SECONDARY SCHOOL IMPROVEMENT PROGRAMME (SSIP) 2021

GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GRADE 12

SUBJECT: ECONOMICS SATURDAY CLASSES

TERM 2

LEARNER WORKBOOK

TABLE OF CONTENTS

SESSION 12: MICROECONOMICS: PERFECT MARKETS-PART 1..... 3
SESSION 13: MICROECONOMICS – PERFECT MARKET-PART 2..... 18
SESSION 14:MICROECONOMICS- IMPERFECT MARKETS-MONOPOLY-PART 1..... 28
SESSION 15: MONOPOLY- PART 2..... 40
SESSION 16:- MICROECONOMICS -IMPRFECT MARKET- OLIGOP-OLY(PART 1)..... 52
SESSION 17: OLIGOPOLY-PART 2..... 59
SESSION 18: MONOPOLISTIC COMPETITION-PART 1..... 68
SESSION 19: MONOPOLISTIC COMPETITION – PART 2..... 77
SESSION 20: MARKET FAILURE- PART 1..... 86
SESSION 21: MARKET FAILURE- PART 2..... 105

SESSION 12: MICROECONOMICS: PERFECT MARKETS-PART 1

PERFECT COMPETITION

DESCRIPTION

- Perfect competition is a market structure with a large number of participants who are all price-takers, there are no entry or exit barriers in the long run, all information is available to both buyers and sellers and a homogeneous product is sold.
- A market is perfect when there is no excessive control exercised by any of the participants. Individuals do not have market power, because nobody can influence the price, and they accept the market price as it is given.
- There are many relatively small businesses that produce identical goods and services. Large quantities are bought and sold at the market price.
- Perfect competition is very impersonal – each individual competitor acts completely independent from others.
- Each producer will take into account only its own cost structure and the market price when he decides on the quantity, he will be willing to produce and sell. He does not take into account what his competitors are doing.

CHARACTERISTICS/CONDITIONS/FEATURES

Homogeneous products

- The products being offered for sale are identical with no obvious differences in quality.
- Products are perfect substitutes for each other, e.g., butter and margarine.
- The product itself does not influence the buyer with regard to which seller he buys from – there is no reason for a buyer to have preference for the product of a particular seller.
- Only totally homogeneous products can compete purely on price, such as painkillers. (generics)

NB :(Differences in style, design, quality etc. means that apparently similar products are not actually homogeneous)

Large number of buyers and sellers

- It should not be possible for a single buyer or seller to influence the price through his/her actions.
- Each individual producer only supplies a tiny part of the total market supply – they have no market power.
- A producer will be able to control only the utilisation of the production factors and the extent of his production, with no control over prices.
- Each seller or producer is a price taker and it regards the market price as a given. Each producer's share is so small that it cannot influence the market price.
- If a producer tries to charge a price above the market price, consumers will be aware of this, and they will know that they can get a better deal from someone else.

There is a high output and large choice

- Because there are many sellers, consumers can shop around and buy from whomever they want.
- There are no shortages because if one seller runs out, there are lots of other sellers that will have stock that they are selling at the same price.

Sellers are price takers

- Market prices should be low – lots of competition.
- Producers can't charge higher prices, as this will result in a loss of market share – their customers will buy somewhere else.
- No individual producer can influence the price by increasing or decreasing his quantities.

No collusion

- Buyers and sellers are neutral and impartial with regard to whom they buy from or sell to.
- Buyers and sellers act independently from one another.
- Only the price may influence the actions of the buyers and sellers.
- Identical products will therefore have the same price in all markets.
- Collusion means that sellers and buyers enter into an agreement, arrangement or understanding to limit competition in order to gain market power so they can influence the price.

Profits

- A perfect competitor can make normal or supernormal (economic) profit in the short run (or a loss).
- Only normal profits can be made in the long run.

Freedom of entry and exit

- The existence of a perfect market depends on producers and manufacturers having free access to markets, but also that they may leave a particular market with little interference.
- No laws, permits, tenders or regulations will prohibit new entrepreneurs to start a business.
- New producers are not impeded by high set-up costs - competition will not be limited to only those with enough money to enter the market.
- New firms have immediate access to the same technology and factors of production as the existing firms are able to produce the output at the same unit cost.
- New firms tend to enter markets when existing firms are making economic profits. Firms do not all advertise so there is no customer loyalty – this makes it easier for new firms to gain market share.
- It must be equally possible to leave a business to make an investment elsewhere. There are no sunk costs (cost of production that the firm cannot recover should he leave the industry).
- Losses that may possibly be suffered, will inhibit people leaving the market, and therefore inhibit the working of a perfect market.

Free competition (unregulated market)

- There should be no limitation on the actions of the buyers and sellers.
- Buyers can buy what, where and how many they want.
- Sellers can sell what, where and how many they want.
- There are no restricting measures like government interference and price control.
- Behaviour of buyers and sellers are spontaneous and no measures control or regulate it.

Effective transport system

- Rapid transport is required to transport products from one place to another in order for them to be available everywhere.
- In this way a change in demand or supply in one part of the market will influence the price in the entire market.
- There are no transport costs – consumer can buy the cheapest product from any firm, anywhere.

Perfect information

- All participants in the market must have complete and accurate information about current market conditions.
- All buyers and sellers know what quality of goods is available, what the market prices are and how to produce the product.
- New sellers do not have to learn complicated techniques to compete.
- All buyers know what the characteristics of the producers are, how much they should be paying and where it can be bought.
- An effective communications system is essential in order to make available information about market conditions to buyers and sellers.
- Knowledge of current prices, the economic climate and demand conditions are of the utmost importance.

Grading of products

- Grading ensures that purchases and sales can occur by telephone, letter, price notation, tender, fax etc.
- It ensures that all buyers and sellers are exactly aware of the nature and quality of the product.

Products must be durable

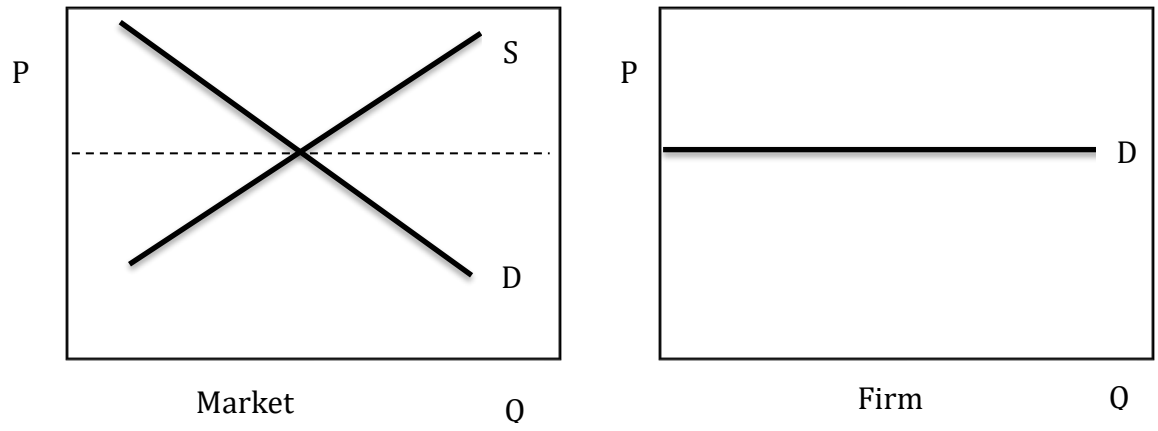
- A perfect market will be very difficult for perishable goods because their non-durable nature makes it impossible for them to be made available everywhere, on all markets.
- Modern developments in cooling and transport have greatly improved the marketing of perishable products.

Factors of production are completely mobile

- Labour, capital, natural resources and entrepreneurship can easily move from one geographical area to the next and from one industry to another.
- In the real-world perfect competition doesn't really exist – in any market or any economy. It gives us a measure against which we can compare other forms of competition. It also provides us with a simple model that can be used to predict how individual businesses will behave under certain economic conditions.

THE INDIVIDUAL BUSINESS AND THE INDUSTRY

- An industry consists of all the firms that produce the same product.
- The output of an industry is the sum of the output of its individual firms.
- Some industries have a large number of participants, while others have only a few (or even just one).
- The number of firms in an industry will influence the market power (ability to influence the price) and the behaviour of the individual producer in the industry.
- The fewer firms there are in an industry, the more market power these firms have



THE INDUSTRY

a) Demand curve

- To find the demand curve for the industry, we need to add the individual demands curves for a particular product.
- The market demand at each price is the sum of all the individual demands.
- We add the individual demand curves horizontally to obtain the market demand.
- The market demand curve shows the total quantity demanded of a product.

b) Price formation

- The industry's market price is determined by the interaction between the market demand and market supply – illustrated above.
- The market demand curve (D) has a negative slope and the market supply curve (S) has a positive slope.
- The point of intersection determines the market price – P.

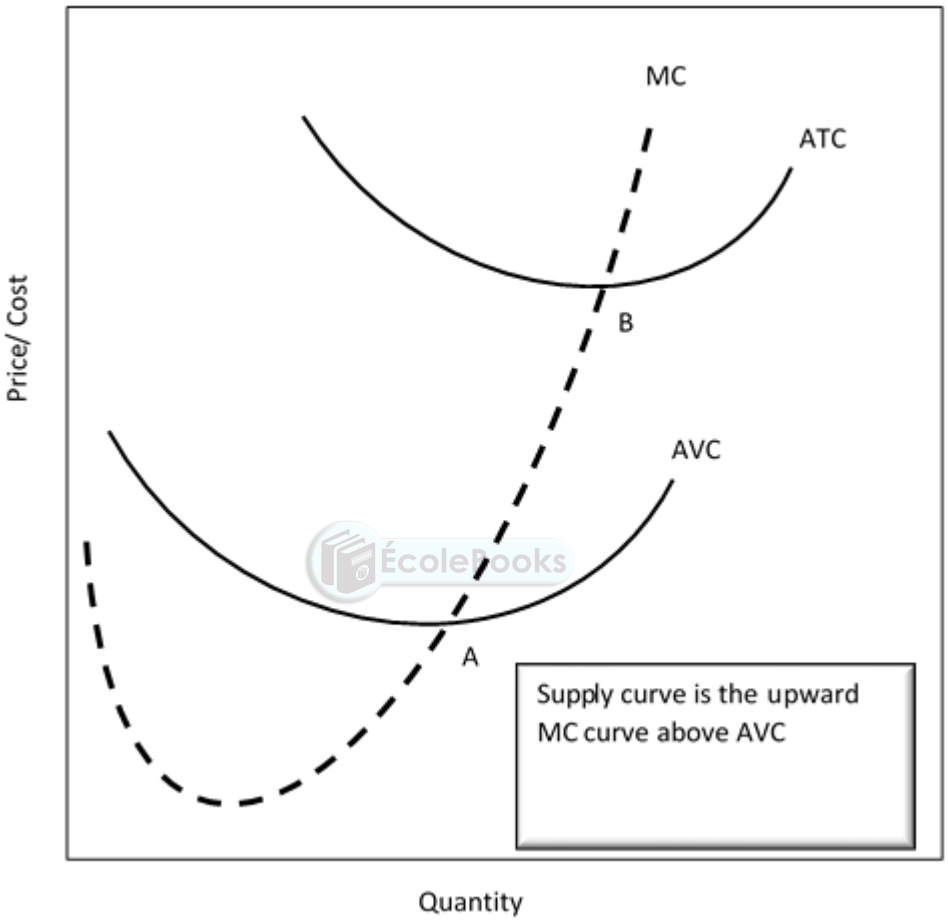
THE INDIVIDUAL BUSINESS

Demand curve

- Because the individual producer is only a small part of the industry (he is a price taker), it cannot influence the price and has to accept the market price (P) as given.
- The business can decide to sell any quantity of the product at the given market price.
- This means that the demand curve for the individual producer will be horizontal (perfectly elastic) at the market price P.
- The individual producer will not be able to charge a higher price, because all the buyers would know what the market price is supposed to be, and they will buy from another producer.
- The individual producer also will not charge a lower price, because it would not be rational, and he will not be able to maximise his profits.
- The marginal revenue (MR) resulting from an increase or decrease in sales by one unit is constant and it will equal the market price for that product or service.
- MR will equal average revenue (AR) and will stay constant as output varies.
- Total Revenue (TR) will increase or decrease as the output changes.

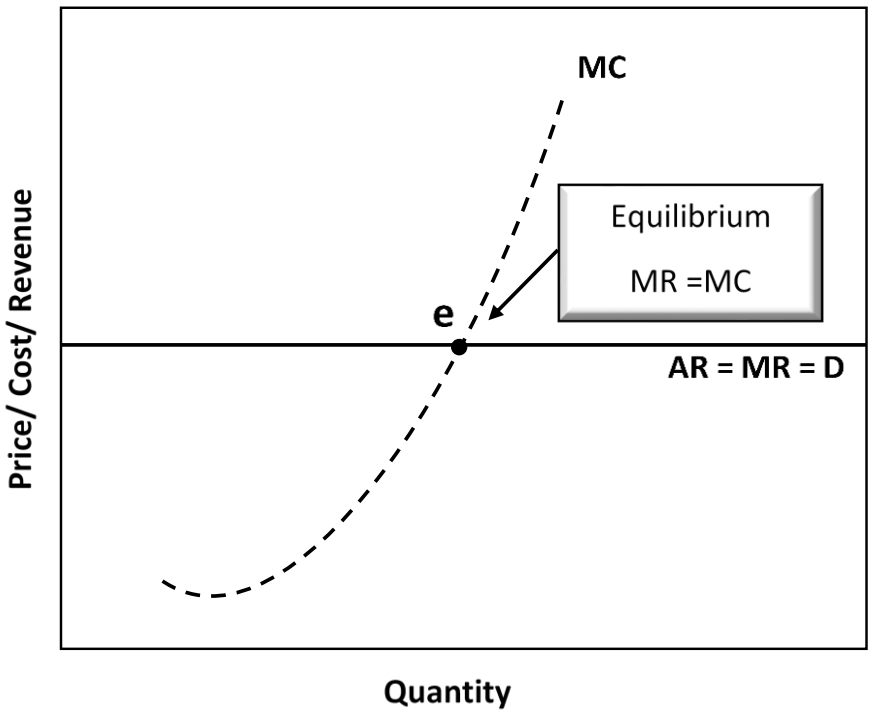
DERIVATION OF SUPPLY CURVE FROM COST CURVES

- An individual businesses' MC curve and AVC curve determine its supply.
- The individual firm's supply curve is the upward-sloping portion of the MC curve that is above the AVC intersection.
- MC always intersects AVC at its lowest point.
- The reason for this is that an individual business will only produce when the price lies above the minimum point on the AVC curve (point S).
- If a business cannot cover its variable costs, it will shut down.



PROFIT MAXIMISATION

- An individual business in the perfect market will be in equilibrium when the marginal revenue (MR) is equal to the marginal cost (MC).
- When MR = MC the business will continue to produce on that level of output because this is where maximum profits can be made.



- **THE MARKET STRUCTURE**
- The term market structure refers to the main characteristics of the market in which individual businesses sell their products.
- The market structure takes into account different factors that determine how buyers and sellers interact with one another in the market.
- Market structures are classified as having perfect competition or imperfect competition.
- When there is perfect competition there are many buyers and sellers who are price-takers and who sell identical products.
- Imperfect competition exists when the conditions for perfect competition have not been met.

OUTPUT, PROFITS, LOSSES AND SUPPLY

OUTPUT

- Output refers to the quantity of units produced.
- The amount of revenue earned by the business increases with each additional unit produced, but so do the costs.
- The business will decide on an output level where they can maximise their revenue, but also minimise their costs.

Output decisions of the Individual business

- In a perfectly competitive market, the objective of the firm is not only to make some profit, but to maximise its profits.

- The demand curve for the individual producer is a horizontal line at the level of the market price.
- Under conditions of perfect competition an individual business will take into account only the given market price and its own cost structure to determine his output.
- Since the individual producer is too small to influence the prices, it has to take the price as a given, and based on this price, decide the following:
  - Whether it should continue with its production or should consider closing down its operations.
  - If it decides to continue with its operations, how much it should produce in order to maximise its profits.

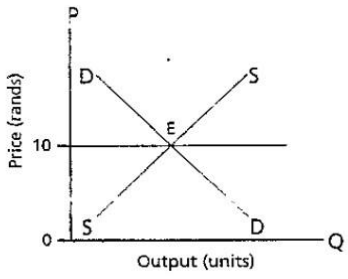
a) Short run - how much to produce?

- There are two ways in which the producer can answer this question.
  - The marginal revenue-marginal cost rule. o Produce the level of output where the positive difference between the total revenue and total cost is the greatest.

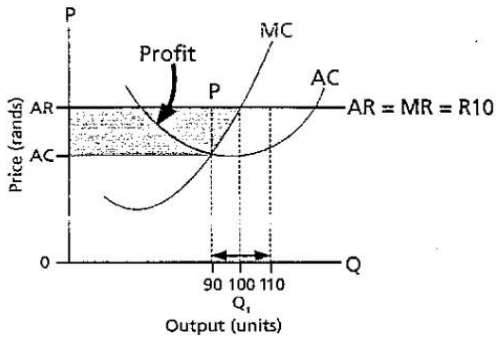
Marginal revenue-marginal cost rule

- An individual business is a passive price taker – it cannot influence the price, it can only adjust its output to the changes in market conditions.
- The individual business will always maximise profits at the level of output that is determined by the point of intersection of MC and MR.
- The demand curve is a horizontal line at the level of the market price. NB: D = AR = MR; In the graph below, the market price is R10.
- The point e represents equilibrium (profit maximisation point) – the point where MC and MR intersects. The equilibrium quantity at this point is 100.

The industry:



The individual producer:



- **Marginal cost** is the addition to the total cost required to produce one additional unit of output.
- **Marginal revenue** is the addition/al income received from selling one additional unit

- To the left of point e (for example at an output of 90 units), MR > MC (MR curve is above the MC curve). The added benefit of producing an extra unit is more than the added cost of producing it, and the business can increase profits by producing more.

- To the right of point e (for example at an output of 110 units), MC > MR (MC curve is above the MR curve). The added benefit of producing an extra unit is less than the added cost of producing it, so the business does not benefit from producing more.
- If the individual business is getting maximum profits, there is no need to change the levels of output.

Profit maximising rule: **MR = MC**

Total revenue-total cost approach

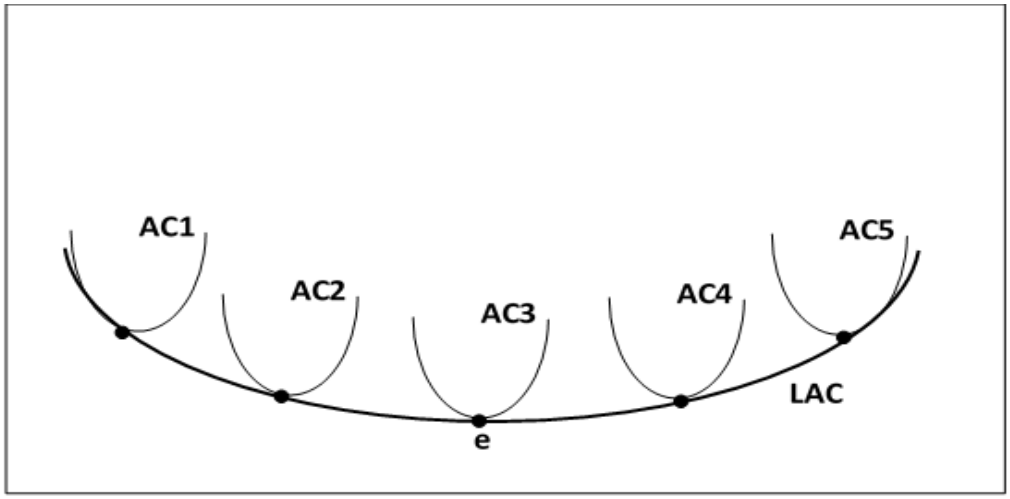
According to this approach, the firm should expand its production until it reaches the point where the positive difference between total revenue and total cost is at its maximum.

Q	P	TR	TC	Profit/Loss TR-TC
0	5	0	1	-1
1	5	5	3	2
2	5	10	6	4
3	5	15	10	5
4	5	20	15	5
5	5	25	21	4
6	5	30	28	2

Profits are maximised when the positive difference between revenue and cost is at its maximum. This occurs at an output of four units.

Long run - how much to produce?

- In the long run all inputs are variable. There are no fixed costs – all costs are variable.
- Individual businesses can change the size of the factory, hire more workers, add extra production lines etc.
- The industry might also either expand or shrink because new businesses will enter, or existing ones will leave the industry.
- If an entrepreneur starts on small scale and expand over time, the average costs will initially decrease because large scale production will reduce unit costs due to specialisation and improved technology (economies of scale).
- A business can also become too large and clumsy and reach a stage where further expansion will result in higher unit costs. This is called diseconomies of scale.



- In the graph above AC 1 represents the short-run average cost for the smallest factory and AC 5 the biggest factory.
- The building of a factory bigger than AC 1 will decrease the average costs – this applies up to factory AC 3.
- Once we increase the factory size more than 3, the average costs starts to increase (minimum points of AC 4 and AC 5 lies above that of AC 3).
- The entrepreneur will not expand past factory 3.
- If we draw a curve around the outside of the short-term AC curves in such a way that it lies tangent with them, we get the long-run average cost (LAC).
- This LAC curve indicates the lowest cost per unit at which any output can be produced in the long run (point e).

The output of the Industry (market)

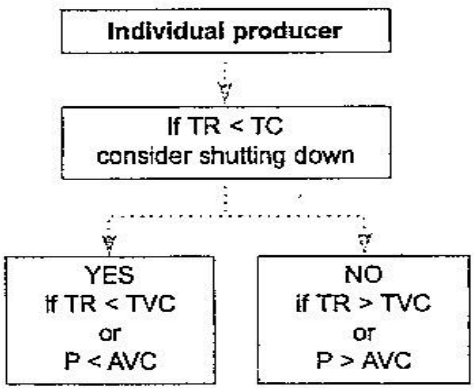
- The industry is at equilibrium at the point where quantity demanded is equal to quantity supplied.
- Businesses making economic profit will expand their factories in the long run and new businesses will be attracted to the industry by the economic profits made by existing firms (freedom of entry).
- Businesses making losses might close down in the long run (freedom of exit).
- When businesses are entering or leaving the industry, the result is an equilibrium in which all businesses are making normal profits.
- There will be no more businesses entering or leaving the industry.

Shut-down Rule

- When should a firm consider shutting down its production?
- The first warning light is when the total revenue (TR) is less than the total cost of production (TC). In this case the firm will make a loss and it should seriously consider whether it should continue with its operations.
- To understand why sometimes it would be in the interest of the firm to continue production even if it makes a loss, we need to look at the difference between fixed and variable costs:

Fixed costs (FC)	Variable costs (VC)
The costs that remain constant regardless of the level of output that is produced.	The costs that change with the level of output. As more of a good is produced
Even if there is no production, there will still be a fixed cost.	the level of variable costs will increase. If there is no production, VC will be 0.
As the firm increases production, the fixed costs do not increase – they remain the same.	These costs can be avoided if the firm shuts down its operations.
Examples are: maintenance of buildings, rent for the building etc.	Examples include: raw materials, electricity, water etc.
Are also known as sunk, unavoidable, overhead or indirect costs.	Also known as direct costs, prime costs or avoidable costs.

- As a rule, a firm should shut down its operations if TR is smaller than the TVC.
- The firm should continue producing if the TR is greater than the TVC. If it does so, it will minimise its losses.
- There is another way to describe the shut-down rule: By comparing the price with the AVC.
- AVC is the total variable cost divided by the quantity produced.
- As long as the price is higher than the AVC, it is in the interest of the firm to continue their production.
- If the price is lower than the average variable cost, the firm should shut down its business.

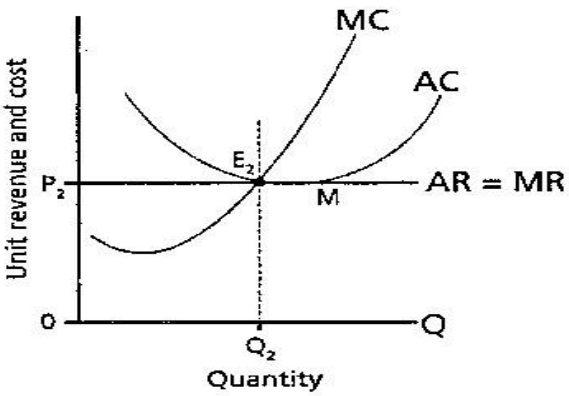


PROFIT

- Profit is the positive difference between revenue and costs.
- Whether the business makes a profit or loss depends on the location of the short-term AC curve in relation to the market price when the business is in equilibrium.
- We distinguish between normal and economic profit.
- In the short run individual businesses can make normal profit, economic profit or economic loss. In the long run the individual business can only make normal profit.

