribute to public finances.
   b. Type: Direct, proportional tax.
   c. Example: Corporate income tax in Ghana, which is levied on the profits of companies operating within the country.
4. **Property Tax**
   a. Principle: Benefit tax, as it funds local services that benefit property owners.
   b. Type: Direct, proportional tax.
   c. Example: Property rates levied by district assemblies in Ghana, which are used to fund local infrastructure and services such as roads, sanitation, and schools.

Learning Tasks

1. Explain the two types of taxes using examples.
2. Explain the principles of taxation using examples.
3. Describe how taxes are classified using examples.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that, they can explain the types of taxation. (A)

2. Learners who understand the concept should apply their knowledge and skills to explain the principles of taxation using real-world examples. (P)
3. The learners who show a high level of understanding should engage in reflective practice where they can reflect and describe how taxes are classified. (HP)

Pedagogical Exemplars

Collaborative Learning: Learners work in teacher nominated mixed ability and mixed gender groups and brainstorm to identify the principles, types (direct and indirect) and classification (proportional, regressive, progressive) of taxation in an economy and present their work to the class using PowerPoint.

Note

1. Learners who have a low ability to explain the two types of taxation should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show clear understanding and ability to explain the types of taxes, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain the principles of taxation. (P)
3. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to classifying taxation using examples. (HP)

Key Assessment

DoK Level 1: Recall

1. Name the two types of taxation.
2. List three examples of each type of taxation.

DoK Level 3: Strategic Reasoning

1. Explain three types of direct and indirect taxation using Ghanaian examples.
2. Explain the principles of taxation using real-world examples.
3. Describe how taxes are classified using real-world examples.

Hint

- The recommended mode of assessment is Research/Investigation. Refer to the Teacher Assessment Manual and Toolkit pages 61–63 for more information on administering Research/Investigation as an assessment strategy.
- The scores for the Mid-Semester Exam and Individual Project should be ready for recording into the St*udent Transcript Portal.*

Week 21

Learning Indicator: Examine the advantages and disadvantages of taxation

Focal Area 1: Advantages and Disadvantages of Taxation

Introduction

Advantages of Taxation

1. **Revenue Generation**

   Taxes provide governments with the necessary funds to finance public goods and services, such as healthcare, education, infrastructure, defence, and social welfare programs.

   Example: In Ghana, revenue from taxes funds critical infrastructure projects like road construction and maintenance.

2. **Wealth Redistribution**

   Progressive taxation helps to reduce income inequality by taxing higher incomes at higher rates and using the revenue to support social programs that benefit lower-income groups.

   Example: Ghana's personal income tax system includes progressive rates to ensure higher earners contribute more, helping to fund social services for the less affluent.

3. **Economic Stabilisation**

   Taxes can be used as a tool for economic stabilisation, helping to control inflation and smooth out economic cycles by adjusting tax rates and tax policies.

   Example: Adjusting corporate tax rates in Ghana can influence business investments and economic growth.

4. **Encouraging Positive Behaviours**

   Tax policies can be designed to encourage beneficial behaviours, such as saving for retirement, investing in renewable energy, or reducing consumption of harmful goods.

   Example: Ghana's government can offer tax incentives for businesses investing in renewable energy projects.

5. **Providing Public Goods**

   Taxes fund essential public goods that would otherwise be underprovided by the private sector, such as national defence, public parks, and disaster relief.

   Example: Tax revenue in Ghana supports the provision of public education and healthcare services.

Disadvantages of Taxation

1. **Economic Distortion**

   Taxes can create economic distortions by influencing individual and business behaviours, potentially leading to less efficient resource allocation.

   Example: High corporate taxes in Ghana might discourage foreign investment, affecting economic growth.

2. **Administrative Complexity and Cost**

   Collecting taxes requires an administrative apparatus, which can be costly and complex to manage, particularly in ensuring compliance and minimising evasion.

   Example: Ghana faces challenges in tax administration and collection, leading to inefficiencies and higher administrative costs.

3. **Tax Evasion and Avoidance**

   High tax rates and complex tax systems can encourage tax evasion and avoidance, reducing the effectiveness of tax policies and leading to revenue losses.

   Example: Some businesses and individuals in Ghana may engage in tax evasion practices, reducing the government's revenue base.

4. **Impact on Economic Behaviour**

   Taxes on income, profits, and consumption can discourage work, savings, and investment, potentially leading to reduced economic growth.

   Example: High personal income taxes in Ghana could discourage people from seeking higher-paying jobs or working overtime.

5. **Regressive Impact**

   Certain types of taxes, such as sales taxes, can be regressive, disproportionately affecting lower-income individuals who spend a higher percentage of their income on taxable goods.

   Example: The VAT in Ghana may place a heavier burden on low-income households, as they spend a larger portion of their income on necessities subject to VAT.

Learning Tasks

1. List three advantages and disadvantages of taxation.
2. Explain three advantages of taxation using Ghanaian examples.
3. Explain three disadvantages of taxation using Ghanaian examples.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify three advantages and disadvantages of taxation.
2. Learners who understand the advantages of taxation should apply their knowledge and skills to explain three advantages of taxation using real-world examples.
3. The learners who show a high level of understanding should engage in reflective practice where they can reflect and explain three disadvantages of taxation using Ghana as an example.

Pedagogical Exemplars

Experiential Learning: Learners watch two different videos or role-play on the advantages and disadvantages of taxation.

Note

1. Learners with a low ability to identify the advantages and disadvantages of taxation should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show a clear understanding and ability to identify the uses of national income, the teacher should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to explain three advantages of taxation using a real-world example. (P)
3. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to explaining the three disadvantages of taxation using Ghana as an example.

Key Assessment

DoK Level 2: Skills of conceptual understanding

1. Identify four advantages of taxation.
2. Identify three disadvantages of taxation.

DoK Level 4: Extended Thinking

Using Ghanaian examples, analyse four advantages and disadvantages of taxation.

Hint

- The recommended mode of assessment is Questioning. Refer to the Teacher Assessment Manual and Toolkit pages 30–33 for more information on administering questioning as an assessment strategy.
- Learners should submit their portfolio assignment in week 22 for scoring and recording onto the STP.

