Paper 1 (SL and HL) markschemes

Examples of markschemes for Exam practice: paper 1 in the *Economics for the IB Diploma* CD-ROM are provided below.

Paper 1 section A: Microeconomics

Chapter 2 Competitive markets: demand and supply

SL/HL core topics

Part (a) questions

2.3 (a) Answers **may** include:

- Definitions of demand and quantity demanded.
- Theory of demand: law of demand with reference to changes in demand and factors that can cause changes in demand.
- Demand and supply diagram showing initial equilibrium price and quantity, and a leftward shift in the demand curve, resulting in a lower equilibrium price and quantity and showing that there is no contradiction.
- Examples of demand curve shifts and movements along a demand curve.

2.5 (a) Answers **may** include:

- Definitions of supply and quantity supplied.
- Theory of supply: the law of supply with reference to changes in supply and factors that can cause changes in supply.
- Demand and supply diagram showing initial equilibrium price and quantity, and a rightward shift in the supply curve, resulting in a lower equilibrium price and greater equilibrium quantity.
- Examples of supply curve shifts and movements along a supply curve.

2.8 (a) Answers **may** include:

- Definitions of normal good, excess demand, reallocation of resources.
- Theory of demand and supply with reference to excess demand, the factors that can cause shifts in the demand curve and the role of price as a signal and incentive.
- Demand and supply diagram showing initial and final equilibrium price and quantity following a rightward shift in the demand curve leading to excess demand.
- Examples of demand curve shifts.

2.9 (a) Answers **may** include:

- Definition of supply, excess supply.
- Theory of demand and supply with reference to excess supply, the factors that can cause shifts in the supply curve and the role of price as a signal and incentive.
- Demand and supply diagram showing initial and final equilibrium price and quantity following a rightward shift in the supply curve leading to excess supply.
- Examples of supply curve shifts.

2.11 (a) Answers **may** include:

- Definitions of price mechanism, resource allocation, market demand.
- Theory of free competitive market and allocation of resources, with reference to the price mechanism as conveying signals and incentives to producers and consumers, factors that can cause demand curve shifts.
- Demand and supply diagram showing initial and final equilibrium price and quantity, and a rightward demand curve shift leading to excess demand.
- Examples of demand curve shifts.

2.14 (a) Answers **may** include:

- Definitions of marginal benefit (*MB*), marginal cost (*MC*), allocative efficiency, market equilibrium.
- Theory of free competitive market, and market equilibrium and allocative efficiency, with reference to the relationship between *MB* and the demand curve and *MC* and the supply curve.
- Demand and supply diagram showing that at the market equilibrium where the demand and supply curves intersect, $MB = MC$.
- Examples of competitive markets.

Chapter 3 Elasticities

SL/HL core topics

Part (a) and part (b) questions

3.3 (a) Answers **may** include:

- Definitions of primary commodities, price elasticity of supply.
- Theory of price elasticity of supply (*PES*), price elastic supply, price inelastic supply, with reference to why *PES* for primary commodities is low (usually $PES < 1$) and why *PES* for manufactured goods is relatively high ($PES > 1$).
- Diagrams showing elastic and inelastic supply.
- Examples of primary commodities and manufactured goods.

(b) Answers **may** include:

- Definitions of total revenue, price elasticity of demand.
- Theory of price elasticity of demand (*PED*), price elastic and price inelastic demand and relationship between *TR* and *PED*.
- Diagrams showing how *PED* varies along a straight-line demand curve, and the values of *PED* along different price ranges; showing what happens to *TR* depending on the value of *PED*.
- Examples of goods with price elastic and price inelastic demand.
- Synthesis or evaluation (examine).
- Examination **may** include: appropriate pricing strategies by the producer interested in increasing total revenue require knowledge of *PED* for the product.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

3.4 **(a)** Answers **may** include:

- Definitions of price elasticity of supply (*PES*).
- Theory of price elasticity of supply, price elastic supply, price inelastic supply, with reference to the range of values of *PES* and factors that lead to high or low *PES* values.
- Diagrams showing elastic and inelastic supply.
- Examples of goods with high or low *PES* with explanation.

(b) Answers **may** include:

- Definitions of primary products, income elasticity of demand.
- Theory of income elasticity of demand (*YED*), income elastic and income inelastic demand, with reference to *YED* values in relation to primary products, manufactured goods and services.
- Diagrams showing demand curve shifts for the three groups of products.
- Examples of such products and their likely respective *YED*s.
- Synthesis or evaluation (examine).
- Examination **may** include: consideration of how the rate of growth of industries may be affected by the *YED* of the respective products produced; the relevance of this to rates of growth and profitability of firms within these industries; the relative rates of growth of the primary, secondary and services (tertiary) sector of economies, particularly economically less developed ones; (higher level) the relevance of low *YED*s of primary products to deteriorating terms of trade with implications for the economy and producers.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

3.6 **(a)** Answers **may** include:

- Definitions of primary commodities, price elasticity of demand.
- Theory of price elasticity of demand (*PED*), price elastic demand, price inelastic demand, with reference to why *PED* for primary commodities is low (usually *PED* < 1) and why *PED* for manufactured goods is relatively high.
- Diagrams showing elastic and inelastic demand.
- Examples of primary commodities and manufactured goods.