Normal profit

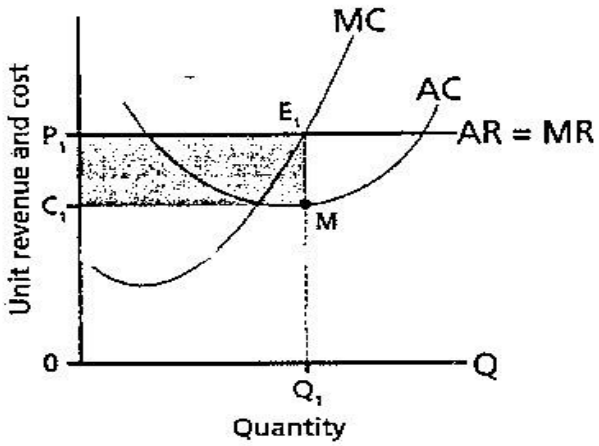
- Normal profit is the minimum earnings required to prevent the entrepreneur from leaving the business and applying his or her factors of production elsewhere.
- A business makes a normal profit when its revenue covers all of its costs (both explicit and implicit costs).
- Explicit costs are the actual expenditure of a business (wages, interest, cost of raw materials, rent).
- Implicit costs include an acceptable remuneration for the entrepreneur and the opportunity cost for his factors of production.
- When the AC curve lies **on top of** AR = MR = P, the business breaks even, and only normal profits are made.



Normal profit:
TR = TC
AR = AC

Economic profit (abnormal or supernormal profit)

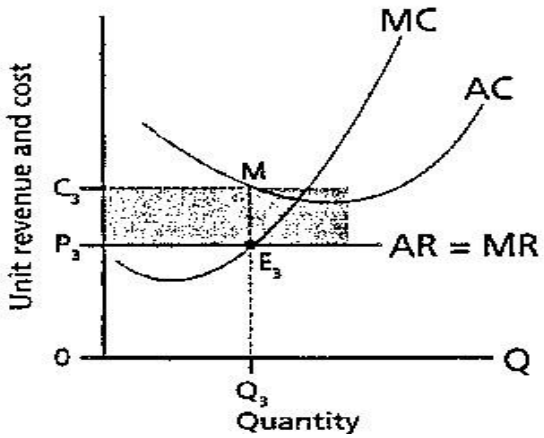
- Economic profit is profit that a business makes that is more than the normal profit.
- A business makes economic profit when its revenue is more than all of its costs (explicit and implicit costs).
- Economic profit is also called surplus, extra or excessive profits.
- When an entrepreneur receives economic profits, he actually receives more than necessary, because his remuneration is already included in the normal profit.
- Economic profits don't last long under perfect competition because these profits will attract more businesses into the industry.
- When the AC curve is **under** AR = MR = P, an **economic profit** is indicated by the shaded area.



Economic profit:
TR > TC
AR > AC

LOSSES

- If the market price falls below the average cost of the individual producer, he will make an economic loss.
- Whether or not a firm will continue producing depends on the level of average revenue (price) relative to the average variable cost of the firm.
- At any price lower than variable cost it will be in the best interest of the firm to shut down.
- Shutdown point occurs at the point where price is equal to average variable cost.
- It is only possible for a business to make a loss in the short run. In the long run, no firm will stay in the industry – there is freedom of exit – they will leave the industry to make an investment somewhere else.
- When the AC curve is **above** AR = MR = P, a **loss** is indicated by the shaded area.



Economic loss:
TR < TC
AR < AC

COMPETITION POLICIES

DESCRIPTION

Competition policies are measures taken by governments with the primary aim of improving the efficiency of markets.

- Markets can only operate efficiently if there is healthy competition.
- Competition refers to the existence of free entry and exit from markets. This will ensure that markets are free from domination by individual businesses or groups of businesses.

GOALS OF COMPETITION POLICY

- To improve the efficiency of markets through legislation.
- To promote healthy competition between businesses.
- To prevent unfair methods of achieving and exercising market power.
- To prevent the abuse of economic power by monopolies.
- To regulate the increase of market power by means of take-overs and mergers of large businesses.
- To prevent restrictive practises, especially price-fixing and collusion by oligopolies.
- To protect the consumer against unfair prices and inferior products.
- To contribute to South Africa's development objectives to ensure that all South Africans have equal opportunities to participate fairly in economic activities.
- To promote equity in the markets.

ANTI-MONOPOLY POLICY

After 1994 a strict anti-monopoly policy was adopted.

- This was introduced to promote competition policy in South Africa.
- The objectives of anti-monopoly policy are as follows:
  - To limit any restrictions on entry to an industry.
  - To give previously disadvantaged groups access to resources and economic power to promote economic transformation in the country. o To curb economic power of the big conglomerates in the South African economy to obtain a more equal distribution of income and wealth.
  - To make businesses more competitive so that they can gain access to the international markets.
  - To make our policies more compliant with international requirements.

COMPETITIONS ACT (ACT 89 OF 1998)

The purpose of the new Competitions Act is to promote and maintain competition in South Africa in order to achieve the following objectives:

- To promote efficiency, adaptability and development of the economy.
  o To provide consumers with competitive prices and product choices.
  o To create employment and increase the welfare of South Africans.

- To increase South Africa's participation in world markets. o To give small and medium businesses an equal opportunity to participate in the economy.
- To promote the spread of ownership and to increase ownership of historically disadvantaged people.
- To provide all South Africans an equal opportunity to participate fairly in the economy.

Three institutions were created in terms of the Act to achieve these objectives:

- Competition Commission
- Competition Tribunal
- Competition Appeals Court

The Competition Commission

- The commission is the investigation and enforcement agency.
- The functions of the Competition Commission include:
  - The investigation of anti-competitive conduct and restrictive practises.
  - The assessment of the impact of mergers and acquisitions on competition – mergers cannot take place without the consent of the Commission. When evaluating mergers, any matters relating to competition and efficiency, and public interest must be taken into account.
  - Monitoring competition levels and market transparency in the economy. o Identifying impediments to competition.
  - o Playing an advocacy role in addressing these impediments.
- The Commission is independent, but its decisions may be appealed to the Competition Tribunal and Appeals Court.
- The Commission's recommendations are submitted to the Tribunal, who can either accept or reject its recommendation.

The Competition Tribunal

The Tribunal is the adjudicative body, very much like a court.

- The head of the Tribunal is appointed by the President of South Africa.
- A minimum of 3 and maximum of 10 other members form part of the Tribunal.
- The main functions include:
  - Granting exemptions.
  - Authorising or prohibiting
  - Authorising or prohibiting large mergers.
  - Adjudicating on any conduct prohibited by the Act

The Competition Appeal Court

The Competitions Appeals court considers appeals against decisions of the Tribunal.

- Has similar status as the High Court in South Africa.
- Members of the court are appointed by the president of South Africa.

- At least 3 members of the Appeals Court must be judges of the High Court.
- Two other members must have suitable qualifications and experience in economics, law, commerce, industry, or public affairs.
- Functions:
  - It can review any decision of the Competition Tribunal.
  - It can confirm, amend, or set aside any decision or order that is subject to appeal or review by the Competition Tribunal.
  - May give judgement or make any order that is required.
  - Must also confirm any order by the Tribunal to separate the assets of parties that have merged in contravention of the Act.

SESSION 13: MICROECONOMICS – PERFECT MARKET-PART 2

SECTION A: TYPICAL EXAM QUESTIONS

PERFECT MARKETS

QUESTION 1: Section A – Short Questions

(Taken from various sources)

HINT: When answering Section A – short question, it is important not to rush but to read the questions carefully and to make sure you understand what the question is asking. Always remember one alternative is completely wrong, one is nearly correct, and one is totally correct. It is easy to eliminate the completely wrong answer, but if you do not read the question carefully the nearly correct answer will also appear correct. The answer will **NEVER** be two options. Only **ONE** option is correct. Your answer will immediately be marked incorrect if you write TWO options.

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number.

1.1.1 The short-run supply curve of the perfect competitor is that part of the MC curve which is above the … cost curve.

A total
B average total
C average variable
D marginal

1.1.2 Individual business will always produce where…

A MR=AR
B MR=MC
C MC=AC
D MC=AR

1.1.3 The demand curve of an individual business in a perfect market has a …slope

A Negative
B Positive
C Horizontal
D convex

1.1.4 In a perfectly competitive market, the demand curve is equal to…

A Average cost
B Price
C Total cost
D Variable cost

1.1.5 Profit maximization is achieved in a firm when…

A AC=AR
B AVC=AR
C TR>TC
D MR<MC

1.1.6 The term short-run refers to a period where…factors of production can change.

A Both variable and fixed
B Only variable
C Only fixed
D Floating

1.1.7 When perfect competitive businesses are in long-term equilibrium, they minimise…

A Profit
B Marginal cost
C Variable cost
D Average cost

1.1.8 Excessive profits where AR exceeds AC

A Supernormal profit
B Normal profit
C Economic loss
D Economic profit

1.1.9 No secret communication between sellers that enables them to negotiate favourable terms for themselves

A Information
B Collusion
C Barriers to entry
D Efficiency

1.1.10 The "perfect information" assumption of perfect competition includes all of the following except one. Which one?

A Consumers know their preferences
B Consumers know their income levels
C Consumers know the prices available
D Consumers can anticipate price changes

1.2 Choose a description from COLUMN B that matches the item in COLUMN A. Write only the letter (A – I) next to the question number (1.2.1 – 1.2.8) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A		COLUMN B	
1.2.1	Perfect competition	A	At all points where TC is above TR
1.2.2	Economic loss	B	International commodities is exchanged in this market
1.2.3	Individual producer	C	Long equilibrium is achieved when individual firms earn a normal profit
1.2.4	Competition Act	D	Additional unit of output which is produced as one more unit of the variable
1.2.5	Perfect market	E	Is a price taker and sells goods at the market price
1.2.6	Marginal product	F	Promote efficiency of the economy
		G	Shows the contribution that each labourer makes towards production

(8 × 1) (8)

1.3 Provide the economic term/concept for each of the following descriptions. Write only the term/concept next to the question number. **NO ABBREVIATIONS WILL BE ACCEPTED.**

1.3.1 Minimum profits that will prevent the business from leaving the market.

1.3.2 An institution whose main function is to review orders made by the competition tribunal and amends or confirm these orders

1.3.3 All the goods in this market structure must be identical

1.3.4 The minimum earnings required to prevent the entrepreneur from leaving the business

1.3.5 A point where a firm cannot meet its average or total variable cost.

1.3.6 Behaviour such as price fixing that benefits firms at the expense of buyers

1.3.7 The purchasing of a firm by more than one firm

1.3.8 When average revenue is between the shutdown point and break even.

SECTION B

QUESTION 2:

HINT: When the question requires you to "list" or "name", you need not write a sentence but merely one or two words. This MUST be done in bullet form. This types of questions are applicable for 2.1.1, 3.1.1 and 4.1.1

2.1.1	Name any TWO objectives of anti-monopoly policies.	(2x1)	2
2.1.2.	Give any TWO examples of variable costs of production.	(2x1)	2
2.1.3.	Name any TWO goals of competition policy.	(2x1)	2
2.1.4.	Name TWO actual shut-down point should take place.	(2x1)	2
2.1.5.	List any TWO profits associated with individual business.	(2x1)	2
2.1.6.	Name any TWO features of demand curve for an individual producer in a perfect market.	(2x1)	2

QUESTION 3: (Taken from various sources)

HINT: This types of questions are applicable for 2.1.2, 3.1.2 and 4.1.2

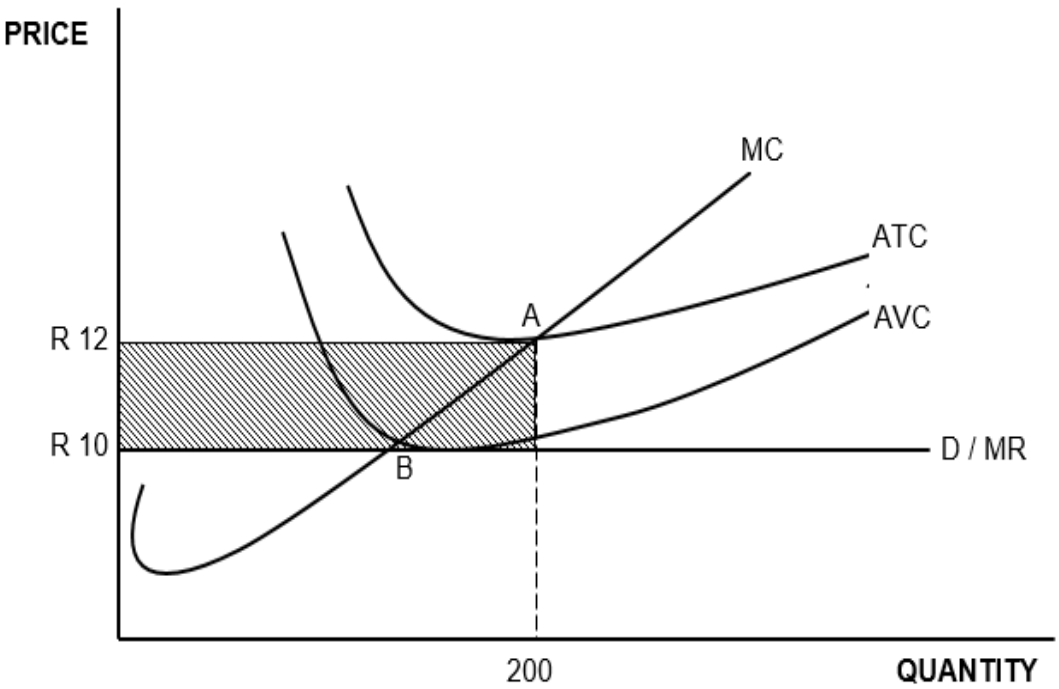
3.1.1.	How would perfect markets disadvantage consumers?	(1X2)	2
3.1.2.	Why are individual market participants in a perfect market insignificant to the market as a whole?	(1X2)	2
3.1.3.	How can economic profit increase in a perfect market?	(1X2)	2
3.1.4	How does the Competition Commission policy regulate competition in South Africa?	(1X2)	2

3.1.5 What is the relationship between short run and long run costs? (1X2) 2

Data Response

HINT: All section B questions have TWO data interpretation questions – each total 10 marks. Section B consist of Questions 2-4 not as numbered in this document

QUESTION 4:
Study the graph below and answer the questions that follow



4.1 Identify the shutdown point from the graph above. (1)

4.2 Mention ONE feature which shows that the above graph is of a single firm? (1)

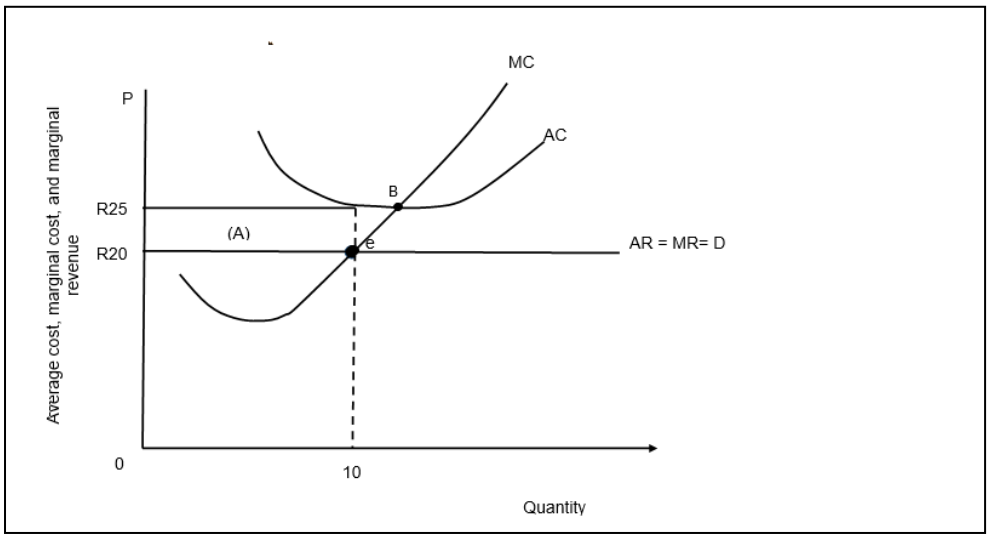
4.3 Briefly describe the term *marginal cost.* (2)

4.4 Explain the reason for a perfect market to make normal profit in the long run? (2)

4.5 Why is the rising part of the MC above point B is the supply curve? (2x2) (4)

QUESTION 5:

Study the graph below and answer the questions that follow.



5.1 Identify the market structure represented by the graph above. (1)

5.2 What is the area labelled (A) on the graph above called? (1)

5.3 Briefly describe the term *economic loss.* (2)

5.4 Why do businesses in the perfect market structure only make economic profits in the short term? (2)

5.5 Calculate the total economic loss by the business above. (SHOW ALL YOUR CALCULATIONS) (4)

QUESTION 6:

Study the extract below and answer the questions that follow.

COMPETITION COMMISSION RAIDS GLASS COMPANIES IN COLLUSION INVESTIGATION

The Competition Commission has begun an investigation into alleged collusive conduct involving Glasfit, PG Glass, Shatterprufe and Digicall. This is typical cartel behaviour. Shatterprufe allegedly supplied PG Glass and Glasfit with automotive glass, while Digi-call processed automotive glass-related insurance claims on behalf of PG Glass and Glasfit.

The investigation pertains to claims made by some independent glass fitment operations, alleging that PG Glass carried out collusive activities preventing competition in the automotive glass repair and fitment market.

[*Adapted from www.bdlive.co.za. June 2019]*

6.1	Name the institution that investigates anti-competitive behaviour of companies in South Africa.	(1)
6.2	Which anti-competitive conduct was investigated	(1)
6.3	Briefly describe the term *patent right*	(2)
6.4	What corrective measures can be instituted against companies if they were found guilty of collusion	(2)
6.5	How can the collusive behaviour of these glass companies affect the economy? (2X2)	(4)

QUESTION 7

Study the extract below and answer the questions that follow

GAUTENG ROADS AND TRANSPORT LAUNCHES SMART MOBILITY 2030 VISION

The Gauteng Department of Roads and Transport launched its vision towards growing the province's economy and change mobility patterns within the city region.
"We should improve capacity, firstly to move freight back to rail and secondly to use technology to manage the movement of trucks to the ports and back. The plan also highlights the need to build strong institutions that will support its implementation over the next 10 years," said Mamabolo.
Expanding the Road Network to connect new nodes and to improve efficiencies in the movement of people and goods. These new links should be equipped with intelligent transport systems, integrated into other systems forming smart city.

Source:https://www.gov.za/speeches/smart-mobility-2030-vision-27-oct-2020

7.1	In which market do we find "efficiencies in the movement of people and goods"	(1)
7.2	Name the product associated with market illustrated in the extract	(1)
7.3	Briefly describe the *equilibrium theory*	(2)
7.4	Why there is no transportation cost in perfect competition?	(2)
7.5	Explain the significance of the factors of production mobility? (2X2)	(4)

HINT: All section B questions have TWO 8 marks questions, numbered according to questions not like in this document.

QUESTION 8 — Paragraph type questions – Middle Cognitive

8.1	Explain the goals of the South African competition policy.	(4x2)	8
8.2.	Differentiate between the nature of the product and market entry as characteristics of perfect competition.	(4X2)	8
8.3	Discuss objectives to promote competition act in South Africa.	(4X2)	8
8.4	Discuss economic profit and economic loss of a firm in a perfect market.	(4X2)	8
8.5	Discuss long term equilibrium for the industry and the individual business.	(4X2)	8

QUESTION 9 **Paragraph type questions – Higher cognitive**

9.1	How can government achieve the objectives of the competition act of South Africa.	(4X2)	8
9.2	Examine the conditions under which perfect competition successfully operates.	(4X2)	8
9.3	Why it would be in the interest of the firm to continue production even if it makes a loss?	(4X2)	8
9.4	Explain the derivation of supply curve from cost curves.	(4X2)	8

SECTION C

HINT: All section C questions have TWO questions 5 & 6 NOT 9 & 10 like in this document. In the examination you will need to answer only one.

ESSAY STRUCTURE

HINT: Section C – the long question, must be answered in FOUR sections: Introduction (definition), Body (headings and full sentences in bullets) additional part and conclusion (summarising). The mark allocations for Section C is as follows:

STRUCTURE OF ESSAY:	MARK ALLOCATION:
Introduction The introduction is a lower-order response. • A good starting point would be to the main concept related to the question topic • Do not include any part of the question in your introduction. • Do not repeat any part of the introduction in the body • Avoid saying in the introduction what you are going to discuss in the body	Max 2
Body: **Main part:** Discuss in detail/ In-depth discussion/ Examine/ Critically discuss/ Analyse / Compare/ Distinguish/ Differentiate/ Explain/ Evaluate **Additional part:** Give own opinion/ Critically discuss/ Evaluate/ Critically evaluate/ Draw a graph and explain/ Use the graph given and explain/ Complete the given graph/ Calculate/ Deduce/ Compare/ Explain Distinguish / Interpret/ Briefly debate/ How/ Suggest	Max 26 Max 10
Conclusion Any Higher or conclusion include: • A brief summary of what has been discussed without repeating facts already mentioned in the body	Max 2

• Any opinion or value judgement on the facts discussed • Additional support information to strengthen the discussion/analysis • A contradictory viewpoint with motivation, if required Recommendations	
TOTAL	**40**

QUESTION 10

- Compare, without graphs, the market structure of a monopolistic competition with that of a perfect market focussing on the following:
- nature of the product (8)
- market information (8)
- price determination and demand curve (8) (26 marks)
- Evaluate the importance of the south African competition policy in the operation of marks. (10 marks)

QUESTION 11

- Discuss, with aid of a graph, the shutdown point of a firm under perfect market conditions (26 marks)
- Why is competition in the marketplace good for the economy? (10 marks)

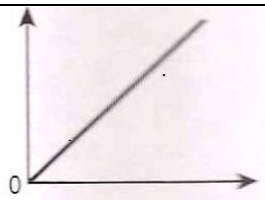
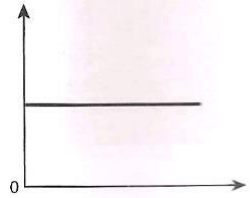
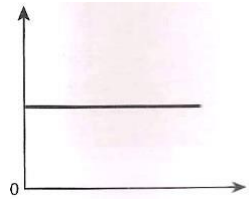
QUESTION 12

- Compare the market structure of monopolistic competition with that of a perfect competitor. (26 marks)
- With a well labelled graph, explain why the business will stop producing output at the shut-down point. (10 marks)

QUESTION 13

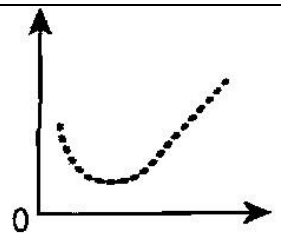
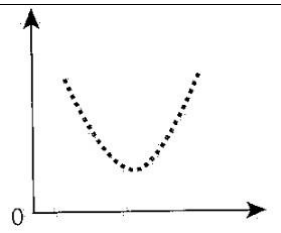
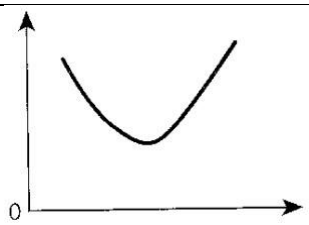
- Make use of graphs to discuss perfect competition under the following heading: a comparison of the demand curve of the individual producer and industry
- Explain why an individual business will not increase its price in a perfect market

SESSION 14:MICROECONOMICS- IMPERFECT MARKETS-MONOPOLY-PART 1

	DEFINITION	DESCRIPTION	CURVE
Total Revenue (TR)	The value of all the sales that have taken place. TR = P x Q	The TR curve is a straight line that sloped upward. It starts at the point of origin.	
	DEFINITION	**DESCRIPTION**	**CURVE**
Marginal Revenue (MR)	The additional income received from selling one additional unit. MR = ΔTR ÷ ΔQ	The MR curve is a horizontal line at the level of the market price.	
Average Revenue (AR)	The income received per unit. AR = TR ÷ Q	The AR curve is the same horizontal line as the MR curve at the market price.	

COST CURVES

	DEFINTION	DESCRIPTION	CURVE
Total cost (TC)	The cost of all units produced. Fixed costs (FC) are those costs that does not change when production changes. Variable costs (VC) are the costs that will change as production changes. TC = FC + VC	The TC curve slopes upwards and more sharply for the last quantities produced (stretched-out shape).	

Marginal cost (MC)	The additional cost involved in producing just one more unit. MC = ΔTC ÷ ΔQ	The MC curve first slopes sharply downwards and then gradually slopes upwards (Nike-sign).	
Average variable cost (AVC)	The average variable cost per unit of production. AVC = VC ÷ Q	The AVC curve has a U-shape (like a bowl).	
Average total cost (ATC)	The average cost per unit of production. ATC = TC ÷ Q	The ATC curve also has a U-shape (like a bowl). ATC is always above the AVC curve.	