SECTION 9 REVIEW

The lessons taught in section nine focused on the concept of money, financial institutions and public finance. The section brought to the fore reasons why people hold money, the roles of financial institutions in an economy and taxation. The section ended with the advantages and disadvantages of taxation. The teacher applied varied pedagogical skills, specifically building on what others say, collaborative learning and experiential learning. The assessment techniques applied by the teacher were subject to the abilities of the learners to achieve the learning indicators for the week.

SECTION 10: AGRICULTURE, INDUSTRIES AND TRADE

Strand: Government Economic Policy and Trade

Sub-Strand: Agriculture, Industrialisation and Trade

Learning Outcomes

1. *Use relevant information in the environment to examine the challenges in the agricultural and industrial sectors.*
2. *Analyse domestic and international trade.*

Content Standards

1. *Demonstrate understanding of the challenges of the agricultural and industrial sectors.*
2. *Demonstrate knowledge and understanding of international trade.*

Hint

- Learners should submit their Portfolio assignment for scoring and recording in week 22.
- End of Semester Examination will be conducted in Week 24. Refer to Appendix J at the end of his section for a guide and the Table of Test Specification to guide you in setting the questions.

INTRODUCTION AND SECTION SUMMARY

Section 10 covers government economic policy and trade, focusing on Ghana's agricultural, service, and industrial sectors. The content also focuses on international and domestic trade. The section discusses the challenges faced in the three sectors of the Ghanaian economy and provides effective solutions. It also compares domestic trade to international trade.

Teachers should note that the concept of agriculture, service and industry is linked to social studies, while trade is linked to Business Studies.

The weeks covered by the section are

Week 22: Agriculture and Service Sectors; Challenges and Solutions

Week 23: Industrial Sector; Challenges and Solutions

Week 24: Introduction to International Trade and Comparison of domestic trade to international trade

SUMMARY OF PEDAGOGICAL EXEMPLARS

This section presents three different pedagogies to the teacher. These are collaborative learning, project-based learning and building on what others say. In collaborative learning, the teacher is expected to assist learners to work in mixed ability and gender groups to investigate the challenges and solutions for the agriculture, service and industrial sectors of Ghana. In project-based learning, the teacher is expected to give a project to the learners to acquire knowledge in the introduction to international trade. In building on what others say, the teacher is expected to assist learners in comparing domestic trade to international trade.

It must be indicated that teachers apply these pedagogies based on the abilities and learning styles of the learners in the class.

ASSESSMENT SUMMARY

The assessments in this section cover levels one to four. Teachers should note that the level one items are supposed to enable learners to demonstrate the ability to recall and reproduce basic concepts and demonstrate basic understanding. The teacher is expected to ask closed and open-ended questions. The level two items require that the learner undertake basic application of concepts and skills about the content in this section. The teacher is expected to use a funnel and probing questions in this regard. The teacher is supposed to use level three items to promote strategic thinking and complex reasoning in the learners. The teacher is supposed to ask leading and hypothetical questions.

The recommended modes of assessment for each week in this section are:

Week 22: Multiple Choice Questions (MCQs)

Week 23: Individual Presentations

Week 24: End of Semester Examination

Refer to the **"Hint"** at the key assessment for each week for additional information on how to effectively administer these assessment modes. Always remember to score learners' work with a rubric/marking scheme and provide prompt feedback to learners on their performance.

Week 22

Learning Indicator: Identify the challenges and solutions to the agricultural sector

Focal Area 1: The Agriculture Sector: Challenges and Solutions

Definition

Types of Industry: Primary Industry (mining and growing), Secondary Industry (manufacturing and processing), Tertiary Industry (selling and services)

Introduction

Agriculture is one sector of the Primary Industry in Ghana, contributing significantly to the country's economy and the livelihoods of its people. It provides employment, food, and raw materials for industry, and plays a vital role in the socio-economic development of the nation. Agriculture contributes to Ghana's Gross Domestic Product (GDP), and it is a major source of income and employment for about 50% of the workforce.

The sector encompasses a variety of activities, including crop production, livestock rearing, forestry, and fishing. Major crops include cocoa, maize, yams, cassava, plantains, rice, and oil palm. Ghana is the second-largest producer of cocoa in the world, after Côte d'Ivoire. Cocoa is a major export commodity, contributing significantly to foreign exchange earnings. The agricultural sector is predominantly characterised by smallholder farmers operating on farms averaging 1.2 hectares. Smallholder farming is labour-intensive, with limited use of modern inputs and technologies.

Agricultural activities vary significantly across different regions due to diverse climatic conditions and soil types. The southern regions focus on cash crops like cocoa and oil palm, while the northern regions primarily grow staple crops such as maize, millet, and sorghum. The main agricultural sub-sectors are crop production, livestock and poultry, fisheries and forestry.

Challenges

1. **Climate Change and Weather Variability**: Unpredictable rainfall patterns, prolonged droughts, and floods reduced crop yields, resulting in food insecurity and loss of livelihoods for farmers.
2. **Limited Access to Modern Farming Techniques**: Reliance on traditional farming methods leads to low productivity and inefficiency in farming operations.
3. **Inadequate Infrastructure**: Poor transportation networks, lack of storage facilities, and limited access to markets result in high post-harvest losses, reduced market access, and increased costs.
4. **Financial Constraints**: Limited access to credit and financial services results in the inability to invest in improved seeds, fertilisers, and equipment.
5. **Land Tenure Issues**: Complex and insecure land ownership and tenure systems lead to difficulty in acquiring land for farming and limited investments in land improvement.
6. **Pests and Diseases**: Infestation of crops by pests and outbreaks of diseases result in significant losses in crop and livestock production.

7. **Low Levels of Mechanisation**: Limited use of machinery and equipment in farming results in labour-intensive practices and low agricultural productivity.
8. **Poor Extension Services**: Insufficient agricultural extension services to educate farmers lead to a lack of knowledge about best practices and innovations.

Solutions

1. **Climate-Resilient Farming Practices**: Promote the adoption of climate-smart agriculture techniques, such as drought-resistant crops and efficient water management systems, to enhance resilience to climate variability and improved crop yields.
2. **Access to Modern Farming Technologies**: Facilitate access to advanced farming tools, technologies, and techniques to increase productivity and efficiency in farming operations.
3. **Infrastructure Development**: Invest in rural infrastructure, including roads, storage facilities, and irrigation systems to reduce post-harvest losses, better market access, and lower transportation costs.
4. **Financial Support and Services**: Expand access to credit, insurance, and financial services for farmers to increase investments in agriculture, leading to higher productivity and income.
5. **Land Reform Policies**: Implement policies that ensure secure land tenure and facilitate land acquisition for farming. This will lead to a greater investment in land improvements and sustainable agricultural practices.
6. **Integrated Pest and Disease Management**: Develop and promote integrated pest management strategies and disease control measures to reduce crop and livestock losses, leading to higher productivity.
7. **Mechanisation Support**: Provide subsidies and incentives for the acquisition of farming machinery and equipment to increase the use of mechanised farming methods, leading to higher efficiency and productivity.
8. **Strengthening Extension Services**: Enhance agricultural extension services to provide training and support to farmers in order to improve knowledge and adoption of best practices and innovations in agriculture.

Example of a solution to the challenge of the Agriculture Sector or Primary Industry in Ghana: Cocoa farming.

Kofi is a smallholder cocoa farmer in the Ashanti Region of Ghana, a region heavily dependent on agriculture. He owns a 2-hectare cocoa farm that has been his family's primary source of income for generations. Despite the significance of cocoa farming in the area, Kofi faces several challenges that hinder his productivity and income. Unpredictable weather patterns, irregular rainfall, and prolonged dry spells negatively impact cocoa yields. Reliance on outdated farming methods leads to low productivity. Limited access to affordable credit prevents investment in high-yield cocoa seedlings and fertilisers. Cocoa trees are frequently attacked by pests and diseases like black pod disease, reducing overall yield. Inadequate storage facilities and poor road networks increase post-harvest losses and limit market access.

Kofi attended a workshop on climate-smart cocoa farming practices organised by local agricultural extension services. He learned about shade-grown cocoa farming, which helps protect cocoa trees from excessive sunlight and reduces water stress. Kofi planted shade trees on his farm to create a microclimate that enhances cocoa tree resilience to climate change. A

government initiative provided Kofi with access to improved, disease-resistant cocoa seedlings and training on best practices for cocoa cultivation. Kofi adopted these improved seedlings and implemented better pruning and fertilisation techniques, leading to healthier and more productive cocoa trees.

Learning Tasks

1. List three challenges faced by the agriculture sector of Ghana.
2. List three solutions to the challenges identified in question one.
3. Explain the three challenges listed in question 1 which are faced by the agriculture sector of Ghana.
4. Explain three solutions to the challenges listed in question 1 which are faced in the agriculture sector of Ghana.

Note

1. Learners who may find it difficult to explain the challenges faced in the agriculture sector of Ghana should be assisted in connecting the information available to them about the agriculture sector to identify at least three challenges and provide solutions to them.
2. Learners who show understanding of the challenges faced by the agriculture sector of Ghana are allowed to use their knowledge to explain at least five challenges of the agriculture sector of Ghana using real-world examples.
3. Learners who show a high level of the challenges of the agriculture sector should design critical thinking exercises that challenge them to provide solutions to the challenges using real-world scenarios.

Pedagogical Exemplars

Collaborative Learning:

Learners work in teacher-nominated mixed gender and ability groups and brainstorm on the challenges faced by the agricultural sector of Ghana and suggest solutions to them, and present their work to the class using PowerPoint.

Note

1. Teachers should provide targeted support for learners who may be struggling to explain the challenges faced by the agriculture sector in Ghana. They should be supported in mentioning the challenges and their solutions. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the challenges faced by the agricultural sector in Ghana to apply their knowledge in explaining the challenges of Ghana's agricultural sector using real-world examples. (P)

3. Teachers should encourage learners who show a high level of understanding of the challenges faced by the agricultural sector in Ghana to design critical thinking exercises that challenge them to provide effective solutions to the challenges using real-world situations. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

1. List three challenges faced by the agriculture sector of Ghana.
2. List three solutions to the challenges named in part (a), faced by the agriculture sector of Ghana.

DoK Level 3: Strategic Reasoning

1. Explain five challenges of the agriculture sector of Ghana using real-world scenarios.
2. Explain five solutions for the challenges of the agriculture sector of Ghana using real-world scenarios.

Focal Area 2: Tertiary Industry or the Service Sector: Importance, Challenges and Solutions

Introduction

The service sector, or Tertiary Industry, is a segment of the economy that provides services and markets finished goods. This sector encompasses a wide range of activities where services are offered to consumers and businesses. These activities include but are not limited to, retail, transportation, entertainment, healthcare, education, financial services, hospitality, information technology, telecommunications, trade, tourism, real estate, and professional services.

The service sector in Ghana is the most dominant and dynamic component of the country's economy, contributing significantly to GDP, employment, and overall economic growth. The service sector is a major employer, providing jobs in various fields such as finance, healthcare, education, and tourism. This sector is crucial for addressing unemployment and fostering inclusive growth.

Rapid urbanisation is driving demand for services, particularly in major cities like Accra, Kumasi, and Takoradi. This trend is creating opportunities in real estate, retail, and infrastructure development. The adoption of digital technologies is transforming the service sector. Mobile banking, fintech innovations, and e-commerce are examples of how digital solutions are enhancing service delivery and creating new business models. The service sector attracts substantial foreign direct investment (FDI). International companies are investing in banking, telecommunications, and hospitality, contributing to sectoral growth and development. The Ghanaian government implements policies to promote the service sector, including initiatives to improve infrastructure, enhance regulatory frameworks, and support SMEs.

Importance of the Service Sector or Tertiary Industry of Ghana

1. **Economic Contribution**: The service sector is the largest contributor to Ghana's GDP, surpassing agriculture and industry. It includes various sub-sectors such as banking, insurance, tourism, telecommunications, education, health, and real estate.

2. **Employment**: It provides significant employment opportunities. Many Ghanaians work in retail, finance, education, and healthcare.
3. **Foreign Exchange**: Tourism, in particular, is a major source of foreign exchange. The country's rich cultural heritage, natural attractions, and festivals draw tourists from around the world.
4. **Investment Attraction**: The sector attracts foreign direct investment (FDI). Multinational companies establish branches, especially in banking and telecommunications, contributing to economic growth.
5. **Infrastructure Development**: Growth in the service sector drives the development of infrastructure, including roads, telecommunications, and utilities.