Cost

- When we refer to cost, we include explicit and implicit costs.

Explicit costs:

- The actual expenditure of the business on the purchase or hire of the inputs needed in the production process.
- Includes wages, interest on borrowed capital, rent of buildings and expenditure on raw materials.

Implicit costs:

- The value of inputs that are owned by the entrepreneur and are used in the production process.
- The value of these self-employed inputs must be calculated based on the returns they could have earned in the best alternative application elsewhere (opportunity cost).

MONOPOLY

DEFINITION:

A monopoly exists when there is only one seller of a good or service for which there is no close substitutes and when barriers block entry into the market completely.

CHARACTERISTICS

There is only one seller

- There is no competition.
- One seller completely controls the supply of goods and services to the market.
- Because the monopolist is the only supplier of the product in the market, the demand curve that confronts the monopolist is that of the market as a whole.
- *For example:* De Beers is the only diamond seller and represents the total diamond industry.

The product is unique

- The consumer will have no choice in price, quality or supplier, as there are no close substitutes to choose from.
- The product or service will be unique in ways that go beyond brand identity and cannot easily be replaced by another product or service.
- The consumer can only buy from the monopoly or will have to go without the product.
- *For example:* Diamonds are unique.

Price makers

- The monopolist is regarded as a price maker, since it is able to influence the market price by changing the quantity it supplies to the market.
- A monopoly does not have control over demand, so demand will influence the final market price.
- Once a monopolist has decided on a price, the quantity sold is determined by market demand. By reducing the price, monopolists can sell more units of the product – he needs to decide at which point on the demand curve he wants to produce.

The monopoly can exploit consumers

- The monopoly produces fewer products at a higher price compared to businesses under perfect competition.
- Monopolists can ask higher prices because it has no competitors.
- However, governments generally take steps to guard against such practices.
- The Competition Commission keeps an eye on all monopolies.
- *For example:* De Beers can ask high prices for their diamonds, because it has no competitors.

Barriers to entry

- The reason why other producers are unable to supply the same product as the monopolist is that there are barriers to entry that prevent them from entering the product market.
- Examples of barriers are:

- Natural obstacles such as exclusive ownership of natural resources. *For example:* De Beers had the sole ownership of the diamond industry for years.
- Economies of scale give advantages to large existing businesses – small businesses cannot compete with bigger businesses because their production costs are higher. *For example:* Eskom is a large business that enjoys economies of scale. o High starting capital. *For example:* NASA (National Aeronautics and Space Administration) will not have any competitors in the same country.
- The geographical area can form a natural barrier. *For example:* only one resort can fit on the seafront of an exclusive beach.
- Licencing. *For example:* The SABC was given a licence that kept other broadcasters out of the South African market for a long time. Telkom was also the only company that was licensed by the South African government to supply fixed landline telecommunications.
- Patent rights give the patent holder the exclusive right to produce a product for as long as the patent is valid (up to 20 years). This protects the market of new inventions. *For example:* Xerox, Kreepy Krauly and IBM products had monopolies that existed due to patent rights.
- Limited size of the market – if the market is small, one producer might be able to satisfy the demand without room for a competitor. *For example:* there may only be one hardware store in a particularly small town.
- Legal restrictions – government gives exclusive rights to produce to a particular firm. *For example:* SABC had the sole right to broadcast over television and radio. Telkom had the sole right to provide telecommunication services.

Complete market information exists

- All buyers and the single seller have full knowledge of all the current market conditions.
- However, new firms wishing to enter the market will not have the same information available to them – this will hamper their ability to enter the market.

Supernormal profits (Economic profit)

- It is possible that a monopoly can make normal profits in the long run, but it is more likely that the massive market power and high prices will ensure that it makes an economic profit.
- The monopoly is also able to use its bargaining power ad superior knowledge of the market to reduce its production cost.

Economies of scale

- The size of the large monopoly gives it a cost advantage over a smaller competitor.
- It will be impossible for the smaller firm to compete.

Technical superiority

- Some monopolies have technological expertise that exceeds that of any existing or potential competitor.
- This can keep the monopolist in its position for a long time.

- *For example:* DStv has superior knowledge of the satellite TV market that would make it difficult for competitors to enter the market. Microsoft is the largest producer of computer technology and dominates the market with their Windows operating system.

TYPES OF MONOPOLIES

Natural monopoly

- Natural monopolies exist when one large business can supply the entire market at a lower price than two or more smaller ones.
- A natural monopoly is created if a single firm owns or controls a specific scarce resource – competitors are excluded from entering the market because the resources are unavailable to them.
- If a company has technical advantages over competitors, it makes it very difficult for them to enter the market.
- It is also sometimes difficult to compete against a well-established brand.
- High development costs can also make it difficult for new competitors to enter the market.
- Natural monopolies are often owned or regulated by the government.

Artificial monopoly

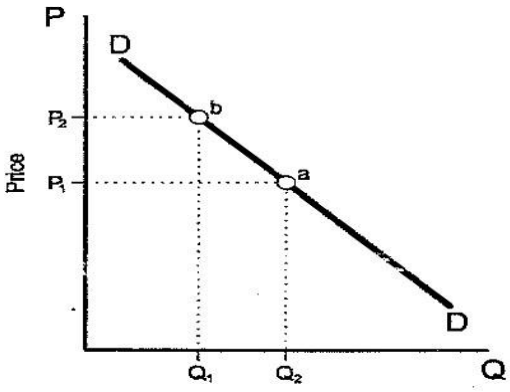
- The barriers to entry are not economic in nature.
- Legal restrictions such as laws made by the government that gives one firm the exclusive right to produce a particular product, for example the South African Post Office was given the sole right to handle mail.
- Patent, licences and copyright can also restrict market entry.
- Deliberate actions by the monopoly firms themselves – an aggressive advertising campaign can make it very difficult for rivals to be competitive.

INCOME

- Although the monopolist is a price maker, it does not mean that it can control both price and quantity, because it must still take the law of demand into account.
- The law of demand states that the higher the price, the lower the quantity demanded, and the lower the price, the higher the quantity demanded.
- What the monopolist does is to decide which price-quantity combination suits him the best.

The demand curve of the monopolist

- The monopolist's demand curve is downward sloping and is also the market demand curve since the monopolist is responsible for the entire output.
- In the graph below, the market demand is DD. The monopolist must choose which combination of price and quantity he wishes to deliver to the market.
- If he chooses combination (a), where the price is P1 and the quantity is Q2, it means that it cannot ask a price of P2 and still expect to sell a quantity of Q2.
- A monopolist therefore cannot set is sales and its price independently of each other.

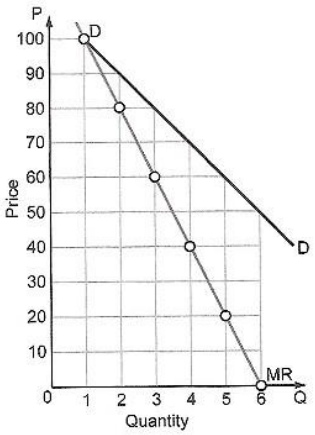


- The monopolist also wishes to maximise its profits and will choose that combination of price and quantity where this occurs.
- Note that the monopolist's demand curve is also his AR curve.

The marginal revenue curve for the monopolist

- Since a monopolist faces a downward sloping demand curve, the marginal revenue curve and the demand curve is not the same curve (as under perfect competition).
- Because the demand curve of the monopolist has a negative slope, it implies that if he wishes to increase his sales, he would have to decrease his prices.
- The marginal revenue will therefore be less than the price.
  Example:

P	Q	TR	MR
	0	0	0
100	1	100	100
90	2	180	80
80	3	240	60
70	4	280	40
60	5	300	20
50	6	300	0



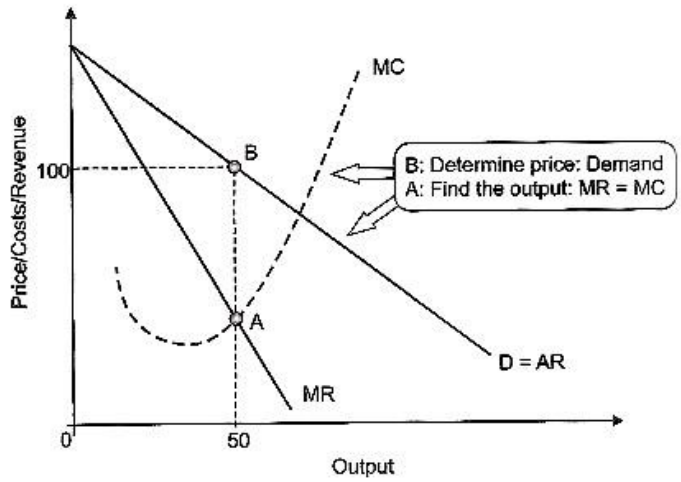
- If the price is R90, it sells 2 units and the total income is R180.
- The contribution the second unit makes to TR (i.e. the MR) is R80, which is less than the price.
- The MR of the 3rd unit is R60, which is also less than the price of R80.
- The reason for this is simple: when the monopolist drops his price, both the first and second customer pays the lower price. He gains the R90 from the second customer but loses the R10 from the first customer.

Three implications of a downward-sloping demand curve:

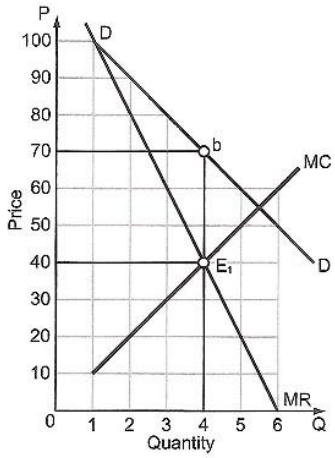
- The MR curve runs below the demand curve (AR curve), and shows that, with the exception of the first unit, MR is always lower than AR. The MR curve intersects the horizontal axis at a point that is exactly halfway between the origin and the point of intersection of the demand (AR) curve.
- The monopolist will have a pricing policy. The monopoly is the only supplier in the market, and with the downward-sloping demand curve, where each quantity supplied is associated with a unique price more units can be sold by reducing the price. The monopoly can therefore influence the price-quantity combination of its product.
- A monopoly will always try not to fix its price below the centre of the demand curve. The reason for this is that the total revenue will then start to decline because the price will be in the inelastic part of the demand curve and the point will be reached where MR becomes negative.

COST CURVES, OUPUT AND PRICE OF A MONOPOLY

- A monopoly has the same costs as a business under perfect competition, so the shapes of the cost curves will be the same as those of a business under perfect competition.
- A monopoly also wants to maximise its profits. It will be most profitable for a monopoly to produce at the output level where MC = MR. In the figure below, this will be at an output level of 50 units.
- After determining output, you can determine the price at which the monopoly can sell its products. His demand curve determines the price. In the graph below, at the profit maximising output of 50 units, move vertically upwards from point A to point B – the price that corresponds with the 50 units is R100. This is the price that the monopoly will charge for his products.



- In the figure below, the profit maximisation is where MC = MR = R40. This is indicated by point E1.



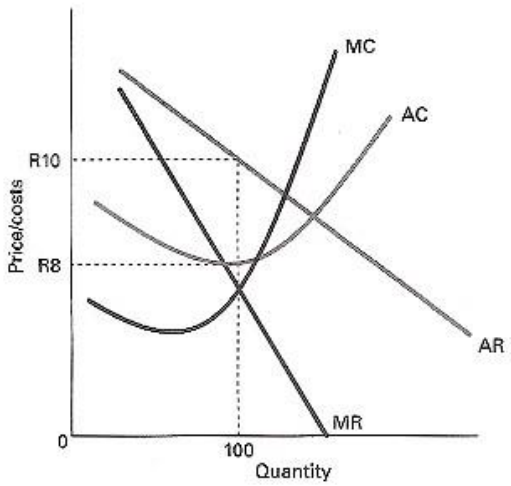
- At lower levels of output MR > MC. Each additional unit contributes more to revenue than it costs to produce that unit, so profits can be increased.
- At output levels higher than the 4 units, MR < MC. Each addition unit contributes less to revenue than it costs to produce, so profits will decline.

PROFITS AND LOSSES IN THE SHORT RUN

- The placement of the AC graph will determine whether the monopolist makes a normal profit, economic profit or economic loss:

Economic profit

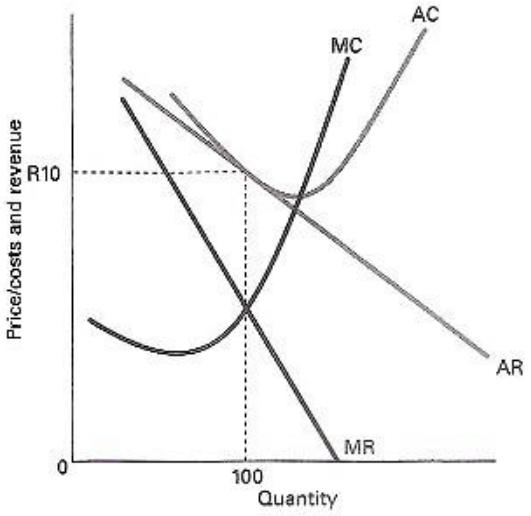
- If the AR exceeds the AC (or TR > TC), the firm will make an economic profit.
- When the AR curve is above the AC curve, an economic profit will be made:



- The economic profit is indicated by the shaded area on the graph.

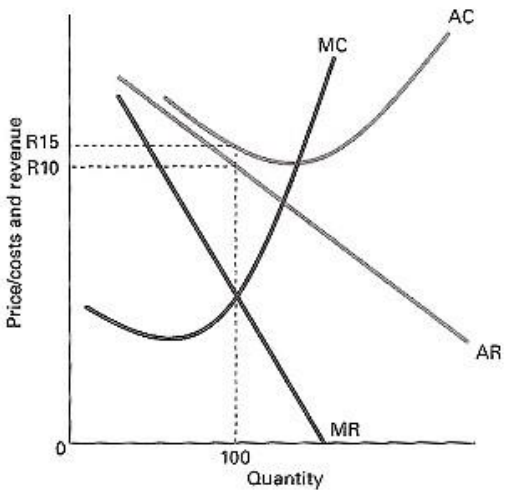
Normal profit

- The firm may experience low revenue if the product is unpopular or high costs if production is inefficient or badly organised.
- If the AC equals AR (or TC = TR), the firm will make a normal profit.
- When the AC curve is tangent with the AR curve, a normal profit will be made.



Economic loss

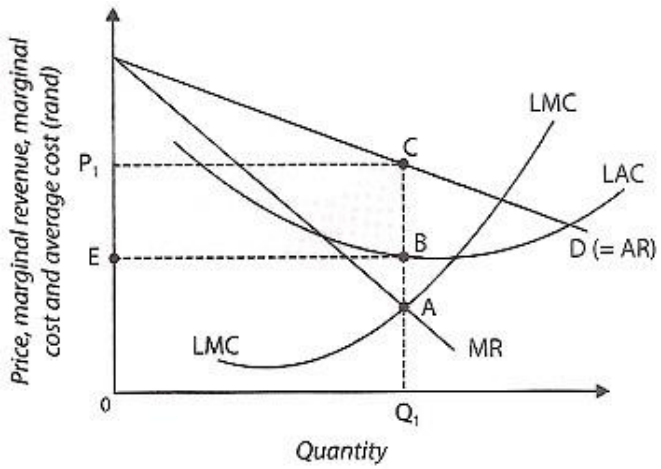
- Some people argue that because the monopolist is the only supplier, it will always make an economic profit. However, his profitability depends on the demand for the product as well as the cost of production.
- The monopolist can produce at a level of output where revenues are too low or where costs are too high.
- If the AC exceeds the AR (or TC > TR), the firm will make an economic loss.
- When the AC curve is above the AR curve, an economic loss will be made.



- The economic loss is indicated by the shaded area on the graph.

LONG-RUN EQUILIBRIUM AND ECONOMIC PROFIT

- The monopoly will continue to earn economic profit unless there is an increase in costs, a fall in demand or when a competitor enters the market.
- A monopoly can make economic profit in the short run as well as the long run. It blocks other businesses from entering the market so new entries into the market are not able to reduce is short-run economic profit.
- It will thrive on the lack of competition due to high barriers to entry.
- If the monopolist loses some of its demand due to changes in consumer tastes or economic climate and falling incomes, it will still make normal profits in the long run.
- In the long run, the monopoly will not make a loss.
- If the monopoly makes a loss in the short run, it will build a plant size that will create a profit, otherwise production will stop, and the business will close down.



COMPARISON WITH PERFECT COMPETITION

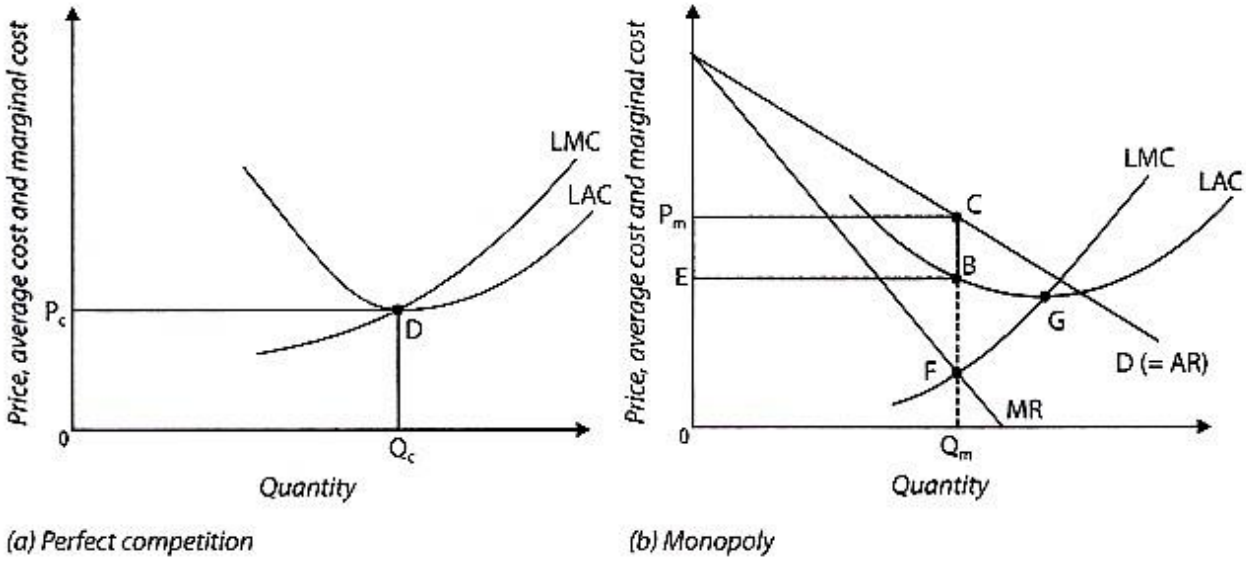
Assumptions

- We assume that we can add together all the data of all the businesses in a perfectly competitive market (merge them for the sake of analysis) but assume that their costs curves do not change.
- After merging all the data, the cost structure of the "new firm" is the same as that of the monopoly.
- The "new firm" retain all the characteristics of perfect competition and do not act like a monopoly.

Higher price, lower output

- When our newly established business is in long-run equilibrium under perfect competition, it will produce quantity Qc and sell it at price Pc.
- When the monopoly is in long-run equilibrium, it will produce quantity Qm and sell it at price Pm.
- With the same costs a monopoly will restrict its output and charge a higher price than a business under perfect competition. So a monopoly will produce less and ask a higher price in the long run.

- A monopoly does not produce at the lowest possible costs – at profit maximisation point, AC is not at its lowest. So the monopoly is less efficient at allocating resources.
- The perfect market is both productively and allocatively efficient when it maximises profit. Productive efficiency means that goods are produced at the lowest possible cost. This is achieved because AC is at its lowest when profits are maximised. Allocative efficiency is achieved because price is equal to marginal cost.

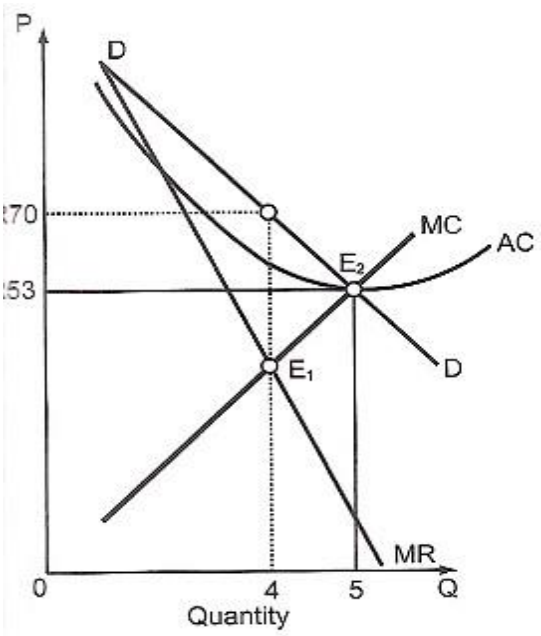


(a) Perfect competition (b) Monopoly

Economic profit

- Under perfect competition, only normal profit will be made in the long run. The monopolist, on the other hand, can make economic profit in both the short and long run.
- In the graph, the perfect competitor makes only normal profits at profit maximisation point (point D) as AC = AR.
- The monopolist makes economic profit at profit maximisation point (point F) – economic profit indicated by shaded area.
- When we compare the output, price and profit position of the monopolist with those of perfectly competitive businesses, we see that a monopolist can be regarded as inefficient.
- The monopolist charges a high price, supplies a lower quantity and earns an economic profit.
- Under perfect competition, when economic profits earned the entry of new firms will cause competition to increase and economic profits will disappear in the long run.
- In the case of a monopolist there are barriers to entry which protect him from competition.
- This enables him to continue earning economic profits in the long run. A change in profits will only come if there are changes in the demand for the product or if the

production cost changes. If we do the comparison on one graph, it will look as follows:



- Curve D represents the market demand curve for the monopolist and also the market demand curve for the industry in a perfectly competitive market.
- Curve D=AR=MR represents the demand curve, average revenue curve and marginal revenue curve for the individual producer under perfect competition.
- The MC curve represents the marginal cost for the monopolist as well as the individual producer under perfect competition.
- The MR curve represents the marginal revenue for the monopolist.
- The perfect market:
    - Prices are formed by the interaction between market demand market supply (supply = upward sloping section of MC).
    - Market price is R53.
    - Individual producer's demand curve is horizontal at the price level.
    - o Profits are maximised at point E2 where MC = MR.
    - The profit maximising output is 5 units.
    - Individual producer is making normal profits because at E2 AC = AR.
- The monopolist:
    - Profit maximisation is at point E1 where MC = MR.
    - The price is R70 and profit maximising output is 4 units.
    - Monopolist charges a higher price and supplies a smaller quantity than perfect competitor.
    - Monopolist makes an economic profit because AR > AC.

SESSION 15: MONOPOLY- PART 2

SECTION A: TYPICAL EXAM QUESTIONS

MONOPOLIES

QUESTION 1: Section A – Short Questions

(Taken from various sources)

HINT: When answering Section A – short question, it is important not to rush but to read the questions carefully and to make sure you understand what the question is asking. Always remember one alternative is completely wrong, one is nearly correct, and one is totally correct. It is easy to eliminate the completely wrong answer, but if you do not read the question carefully the nearly correct answer will also appear correct. The answer will **NEVER** be two options. Only **ONE** option is correct. Your answer will immediately be marked incorrect if you write TWO options.

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number.

1.1.1 Although a monopoly can charge any price it wishes, it chooses

A The highest price
B The price equal to marginal cost
C The price that maximizes profit
D Competitive prices

1.1.2 Which of the following is not a barrier to entry for new firms seeking entry into an industry in which there is currently a monopoly?

A Supernormal profits
B Economies of scale
C Branding
D An industry regulatory body

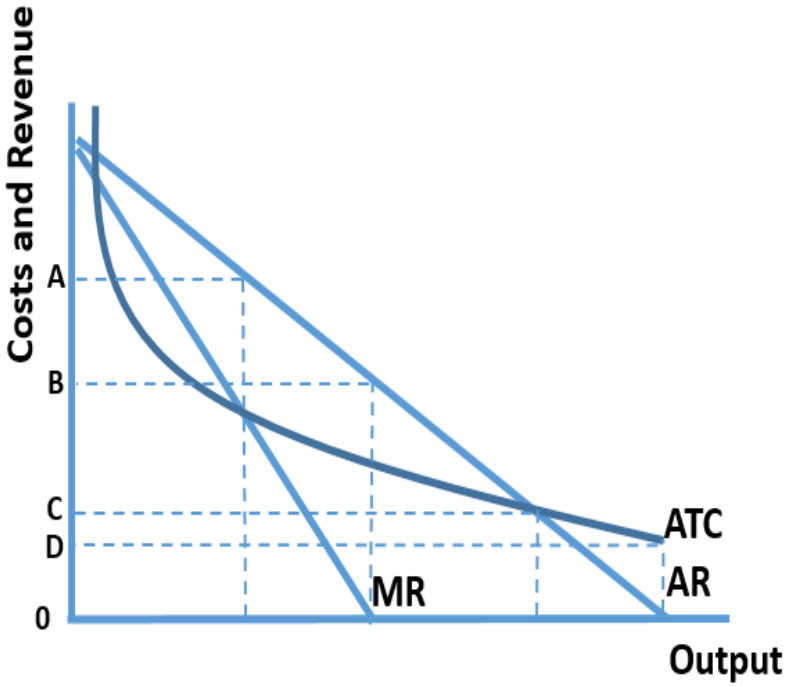
1.1.3 A natural monopoly is most likely to exist when

A There are extremely large economies of scale
B There are large barriers to entry
C There is government regulation of the industry
D There are long term patents in an industry

1.1.4 Which ONE of the following will be the result of the large economies of scale enjoyed by those involved in the production of gas and electricity?