Challenges Faced by the Service Sector or Tertiary Industry of Ghana

1. **Infrastructure Deficiencies**: Despite improvements, inadequate infrastructure, including poor road networks and unreliable power supply, hampers the efficiency of service delivery.
2. **Regulatory Environment**: Inconsistent policies and bureaucratic red tape can deter investment and innovation within the sector.
3. **Skilled Labour Shortage**: There is often a mismatch between the skills required by the service sector and those possessed by the workforce. This gap affects productivity and service quality.
4. **Technological Integration**: Slow adoption of technology and digital solutions limits the sector's growth potential. This is particularly evident in rural areas where digital literacy and internet penetration are low.
5. **Competition**: Intense competition, particularly in banking and telecommunications, can lead to market saturation and lower profit margins for businesses.
6. **Economic Vulnerability**: The sector is susceptible to economic downturns and global financial crises, which can lead to reduced consumer spending and investment.

Solutions to the Challenges of the Service Sector or Tertiary Industry of Ghana:

1. **Infrastructure Investment**: Increased government and private sector investment in infrastructure is crucial. This includes roads, reliable electricity, and high-speed internet.
2. **Policy Reforms**: Streamlining regulatory processes and ensuring consistent and supportive policies will create a more conducive environment for business growth and foreign investment.
3. **Education and Training**: Enhancing educational curricula to meet industry needs and investing in vocational training will help bridge the skills gap. Partnerships between educational institutions and industry players can facilitate this.
4. **Technology Adoption**: Encouraging the adoption of digital technologies and innovation is vital. Government incentives, public-private partnerships, and improving digital literacy can accelerate technological integration.
5. **Promoting Entrepreneurship**: Supporting small and medium-sized enterprises (SMEs) through access to finance, mentorship programs, and business development services can stimulate growth and create jobs.

6. **Tourism Development**: Investing in tourism infrastructure, marketing Ghana as a tourist destination, and ensuring the safety and security of tourists can boost foreign exchange earnings.
7. **Financial Inclusion**: Expanding access to financial services, particularly in rural areas, can enhance economic participation and growth. Mobile banking and microfinance institutions can play a key role.
8. **Public-Private Partnerships (PPPs)**: Encouraging collaborations between the public and private sectors can lead to better resource utilisation and innovative solutions to sectoral challenges.

Example of a solution to the challenge of the Service or Tertiary Industry in Ghana: Banking

In Ghana, the traditional banking system faces challenges such as limited accessibility in rural areas, cumbersome processes, and a significant portion of the population not having a bank account. In 2010, MTN (Mobile Telephone Network) Ghana observed that despite a rapidly growing customer base for their telecommunications services, a large percentage of Ghanaians remained without access to formal banking services. Many people relied on informal means to save money and conduct transactions, which were often unsafe and inefficient.

Mobile banking emerged as a solution to bridge these gaps, leveraging high mobile phone penetration and growing internet usage. MTN Ghana, a leading telecommunications company, launched its mobile money service, MTN Mobile Money (MoMo), to provide financial services to the underserved and unbanked population. MTN developed a simple and user-friendly mobile application that could be accessed via basic mobile phones, making it easy for users, even with limited technical knowledge, to use the service. MTN established a widespread network of agents across the country, including in rural and remote areas. These agents facilitated cash-in and cash-out transactions, making it easier for customers to use the service.

MTN partnered with banks, microfinance institutions, and other financial entities to expand the range of services offered through MoMo, such as savings accounts, loans, and insurance. Extensive educational campaigns were launched to inform the public about the benefits and security of mobile money services. These campaigns included community outreach, radio programs, and workshops. MTN worked closely with the Bank of Ghana to ensure regulatory compliance, including implementing Know Your Customer (KYC) requirements and anti-money laundering measures.

By 2020, MTN MoMo had over 14 million active users, significantly increasing financial inclusion, especially in rural areas. Customers could now perform various financial transactions such as money transfers, bill payments, and savings directly from their mobile phones, reducing the need for physical bank visits. The introduction of MTN MoMo stimulated economic activities by facilitating easier and safer transactions, which benefited small businesses and entrepreneurs.

Learning Tasks

1. State the importance of the service sector of Ghana.
2. Explain the challenges of the service sector of Ghana.
3. Explain the solutions to the challenges of the service sector of Ghana.

Note

1. Learners who find it difficult to explain the importance of the service sector of Ghana should be assisted by giving them extra time and peer support to state at least three importance of the service sector of Ghana.
2. Learners who show understanding of the importance of the service sector of Ghana should use their knowledge to explain at least four challenges faced by the service sector of Ghana.
3. Learners who show a high level of calculating TR and AR after generating a table in Excel with the data collected should design critical thinking exercises that challenge them to calculate MR.

Pedagogical Exemplars

Collaborative Learning

Learners work in teacher nominated mixed ability and gender groups to discuss the meaning, importance, challenges and solutions of the service sector.

Note

1. Teachers should provide targeted support for learners who struggle to explain the importance of the service sector of Ghana. They should be supported to use their previous knowledge to state the importance of the service sector. (AP)
2. Teachers should offer the opportunity to learners who show understanding of the importance of the service sector of Ghana to apply their knowledge to explain the challenges of the service sector using real-world examples. (P)
3. Teachers should encourage learners who show a high level of understanding of the challenges of the service sector of Ghana to design critical thinking exercises that challenge them to provide solutions to the challenges faced in the service sector using real-world examples. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

State three reasons why the service sector is important in Ghana.

DoK Level 3: Strategic Reasoning

1. Explain four challenges faced by the service sector of Ghana using real-world examples.
2. Explain four solutions to the challenges named in question two (2) faced by the service sector of Ghana using real-world examples.

Hint

The recommended mode of assessment for this week is MCQs. Refer to the Teacher Assessment Manual and Toolkit pages 66 and 67 for more information on administering multiple-choice questions as an assessment strategy.

Week 23

Learning Indicator: Identify the challenges and solutions to the industrial sector

Focal Area 1: The Secondary Industrial Sector; Challenges and Solutions

Introduction

The Secondary industrial sector is a segment of the economy that involves the processing, production or manufacturing of goods from raw materials. It encompasses various activities that transform raw materials into finished products through processes that include manufacturing, construction, and energy production. The industrial sector is one of the three primary economic sectors, alongside the primary sector (agriculture, mining, and raw material extraction) and the tertiary sector (services). The Secondary industrial sector of Ghana plays a crucial role in the country's economic development. However, it faces several challenges that hinder its growth and potential. Below are some of the key challenges and potential solutions.