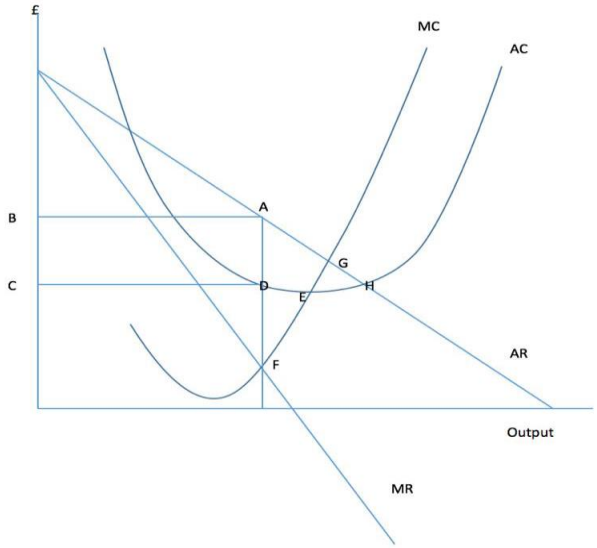
A Upward sloping long run average cost curve
B Flat long run average cost curve
C Downward sloping long run average cost curve
D "U" shaped long run average cost curve

1.1.5 The diagram below shows a profit-maximising monopolist's cost and revenue curves; the firm only incurs fixed costs of production and no variable costs. The price set by firm will be…



A OA
B OB
C OC
D OD

1.1.6 Which area shows the welfare loss caused by this business, relative to a firm operating at the welfare maximising level of output?



A ABCD
B ADH
C AFG
D ADEG

1.1.7 A pure monopoly is unlikely to achieve allocative efficiency because …

A equilibrium price is not equal to marginal cost.
B equilibrium profit is not equal to normal profit.
C equilibrium cost is rising due to diseconomies of scale.
D equilibrium output is not at the lowest point of the AC curve.

1.1.8 Monopoly is faced with a

A Horizontal DD curve
B Downward sloping DD curve
C Kinked demand curve
D Vertical DD curve

1.2 Choose a description from COLUMN B that matches the item in COLUMN A. Write only the letter (A – I) next to the question number (1.2.1 – 1.2.8) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A	COLUMN B
1.2.1 Nature of product	A Legal right of a holder to exclusively manufacture a product
1.2.2 Artificial monopoly	B One business in the market will control the supply of goods and services
1.2.3 Competition	C No close substitutes
1.2.4 Monopoly	D Electricity in South Africa is provided by the government enterprise
	E Faces a downward sloping demand curve
1.2.5 Sunk costs	F Reduction in economic welfare caused by a reduction in both consumer and producer surplus
1.2.6 Dead weight loss	G Cannot be recovered should the firm leave the market

(6 × 1) (6)

1.3 Provide the economic term/concept for each of the following descriptions. Write only the term/concept next to the question number. **NO ABBREVIATIONS WILL BE ACCEPTED.**

1.3.1 A form of legal protection to prevent copying, for commercial purposes, original works of authorship, including books and music.

1.3.2 Economic conditions in the industry, for example, economies of scale or control of a critical resource, that limit effective competition.

1.3.3 A government rule that gives the inventor the exclusive legal right to make, use, or sell the invention for a limited time.

1.3.4 When an existing firm uses sharp but temporary price cuts to discourage new competition.

1.3.5 Removing government controls over setting prices and quantities in certain industries.

1.3.6 Market forces that prevent potential competitors from entering a market.

SECTION B

QUESTION 2:

HINT: When the question requires you to "list" or "name", you need not write a sentence but merely one or two words. This MUST be done in bullet form. This types of questions are applicable for 2.1.1, 3.1.1 and 4.1.1

2.1.1	Name TWO main groups of monopolies.	(2X1)	2
2.1.2	List any TWO characteristics of monopolies.	(2X1)	2
2.1.3	Name any TWO barriers to entry of monopolies.	(2X1)	2
2.1.4	Give any TWO examples of variable cost of production.	(2X1)	2
2.1.5	Name any TWO examples of monopoly in South Africa.	(2X1)	2

QUESTION 3: (Taken from various sources)

HINT: This types of questions are applicable for 2.1.2, 3.1.2 and 4.1.2

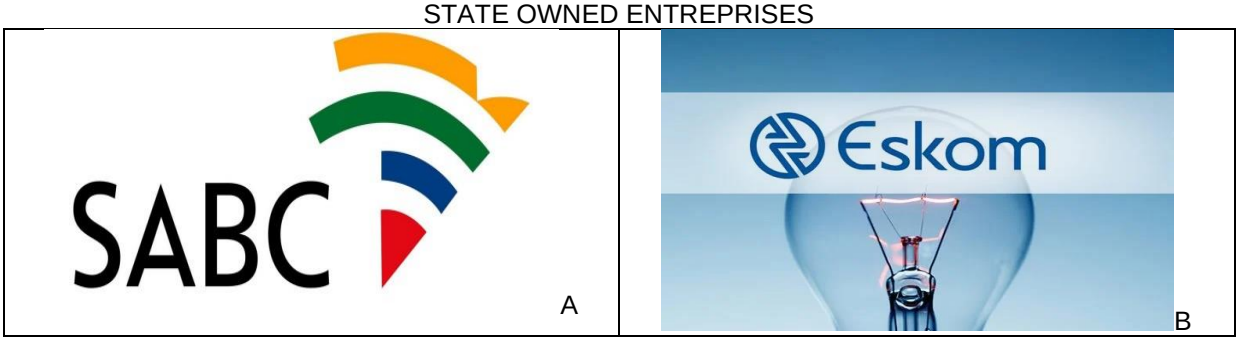
3.1.1	How do monopolies affect consumers?	(1X2)	2
3.1.2	Why are generic pharmaceuticals significantly cheaper than name brand one's economics?	(1X2)	2
3.1.3	Why the AR and MR curves are two different curves.	(1x2)	2
3.1.4	What determines the optimum production level in a monopoly market?	(1x2)	2
3.1.5	How does profit maximisation occur?	(1x2)	2

Data Response

HINT: All section B questions have TWO data interpretation questions – each total 10 marks. Section B consist of Questions 2-4 not as numbered in this document

QUESTION 4:
Study the pictures below and answer the questions that follow

STATE OWNED ENTREPRISES



[Adapted from www.google.com]

4.1 Which market structure is illustrated above (1)

4.2 Name ONE non-price competition which SABC use to generate revenue. (1)

4.3 Briefly describe the term *price maker.* (2)

4.4 Why state-owned enterprises above are inefficient (2)

4.5 Differentiate characteristic A and B of the market illustrated above (2x2) (4)

QUESTION 5:

Study the table below and answer the questions that follow.

TOTAL REVENUE AND MARGINAL REVENUE TABLE IN AN IMPERFECT MARKET

QUANTITY	TR	MR
0	0	-
1	10	10
2	18	8
3	24	6
4	28	4
5	30	2
6	30	0
7	28	-2
8	24	-4
9	18	-6
10	10	-8

5.1 Give formula for calculating total revenue (1)

5.2 At which level of output is the firm maximizing revenue? (1)

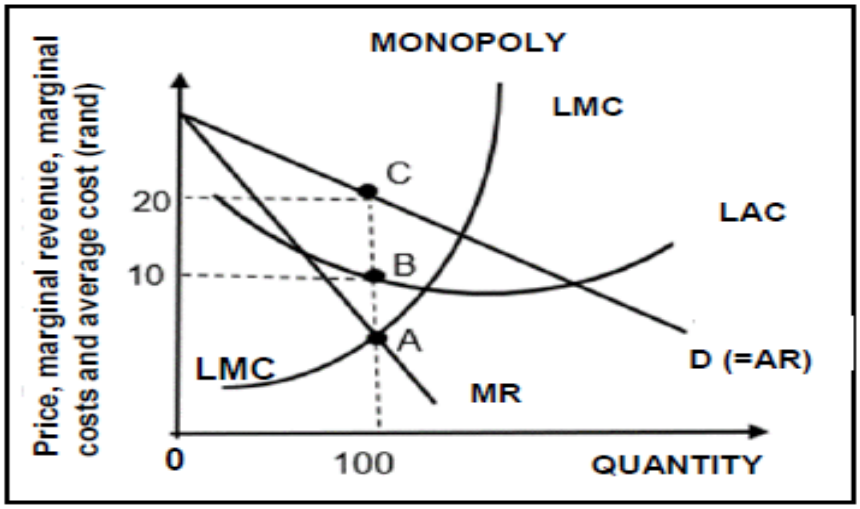
5.3 Briefly describe the term *marginal revenue.* (2)

5.4 Explain how monopolists determine the production level (2)

5.5 Use the information above and calculate average revenue for unit 3. (2X2) (4)

QUESTION 6:

Study the graph below and answer the questions that follow.



[Source: Clever Grade 12]

6.1	Identify the market price of the monopoly depicted above.		(1)
6.2	Name ONE characteristic of marginal revenue.		(1)
6.3	Briefly describe the term *price discrimination*		(2)
6.4	How can monopolies advance technology?		(2)
6.5	Why does the graph above depict a profit situation?	(2X2)	(4)

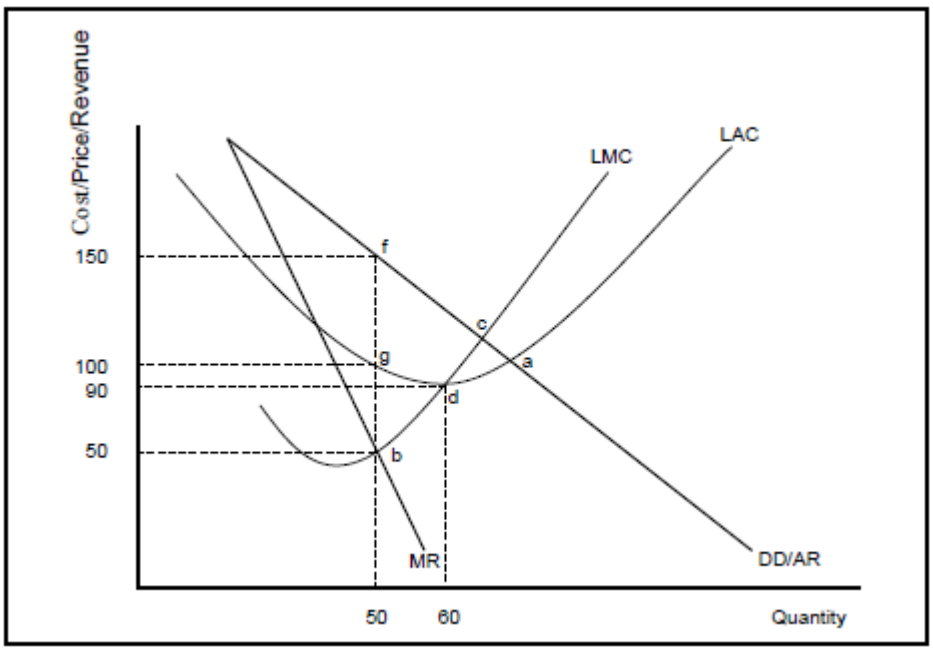
QUESTION 7

Study the cartoon below and answer the questions that follow

7.1	Which commission was established to ensure that the level of competition in the economy is not eroded but enhanced?	(1)
7.2	Mention any ONE advantage of competition	(1)
7.3	Briefly describe the term *monopoly*	(2)
7.4	Why are the monopolists, being the only suppliers of their products not always making an economic profit?	(2)
7.5	What economic benefits would the destruction of the anti-competition practices have on the entire economy? (2X2)	(4)

QUESTION 8

Study the graph below and answer the questions that follow.



8.1	Identify the quantity where the optimum production level will take place	(1)
8.2	What type of market is illustrated above?	(1)
8.3	Briefly describe the term *natural monopoly*	(2)
8.4	Explain why the marginal revenue (MR) curve will always lie below the demand curve (DD) in this type of market.	(2)
8.5	Calculate the profit or loss of this market. Show ALL calculations. (2x2)	(4)

HINT: All section B questions have TWO 8 marks questions, numbered according to questions not like in this document.

QUESTION 9 **Paragraph type questions – Middle Cognitive**

9.1	Illustrate with aid of diagram why Average Cost Curve is "U" Shaped?	(4X2)	8
9.2	Explain revenues of monopoly.	(4X2)	8
9.3	Distinguish short-run profits and long run equilibrium.	(4X2)	8

9.4	Discuss types of monopolies in South Africa.	(4X2)	8
9.5	Explain the long-run equilibrium position with the aid of a graph.	(4X2)	8
9.6	With aid of graph explain the marginal revenue curve of the monopoly.	(4X2)	8

QUESTION 10 Paragraph type questions – Higher cognitive

10.1	How is equilibrium under monopoly different from equilibrium under perfect competition.	(4X2)	8
10.2	How does inefficiency occur in a monopoly?	(4X2)	8
10.4	Evaluate the existence of natural monopoly in any economy	(4x2)	8
10.5	Analyse the impacts of economic loss of a monopoly	(4x2)	8

SECTION C

HINT: All section C questions have TWO questions 5 & 6 NOT 11 & 12 like in this document. In the examination you will need to answer only one.

ESSAY STRUCTURE

HINT: Section C – the long question, must be answered in FOUR sections: Introduction (definition), Body (headings and full sentences in bullets) additional part and conclusion (summarising). The mark allocations for Section C is as follows:

STRUCTURE OF ESSAY:	MARK ALLO-CATION:
Introduction The introduction is a lower-order response. • A good starting point would be to the main concept related to the question topic • Do not include any part of the question in your introduction. • Do not repeat any part of the introduction in the body • Avoid saying in the introduction what you are going to discuss in the body	Max 2
Body: **Main part:** Discuss in detail/ In-depth discussion/ Examine/ Critically discuss/ Analyse / Compare/ Distinguish/ Differentiate/ Explain/ Evaluate **Additional part:** Give own opinion/ Critically discuss/ Evaluate/ Critically evaluate/ Draw a graph and explain/ Use the graph given and explain/ Complete the given graph/ Calculate/ Deduce/ Compare/ Explain Distinguish / Interpret/ Briefly debate/ How/ Suggest	Max 26 Max 10
Conclusion Any Higher or conclusion include: • A brief summary of what has been discussed without repeating facts already mentioned in the body • Any opinion or value judgement on the facts discussed • Additional support information to strengthen the discussion/analysis • A contradictory viewpoint with motivation, if required Recommendations	Max 2
TOTAL	**40**

QUESTION 11 (NOV 2019)

- With the aid of graphs discuss how economic profit and economic loss are made determined in a monopoly market (26 Marks)
- Why does the performance of natural monopolies contradict (deny) the long run equilibrium position of a monopoly? (10 marks)

[40]

SESSION 16:- MICROECONOMICS -IMPRFECT MARKET- OLIGOPOLY(PART 1)

DEFINITION

- An oligopoly is a market structure in which a few sellers dominate the market. Each seller influences the others and also considers them in his decision making.
- When there are only two businesses in an oligopoly market, it is known as a duopoly.
- Worldwide, an oligopoly is the most common market structure of modern economics.
- Examples of oligopolists are found in the oil industry, steel and cement industries, the cell phone industry, the car industry, the bread and milk industries, the washing powder industry and the fertiliser industry.
- An oligopoly exists when the top five firms account for more than 60 % of the demand and sales in the total market.

CHARACTERISTICS OF AN OLIGOPOLY

Limited competition

- Only a few large sellers of the same product dominate the market.
- Usually there are a few big firms that dominate the market plus a number of smaller firms, which together produce a small percentage of the total output.

Interactivity (interdependence)

- Each seller is influenced by the actions of other sellers.
- Decisions of one seller will influence the decisions that other sellers make.
- The decisions regarding prices, quantities and marketing depends on what it thinks the other oligopolists in the market is going to do in response to his actions.
- Competitors may react in many different ways to a price reduction by a competitor – it is impossible to formulate a single theory for price and production decisions.
- The general behaviour of oligopolists cannot be predicted with certainty.

Oligopolies can control prices

- Each business has considerable control over prices, especially when they get involved in joint decision-making.
- This will result in abnormally high prices and profits.
- Oligopolies are characterised by price rigidity because if one firm decreases his prices, competitors will also decrease theirs. A price decrease by one firm can initiate a price-war.

The nature of the product

- Products can be homogeneous or differentiated.
- Examples of homogeneous products in an oligopoly are the oil, petrol or bread industry.
- If products are homogeneous the market is known as a pure oligopoly.
- In a pure oligopoly industry produce intermediate goods that are used by other, different industries later on for manufacturing their products.

- Products can also be differentiated, such as the car and cell phone industry.
- If products are differentiated, it is known as a differentiated oligopoly.
- In a differentiated oligopoly, the goods manufactured are for personal consumption. Consumers need a variety of goods, as they have different preferences.
- Whether products are differentiated or homogeneous, they will be substitutes for each other.

Difficult entry

- Barriers to entry can be natural or artificial.
- New sellers can have difficulty entering the market because of natural barriers to entry such as economies of scale that the few large existing firms enjoy.
- There might also be large capital requirements to enter the industry.
- An important barrier is also consumer preferences for certain brands (e.g. Coca Cola).
- Therefore, entry into the market (and competition) is limited.
- Smaller firms can operate on the edges of the market, but their impact on prices and output will be limited.
- *Example*: In South Africa we have only three producers in the cell phone (service provider) industry. The reason is that the government has licensed only these three firms to operate in the market (artificial barrier) – it is impossible for others to enter the industry.

Buyers and sellers have incomplete information

- Neither buyers nor sellers have full knowledge of current market conditions.
- Oligopolists watch each other closely, but they don't always know how buyers and the competitors will react.
- Each firm tries to prevent his competitors from gaining knowledge of his production process – its new products and any results of new research resulting in new product development.

NON-PRICE COMPETITION

- Oligopolists try to avoid using prices to compete – therefore prices are relatively stable under an oligopoly.
- The reason for this is that there is enough competition from other firms and if prices are increased, the firm will lose market share.
- However, if the firm decreases his prices, it will immediately be copied by competitors. This can result in a price war and lower profits for all firms.
- Non-price competition can take the following forms:
    - Product development: new products with unique characteristics and variations in quality are introduced to attract new customers.
    - Advertising: firms spend lots of money to establish brand loyalty with existing customers and to attract new customers using media, special offers, publicity stunts and discounts.
    - Loyalty schemes: getting customers to sign up for loyalty cards encourages buyers to shop in one place. This creates a relatively inelastic demand as substitutes are basically eliminated.

- Product proliferation: each firm produces a range of products to cater for as many different tastes as possible. Car manufacturers produce a range of vehicles from small hatchbacks to SUV's and 4 x 4's.
- Packaging: if one product has a more inviting packaging than the other, consumers tend to buy it.
- Branding: when a product or business is given a particular image which is appealing to consumers. This image includes a visual identity and values, attitudes and behaviours. For example, certain brands of cars are known to be for wealthier people and other brands for the working class. Branding is used to appeal to a certain kind of customer.
- Other forms of non-competition include:
  - ✦ Free deliveries and installation;
  - ✦ Extended warranties for consumers and credit facilities;
  - ✦ Longer trading hours (for example trading on a Sunday);
  - ✦ Extensive after-sales services;
  - ✦ Doing business over the internet;
  - ✦ Offering additional services (for example free travel insurance offered by banks);

- In general, non-price competition raises the cost of production and makes it more expensive for new firms to enter the market. It acts as barrier to entry. For example: If you want to enter the car manufacturing industry:
  - You would have to produce a range of cars to compete in each of the sub-markets (niche markets);
  - Your cars would have to be different from all the other cars that are currently on the market;
  - You would have to advertise extensively to bring it to the attention of the consumers and to convince them to switch to your brand;
  - You would have to have huge amounts of money to do all of this; o Your product might be rejected by consumers anyway!

Price discrimination occurs when a seller charges different prices for the same product for different groups of people.
Examples: different prices for movie tickets for adults, children and pensioners.

COLLUSION

- No business in an oligopoly can ever be sure about the policy and behaviour of its competitors, which means that they function in a very uncertain environment.
- In an effort to eliminate this uncertainty, they often collude.

Collusion is an agreement between oligopolists in the same industry about the prices they are going to ask and the quantities they are going to sell.

- It takes place when rival firms cooperate by raising prices and by restricting production in order to maximise their profits.
- The disadvantage of collusion is that it hurts the poor who cannot afford the high prices.
- By collusion, oligopolists hope to achieve the same advantages as monopolists.
- Collusion can be explicit (open, overt) or implicit (hidden, tacit).

Explicit collusion (cartels)

- Explicit collusion is open and happens when oligopolies formally meet to decide on prices and production.
- Explicit collusion is usually illegal.
- The Competition Commission investigates and evaluates these restrictive business practices.
- When firms are found guilty, they will have to pay heavy penalties.
- Cartels are economically unstable because there is a great incentive for members not to stick to the agreement and sell more than the quotas set by the cartel.
- If the members of the cartel decide to increase their prices to make more profits, then one firm can expand his market share by keeping his price the same, or by decreasing it.

A **cartel** is an explicit collusion agreement whereby oligopolists work together to fix prices and determine market share, advertising strategies and product development.

For example: The Organisation of Petroleum Exporting Countries (OPEC)

Implicit collusion (price leadership)

- Implicit collusion is hidden and unspoken collusion amongst firms.
- It is when firms act together to determine the price and the output, but they do it in such a way that it is very difficult to prove that they have colluded.
- Price leadership is the most general form of implicit collusion.

Price leadership is when one firm makes price decisions on behalf of the whole group of oligopolies. The price leader is normally the largest business in the industry. Sometimes it is the business with the lowest production costs. Other firms will follow the price leader's signal.

For example: one business announces that it plans to increase its prices. It hopes that the competitors will see it as a signal to also increase their prices.

Collusion is the most successful under the following conditions:

- When only a small number of firms are involved, which makes communication more effective;
- If firms face more or less the same cost of production;
- If the product is homogeneous;
- If there are barriers to entry;
- If the government does not interfere;

PRICES AND PRODUCTION LEVELS

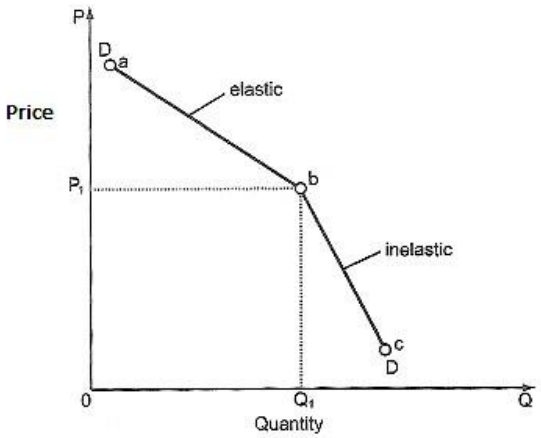
- Since there are many different forms of collusion between oligopolies, it is nearly impossible to predict how they will behave in terms of their pricing and production decisions.
- The outcome of their pricing and production decisions can be one of the following:

- Due to collaboration they determine the price and output levels in the same way as a monopolist does and earn an economic profit.
- They compete in terms of price and the outcome is the same as that for perfect competition.
- They collude in such a way that the price, output and profit levels are between those that apply in a monopoly and those that apply in a competitive market.
- Because it is difficult to build an economic model of collusion between firms, the outcome could be anything, so it is difficult to determine their behaviour.

- The exact price and production level of an oligopolist depends on what model of the market structure is being studied.

THE KINKED DEMAND CURVE

- Due to the interdependence between firms, an oligopolistic firm faces a kinked demand curve as shown below:



- The equilibrium price is P1.
- The kinked demand curve is based on the following:
  - When an oligopoly *increases* his price, its competitors do not follow. Consumers will rather buy from cheaper competitors. *
  - This will cause the demand curve to be relatively elastic because the percentage change in prices will cause a larger percentage change in the quantity demanded. *
  - On the graph above this is represented by the section of the demand curve between points (a) and (b).
  - When an oligopoly *decreases* his price, his competitors will all do the same. Any gains will quickly be lost. *
  - This will cause the demand curve to be relatively inelastic because the reduction in price will result in a smaller percentage change in quantity demanded.
- On the graph above this is represented by the section of the demand curve between points (b) and (c).

- The kinked demand curve contains two segments – one for higher prices that is elastic, and one for lower prices that is inelastic.
- An oligopoly has little to gain from reducing prices and much to lose from increasing prices.
- This is the reason why they are forced to keep their prices stable.

COMPARISON WITH PERFECT COMPETITION

Prices

- Prices are higher in an oligopoly than in perfect competition.
- Oligopolies have less competitors than perfect competition – since they can't compete with each other in terms of prices, they act jointly to determine price.
    - They always set a price that is higher than that in a perfect market.
    - Once the price has been set in the oligopoly, it is more stable than in perfect competition.
    - This is because the oligopoly is reluctant to change the price because it may initiate a price war.

Output

- The oligopoly produces a lower output than perfect competition. o
- It is difficult for a single firm to change its output because it does not know how other firms in the oligopoly will react.

Competition

- Firms in perfect markets compete with price, but an oligopoly depends on non-price competition.
- It uses methods such as advertising, product differentiation branding and after-sales service.
- It is better for the oligopoly to cooperate than to compete.

Profit

- An oligopoly enjoys higher profits than perfect competition.
    - The economic profit that the perfect market makes in the short-run attracts other businesses to enter the market in the long-run.
    - Whatever profit was made in the short-run is eliminated in the long-run.
    - The oligopoly maintains its economic profits in the long-run because it is difficult for new firms to enter the market.
    - The perfect market makes a normal profit in the long-run, but the oligopoly makes economic profit in the short- and long-run.
    - However, oligopolies use a large part of their profits for research and development in order to find better products and less expensive production methods.

- Efficiency o It is unlikely that an oligopolist will produce at the lowest point of the long-run average cost curve in the same way as producers under perfect competition do.
- The consumer therefore does not get the product at the lowest possible price.

- Perfect competitors are productively efficient when maximising their profits, but oligopolies are not.
- The price of the product in the oligopoly is higher than the marginal cost (P > MC), which means that the community attaches greater value to the additional unit than the resources required to produce it.
- This indicates an ineffective application of resources and a loss of welfare.

- For the perfect competitor, P = MC when profits are maximised.
- Perfect competitors are allocatively efficient, but oligopolists are not.

SESSION 17: OLIGOPOLY-PART 2

SECTION A: TYPICAL EXAM QUESTIONS

QUESTION 1: Section A – Short Questions

(Taken from various sources)

HINT: When answering Section A – short question, it is important not to rush but to read the questions carefully and to make sure you understand what the question is asking. Always remember one alternative is completely wrong, one is nearly correct, and one is totally correct. It is easy to eliminate the completely wrong answer, but if you do not read the question carefully the nearly correct answer will also appear correct. The answer will **NEVER** be two options. Only **ONE** option is correct. Your answer will immediately be marked incorrect if you write TWO options.

1.2 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number.

1.1.1 Kinked demand curve theory was devised by

A Philips
B Arthur Laffer
C Paul Sweezy
D Adam Smith

1.1.2 The market structure in which strategic considerations are most important

A Monopolistic competition
B Oligopoly
C Monopoly
D Pure competition

1.1.3 Which of the following is most likely to be oligopolistic

A The market for corn
B The market for colas
C The market for aluminium
D The market for ground coffee

1.1.4 The market structure in which there is interdependence among firms is

A Oligopoly
B Monopolistic competition
C Monopoly
D Perfect competition

1.1.5 The oligopoly model that predicts that oligopoly will tend to very rigid is the…model

A Cournot
B Stackelberg
C Dominant firm
D Kinked demand

1.1.6 Suppose that three oligopolistic firms are currently charging R12 for their product. The three firms are about the same size. Firm A decides to raise its price to R18, and announces to the press that it is doing so because higher prices are needed to restore economic vitality to the industry. Firms B and C go along with Firm A and raise their prices as well. This is an example of

A Price leadership
B Collusion
C The dominant firm model
D The Stackelberg model

1.1.7 In the dominant firm model, the smaller fringe firms behave like

A an increase in output level and a decrease in price
B a decrease in output level and an increase in price
C a decrease in output level and no change in price
D neither a change in output level nor a change in price

1.1.8 Which of the following is true about demand curve facing the dominant firm?

A It is identical to market demand
B It equals market demand minus fringe firms supply curve.
C It equals market demand minus demand facing the fringe
D firms
It is horizontal

1.2 Choose a description from COLUMN B that matches the item in COLUMN A. Write only the letter (A – I) next to the question number (1.2.1 – 1.2.8) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A		COLUMN B	
1.2.1	Priced leadership	A	Collusion that is open and oligopolies meet formally to decide on prices and production
1.2.2	Duopoly	B	A change in price causes a smaller percentage change in the quantity demanded
1.2.3	Inelastic demand	C	Two firms dominate the market
1.2.4	Explicit collusion	D	Doing business over the internet
1.2.5	Non price competition	E	One firm fixes the price and other accept as a market price

(5 × 1) (5)

1.3 Provide the economic term/concept for each of the following descriptions. Write only the term/concept next to the question number.

NO ABBREVIATIONS WILL BE ACCEPTED.

1.3.1 When there are only two oligopolies in the market

1.3.2 The market structure in which strategic considerations are imperative

1.3.3 The behaviour by firms is motivated by an arrangement that is not formal

1.3.4 The demand curve is not a straight line but has a different elasticity for higher and lower prices

SECTION B

QUESTION 2:

HINT: When the question requires you to "list" or "name", you need not write a sentence but merely one or two words. This MUST be done in bullet form. This types of questions are applicable for 2.1.1, 3.1.1 and 4.1.1

2.1.1	Name any TWO forms of non-price competition.	(2X1)	2
2.1.2	List any TWO well know cartels.	(2X1)	2
2.1.3	Name TWO segments of the kinked demand curve.	(2X1)	2
2.1.4	Name any TWO characteristics of oligopolies.	(2X1)	2
2.1.5	Name any TWO types of collusion.	(2X1)	2

QUESTION 3: (Taken from various sources)

HINT: This types of questions are applicable for 2.1.2, 3.1.2 and 4.1.2

3.1.1	How does the kinked demand curve explain price rigidity in oligopoly?	(1X2)	2
3.1.2	Why is it difficult to determine a unique demand curve under oligopoly?	(1X2)	2
3.1.3	Why is collusion desirable to oligopolistic firms.	(1X2)	2
3.1.4	How do firms compete in the oligopoly market?	(1X2)	2
3.1.5	What is the importance of after sale service?	(1X2)	2

Data Response

HINT: All section B questions have TWO data interpretation questions – each total 10 marks. Section B consist of Questions 2-4 not as numbered in this document

QUESTION 4:

*S*tudy the information below and answer the questions that follow

INTERDEPENDENCE AND UNCERTAINTY

In an oligopoly, no firm can take decisions on price independently. It is because the decision to fix a new price will create reactions among rival firms, but rival reactions cannot be predicted accurately.

[Source: economicdiscussion.net]

4.1	Name ONE example of barriers to entry in an oligopoly	(1)
4.2	Give any non-price competition strategy used by oligopolists.	(1)
4.3	Briefly describe the term *oligopolies.*	(2)
4.4	Explain the tacit collusion by oligopolies	(2)
4.5	With aid of a graph, explain the demand curve of an oligopolist (2x2)	(4)

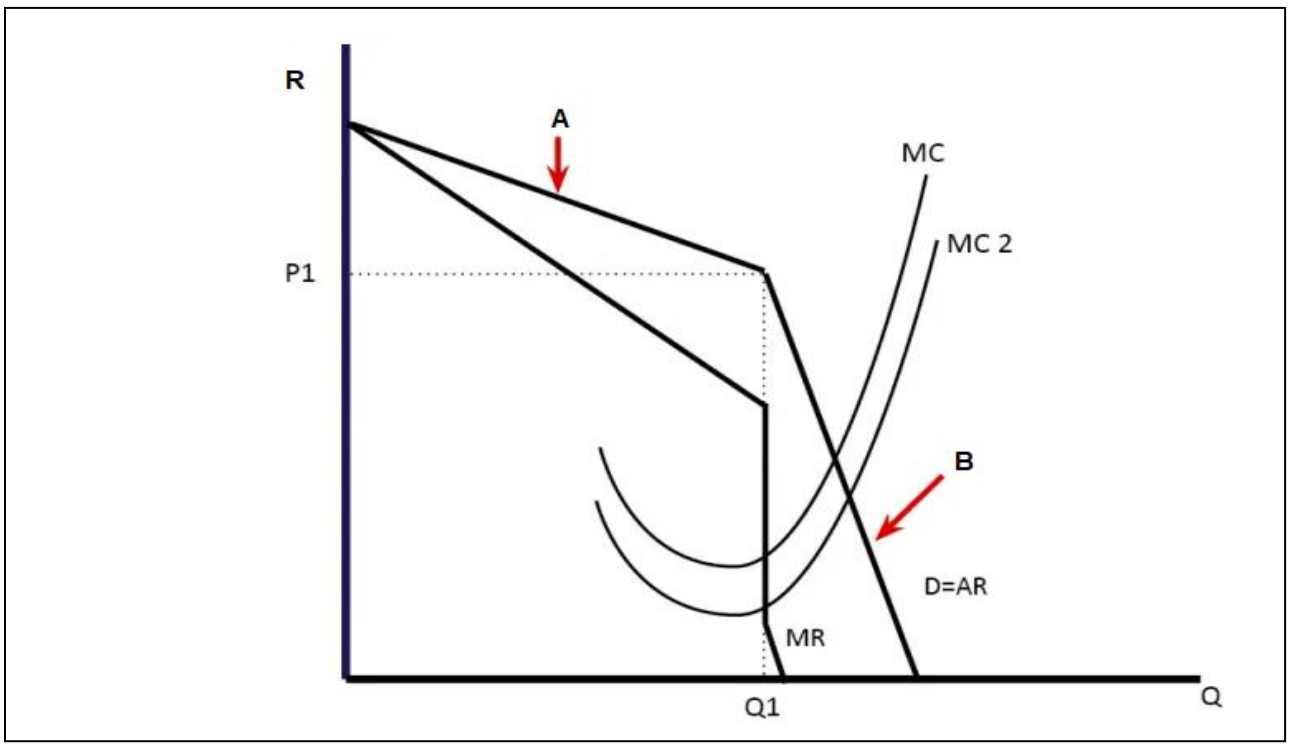
QUESTION 5:

Study pictures below and answer the questions that follow.

5.1	Identify a non-price competition strategy above	(1)
5.2	Which market structure practices non-price competition?	(1)
5.3	Briefly describe the term *non-price competition.*	(2)
5.4	Why are oligopolists reluctant to compete with each other on price in order to get a greater share of the market?	(2)
5.5	How do restaurants use non-price competition to make their products or service more price inelastic? (2X2)	(4)

QUESTION 6:

Study the graph below and answer the questions that follow.



6.1	Name any segment of the kinked demand curve		(1)
6.2	What is the impact of price rise on kinked demand curve		(1)
6.3	Briefly describe the concept *kinked demand curve*		(2)
6.4	Why does the kink in the demand curve occurs		(2)
6.5	How realistic is the kinked demand curve in practice?	(2X2)	(4)

QUESTION 7

Study the information below and answer the questions that follow

NON-PRICE STRATEGIES IN SOUTH AFRICA

CAPITEC BANK

Nando's
flame-grilled chicken

Source: google images

7.1	Identify ONE example of firms that use non-price strategies	(1)
7.2	What type of profit is made with oligopoly in the long run	(1)
7.3	Briefly describe the concept *price leadership*	(2)
7.4	Explain "doing business over the internet" as a form of non-price competition important for firms	(2)
7.5	Why is mutual interdependence important under oligopoly, but not so important under perfect competition and monopoly? (2X2)	(4)

HINT: All section B questions have TWO 8 marks questions, numbered according to questions not like in this document.

QUESTION 8 **Paragraph type questions – Middle Cognitive**

8.1	Illustrate the demand curve of the oligopoly clearly showing the price and production levels.	(4X2)	8
8.2	With reference to an oligopoly graph, explain the two elasticity segments of the demand curve.	(4X2)	8
8.3	Discuss the characteristics of oligopolies.	(4X2)	8
8.4	Discuss non-price competition strategies for oligopolies.	(4x2)	8

QUESTION 9 **Paragraph type questions – Higher cognitive**

9.1	Explain how SASOL can compete in an oligopolistic market with other petrol-selling companies in South Africa.	(4X2)	8
9.2	Assess the considerations involved in the oligopolists decision about whether to compete or cooperate.	(4X2)	8
9.3	Explain the role of competition and collusion in the formation of cartels.	(4X2)	8
9.4	Evaluate the impact of cartels on the consumers.	(4X2)	8

SECTION C

HINT: All section C questions have TWO questions 5 & 6 NOT 11 & 12 like in this document. In the examination you will need to answer only one.

ESSAY STRUCTURE

HINT: Section C – the long question, must be answered in FOUR sections: Introduction (definition), Body (headings and full sentences in bullets) additional part and conclusion (summarising). The mark allocations for Section C is as follows:

STRUCTURE OF ESSAY:	MARK ALLO-CATION:
Introduction The introduction is a lower-order response. • A good starting point would be to the main concept related to the question topic • Do not include any part of the question in your introduction. • Do not repeat any part of the introduction in the body • Avoid saying in the introduction what you are going to discuss in the body	Max 2
Body: **Main part:** Discuss in detail/ In-depth discussion/ Examine/ Critically discuss/ Analyse / Compare/ Distinguish/ Differentiate/ Explain/ Evaluate **Additional part:** Give own opinion/ Critically discuss/ Evaluate/ Critically evaluate/ Draw a graph and explain/ Use the graph given and explain/ Complete the given graph/ Calculate/ Deduce/ Compare/ Explain Distinguish / Interpret/ Briefly debate/ How/ Suggest	Max 26 Max 10
Conclusion Any Higher or conclusion include: • A brief summary of what has been discussed without repeating facts already mentioned in the body • Any opinion or value judgement on the facts discussed • Additional support information to strengthen the discussion/analysis • A contradictory viewpoint with motivation, if required Recommendations	Max 2
TOTAL	**40**

QUESTION 10

- Discuss an oligopoly as a market structure (26 marks)
- How do oligopolists compete without using price to increase their market share? (10 marks)

[40]

SESSION 18: MONOPOLISTIC COMPETITION-PART 1

DEFINITION

- Monopolistic competition is more realistic than perfect competition or pure monopoly.
- Monopolistic competition has the characteristics of both monopoly and perfect competition.
- The most distinguishing feature is that the products of various firms are different, despite being close substitutes for each other. Products are therefore differentiated.
- Under monopolistic competition there is freedom to enter and to exit the market.
- ***Monopolistic competition*** is a market structure in which many sellers each produce similar, but slightly differentiated products.
- There are examples of monopolistic competition in the clothing and shoe industries and the take-away and restaurant industries.

GENERAL CHARACTERISTICS

Relatively large number of sellers

- Monopolistic competition consists of a relatively large number of sellers, who are typically small businesses.
- There is a lot of competition between different firms and no business has total control over the market.
- Monopolistic competitors face downward-sloping demand curves – but the demand is more elastic than in a monopoly as consumers have a choice of many products that are good substitutes for each other.
- They do not produce perfect substitutes, but their products are close subs

Influence over price

- Competition does not take place through prices, but through differentiated products.
- As products are close substitutes for each other, any reduction in price will attract customers from rival firms.
- A decrease in price will cause an increase in quantity demanded.
- This implies a downward-sloping demand curve with marginal revenue that will be less than price.
- No firm can fix the price but has some influence over it.
- A firm can increase the price by selling less or decrease the price by selling more.
- A firm will choose the price-quantity combination where profits are maximised.

Differentiated products

- Product differentiation has three dimensions:
    - **Products are not identical:**
        - Products are similar but not totally identical.
        - The similarity lies in the fact that they satisfy the same consumer need.
        - Examples are the huge variety of men's and women's clothing, shoes, beauty products, wine, toothpaste and furniture.

- Products differ only slightly and are close substitutes for each other.
- Prices can't be very different from each other.
- Sellers promote their products as unique through advertising.
- The buyers react on these differences and will stick to a certain brand.

- **Differences may be imaginary:**
  - Differences are sometimes completely imaginary, for example medicines which may have the same ingredients but different brand names.
  - The differences between producers could also be based on the opinion of consumers that one brand is better than another brand.
  - In some cases it is merely the service of the seller that differentiates its products from that of the competitor.
  - Real or physical differentiation is achieved by making changes to the physical aspects and appearance of the product – different materials, design and colours are used.
  - Further differentiation can be achieved through sales conditions, business location, customer service and the level of professional service.
- **Differences in packaging:**
  - Even the packaging of a product can make it different from other similar products.
  - For example sugar and salt.

Exit and entry are relatively easy

- Exit and entry are relatively easy when compared to monopolies and oligopolies.
- There are no barriers, legal, natural or otherwise, that hinder the producer or consumer from entering the market.
- If a new producer enters the market, the market will adjust until the economic profit is zero again.
- This implies that monopolistically competitive firms can make economic profit or losses in the short run, but only normal profits in the long run.
- Lured by the profits of existing firms, new firms can enter the industry and consequently market output will increase.
- New competitors mean that there will be new brands of the same product.

It is a hybrid (compound/composite) market structure

- Monopolistic competition has characteristics of both perfect competition and the monopolist.
- The element of competition stems from the fact that there are many sellers of the differentiated product and that each is relatively small in relation to the market as a whole.
- The fact that businesses can freely enter or leave the market in the long run also contributes to the element of competition.
- The monopoly element is the result of product differentiation. Every monopolistically competitive firm has a certain degree of market power and is actually a mini-monopoly in the sense that it is the only producer of that specific brand of the product.

Often it is local

- Monopolistic competition occurs often in the retail and services sector of the economy.
- At local level there are numerous examples of monopolistic competition – pharmacies, grocery stores, hairdressers, restaurants, fast-food outlets and liquor stores in urban areas.
- Each of these enterprises has a certain degree of monopolistic power over its competitors because of the uniqueness of its product, or more favourable location, slightly lower prices etc.
- This monopolistic power is not strong because of the availability of close substitutes.

Diverse businesses

- Because of product differentiation, we cannot derive supply and demand curves for this industry in the same way as perfect competition.
- A single equilibrium price cannot be determined for the differentiated product because a range of prices will apply.
- The focus in graphs will not be on the industry but on the typical business.

NON –PRICE COMPETITION

- Because products are differentiated creates the opportunity for each business to increase the demand for their product through marketing campaigns and product variation.
- Non-price competition occurs when a seller decides not to focus on price but instead promote their product's features.
- They can focus on quality, promotion, packaging, location or any other factor to promote their product.

Focus on good health:

- Producer can reduce the sugar content and increase the fibre content of their breakfast cereal to make it more attractive to consumers that are health conscious. The advertising campaign will then target health-conscious people.

Focus on superiority:

- Even though ingredients between two brands are exactly the same, the producer can suggest through advertising that his product is the better one.

Product differentiation:

- Producers will try to differentiate their product from the competitor's – the bigger the difference, the less elastic the demand. Demand for the product can increase if they can make their product better.

Methods of non-price competition

Branding:

- ❖ Branding is a marketing tool that the firm can use to create a certain perception in the minds of its customers of the product and also of the company.
- ❖ Branding plays a very important role in monopolistic competition. o Every producer will try to build brand loyalty with their customers so that their customers will choose their brand over any other.
- ❖ Large chain stores like Checkers, Pick 'n Pay, and Woolworths often have their own brands of washing powder, dog food, cleaning materials etc.
- ❖ These brands are often exactly the same as other brands (even coming from the same factory) but it is up to customers to decide which brand they prefer.

Advertising:

- ❖ Information can be provided by the firm about the product or business itself through media such as television, radio, internet and magazines.
- ❖ The purpose is to increase sales and profit.
- ❖ Advertising can be used to differentiate the firm's product and also to gain market share.

Packaging:

- ❖ Packaging is the best way the product is presented to the market. o It is very important that the consumer find the packaging appealing.
- ❖ Packaging not only protects the product but can also provide information about the product it contains.

Service:

- ❖ The idea is to provide excellent service to customers so that customers will want to come back. o People often go back to the same restaurant if they enjoy the food, and if the service is good.
- ❖ If customers have a bad experience, very often they will not go back. They will also discourage other people to go there.

Information:

- ❖ Providing information to customers is very important – there are many other businesses in the industry, and customers will generally support the firm that provides the best and most persuasive information.

COLLUSION

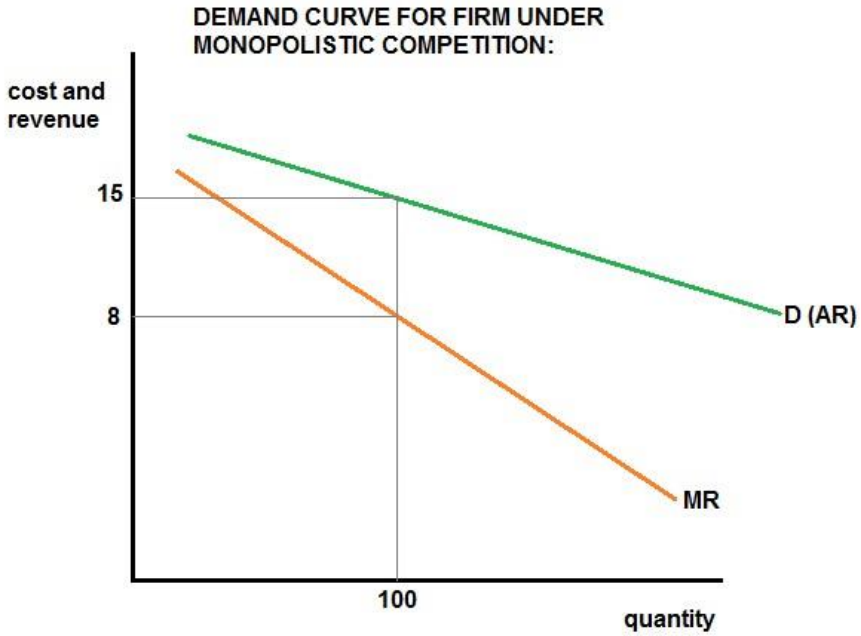
- Because there are so many different firms in this market structure, collusion is virtually impossible.
- Price fixing is generally not found in this market structure.

PRICES AND LEVELS OF PRODUCTION

The demand curve:

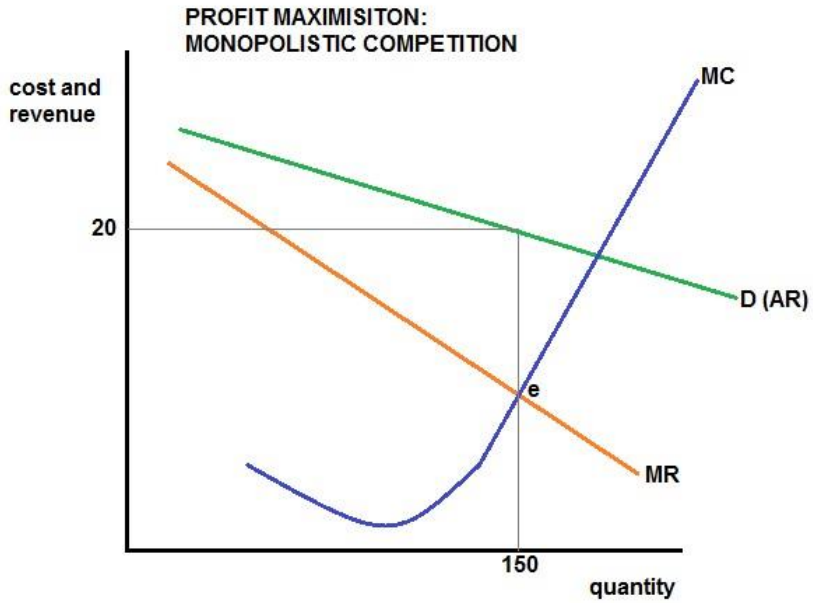
- Firms under monopolistic competition are price makers.

- Each individual firm has their own downward-sloping demand curve for their own differentiated product. It is impossible to construct a market demand curve because products are not homogeneous.
- The demand curve for the firm under monopolistic competition is more elastic than the monopolist's demand graph because it does face competition from other firms in the industry.
- The demand curve and average revenue curve is the same, and the marginal revenue curve is below the demand curve.