Challenges of the Secondary Industrial Sector of Ghana

1. **Infrastructure Deficits**

   Frequent power outages and unreliable electricity supply increase operational costs and disrupt production. Poor road networks, inadequate railway systems, and congested ports hinder the efficient transportation of goods. Inconsistent water supply affects industries, particularly those relying heavily on water, such as manufacturing and food processing.

2. **Access to Finance**

   Limited access to affordable financing options restricts the ability of industries to invest in new technologies and expand operations.

3. **Skilled Labour Shortage**

   There is a mismatch between the skills of the workforce and the needs of the industry, leading to a shortage of skilled labour.

4. **High Production Costs**

   High costs of raw materials, energy, and logistics increase the overall production costs, making Ghanaian products less competitive in the global market.

5. **Regulatory and Bureaucratic Hurdles**

   Complex and time-consuming regulatory processes deter investment and slow down the establishment and expansion of businesses.

6. **Technological Gaps**

   Limited adoption of advanced technologies and innovation reduces productivity and efficiency in the industrial sector.

Solutions to the Challenges Faced by the Secondary Industrial Sector of Ghana

1. **Infrastructure Development**

   Investing in renewable energy sources and improving the reliability of the national grid. Expanding and modernising road, rail, and port infrastructure to facilitate the efficient movement of goods. Enhancing water supply systems to ensure consistent and reliable access for industrial use.

2. **Improving Access to Finance**

   Developing financial products tailored for industrial enterprises and encouraging banks to provide affordable loans. Establishing industrial development funds and incentivising private investment in the industrial sector.

3. **Skill Development Programs**

   Implementing vocational training and apprenticeship programs to equip the workforce with the necessary skills. Collaborating with educational institutions to align curricula with industry needs.

4. **Reducing Production Costs**

   Promoting the use of local raw materials to reduce import dependency. Providing subsidies or tax incentives for energy-efficient technologies and practices.

5. **Streamlining Regulatory Processes**

   Simplifying business registration and licensing procedures to attract more investment. Establishing one-stop shops for regulatory compliance to reduce bureaucratic delays.

6. **Encouraging Technological Adoption**

   Promoting research and development (R&D) through government grants and partnerships with international organisations. Providing tax incentives for industries investing in modern technologies and innovation.

Example of a solution to the challenge of the Secondary Industry sector in Ghana, cocoa processing.

Ghana is the second-largest producer of cocoa in the world, after Côte d'Ivoire. Despite its strong position in cocoa production, Ghana has historically exported most of its cocoa beans in raw form, missing out on the added value from processing the beans into finished products such as chocolate, cocoa butter, and cocoa powder. Limited and unreliable power supply, poor transportation networks, and inadequate water supply hampered the establishment and operation of cocoa processing facilities. Cocoa processors faced difficulties in securing affordable financing for setting up and expanding their operations. The costs associated with energy, raw materials, and logistics made local processing less competitive compared to exporting raw beans. There was a lack of advanced technology and expertise required for efficient and high-quality cocoa processing. Limited access to international markets for finished cocoa products due to trade barriers and competition from established global brands.

The government introduced tax incentives for cocoa processors to reduce their operational costs and encourage investment in the sector. Policies aimed at diversifying exports to include more processed cocoa products rather than raw beans. Investments in energy infrastructure, including the construction of new power plants and improvements in the national grid, aimed at providing a reliable power supply to industrial zones. Upgrades to road and rail networks to facilitate the efficient transportation of raw cocoa beans to processing plants and finished

products to ports. Establishment of funds to provide affordable loans and financial support to cocoa processors. Encouraging banks and financial institutions to develop products tailored to the needs of the cocoa processing industry. Partnerships with international cocoa processing companies for technology transfer and technical expertise. Initiatives to train local workers and managers in advanced cocoa processing techniques and quality control.

Learning Tasks

1. Mention the challenges of the Secondary industrial sector of Ghana.
2. Explain the challenges of the Secondary industrial sector of Ghana using real-world examples.
3. Explain the solutions to the challenges faced in the Secondary industrial sector of Ghana using real-world examples.

Note

1. Learners who are less confident in explaining the challenges of the Secondary industrial sector of Ghana should be guided to use smaller, manageable steps to be able to mention at least three challenges.
2. Learners with a strong ability to mention the challenges faced by the Secondary industrial sector of Ghana should be encouraged to explain the challenges of this industrial sector of Ghana using real-world examples.
3. Learners at a highly proficient level in explaining the challenges faced by the Secondary industrial sector of Ghana should be allowed to design critical thinking learning exercises that challenge them to provide solutions to the challenges using real-world examples.

Pedagogical Exemplars

Collaborative Learning: Learners work in teacher-nominated mixed ability and gender groups to search from the internet for the challenges of Secondary industries in Ghana and the rest of the world and suggest solutions to them.

Note

1. Teachers should break down complex tasks into smaller, manageable steps for learners who are struggling to explain the challenges faced by the Secondary industrial sector of Ghana, to be able to mention at least four challenges. (AP)
2. Teachers should encourage learners with a deep understanding of the challenges faced in the Secondary industrial sector to explain the challenges using real-world examples. (P)
3. Teachers should allow learners with extensive knowledge of the challenges of the Secondary industrial sector of Ghana to describe the solutions needed to mitigate the challenges faced by the industrial sector of Ghana. (HP)

Key Assessment

DoK Level 1: Reproduction/Recall

Mention any four challenges faced by the Ghanaian Secondary industry sector.

DoK Level 4: Extended Thinking

1. Explain the challenges of the Secondary industrial sector of Ghana using real-world examples.
2. Explain the solutions to the challenges faced in the Secondary industrial sector of Ghana using real-world examples.

Hint

The recommended assessment mode for this week is Individual Presentation. Refer to the Teacher Assessment Manual and Toolkit pages 8–9 and 11 for notes on administering presentations as an assessment strategy. Teachers should search online for this strategy to find more interactive ways.

Week 24

Learning Indicators

1. *Explain the concept of International Trade*
2. *Compare domestic trade to international trade*

Focal Area 1: Introduction to International Trade

Introduction

International trade refers to the exchange of goods and services between countries. It involves the import and export of products, services, and capital across international borders. It allows nations to specialise in the production of goods and services they can produce most efficiently while importing those they cannot produce as effectively. This specialisation and exchange can lead to a more efficient global allocation of resources, increased economic growth, and improved standards of living.

Key Components of International Trade

1. **Goods and Services:** These include tangible products such as machinery, clothing, and food, as well as intangible services such as banking, insurance, and tourism.
2. **Imports and Exports**
    a. Exports are goods and services produced domestically and sold to other countries.
    b. Imports are goods and services produced in other countries and purchased by the domestic market.
3. **Trade Balance**
    a. *Trade Surplus* - Occurs when a country's exports exceed its imports.
    b. *Trade Deficit* - Occurs when a country's imports exceed its exports.
4. **Trade Barriers**
    a. Tariffs: Taxes imposed on imported goods.
    b. Quotas: Limits on the quantity of a good that can be imported.
    c. Non-tariff barriers: Regulations or standards that make it more difficult to import goods (e.g., health and safety standards, labelling requirements).
5. **Trade Agreements**
    a. Bilateral Agreements: Trade agreements between two countries.
    b. Multilateral Agreements: Trade agreements involving multiple countries (e.g., NAFTA, EU, WTO).

Key Exports of Ghana

1. *Gold:* Ghana is one of the top gold producers in the world, making gold a major export commodity. The mining industry plays a critical role in the country's economy, contributing significantly to GDP and employment.
2. *Cocoa:* Ghana is the second-largest producer of cocoa globally. The cocoa industry is a vital part of the agricultural sector, providing livelihoods for millions of Ghanaians.
3. *Oil:* Since the discovery of oil in commercial quantities in 2007, oil exports have become increasingly important. The oil and gas sector has attracted significant foreign investment.
4. *Other Exports:* Timber, diamonds, bauxite, and manganese are also important exports, alongside agricultural products like cashew nuts, shea butter, coffee, mango, yam and many others.

Key Imports of Ghana

1. *Machinery and Equipment:* As Ghana continues to industrialise, it imports machinery and equipment for manufacturing, construction, and mining.
2. *Petroleum Products:* Despite being an oil producer, Ghana imports refined petroleum products due to limited domestic refining capacity.
3. *Foodstuffs:* The country imports various food products to complement domestic production and meet the demands of its growing population.
4. *Chemicals and Pharmaceuticals:* These are essential for the healthcare sector and various industries.

Major Trade Partners of Ghana

1. **China:** A major source of machinery, equipment, and manufactured goods.
2. **European Union:** Significant trade in cocoa, gold, and timber with countries like the Netherlands, Germany, and the United Kingdom.
3. **United States:** Imports machinery, vehicles, and various manufactured goods, while exporting gold and cocoa.
4. **India and South Africa:** Key partners in the trade of gold and other minerals.

Economic Impact of International Trade in Ghana

1. **GDP Growth:** International trade has been a driving force behind Ghana's economic growth. The revenue generated from exports, particularly gold and oil, has funded infrastructure projects and social programs.
2. **Employment:** The export-oriented sectors, especially agriculture and mining, provide substantial employment opportunities.
3. **Foreign Exchange:** Export earnings are crucial for maintaining foreign exchange reserves, stabilising the currency, and supporting imports.
4. **Investment:** Trade liberalisation and international agreements have attracted foreign direct investment (FDI), further stimulating economic development.

Benefits of International Trade

1. *Economic Growth:* Trade can stimulate economic growth by providing access to new markets and new investment opportunities.
2. *Increased Efficiency and Productivity*: Countries can specialise in producing goods and services they are most efficient at, leading to better use of resources.
3. *Variety of Goods:* Consumers have access to a wider variety of goods and services, often at lower prices.
4. *Innovation and Competition:* Exposure to international markets can drive innovation and competition, leading to better products and services.

Challenges of International Trade

1. *Economic Dependence:* Countries may become overly dependent on foreign markets and economic conditions elsewhere.
2. *Trade Imbalances:* Persistent trade deficits can lead to debt and other economic problems.
3. *Job Displacement:* Trade can lead to job losses in industries that are not competitive internationally.
4. *Environmental and Social Concerns:* Trade can lead to the exploitation of natural resources and labour and contribute to environmental degradation.

Trade Policies and Agreements

1. **World Trade Organisation (WTO):** Participation in the WTO promotes trade liberalisation and access to global markets.
2. **Economic Community of West African States (ECOWAS):** Regional integration aims to enhance trade within West Africa, facilitating the free movement of goods and services.
3. **African Continental Free Trade Area (AfCFTA):** This agreement seeks to create a single market for goods and services across Africa, boosting intra-African trade.
4. **Bilateral Agreements:** Ghana has numerous bilateral trade agreements with countries around the world to foster economic cooperation and trade.

Example 10.1

1. AngloGold Ashanti, a leading global gold mining company, operates in Ghana and exports gold to markets such as Switzerland, India, and the UAE. Gold exports significantly contribute to Ghana's foreign exchange reserves and economic stability. Graphical illustration of change in quantity supplied (movement along the supply curve).
2. COCOBOD manages the production and marketing of cocoa beans, selling to international buyers in the Netherlands, the United States, and Germany. Cocoa is a vital export commodity, providing substantial income for farmers and contributing to rural development.
3. Tullow Oil, a major oil exploration and production company, exports crude oil from Ghana to countries like China and India. Oil exports have boosted Ghana's GDP and attracted foreign direct investment.
4. GOIL imports refined petroleum products to meet domestic energy needs, despite Ghana being an oil producer. Ensures a stable supply of energy for transportation and industry.

5. Shoprite, a leading retail chain, imports various food and beverage products from South Africa and other countries to stock its stores. Provides consumers with a variety of food options and supports the retail sector.

Learning Tasks

Leaners in their various groups select one country that trades with Ghana and perform the following activities

1. Discuss how trading is done between Ghana and those identified countries with the support of search engines.
2. Identify the key components of international Trade between the two countries.
3. Identify the economic impact of International trade between the two countries.
4. Discuss the challenges of international trade.
5. Identify the key imports and exports of Ghana.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can identify Ghana's major trading partners.
2. Learners who understand the concept should apply their knowledge and skills to discuss the economic impact of international trade in Ghana.
3. The learners who show a high level of understanding should be encouraged to engage in reflective practice where they can reflect and explain the challenges of international trade.