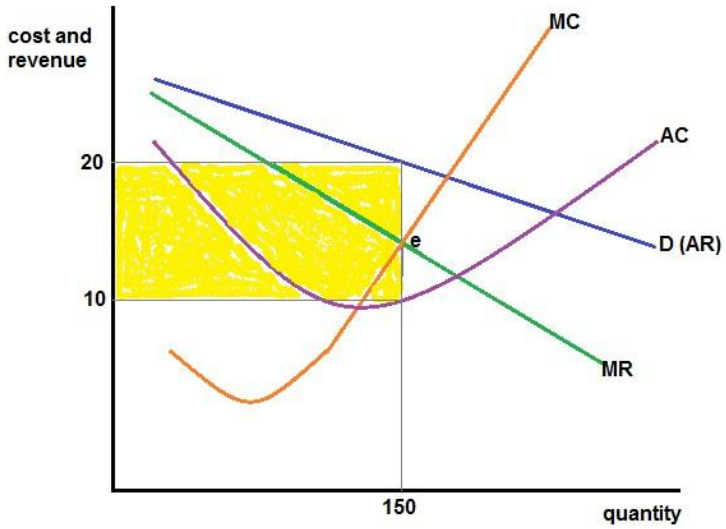
Profit maximisation:

- The shape of the cost curves are exactly the same under monopolistic competition as it is under any other market structure.
- Profit maximisation is also where MC = MR.
- The firm will sell 150 units at a price of R20.



Short Run price and output:

- In the short run the firm under monopolistic competition can make a normal profit, economic profit or economic loss:
- If the AC curve is UNDER the AR curve, the firm will make an economic profit.
- AC = R10 and AR = R20.
- AR > AC therefore this firm is making economic profit of R10 per unit.
- Economic profit is indicated by the shaded area.



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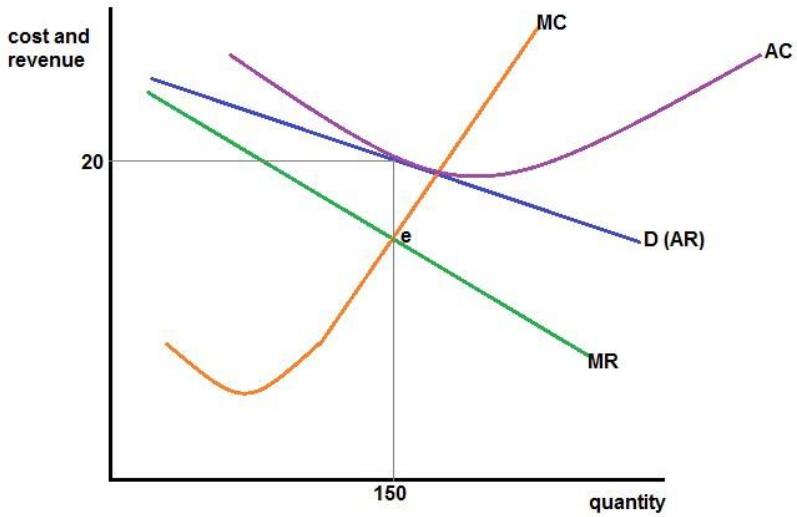
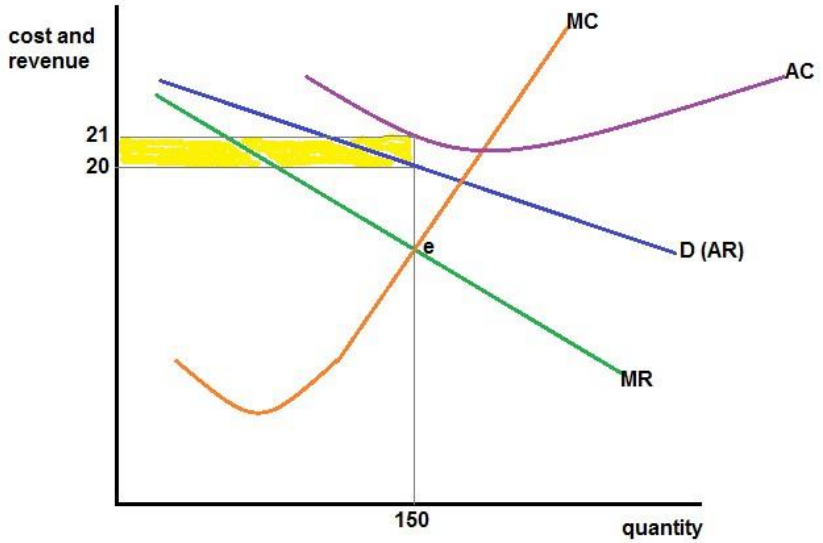
- If the AC curve is tangent to the AR curve, the firm will make a normal profit.
- AC = AR = R20

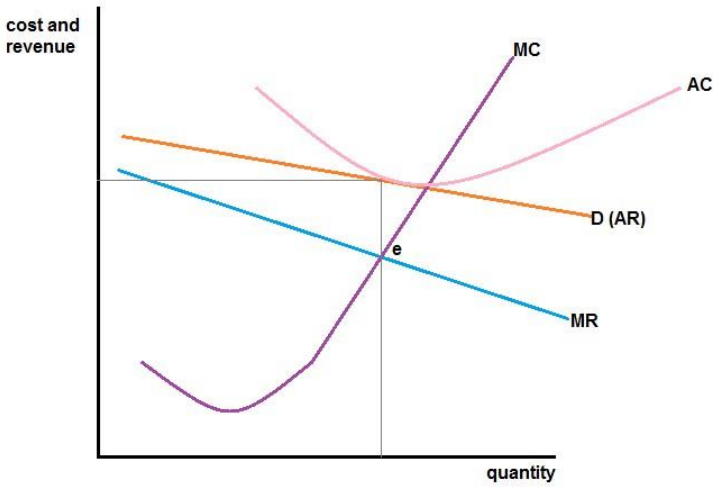


- If the AC curve is ABOVE the AR curve, the firm will make an economic loss.
- AC = R21 and AR = R20.
- AR < AC therefore an economic loss of R1 per unit is being made.
- Economic loss is indicated by the shaded area.

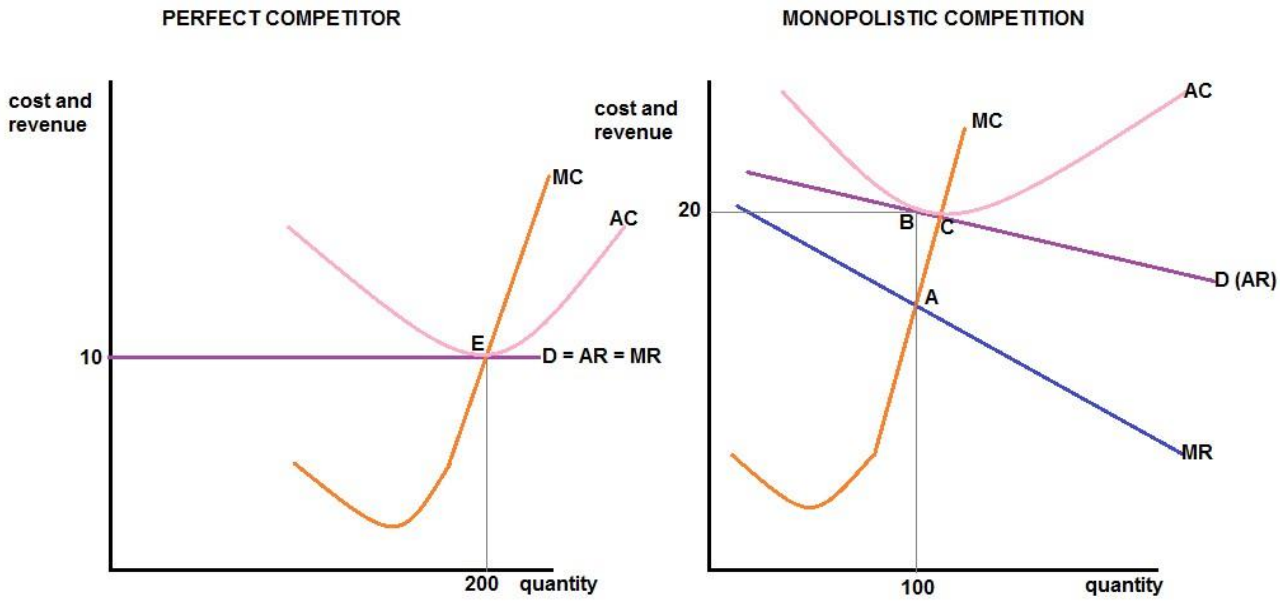


Long Run price and output:

- Entry into the industry is fairly easy, as there are no barriers to entry.
- If any of the existing firms are making an economic profit, this will attract new competitors into the industry.
- This will increase the competition in the industry and the new firms will take some of the customers away from existing firms.
- This will decrease the demand for the firm's product.
- The demand curve as well as the marginal revenue curve will move to the left and because there are even more substitutes, the curves become more elastic.
- This process will continue until all firms are making only normal profits and there is no more reason for new firms to enter.



COMPARISON WITH PERFECT COMPETITION



- In order to make a comparison between two individual producers in the two different market structures, we assume that both businesses are the same size and have the same cost structure.

Profits:

- Both market structures are characterised by freedom of entry and exit. o Any economic profits made in the short run, will disappear in the long run as new firms enter the industry.
- In the long run in both firms their average cost will equal their average revenue. o Both firms will make normal profits only in the long run. o There is no difference in terms of profits between perfect competition and monopolistic competition.

Price:

- In the graph above, the perfect competitor maximises profits at point E where MC = MR.
- The price that will be charged in the perfect market is R10 o Under monopolistic competition, profits are maximised at point A where MC = MR. o The price that will be charged under monopolistic competition is R20.
- In comparison with a perfect market, under conditions of monopolistic competition, the price paid by the consumers will be higher.

Output:

- At profit maximisation point the perfect competitor will produce a quantity of 200 units in the graph above. o At profit maximisation point under monopolistic competition the firm will produce a quantity of 100 units. o In comparison with a perfect market, under conditions of monopolistic competition, the output will be less.

Efficiency:

- At profit maximisation point the individual producer under perfect competition is producing at the lowest level of the AC curve and is therefore productively efficient. o At profit maximisation point under monopolistic competition the producer is not producing at the lowest level of his AC curve – point B is slightly higher than point C (which is the lowest point of AC).
- Under monopolistic competition, the producer is therefore not productively efficient when maximising profits.

SESSION 19: MONOPOLISTIC COMPETITION – PART 2

SECTION A: TYPICAL EXAM QUESTIONS

QUESTION 1: Section A – Short Questions

(Taken from various sources)

HINT: When answering Section A – short question, it is important not to rush but to read the questions carefully and to make sure you understand what the question is asking. Always remember one alternative is completely wrong, one is nearly correct, and one is totally correct. It is easy to eliminate the completely wrong answer, but if you do not read the question carefully the nearly correct answer will also appear correct. The answer will **NEVER** be two options. Only **ONE** option is correct. Your answer will immediately be marked incorrect if you write TWO options.

1.1 Various options are provided as possible answers to the following questions.
Choose the answer and write only the letter (A–D) next to the question number.

1.1.1 A market with few entry barriers and with many firms that sell differentiated products is

A Purely competitive
B A monopoly
C Monopolistic competition
D oligopolistic

1.1.2 The most important factor in determining the long-run profit potential in monopolistic competition is

A Free entry and exit
B The elasticity of the market demand curve
C The elastic of the firm's demand curve
D The reaction of rival firms to a change in price

1.1.3 Which of the following is NOT regarded as source of inefficiency in monopolistic competition?

A The fact that price exceeds marginal cost
B Excess capacity
C Product diversity
D The fact that long-run average cost is not minimized

1.1.4 Monopolistic competition firms have monopoly power because they

A Face downward sloping demand curves
B Are great in number
C Have freedom of entry
D Are free to advertise

1.1.5 A monopolistic competition firm in long-run equilibrium

A Will make negative profit
B Will make zero profit
C Will make positive profit
D Will make both positive and negative

1.1.6 Which of the following is true for both perfect and monopolistic competition?

A Firms produce a differentiated product.
B Firms face a downward sloping demand curve.
C Firms produce a homogeneous product.
D There is freedom of entry and exit in the long run.

1.1.7 Which of the following is true in long-run equilibrium for a firm monopolistic competition

A MC=ATC
B MC>ATC
C MC<ATC
D MC=ATC

1.1.8 Excess capacity in monopolistically competitive industries results because in equilibrium

A each firm's output level is too great to minimize average cost.
B each firm's output level is too small to minimize average cost.
C firms make positive economic profit.
D price equals marginal cost.

1.2 Choose a description from COLUMN B that matches the item in COLUMN A. Write only the letter (A – D) next to the question number (1.2.1 – 1.2.4) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A		COLUMN B	
1.2.1	Advertising	A	Occurs when MC = MR
1.2.2	Non-price competition	B	Is used to differentiate the firm's product
1.2.3	Monopolistic competition	C	Occurs when sellers focus on their product's features than on price
1.2.4	Profit maximisation	D	Type of competition that occurs often in the retail sector of the economy

(6 × 1) (6)

1.3 Provide the economic term/concept for each of the following descriptions. Write only the term/concept next to the question number. **NO ABBREVIATIONS WILL BE ACCEPTED.**

1.3.1 The purpose is to increase sales and profit.

1.3.2 A market structure in which many sellers each produce similar, but slightly differentiated products.

1.3.3 A marketing tool that the firm can use to create a certain perception in the minds of its customers.

1.3.4 Agreements among sellers to raise or fix prices

SECTION B

QUESTION 2:

HINT: When the question requires you to "list" or "name", you need not write a sentence but merely one or two words. This MUST be done in bullet form. This types of questions are applicable for 2.1.1, 3.1.1 and 4.1.1

2.1.1	Name any TWO examples of monopolistic competition.	(2X1)	2
2.1.2	Name any TWO dimensions of product differentiation.	(2X1)	2
2.1.3	List any TWO brands of fast-food suppliers in South Africa.	(2X1)	2
2.1.4	Name any TWO general characteristics of monopolistic competition.	(2X1)	2

QUESTION 3: (Taken from various sources)

HINT: This types of questions are applicable for 2.1.2, 3.1.2 and 4.1.2

3.1.1	Why don't some firms in monopolistic competition earn losses in the long run?	(1X2)	2
3.1.2	Why is monopolistic competition inefficient?	(1X2)	2
3.1.3	Why is excess capacity said to exist in monopolistic competition in the long run?	(1X2)	2
3.1.4	Why is a perfectly competitive firm more efficient than a monopolistic firm?	(1X2)	2

Data Response

HINT: All section B questions have TWO data interpretation questions – each total 10 marks. Section B consist of Questions 2-4 not as numbered in this document

QUESTION 4:

*S*tudy the extract below and answer the questions that follow

MULTIBILLION-RAND HOTEL GROUPS ARE SUFFERING TERRIBLY UNFAIR COMPETITION FROM GREEDY GRANNIES WHO CALLOUSLY LET THEIR SPARE ROOMS TO SUPPLEMENT THEIR PENSIONS.

The hotel industry in South Africa, led by the Federated Hospitality Association of South Africa (Fedhasa), but supported by smaller cartel representatives such as the Tourism Business Council, is in just such a pickle.

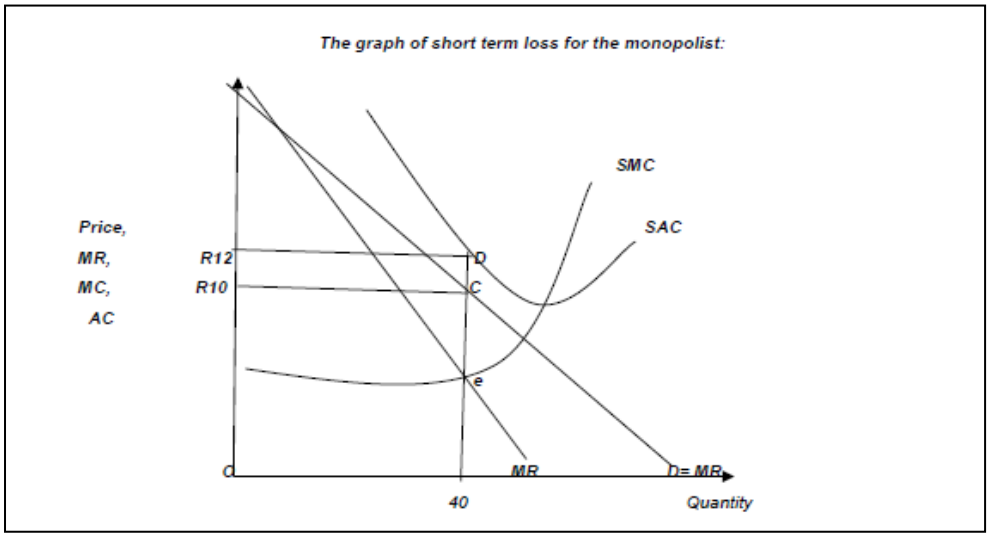
You see, the business of selling accommodation has always been about squeezing thousands of tiny rooms into big ugly buildings, with dirty carpets and panoramic views of highways and parking lots. It's about the feel of heavy-duty linen that smells of the residue of industrial-strength soap. It's about stale breakfast buffets made in industrial kitchens by hair-netted staff who sneeze on the food, shared with people who use their hands instead of the tongs. It's about anonymous bars where you can enjoy double-priced drinks in the company of drunk businessmen. It's about employing thousands of staff to get room service orders wrong and knock on doors at the most inconvenient times. Everyone who is anyone in the hotel business knows this is just how it works. It's always been this way and hotels charge thousands of rand a night for the burden of having to put up with guests.

Source: daily maverick

4.1	Name other examples of a monopolistic competition		(1)
4.2	What characteristics does monopolistic competition have in common with a monopoly?		(1)
4.3	Briefly describe the term "small cartel".		(2)
4.4	Why should the government regulate monopolistic competition?		(2)
4.5	Discuss advantages of a monopolistic competition.	(2x2)	(4)

QUESTION 5:

Study the graph below and answer the questions that follow.



5.1	Identify the equilibrium of monopolist above	(1)
5.2	Which equilibrium position is represented above?	(1)
5.3	Briefly describe the term *monopolistic.*	(2)
5.4	How can the government solve the problem of monopoly?	(2)
5.5	Why do we say that a monopolistic is neither allocatively nor productively efficient?	(4)

QUESTION 6:

Study the information below and answer the questions that follow.

SOME OF THE POPULAR BRANDS IN SOUTH AFRICA

Source :google images

6.1	Name the market above associated with brands above	(1)
6.2	Identify the characteristic of the market above	(1)
6.3	Briefly describe the term *market information*	(2)
6.4	Explain the long-term profit in the market illustrated by the above brands	(2)
6.5	How do you provide a good after sales service?	(4)

HINT: All section B questions have TWO 8 marks questions, numbered according to questions not like in this document.

QUESTION 7 **Paragraph type questions – Middle Cognitive**

7.1 Illustrate monopolistic competition in the short run

7.2 Explain with an aid of graph of monopolistic competition in the long run

QUESTION 8 **Paragraph type questions – Higher cognitive**

8.1	Evaluate the monopolistic competition on small firms.	(4x2)	8
8.2	How would competitors in monopolistic competition ensure their operational success in the market?	(4x2)	8
8.3	Why do firms in monopolistic competition make economic profit in the short run only?	(4x2)	8
8.4	How will a monopolistic competitor, like KFC, compete with other fast-food chicken outlets to increase its market share?	(8)	8

SECTION C

HINT: All section C questions have TWO questions 5 & 6 NOT 11 & 12 like in this document. In the examination you will need to answer only one.

HINT: Section C – the long question, must be answered in FOUR sections: Introduction (definition), Body (headings and full sentences in bullets) additional part and conclusion (summarising). The mark allocations for Section C is as follows:

STRUCTURE OF ESSAY:	MARK ALLO-CATION:
Introduction The introduction is a lower-order response. • A good starting point would be to the main concept related to the question topic • Do not include any part of the question in your introduction. • Do not repeat any part of the introduction in the body • Avoid saying in the introduction what you are going to discuss in the body	Max 2
Body: **Main part:** Discuss in detail/ In-depth discussion/ Examine/ Critically discuss/ Analyse / Compare/ Distinguish/ Differentiate/ Explain/ Evaluate **Additional part:** Give own opinion/ Critically discuss/ Evaluate/ Critically evaluate/ Draw a graph and explain/ Use the graph given and explain/ Complete the given graph/ Calculate/ Deduce/ Compare/ Explain Distinguish / Interpret/ Briefly debate/ How/ Suggest	Max 26 Max 10
Conclusion Any Higher or conclusion include:	Max 2

• A brief summary of what has been discussed without repeating facts already mentioned in the body • Any opinion or value judgement on the facts discussed • Additional support information to strengthen the discussion/analysis • A contradictory viewpoint with motivation, if required Recommendations	
TOTAL	**40**

[40]

QUESTION 9

- Compare the market structure of monopolistic competition with that of a perfect competitor. (26 marks)
- With a well labelled graph, explain why the business will stop producing output at the shut-down point. (10 marks)

SESSION 20: MARKET FAILURE- PART 1

THE CONCEPT OF MARKET FAILURE

- A market failure occurs when the forces of demand and supply do not ensure the correct quantity of goods and services are produced to meet the demand at the right place.
- **Market failure** means that the market has not achieved its optimal production outcome – it has not produced the correct quantity of goods and services.
- It means that the best outcome has not been achieved – if goods are under-produced it will lead to scarcity; if goods are over-produced it results in surpluses.
- Not everyone benefits from the free market equally.
- A market is allocatively efficient when firms in each industry use the available resources to produce the output most demanded by consumers.

Inefficient allocation of resources

- In a free market, prices are determined by demand and supply without outside intervention.

When this price and quantity is deemed to be too high or too low, the market has failed.

- An efficient allocation of resources results in the following:
  - The correct quantity of goods and services are made available – there are no shortages or surpluses.
  - Everyone who needs the goods has access to them and nobody is excluded.
  - The price of the goods is acceptable – not too low, not too high.
  - There has been no wastage in the production process – costs have been kept to a minimum.

REASONS FOR MARKET FAILURE

EXTERNALITIES

- An externality occurs when some of the costs and benefits of a decision or action are borne or enjoyed by second or third parties who were not part of or directly involved in the decision making.
- It is also called spill-over effects or neighbourhood effects.
- The four basic cost and benefit concepts:

Private cost:

- Internal costs are known as private costs.
- These are the usual costs that consumers incur when they buy goods, for example the price they pay for a product.
- The private costs of the business are their fixed and variable costs – their day-today expenses.

Private benefits (internal benefits):

- These are the benefits gained by those who buy the goods and those who produce the goods.

- For the consumer it includes the convenience of enjoying the product, and for the producer it includes the revenue and profit it receives from selling the product.

Social costs:

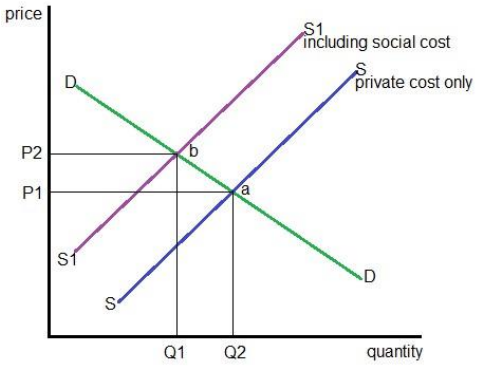
- These are the cost of goods or services to those who create them and to society in general.
- It includes the production cost, but also the additional cost of pollution and the waste products (external costs – negative externalities).
- No values are given to these extra (external) costs because no market exists to price them.
- Private costs plus external costs are equal to social costs. o **Social benefits:**
- Consumers pay for private benefits.
- However, society in general benefits from less diseases, a healthier workforce can work more productively and is absent from work less (external benefits – positive externalities).
- When municipalities provide clean water to households, households pay only for the private benefit.
- Private benefit plus external benefits are equal to social benefits.
- Because externalities in production and consumption often exist and output is usually based on private cost and benefits, this is a cause of market failures.

Negative externality

- If the externality imposes a cost on a second party, it is known as a negative externality.
- Smoking is an example of a negative externality – when a person smokes, he unintentionally harms the health of those around him.
- The smoker does not pay compensation to the people who inhaled the second-hand smoke and developed lung problems.
- Other examples of negative externalities: *Pollution from factories; Noise from airports; Traffic congestion and damage to the roads from cars.*
- The cost of the negative externality is not included in the market price of the good.
- When a profit maximising firm calculates its production cost, it only takes into account the private cost of production, and not the social cost of production.
- Given that the private cost of production is lower than the social cost of production, the market price turns out lower than what it should be if the social cost was included also.
- Because the costs are lower, the consumption and production will be higher than it would have been if the social cost was included.

The graph shows a negative externality:

- At point (a) the price is P1 and the quantity is Q2. This represents private costs.
- If it was possible to calculate and include social cost, these would be added to the private cost.
- If consumers paid the "full" cost of production, equilibrium would be at point b, resulting in a higher price and lower quantity.