Pedagogical Exemplars

Project-based learning

Learners work in teacher-nominated mixed ability and gender groups, identify the countries that Ghana trades with and discuss how trading is done between Ghana and those identified countries with the support of a search engine and the internet.

Learners project their outcome and discuss the meaning and features of international trade based on their report.

Note

1. Learners with a low ability to identify the trading partners of Ghana should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show clear understanding and ability to identify the trading partners of Ghana, the teacher should encourage them to share their knowledge, skills and

perspectives and provide constructive feedback to their peers. They should be encouraged to discuss the economic impact of international trade in Ghana. (P)

3. Learners who show a high level (HP) of understanding should be given the opportunity by teachers to explore ethical dilemmas and societal impacts related to explaining the challenges of international trade.

Key Assessment

DoK Level 1: Recall

Identify the countries Ghana exports to and imports from.

DoK Level 4: Strategic Reasoning

1. Discuss the economic impact of international trade in Ghana using real-world examples.
2. Explain the challenges of international trade using real-world examples.

Focal Area 2: Comparison of domestic trade to international trade

Introduction

Domestic trade and international trade are both essential components of a country's economy, but they differ significantly in terms of scope, regulations, and complexity. Both domestic and international trade play crucial roles in the global economy, with each offering unique advantages and challenges. Domestic trade supports national economic stability and growth, while international trade drives global economic development and fosters international collaboration and innovation. Businesses often engage in both types of trade to capitalise on domestic and international opportunities, contributing to a more interconnected and prosperous global economy.

Table 10.1: Comparison between domestic and international trade

Aspect	Domestic Trade	International Trade
Definition	The exchange of goods, services, and capital within a single country.	The exchange of goods, services, and capital between different countries.
Scope	Limited to the geographical boundaries of a country.	Crosses national boundaries, involving multiple countries.
Regulations	Governed by national laws, policies, and regulations, which are typically less complex and uniform across the country.	Subject to international laws, trade agreements, tariffs, quotas, and various regulations, which often differ from one country to another.
Currency	Conducted in the national currency, eliminating exchange rate risks.	Involves different currencies, leading to potential exchange rate fluctuations and the need for currency conversion.

Cultural Factors	Generally, uniform cultural, language, and business practices make communication and negotiation more straightforward.	Diverse cultural, language, and business practices require adaptation and understanding, increasing the complexity of trade negotiations.
Transportation Costs	Typically lower due to shorter distances and established infrastructure within the country.	Often higher due to longer distances, potential tariffs, and the need for compliance with international shipping regulations.
Market Dynamics	Usually affected by national economic conditions, policies, and consumer preferences.	Influenced by global economic conditions, international competition, and foreign market demands, leading to more dynamic and volatile markets.
Legal and Political Risks	Lower risk as businesses operates within a familiar legal and political environment.	Higher risk due to differences in legal systems, potential political instability, trade disputes, and changes in international relations.
Competition	Limited to domestic competitors, which may be fewer and less diverse.	Involves global competitors, leading to more intense competition and a need for innovation and efficiency to maintain competitiveness.
Access to Resources	Access to domestic resources, which may be limited or abundant depending on the country's natural resources and capabilities.	Access to a broader range of resources, including raw materials and technology, from different countries, potentially enhancing production capabilities.
Economies of Scale	May be limited by the size of the domestic market, affecting the ability to achieve large-scale production.	Greater potential for economies of scale due to access to larger international markets, allowing for increased production and cost efficiencies.
Trade Barriers	Generally low, with uniform regulations and fewer barriers to entry and operation.	Subject to various trade barriers, including tariffs, quotas, and non-tariff barriers, which can complicate trade activities and increase costs.
Supply Chain Complexity	Simpler supply chain due to domestic sourcing and logistics, leading to fewer disruptions and easier coordination.	More complex supply chain involving international suppliers, transportation, and logistics, leading to potential delays, disruptions, and increased need for coordination and risk management.

Impact on Economic Growth	Contributes to national economic growth by supporting domestic industries and employment.	Drives global economic growth by facilitating cross-border investments, technology transfer, and international collaboration, potentially leading to more significant economic development opportunities for participating countries.
Examples	Retail trade within a country, local manufacturing, and services provided to domestic consumers.	Exporting goods to other countries, importing foreign products, multinational corporations operating in multiple countries, and international services like tourism, banking, and consulting.

Key Differences

1. *Regulatory Environment:* Domestic trade benefits from a relatively straightforward regulatory environment, while international trade must navigate complex international regulations and trade agreements.
2. *Cultural and Language Barriers:* Domestic trade typically involves fewer cultural and language barriers, whereas international trade often requires adapting to diverse cultural practices and languages.
3. *Currency and Financial Risks:* Domestic trade operates within a single currency, avoiding exchange rate risks. In contrast, international trade must deal with multiple currencies and the associated financial risks.
4. *Market Reach and Opportunities:* International trade offers access to larger markets and diverse resources, providing opportunities for growth and expansion that domestic trade may not offer.
5. *Competition and Innovation:* The international market introduces intense competition, necessitating continuous innovation and efficiency improvements to remain competitive globally.
6. *Logistics and Transportation:* International trade faces higher logistics, costs and complexities, including compliance with international shipping standards, while domestic trade benefits from more straightforward logistics and lower transportation costs.

Examples

Ghana has a vibrant fishing industry, with a long coastline and numerous inland water bodies. Fishing is an essential part of the country's economy, providing food, employment, and income for many Ghanaians. Common fish species include tilapia, catfish, sardines, and mackerel. Fish are sold fresh at local markets and to fishmongers who distribute them to consumers across the country.

Major fish markets, such as the Tema Fish Market and Kumasi Central Market, play a significant role in the domestic fish trade. Ghana also engages in international trade of fish, exporting and importing various fish products to meet domestic demand and participate in the global market. Ghana exports fish products such as tuna, tilapia, and shrimp to international markets.

Processed fish products, like canned tuna, are significant export items. Countries like Spain, Italy, and the UK are major importers of Ghanaian fish products. The USA and Asia are other important markets for Ghanaian fish exports.

Table 10.2: Comparison of Domestic and International Fish Trade in Ghana

Aspect	Domestic Trade	International Trade
Scope	Within Ghana's borders, focusing on local markets and consumers.	Cross-border trade involves exports and imports to and from other countries.
Currency	Conducted in Ghanaian cedis (GHS).	Involves multiple currencies, typically conducted in US dollars (USD) or euros (EUR).
Regulations	Governed by national laws, such as the Fisheries Act and regulations by the Ghana Fisheries Commission.	Subject to international laws, trade agreements, and standards, such as the European Union's sanitary and phytosanitary measures.
Market Dynamics	Driven by local demand, cultural preferences, and seasonal variations in fish availability.	Influenced by global demand, competition, and trade policies, including tariffs and quotas.
Economic Impact	Supports local economies, provides employment, and contributes to food security.	Contributes to foreign exchange earnings, enhances GDP, and provides opportunities for global market expansion.
Transportation and Logistics	Primarily involves road transport and distribution networks within Ghana.	Requires international shipping, customs clearance, and compliance with import/export regulations.
Competition	Limited to local producers and distributors.	Involves global competitors, requiring Ghanaian exporters to meet international quality and pricing standards.
Challenges	Seasonal fluctuations, overfishing, and infrastructure limitations.	Trade barriers, currency fluctuations, and compliance with international standards and regulations.

Learning Tasks

1. Differentiate between domestic and international trade using the definitions.
2. Compare and contrast domestic and international trade using real-world examples.

Note

1. Learners who are approaching proficiency should be offered flexible learning pathways and additional support to ensure that they can differentiate between domestic and international trade based on the definitions.
2. Learners who understand the concept should apply their knowledge and skills to compare and contrast domestic and international trade using real-world examples.

Pedagogical Exemplars

Building on What Others Say

Based on previous knowledge on domestic trade, learners brainstorm and compare international trade and domestic trade and state the differences.

Note

1. Learners who have a low ability to differentiate between domestic and international trade should be supported by teachers through diverse perspectives and cultural references in the lesson to make learning more inclusive and meaningful. (AP)
2. For learners who show clear understanding and ability to differentiate between domestic and international trade, teachers should encourage them to share their knowledge, skills and perspectives and provide constructive feedback to their peers. They should be encouraged to compare and contrast domestic and international trade using real-world examples. (P & HP)

Key Assessment

DoK Level 2: Skills of conceptual understanding

Distinguish between domestic and international trade using their definitions.

DoK Level 4: Extended Thinking

Compare and contrast domestic and international trade using real-world examples.

Hint

The recommended assessment mode for this week is End of Semester Examination. Refer to Appendix J at the end of this section for guidelines for End of Semester Examination.

SECTION 10 REVIEW

The lessons taught in section 10 focused on agriculture, services, industries and trade. The teacher applied collaborative learning, project-based learning and building on what others say pedagogical skills and assessment techniques, subject to the abilities of the learners to achieve the learning indicators for each week.

Week 22 dealt with the challenges and solutions for the agriculture sector as well as the importance, challenges and solutions for the service sector of Ghana. By the end of the week, using collaborative learning pedagogy, learners will have been able to identify challenges faced in both sectors and provide solutions to the challenges.

Week 23 focused on the challenges and solutions of the industrial sector of Ghana. By the end of the week, using collaborative learning pedagogy, learners will have gained knowledge of how to solve the challenges faced by industries in Ghana.

Week 24 focused on international trade and compared domestic and international trade. By the end of the week, using Project-based learning pedagogy, learners will have gained knowledge on international trade. By building on what others say, learners will have been able to compare domestic and international trade.

APPENDIX J: GUIDELINES FOR END OF SEMESTER EXAMINATION (SECOND SEMESTER)

1. ***Paper 2:*** Eight (8) questions, of which learners answer 4 questions in all
   - ***i. Section A (data response)****: Two (2) questions, of which learners answer any 1*
   - ***ii. Section B (essay)****: Six (6) questions, of which learners answer any 3*
   - ***iii.*** Each essay/data response question should be scored out of 20 marks
   - ***iv. Questions should cover*** *DoK levels 3 - 4*
   - ***v. Duration:*** *1 hour, 40 minutes*
2. ***Paper 1:*** 50 objective test items (multiple choice), of which learners answer all
   - ***i. Questions should cover DoK levels 1 – 3***
   - ***ii. 1 mark for each objective test question***
   - ***iii. Duration****: 1 hour*
3. Follow the 30,40,30 rule in crafting/writing the test items, thus,
   DoK level 1=30%, DoK level 2=40%, and DoK level 3&4=30%

SAMPLE TABLE OF TEST SPECIFICATION FOR END-OF-SEMESTER EXAMINATION (SECOND SEMESTER)

Week	Focal Area(s)	Type of Question	DoK Levels				Total
			1	2	3	4	–
13	Definition of market structures; Types of market structures	Multiple Choice	1	1	1	–	3
14	Types of profits in each Market Structure	Multiple Choice	1	1	–	–	2
15	Market Equilibrium; Determination of equilibrium price and output	Multiple Choice	2	2	1	–	5
16	Effects of changes in fundamental macroeconomic variables on the economy; Control Policies	Multiple Choice	1	1	2	–	4
17	Introduction to National Income; Calculation of national income using output approach	Multiple Choice	1	2	2	–	5
		Essay/ Data response	–	–	–	1	1

18	Calculation of national income using income and expenditure approaches; Uses and importance of national income	Multiple Choice	1	3	2	–	6
		Essay/ Data response	–	–	1	1	2
19	Reasons for holding money; The Role of financial institutions in an economy	Multiple Choice	3	2	–	–	5
		Essay	–	–	1	–	1
20	Taxation	Multiple Choice	2	2	–	–	4
21	Advantages and Disadvantages of Taxation	Multiple Choice	2	2	–	–	4
		Essay	–	–	–	1	1
22	The Agriculture Sector: Challenges and Solutions; The Service Sector: Importance, Challenges and Solutions	Multiple Choice	–	2	–	–	2
		Essay	–	–	–	2	2
23	The Industrial Sector; Challenges and Solutions	Multiple Choice	2	2	2	–	6
24	Introduction to International Trade; Comparison of domestic trade to international trade	Multiple Choice	1	2	1	–	4
		Essay	–	1	–	–	1
		Total	17	23	13	5	58