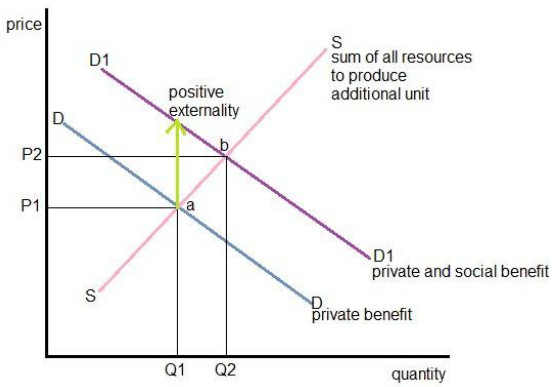
NB: If a firm has to take external cost into consideration, it will increase his production cost, and this is why the supply curve decreases and moves to the left.

Positive externalities

- Positive externalities occur when a benefit is enjoyed by a second or third party from the action or decision of another party.
- For example if I put a pot plant in my classroom, I give pleasure to those that visit my classroom because it makes the classroom look better.
- But the learners don't pay for enjoying the pot plant.
- Other examples if positive externalities are:
  - Inoculating small children against certain diseases help us all to stay disease-free.
- Education creates a more productive workforce.
  - A beautiful garden raises the value of your property and those around you.
- If the decision of how much is to be supplied is left to the market, the market will tend to undersupply goods and services that have a positive externality.

An under consumption of these goods takes place because the market only takes the private benefit and not the social benefit into account.

- The graph shows a positive externality:
  - If only the private benefits and costs are taken into account, equilibrium would be at point (a) at a price of P1 and quantity of Q1.
  - When we take into account the <u>social benefits</u>, our demand will increase, and equilibrium would be at point (b) – the price would be higher, but more would be consumed.



- When we decide to go to the doctor or buy goods that are healthy for us, we do not consider the <u>external benefits</u>. This is why beneficial goods are <u>under-consumed</u> – the external benefits cannot be realised.
- If would benefit society if more people get flu vaccination before winter – when people realise the external benefit (less people away from work, less pressure on the health care system) they might increase their demand – graph shifts to the right.

MISSING MARKETS

- Markets are often incomplete in the sense that they cannot meet the demand for certain goods.

They are bound to fail.

Community goods

- These are goods such as defence, police service, prisons, street lightning, flood control, storm water drainage and lighthouses.

Collective goods

- These are goods such as parks, beach facilities, streets, pavements, roads, bridges, public transport, sewerage systems, waste removal and refuse removal.

Public goods

- Community goods and collective goods are known as public goods.
- Public goods have two characteristics:

Non-rivalry:

- ✦ Consumption by one person does not reduce the consumption by another person. o Non-excludability:
- ✦ Consumption of a service cannot be confined only to those who paid for it – this leads to the free-riding problem.

- Public goods can cause market failure because the free market does not want to supply these goods.
- Public goods are not provided by the price mechanism (the market) because producers cannot withhold the goods for non-payment and since there is no way to measure how much a person consumed, there is no basis for establishing a market price.
- A failure to supply public goods would mean we are less well-off. Allocative inefficiency will occur.

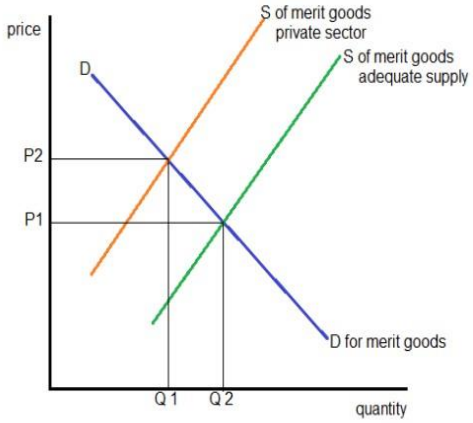
Merit and demerit goods

- While the market is willing to supply both merit and demerit goods, it tends to undersupply merit goods and oversupply demerit goods.
- The reason for this is that the market only takes the private costs and benefits into account, and not the social benefits and costs.

Merit goods:

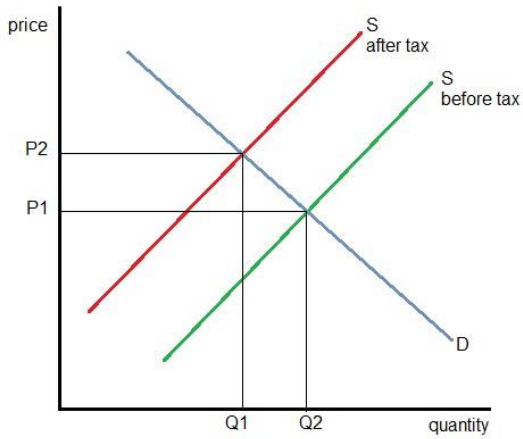
- Merit goods are goods that society deemed good for us, since an increase in its use increases the welfare of the nation.
- Some goods that are highly desirable for the general welfare of the people in the country are not highly rated by the market.
- Market forces do not reflect the full value of merit goods, because the market only takes into account the private benefits and not the social benefits.
- In a market system, the private benefits that consumers get from merit goods would determine what consumers are willing to spend on these goods.
- If people had to pay market prices for these goods, relatively little would be consumed.
- Merit goods are profitable enough to be produced by the private sector – however, they are only produced for those who can afford them and is therefore supplied in insufficient quantities.
- In this sense, the market fails.

- For this reason the state provides merit goods instead of or in addition to private provision.
- Examples of such goods are healthcare and education, skills training, safety, inoculations and car seat belts.
- People do not like to spend a lot of money on the prevention of illnesses.
- Few people would pay for education if they had to meet the full cost.
- The following graph illustrates the <u>problem of under-provision</u> of merit goods:
  - When it is left to the private sector to supply merit goods, it will only provide Q1. The price will be P2. Only people willing to pay this high price will have access to the merit good.
  - In order to meet the needs of society, output needs to be at Q2. If private firms could be convinced to supply at this level, the price would drop to P1, making it more affordable to people and welfare can improve.
  - Private firms are not often convinced to do this, which is why the state has to provide merit goods.



Demerit goods:

- Demerit goods are regarded as bad for us and we should use less of these goods.
- Items such as cigarettes, alcohol and non-prescription drugs are examples of demerit goods.
- In a market economy these goods are over-consumed. Some consumers might be unaware of the true cost of consuming them (their negative externalities).
- The price does not reflect the product's external costs – in real terms the product costs society more than its selling price.
- Government can ban their consumption or reduce it by means of taxation and regulation or by providing information about their harmful effects.
- The following graph shows how the <u>consumption of demerit goods</u> can be reduced by imposing a tax:
  - If consumption is left to the market, the quantity produced and consumed would be Q2. The price would be P1.
  - If the government wants to reduce the production and consumption of demerit goods, they will impose a sin tax.
  - Taxes increases the production cost of the producer, so his supply curve will decrease.
  - The price increases to P2 and output will decrease to a more acceptable level (Q1)



IMPERFECT COMPETITION (NON-COMPETITIVE MARKETS)

- Under certain conditions, a perfectly competitive market will reach a point of allocative efficiency. Firms produce the right product at the right price and the right quantity and do it efficiently since only efficient firms will survive.
- In market economies, competition is impaired by power. Power lies with producers more than with consumers.
- Most businesses operate under conditions of imperfect competition – this allows them to restrict output, raise prices and produce at levels where price exceeds marginal cost.
- The result is an inadequate allocation of resources, as only those that can afford to pay gain access to certain goods and services.
- Under imperfect competition, market failure occurs because imperfect markets fail to achieve technical and allocative efficiency.
- The following **factors** cause imperfect competition:
    - Modern markets do not cater for price negotiations – consumers have to pay the prices that producers ask.
    - Advertising promotes the superiority of certain producers. o Barriers prevent new businesses from entering into markets – full adjustments to changes in demand are prevented.
    - The introduction of new, improved products is delayed – for example the technology to produce cars not powered by fossil fuels is already available. But the oil-producers and lack of capital delay the process.

LACK OF INFORMATION

- **Asymmetric information** – buyers and sellers do not have access to the same information.
- **The principal-agent problem** – arises when one party (the principal) in a transaction has more information than the other party (the agent) and may use this information to benefit from the transaction.
- Producers and consumers base their decisions on the information they have.
- Incomplete or inaccurate information leads to the wrong decision being made and a waste of resources will occur.
- This is a common problem in the markets for second-hand goods, where consumers may not be aware of the market price and pay more than necessary.
- Advertisements can also play an important role in imperfect information. Consumers base their decisions on misleading information, which is designed to generate a desire to buy a product.
- If producers know more about the market than buyers, it can create a situation where buyers can be exploited. Producers or sellers give out information to buyers to convince the buyers that the goods and services are needed.
- Some producers may even use their knowledge of market conditions to block the entry of new participants into the market.

Consumers:

- Although advances in technology increase the amount of information to which people have access, they obviously do not have perfect information.
- Consumers might not know that the price of a product is lower from some other supplier or about the harmful effects of certain products.

Workers:

- They need information about all job opportunities and benefits to ensure that they use their labour effectively.
- However, they may be unaware of job opportunities outside their current employment.

Entrepreneurs:

- They may lack information about the costs, availability and productivity of some factors of production and may be operating on the basis of incorrect information.
- Producers may not be aware of all the technology and production techniques that are available or the different resources that can be used.

IMMOBILITY OF PRODUCTION FACTORS

- For the market to be able to make efficient use of resources it must be able to transfer resources from one use to another.
- Most markets do not adjust rapidly to changes in supply and demand, because most resources are not very mobile.

Labour:

- Labour may take time to move into new occupations and geographically to meet the changes in consumer demand.
  Relocation of labour from one area to another is problematic because of family ties, schools, housing etc.
  Workers are reluctant to change to another job – the worker has to give notice, must find a place to stay in another geographical area. This means supply of labour will not always meet the demand for it.
- Unskilled people are not able, willing or do not always have the time or money to gain the skills they need. This causes unemployment or employment at low salaries.

Physical capital:

- For example factory buildings and infrastructure such as telephone lines, bridges, rail links and airports.
- Physical capital takes a long time to install. o It then lasts for a long time but cannot be moved to fit a change in demand. o Capital used in a nuclear power station cannot easily be converted for use in a hydroelectrical plant.

Technological applications change production methods:

- Technology may change, for example using robots instead of labour. o But it takes time for industries to adapt. o With greater technological change there is an increasing need for workers to be flexible, to be willing to update their skills throughout their working life, and to change employment, occupations and work patterns.

IMPERFECT DISTRIBUTION OF INCOME AND WEALTH

The market system tends to distribute income and wealth unevenly.

- Since the market is interested only in producing goods for those who can afford it, the unequal distribution of income leads to the fact that few people have too many goods and many have too few goods.
- Due to a lack of skills, education and imperfect information, certain individuals are unable to earn incomes that are necessary to achieve a decent living standard.
- Low incomes lead to an inability to accumulate wealth.

- If the initial distribution is unequal, the final distribution will be unequal too.
- The market fails to ensure that everyone in society gets equal access to the output of the economy.
- Too many resources are used to produce output for the rich members of society, and too few for those that are poor.
- This is caused by factors such as: Difference in market power; Initial distribution of wealth; Unequal access to markets and educational opportunities; Discrimination.

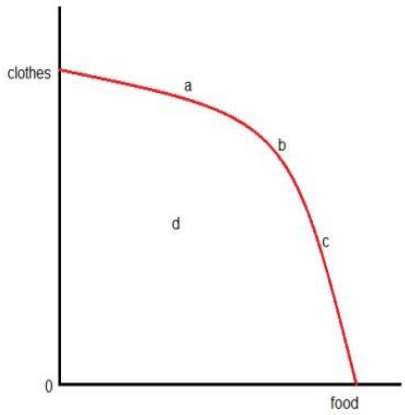
CONSEQUENCES OF MARKET FAILURES

- When markets fail there will most likely be <u>three consequences:</u> inefficiencies will occur, there will be spill-over effects, and government will intervene.

INEFFICIENCIES

- Two kinds of inefficiencies are possible because of imperfect markets.
- In most instances' consumers pay prices that are too high.
- In other instances, the goods are available but not in the quantities required by consumers.
- **Productive inefficiency:**
  - This means that a business does not produce goods at the lowest possible cost.
  - There is room to reduce costs without producing fewer goods or without producing a lower quality product.
- **Allocative inefficiency:**
  - This means that the product mix does not reflect consumers' tastes and therefore resources are not allocated in the right proportions.
  - The quantities required by consumers are not available. o Supply does not correspond with demand – the business could have used its resources more efficiently to make products that consumers value more.

- Even if a market is technically efficient it can still fail if it produces the wrong combination of goods and services. The market will be technically efficient, but allocatively inefficient.
- The concepts of technical efficiency and allocative efficiency and the difference between them can be explained with the aid of a production possibility curve.
- A point like point d indicates technical inefficiency since it is possible to produce a higher level of clothes and food as indicated by points on the PPC (like points a, b and c).
- Points a, b and c indicates technical efficiency but not **necessarily** allocative efficiency. Allocative efficiency would require that the right combination of food and clothes be produced so that all needs could be satisfied.
- If the market economy produces a combination of food and **clothes** as indicated by point a, but the combination desired by the community is at combination c, then allocative inefficiency exists.
- In South Africa government uses competition and anti-collusion laws.



- If South Africa is producing at point d on the PPC, the removal of market imperfections and the better use of resources will have the effect that the production possibility curve moves to the right – to points a, b or c.
- At every point on the PPC more services and more goods will be produced.

Pareto efficiency:

- Pareto efficiency refers to the situation where resources cannot be reallocated to make on person better off without making another person worse off
- Pareto efficiency does not necessarily mean a *fair* allocation of resources. o For example if one person owns all the resources and everybody else owns nothing, this situation will be considered Pareto efficient. If one resource was taken from the original owner, he would be worse off to make somebody else better off.
  Pareto improvement takes place when resources are reallocated in a way that makes one person better off without making anyone else worse off. For example if an airport is built it would provide advantages to society, but it will disadvantage people living nearby. If they are compensated for the inconvenience however, it is possible to have Pareto improvement.
- The same applies to land redistribution – if a fair price is paid by government to the owners, the new owners are made better off without making the old owners worse off.

EXTERNALITIES

Negative externalities:

- The consequences of negative externalities are that they reduce the welfare of society.
- Negative externalities are things like exhaust gas pollution, tobacco smoking and alcohol abuse.
- Part of the cost associated with the use of such items is not paid by the producers but by society, such as smoking.
- There is a definite link between smoking and a range of illnesses. o Treatment of these illnesses is a cost to public and private healthcare services – an external cost on top of the private cost, which is the cost carried by producers.
- The consequences of market failure are that the market produces too much of the products that have negative externalities, at prices that are too low.
- The government will commonly use taxes, subsidies and regulation to deal with externalities:

Taxes on the output produced:

- Aim is to impose a tax that is equal to the external cost of the pollution.
- In this way the factory is forced to pay the full cost of production.
- This has the effect of reducing the supply.

Taxes on the amount of pollution produced:

- Government taxes the firm for every unit of pollution it creates.
- By imposing a tax, the government makes it more expensive for the firm to produce output and the firm is encouraged to use less technology resulting in pollution to produce its output.
- Such taxes are known as green taxes.

Regulations:

- ✦ Government could require firms to fit anti-pollution equipment that cleans the by-products before they are exposed of.

Positive externalities:

- Positive externalities improve the welfare of society. o Positive externalities are things like health care and education.
- When consumers decide how much to buy and how much they are willing to pay, they only take into account the private benefit and private cost.
- If it was possible to quantify the external benefit associated with these goods, the social benefit would be included in the demand curve, which will make the demand increase. More would be produced.

The consequence of the market failure is that the demand is too low for the products with positive externalities. People demand and consume too few of these goods.

STATE INTERVENTION

- When markets fail, intervention is required. The only institution capable of intervening successfully with market failure is the government.
- The purpose of government intervention is to ensure that the right quantity of resources is allocated to the production of output so that society as a whole maximises its benefit from consuming all the different goods and services.
- In other words, government intervenes with the aim of achieving allocative efficiency.

Rules and regulations

- Government uses different methods of regulation as a means of controlling markets.

Direct controls:

- Government can choose to pass laws or use the existing legislative framework in an attempt to control and constrain the behaviour of businesses and industries, and individuals who generate negative externalities.
- The emissions of potentially dangerous chemicals, air and scenic pollution, environmental preservation etc. are controlled by various laws and regulations.
- Advertising in the tobacco industry is prohibited and alcohol may not be sold on Sundays.
- The government can also use regulations to prohibit the production and consumption of demerit goods such as addictive drugs and child pornography.
- The government usually also deals with the problems of imperfect information by means of regulations designed to ensure greater access to information:
  - The government can require firms to disclose information about their operations so that shareholders have better information.
  - Government also require firms to disclose information about their products – e.g.
    goods and pharmaceutical companies must provide details about their products on their packaging.
  - Sometimes government provides the information themselves – e.g. cigarettes carry a government health warning.
  - In other instances government require firms' products to meet certain standards – e.g. cars must satisfy certain safety standards set by the government.

- The SABS regulates standards in South Africa – all firms must produce goods that meet with certain health, safety and quality standards.
- Regulations for advertising exist to prevent false claims and deceptive advertising.

Imperfect markets:

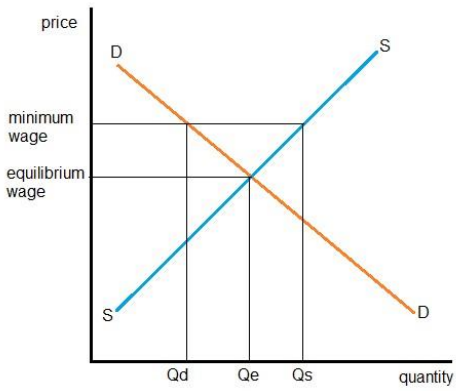
- Businesses operating in non-competitive markets maximise their profits by supplying less than the optimal quantity of the good or service at too high a price.

  Governments have various instruments they can use to correct or limit the allocative distortions resulting from non-competitive markets.

  The main instruments the South African government uses are:
  - Competition from abroad – in some instances only foreign competition has the capacity to restrain the harmful practices of local monopolies.
  - Removal or reduction of tariffs - in some instances has rendered local markets more competitive, as in the case of agriculture.
  - Promoting competition through introduction of Competition Policy – government established Competition Commission, Competition Tribunal and Competition Appeals Court to ensure the level of competition is enhanced.
  - Taxing the firms' economic profits.
  - Imposing price controls (maximum prices), thus reducing the firms' economic profits and ensuring that more people are able to consume the product.

Minimum wages:

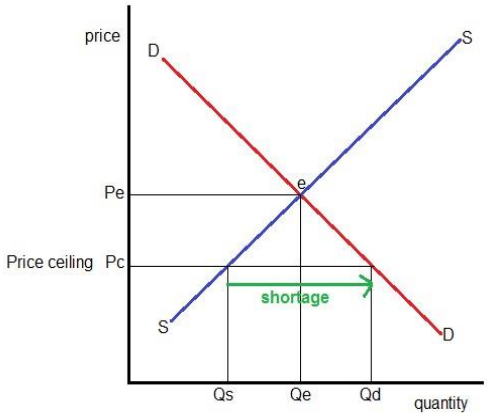
- Some argue that the application of minimum wage laws is needed to enforce a redistribution of income.
- Workers, particularly unskilled workers, are at a disadvantage in negotiating their conditions of employment with their employers.
- As a result, they are unable to secure real wage increase, and their wages remain relatively low- and unfair-income distribution is made worse.
- The South African government introduced labour laws which require employers to pay minimum wages (and other salary items such as UIF contributions) to their workers.
- Once a year, government announces an increase in these wages.
- Domestic workers and farm workers are protected by these laws.
- Minimum wages will improve the distribution of Income (higher wages) but employment will fall.



Maximum prices:

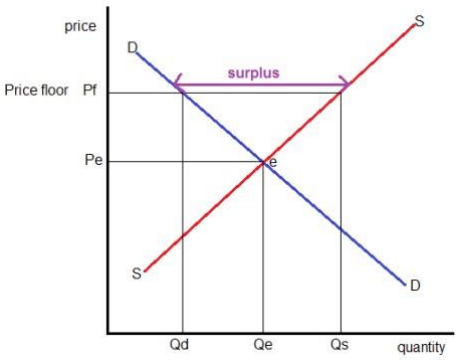
- Sometimes government will set the price of a product at a maximum level that is below the market price.
- Government intervenes and passes a law that suppliers may not charge more than the maximum price.

- The immediate effect is that the quantity supplied drops.
- The shortage caused by the price ceiling creates a problem of how to allocate the goods because there are more consumers wanting the goods than there is available.
- Regardless of how the government solves the problem of a shortage, black markets will develop.
- A maximum price reduced the price for the consumers, but it reduces the quantity available.



Minimum prices:

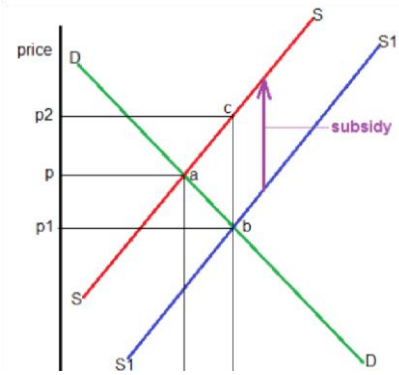
- Governments intervene to ensure that there are high enough quantities of basic foodstuff, such as maize.
- Their usual approach is to set the prices of staple food products at minimum levels. o This makes it worthwhile for farmers to produce such goods in the desired quantities.
- Maize and wheat are staple foods and before 1994 farmers were guaranteed minimum prices for these two products.
- Minimum prices do have unwanted side-effects like oversupply. o Surplus production is typical of minimum prices and how to get rid of it, is a big problem:
  - It could be dumped or sold below cost in a foreign country (this is prohibited by the WTO).
  - It can be destroyed.
  - It can be used as animal fodder. o A fixed minimum price has the effect that producers receive a higher price (Pf) but it creates a market surplus.



Taxes and subsidies

There are two opposing approaches:

- **Levying of taxes:**
  - The appropriate way for government to intervene in the markets is by levying a tax as a method to recover the external cost.
  - It does this because society feels that demerit goods are over-produced and overconsumed.
  - The effect of the tax is to raise the cost of production of the firm, which will cause the supply curve to shift to the left (decrease).
  - A tax would raise the price and production would decrease. Less demerit goods are now produced and consumed.
  - Sin taxes or excise duties are levied on demerit goods such as cigarettes and alcohol.



- **Subsidies on goods:**
  - A subsidy is normally in the form of a financial grant to support the production of goods.
  - It can be direct (such as cash grants and interest-free loans) or indirect (depreciation write-offs, rent rebates and meeting expenses on behalf of producers).
  - They can be used for a variety of purposes, including production, income, employment and exports.
  - Provision of merit goods by the private sector is one such purpose – in the case of education the government normally pay a subsidy to promote such education. o The effect of a subsidy for private producers is a price increase from p1 to p2 and for consumers the price decreases from p to p1. The quantity consumed increases from q to q1.
  - The subsidy amounts to p1p2cb.
  - The producer makes a profit of pp2ca.

Redistribution of income and wealth:

- The market system is neutral with regard to redistribution of income and wealth. o Therefore the government is forced to use combinations of taxes, transfer payments and subsidies to create a redistribution effect.
- Two methods can be used:
  - <u>Traditional methods:</u>

- Usually a progressive system of taxation is used – the more people earn, the more tax they pay.
- The government uses this tax money to:
  - Subsidise goods and services to the poor;
  - Transferring income directly to the poor households (pensions, child support grants, disability grants);
  - Providing certain goods and services free of charge; o Job-creation programmes;
- The government also uses tax money to finance the provision of merit goods.

<u>Redress methods:</u>

- These methods relate to the use of the law to enforce redistribution.
- It includes BEE, affirmative action, empowerment, land restitution, land redistribution and property subsidies (e.g. RDP houses).

Government's production involvement

- Governments are involved in producing goods and services themselves.
- **Public goods:**
  - Government's approach to incomplete markets is to intervene and supply the desired goods directly.
  - They raise taxes and provide the goods themselves. o Income taxes, indirect taxes and wealth taxes are used to pay for these goods and services.
  - Community goods are provided free of charge (defence, police and correctional services and street lightning.

- Some collective goods are provided for a user fee, such as refuse removal, waste disposal and sewerage drainage.
- The provision of some other collective goods is subsidised, for example clean water and electricity.
- The government can also provide merit goods directly, for example healthcare and education

Macroeconomic stability:

- If markets are free and the objectives of growth, employment, price and exchange rate stability and equity are not achieved, the government may perceive it as market failure and intervene. o The intervention focuses either on the demand-side or the supply-side of the economy:
- **Demand-side:**
  - The Keynesians believe that government have an important stabilisation function.
  - They believe that economic stability is best achieved by intervening with appropriate macroeconomic policies.
  - The most important of these policies are fiscal and monetary policy. o Supply-side:
  - Sometimes the objectives are not reached because of market rigidities.
  - The supply-side focuses on the capability of the economy and on policies that attempt to expand the stock of production factors and infrastructure, and to improve the flexibility of factor markets.

COST-BENEFIT ANALYSIS

DEFINITION

- For a private business to be efficient, it has to consider whether it will benefit from engaging in a specific activity, rather than an alternative activity.
- Also in the public sector the analysts have to decide whether society at large would be in a better position given the choice between two or more mutually exclusive alternatives.
- In both the private sector and the public sector project evaluation needs to be done in order to find answers:

Private sector:

- Comparison needs to be made between the expected private costs and benefits over the estimated time span of a new project.
- A feasibility study would be done, which also provides for the legal aspects relating to any externalities.

Public sector:

- Comparison needs to be made between the expected social costs and benefits over the estimated time span of the project.
- A cost-benefit analysis needs to be done.

A cost-benefit analysis is a systematic process for calculating and comparing the benefits and costs of a project, decision or government policy.

- In a CBA all the flows of benefits and the flows of costs of the project have to be expressed in money terms so that they can be compared.
- CBA has two purposes:
  - ✓ It assesses whether a new project will be a feasible investment. It will determine whether the project will benefit the country as a whole.
  - ✓ It evaluates the feasibility of different projects to determine which project will be the best investment.

RATIONALE FOR COST-BENEFIT ANALYSIS

- In a market resources are allocated through the interaction of demand and supply.
- Prices are the signals that bring the needs of consumers in line with the cost of supplying goods.
- But market signals may be non-existent or defective – especially when it comes to the provision of goods by the government, such as roads, bridges, airports, educational facilities, health care facilities etc.
- These projects will require large sums of money. Many people will be quick to state the advantages of going ahead with them while others will be more likely to state the disadvantages.
- Very often, such issues become a political debate with supporters and detractors being on different political sides. Debate on these issues is easier to facilitate if the facts are clearly available to everyone.
- Without firm market signals, decisions on the desirability of a project may rest mainly on subjective political views. Economically efficient resource allocation requires that objective criteria should be used as far as possible.
- The CBA seeks to bring greater objectivity to decision-making. It does this by identifying all the relevant costs and benefits of a particular project and quantifying them in money terms to provide a balance sheet upon which the final decision can be made.
- This is also important when considering the opportunity cost of a project – it usually comes at the expense of something else that the country really needs.
- The reasoning is that society should not produce output if the cost of production is greater than the value or benefit that the consumers get from consuming the output. If the costs exceeds the benefits, society would be better off using some of the scarce resources to produce something else that gives them more benefits.
- **Cost-benefit analysis is therefore an essential tool to:**
  - Analyse and evaluate the social costs and benefits of two or more projects.
  - Make objective decisions.

MECHANICS OF COST-BENEFIT ANALYSIS

In its simplest form a CBA involves **seven stages**:

- ➢ Identification and quantification of all private costs:
  - The cost of the production factors required to produce the output has to be calculated.
- ➢ Identification and quantification of all external costs:
  - The cost associated with any negative externalities (e.g. pollution) has to be estimated.
  - This is a difficult calculation because it has to be done in monetary terms.
- ➢ Calculation of social cost:
  - Social cost = private costs + external costs.

- Identification and quantification of all private benefits:
  - This refers to the future earnings, profits and business expansion that would arise from a project.
  - This gives a measure of the value of the private benefit to society from the consumption of the goods.
  - Identification and quantification of all external benefits:
  - Benefits associated with any positive externalities must be estimated.
  - For example if government provides merit goods, they will estimate the benefit to society of the output for which they are not willing or able to pay.
  - Very difficult to calculate sometimes – for example how do we put a value on less stress on commuters when traffic congestion is relieved by the building of a new road?
- Calculation of social benefit:
  - Social benefit = private benefit + external benefit. o Comparison and decision-making:
  - The money value of total cost is compared with the money value of total benefit.
  - Cost-benefit ratio = sum of economic benefits ÷ sum of economic costs.
  - A decision can be made as to whether to go ahead with production or not.
  - If the social benefit exceeds the social cost, the project can be implemented (ratio will be bigger than 1).
  - If the social benefits are equal to social cost, the project can be implemented (ratio will be equal to 1).
  - If the social cost exceeds the social benefit, the project must be re-evaluated before a decision is made to go ahead (ratio will be less than 1).
  - Cost-benefit ratio = sum of economic benefits ÷ sum of economic costs.

- The challenge to those undertaking a CBA is to put a financial value on all external costs and benefits.
- For example calculating the cost of noise pollution may involve calculating the extent to which house prices or rent in the area will be affected. It can also include the cost of additional soundproofing, such as replacing windows.
- Assessing the impact on the environment is also problematic – such as the disturbance of plant and animal life.
- Evaluating external benefits is also difficult – for example the extent to which local businesses might benefit will be difficult to estimate.

APPLICATION

Cost-benefit analysis is usually used for those projects where it is expected there will be a significant difference between private and social cost and benefits – it is expected that the market might fail.

- Building a highway through a residential area will have high social cost, while the building of a large dam in a very dry area will have high social benefits.
- Projects will usually go ahead if the social benefits exceed the social cost.
- The Gautrain project as well as the E-toll project underwent a CBA process.
- In order to determine the cost-benefit ratio the following equation is used:

Cost-benefit ratio = (Present value of benefits) ÷ (present value of costs)

- The numerator of the equation is the present value of all the expected economic benefits of the project – the prices or monetary value that the community places on them.
- The denominator of the equation is the present value of all costs of the project. These costs will include the construction costs as well as operation, maintenance and repair costs. Capital costs are incurred before the project begins. Operation, maintenance and repair costs are future cots that occur only when the project is operational.
- If the ratio is bigger than one (CBR > 1), public expenditure on the project can be considered economically worthwhile. Present value of economic benefits will be greater than the present value of economic costs. Public expenditure will increase the well-being of the nation.
- If the ratio is smaller than one (CBR < 1), public expenditure is not economically justifiable because the present value of economic benefits are less than the economic costs. Public expenditure will decrease the well-being of the nation.
- If the ratio is equal to one (CBR = 1), public expenditure does not add any value to the nation's well-being.

PRACTICAL USES

- ❖ A CBA is normally used in the public sector when they have to evaluate large-scale public investment projects, such as major highways, railway lines, airports, dams, harbours etc. in order to assess the social benefits to the population.
- ❖ In South Africa, cost-benefit analyses are extensively used by government, government agencies and NGO's.
- ❖ Each department or organisation will develop their own cost-benefit analysis document that serves as a guide for future projects. These documents provide regularly updated costs, procedures, policies and guidelines.

The following projects have used a cost-benefit analysis:

- The Working for water Programme – used CBA to select sites for water projects in South Africa.
- The Department of Environmental Affairs and Tourism – published a document on cost benefit analysis for their industry.
- The Energy Research and Development Centre – conducted a CBA in 2000 to determine the costs and benefits of using energy saving devices in low-cost housing. They found that consumers would have to spend more capital to save energy. Poor consumers (for whom the housing was intended) could not afford these costs. But the personal cots were offset by personal benefits in the form of lower consumption charges. Social benefits included less air pollution, less carbon production, better health and lower healthcare costs and job creation. Despite the benefits, homeowners could not afford the capital expenditure required and the project was delayed.

- ❖ If a business is planning to build a new factory it will consider the following:
  - The private cost of buying the land and constructing the factory.
  - The private benefit to the firm – increased output and higher profits.
  - If the private benefit exceeds the private cost, the firm will proceed.

- ❖ However, the business may need government approval to build the factory. In this case:
  - The government will consider the social costs of the project, namely: the scar on the natural landscape and the effect on the natural habitat and water supply.
  - The social benefits in the form of increased employment in the area, influx of new businesses that are related to the factory, tax revenue earned by government etc.
  - If the social benefits exceed the social costs, the firm will receive approval to proceed.

CBA decisions have to deal with four issues:

a) <u>What costs and benefits?</u>

- All possible costs and benefits need to be identified and calculated.
- Once this is done, they should be ranked according to their remoteness from the main purpose of the project.
- The more remote costs and benefits should be excluded.
- For example:
  - If cows in the area of a new airport start giving less milk after 10 years of operation, would the farmer be able to claim against the airport company?
  - If the ramp at the carpark needs to be replaced after 20 years, should the replacement cost be included?
  - If Eskom's electricity supply is interrupted, who will bear the cost?
- CBA requires careful definitions of the project, accurate estimation of project lives, and comprehensive consideration of all externalities.

Valuation of the costs and benefits:

- Market prices are normally used to value costs and benefits.
- Difficulties arise when distortions occur in the market, or the absence of a market price.
- For example:
  - Some projects are so large that they distort market prices. After the Gautrain project was approved, the prices of residential property along the route doubled, because people who commute to work prefer to live near the railway line. The CBA had to use the actual prices.
  - Prices of a monopoly may be relatively too high. Can market rates be negotiated? Whether it is possible or not, the Gautrain operating company had to use market prices for electricity and telecommunications costs.
  - Exchange rates may be manipulated by central banks in the case of a controlled floating exchange rate system. Market rates need to be determined for use in the CBA.
  - High unemployment levels cause low wages. Such wages do not reflect the social cost of labour. Normal wages have to be used for the purpose of the CBA.
- Calculations in the CBA should be done by using ideal prices. Market prices are ideal prices.

- Where market prices are not available, shadow prices can be used.
- It is very difficult to establish prices for intangible products (pollution and illness) and collective goods, such as parks, beaches, streets, bridges etc.

The interest rate at which to discount:

- Calculations are complicated by the fact that costs and benefits will occur at different points in time.
- In the case of the Gautrain project, a 20-year time period was used.
- Costs and benefits that will only happen in the future need to be converted (discounted) to a current value.
- To do such a conversion a discount rate (interest rate) has to be chosen.
- But which interest rate should be used? The repo rate or bank lending rate?
- Interest rates might be very low at the time – in this case a higher rate should be used.
- In South Africa our interest rates are not very low, the present repo rate may still be relatively high.
- Once a discount rate has been chosen, all future values have to be discounted to the present.
- For example: The Gautrain fare income was estimated at R300 million for the first operational year (2010). Discounted at 10 % the R300 million was just R186 million in 2005 when the project was approved.
- All costs and benefits have to be discounted in the same way.

Income redistribution:

- CBA analysis concentrates on the economic efficiency benefits of a project.
- It the benefits exceed the costs; acceptance of the project is recommended regardless who will benefit and who will bear the costs.
- Where decision makers feel that the redistribution of income is unacceptable, they may reject the project despite its benefits.
- This is the argument of Cosatu in the case of e-tolls – the poor cannot make use of the roads because they cannot afford to pay the e-tolls.
- The basic principle of implementation of the CBA is that losers must be compensated in cash or in kind and gainers must pay either in cash or by a higher price, or by means of a levy or tax.
- Otherwise, an undesirable distribution of income occurs. Only is losers are fully compensated by the gainers will there be no net loss of satisfaction.

SESSION 21: MARKET FAILURE- PART 2

SECTION A: TYPICAL EXAM QUESTIONS

IMPERFECT MARKETS

QUESTION 1: Section A – Short Questions

(Taken from various sources)

HINT: When answering Section A – short question, it is important not to rush but to read the questions carefully and to make sure you understand what the question is asking. Always remember one alternative is completely wrong, one is nearly correct, and one is totally correct. It is easy to eliminate the completely wrong answer, but if you do not read the question carefully the nearly correct answer will also appear correct. The answer will **NEVER** be two options. Only **ONE** option is correct. Your answer will immediately be marked incorrect if you write TWO options.

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number.

1.1.1 Externalities

A are not reflected in market prices, so they can be a source of economic inefficiency.
B do become reflected in market prices, so they can be a source of economic inefficiency.
C are not reflected in market prices, so they do not adversely affect economic efficiency.
D do become reflected in market prices, so they do not adversely affect economic efficiency.

1.1.2 The presence of pollution in the trucking industry leads in the long run to dynamic inefficiencies because

A marginal external cost rises over time.
marginal external cost is constant over time.
B average private cost in trucking is lower than average social cost, so that some trucking firms remain in the industry
C when efficiency calls for them to leave .
average private cost in trucking is higher than average social cost, so that some firms
trucking firms exit the industry when efficiency calls for
D them to stay (or for more firms
to enter).

1.1.3 A minimum wage policy induces an

A Excess demand for labour
B Excess supply of labour
C Efficient market outcome
D Elastic supply response

1.1.4 Which of the following is not a cause of market failure?

A Incomplete information
B Externalities
C Individuals acting according to their own self-interest
D Public goods

1.1.5 The scarcity of resources necessitates that these resources are …

A Allocated efficiently
B Allocated inefficiently
C Productive inefficiency
D Allocative inefficiency

1.2 Choose a description from COLUMN B that matches the item in COLUMN A. Write only the letter (A – I) next to the question number (1.2.1 – 1.2.8) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A	COLUMN B
1.2.1 Imperfect competition	A Helps to quantify the social costs and benefits of related projects
1.2.2 Private costs	B Prices would be low, and consumers would be spoiled for choice
1.2.3 Cost benefit analysis	C Increased international profile of the airport
1.2.4 External benefits	D The costs incurred by the individual firm
	E Jobs created in construction industry

(4 × 1) (4)

1.3 Provide the economic term/concept for each of the following descriptions. Write only the term/concept next to the question number. **NO ABBREVIATIONS WILL BE ACCEPTED.**

1.3.1 Reducing income inequality using a progressive system

1.3.2 The private benefit plus external which are linked with positive externality

1.3.3 Benefits spilling over onto second parties not involved in the initial transactions.

1.3.4 A tax levied on demerit goods to reduce consumption.

1.3.5 Occurs when the forces of demand and supply do not ensure the correct quantity of goods and services are produced.

SECTION B

QUESTION 2:

HINT: When the question requires you to "list" or "name", you need not write a sentence but merely one or two words. This MUST be done in bullet form. This types of questions are applicable for 2.1.1, 3.1.1 and 4.1.1

2.1.1	List any TWO examples of community goods	(2X1)	2
2.1.2	Name any TWO characteristics of public goods	(2X1)	2
2.1.3	Name TWO examples where maximum prices can be applied.	(2X1)	2
2.1.4	Name any TWO consequences of market failure.	(2X1)	2
2.1.5	Name TWO instruments of imperfect markets (government intervention)	(2X1)	2
2.1.6	List TWO examples of minimum wage.	(2X1)	2

QUESTION 3: (Taken from various sources)

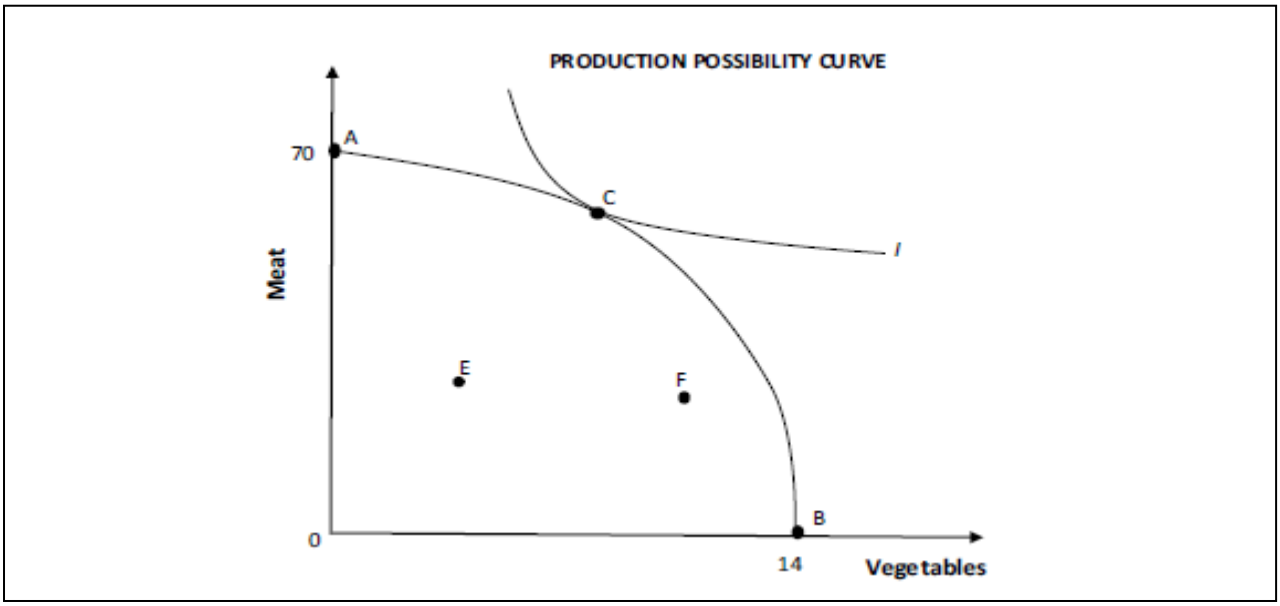
HINT: This types of questions are applicable for 2.1.2, 3.1.2 and 4.1.2

3.1.1	Why is it important for the state to administer prices of certain goods?	(1X2)	2
3.1.2	How do externalities affect equilibrium and create market failure?	(1X2)	2
3.1.3	Why would productive inefficiency and allocative inefficiency be wasteful?	(1X2)	2
3.1.4	What are the strengths of cost benefit analysis?	(1X2)	2
3.1.5	Why is minimum wage a price floor?	(1X2)	2

Data Response

HINT: All section B questions have TWO data interpretation questions – each total 10 marks. Section B consist of Questions 2-4 not as numbered in this document

QUESTION 4:
Study the graph below and answer the questions that follow



4.1 At which point on the graph above are the demands of consumers met? (1)

4.2 What is represented by point E or F? (1)

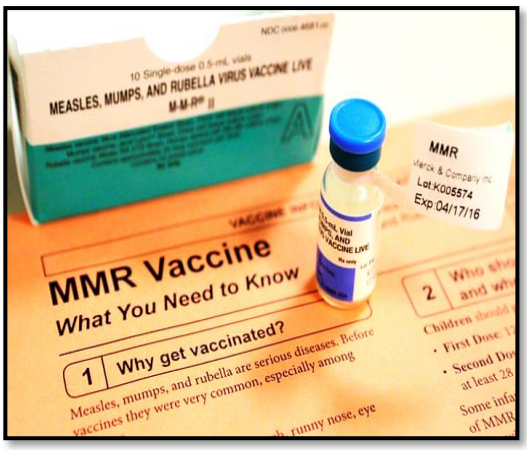
4.3 Briefly describe the term *indifference curve*. (2)

4.4 Explain the reason for the slope of the Production Possibility curve above. (2)

4.5 How can negative externality be reduced using quantity control? (2x2) (4)

QUESTION 5:

Study the PICTURES below and answer the questions that follow.



5.1	What type of externality is shown in the pictures above?	(1)
5.2	Give any example of a negative externality	(1)
5.3	Briefly describe the term *merit goods.*	(2)
5.4	How can this externality lead to market failure?	(2)
5.5	Explain the results of efficient allocation of resources	(4)

QUESTION 6:

Study the extract below and answer the questions that follow.

COST-BENEFIT ANALYSIS: SHOULD THE BUS RAPID TRANSIT (BRT) SYSTEM CONTINUE TO EXIST IN SOUTH AFRICA?

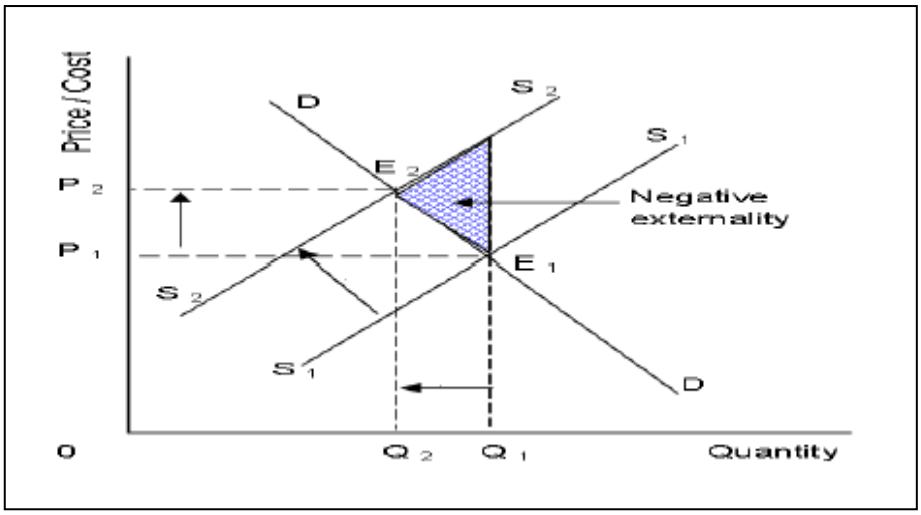
The Bus Rapid Transit (BRT) systems in the country's main cities, Johannesburg, Cape Town and Tshwane, are performing worse financially than was expected. There are serious problems with the BRT system. One high ranking government official suggested that it was time to rethink and redesign the system to stop draining the fiscus. Fixing them must focus on reducing costs and increasing income. Running costs should automatically decline as the system matures. The net present value was not as expected when the project was implemented.

[Adapted source: https://citizen.co.za/news/south-africa/1688443/sa-needs-to-revamp-its-new-public-transport-system/]

6.1	Identify ONE intangible cost associated with the implementation of the BRT system in South Africa	(1)
6.2	Name ONE benefit associated with public transport systems in South Africa.	(1)
6.3	Briefly describe the term net *present value*	(2)
6.4	What is meant by "the BRT system is draining the fiscus"?	(2)
6.5	Evaluate the impact of the BRT on other transport systems in South Africa.	(4)

QUESTION 7

Study the graph below and answer the questions that follow



7.1	Name the shaded area in the graph	(1)
7.2	Give ONE example of a positive externality	(1)
7.3	Briefly describe the term *externalities*	(2)
7.4	Explain the negative effect of a decrease in the demand for cigarettes on the economy	(2)
7.5	How does the government encourage positive externalities in the economy?	(4)

QUESTION 8

Study the pictures below and answer the questions that follow.

Source: google images

8.1	Name the factors of production that is immobile above	(1)
8.2	Give any other cause of market failure other than the one above	(1)
8.3	Briefly describe the term *market failure*	(2)
8.4	How is the immobility of labour a significant problem?	(2)
8.5	What actions should government take to increase mobility in the labour market? (2x2)	(4)

HINT: All section B questions have TWO 8 marks questions, numbered according to questions not like in this document.

QUESTION 9 **Paragraph type questions – Middle Cognitive**

9.1	With the use of a graph, explain the effects of minimum wage.
9.2	Discuss the reasons for cost benefit analysis.
9.3	Discuss how minimum wage legislation can affect a perfectly competitive labour market.
9.4	Differentiate between private sector and public sector project evaluation of cost benefit analysis.
9.5	Explain public goods as a market failure.

QUESTION 10 **Paragraph type questions – Higher cognitive**

10.1	Evaluate the effectiveness of Cost Benefit Analysis as a decision-making tool.
10.2	Why did the government implement a minimum wage in the labour market?
10.3	How does the government deal with lack of information as a consequence of market failure?
10.4	Why should government consider the Cost-Benefit Analysis(CBA) in deciding which major projects to undertake?
10.5	Evaluate the effects of the productive inefficiency in the secondary sectors.

SECTION C

HINT: All section C questions have TWO questions 5 & 6 NOT 11 & 12 like in this document. In the examination you will need to answer only one.

HINT: Section C – the long question, must be answered in FOUR sections: Introduction (definition), Body (headings and full sentences in bullets) additional part and conclusion (summarising). The mark allocations for Section C is as follows:

STRUCTURE OF ESSAY:	MARK ALLO-CATION:
Introduction The introduction is a lower-order response. • A good starting point would be to the main concept related to the question topic • Do not include any part of the question in your introduction. • Do not repeat any part of the introduction in the body • Avoid saying in the introduction what you are going to discuss in the body	Max 2
Body: **Main part:** Discuss in detail/ In-depth discussion/ Examine/ Critically discuss/ Analyse / Compare/ Distinguish/ Differentiate/ Explain/ Evaluate **Additional part:** Give own opinion/ Critically discuss/ Evaluate/ Critically evaluate/ Draw a graph and explain/ Use the graph given and explain/ Complete the given graph/ Calculate/ Deduce/ Compare/ Explain Distinguish / Interpret/ Briefly debate/ How/ Suggest	Max 26 Max 10
Conclusion Any Higher or conclusion include: • A brief summary of what has been discussed without repeating facts already mentioned in the body • Any opinion or value judgement on the facts discussed • Additional support information to strengthen the discussion/analysis • A contradictory viewpoint with motivation, if required Recommendations	Max 2
TOTAL	**40**

QUESTION 11

Discuss in detail the following causes of misallocation of resources (26)

- Missing markets (10)
- Imperfect competition (8)
- Imperfect distribution of income and wealth (8)

How can the South African government deal with supply of undesirable goods? (10)

QUESTION 12

Discuss the following causes of market failure:

- Missing markets (10)
- Imperfect distribution of income and wealth (8)
- Immobility of factors of production (8)

(26 marks)

- Evaluate the success of the government intervention in markets in distributing wealth. (10 marks)