(b) Answers **may** include:

- Definitions of price elasticity of demand (*PED*) and income elasticity of demand (*YED*).
- Theory of price and income elasticities, elastic and inelastic demand with respect to price and income:
  - *PED:*
    - Theory of relationship between *TR* and *PED.*
    - Diagrams showing what happens to *TR* depending on the value of *PED.*
    - Examples of goods with price elastic and price inelastic demand.
  - *YED*:
    - Theory of *YED* values in relation to primary products, manufactured goods and services.
    - Theory of *YED* values in relation to normal and inferior goods.
    - Diagrams showing demand curve shifts for the various cases.
    - Examples of such products and their likely respective *YED*s.
- Synthesis or evaluation (examine).
- Examination **may** include: consideration of appropriate pricing strategies by the producer interested in increasing total revenue based on knowledge of *PED* for the product; how the rate of growth of industries may be affected by the *YED* of the respective products produced; the relevance of this to rates of growth and profitability of firms within these industries; (higher level) the relevance of low *YED*s of primary products to deteriorating terms of trade with implications for the economy and producers.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

3.8 **(a)** Answers **may** include:

- Definition of cross-price elasticity of demand (*XED*).
- Theory of cross-price elasticity of demand, and interpretation of values with respect to positive or negative or zero value, and magnitude of (absolute) value, with reference to factors that lead to high or low (absolute) *XED* values, i.e. degree of substitutability or complementarity.
- Diagrams showing demand curve shifts in the case of substitutes and complements.
- Examples of substitutes and complements, and of pairs of goods with high and low degrees of substitutability or complementarity.

(b) Answers **may** include:

- Definitions of indirect tax, price elasticity of demand, price elastic and price inelastic demand.
- Theory of indirect taxes in relation to price elasticity of demand and tax revenues including explanation of likely range of values of *PED* for yachts and cigarettes.
- Diagrams showing tax revenues following the imposition of an indirect tax.
- Examples of other goods with price elastic and price inelastic demand.
- Synthesis of evaluation (examine).
- Examination **may** include: consideration of how the imposition of an indirect tax on yachts may be an appropriate policy to redistribute income as yachts are a luxury good, but such a tax is likely to lead to lower tax revenue than a tax on cigarettes.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

Chapter 4 Government intervention

SL/HL core topics

Part (a) questions

4.2 **(a)** Answers **may** include:

- Definitions of indirect taxes, subsidies, allocative efficiency/inefficiency.
- Theory of the free competitive market (demand and supply) and achievement of allocative efficiency in relation to social surplus and marginal benefits (*MB*) and marginal costs (*MC*) (assuming no market failures).
- Diagrams showing a free competitive market equilibrium, with maximum social surplus and $MB = MC$; showing the imposition of an indirect tax leading to welfare loss and $MB > MC$ (underallocation of resources/underproduction), hence allocative inefficiency; showing the imposition of a subsidy leading to welfare loss and $MC > MB$ (overallocation of resources/overproduction), hence allocative inefficiency.
- Examples of possible real-world cases involving the imposition of indirect taxes and subsidies.

4.4 **(a)** Answers **may** include:

- Definitions of price ceilings, price floors, allocative efficiency/inefficiency.
- Theory of free competitive market equilibrium and achievement of allocative efficiency in relation to social surplus and marginal benefits (*MB*) and marginal costs (*MC*) (assuming no market failures); reference to why governments impose price ceilings and price floors.

- Diagrams showing a free competitive market equilibrium, with maximum social surplus and $MB = MC$; showing a price ceiling, and the resulting underproduction, shortage, welfare loss and hence allocative inefficiency; showing a price floor, and the resulting overproduction, surplus, welfare loss and hence allocative inefficiency.
- Examples of possible real-world cases involving price ceilings and price floors.

4.5 (a) Answers **may** include:

- Definitions of indirect taxes, subsidies and price controls (price ceilings and price floors).
- Theory of market demand and supply, and the achievement of market equilibrium at the point of intersection of the demand curve and the supply curve.
- Diagrams showing the imposition of an indirect tax and a subsidy, which lead to a new market equilibrium at the point where the demand curve intersects the new supply curve; showing the imposition of a price ceiling and a price floor, which do not allow the market to clear, i.e. to achieve a new equilibrium, thus resulting in a shortage (price ceiling) or surplus (price floor).
- Examples of real-world cases involving indirect taxes, subsidies, price ceilings, price floors.

Part (a) and part (b) questions

4.8 (a) Answers **may** include:

- Definition of indirect tax.
- Theory of the free competitive market (demand and supply) and effects of indirect taxes; the tax drives a wedge between the price paid by consumers and the price received by producers, leading to a higher price for consumers, a lower price for producers, and a lower equilibrium quantity produced and consumed, involving an underallocation of resources to the good, lower producer revenue (due to the lower price and lower quantity produced).
- Diagram showing the imposition of an indirect tax and its effects; showing government revenue, share of tax paid by consumers and producers (tax incidence); distinction between specific and *ad valorem* tax.
- Examples of other goods on which an indirect tax may be imposed.

(b) Answers **may** include:

- Definition of indirect tax.
- Theory of government intervention taking the form of imposition of an indirect tax, with reference to effects on consumers, producers, workers, the government, society (allocative inefficiency due to lower than desired output).
- Diagram showing the impacts of the indirect tax.
- Examples of other goods on which an indirect tax may be imposed.
- Synthesis or evaluation (discuss).

- Discussion **may** include: consideration of possible factors that led the government to impose the indirect tax; possibility that government objectives in imposing the tax may outweigh the loss of allocative efficiency; weighing up of pros and cons of the tax from the perspective of various stakeholders and society; consideration of short- and long-term consequences.

Higher level (**may** include answers in addition to the above):

- Diagram showing the welfare loss arising from the imposition of the tax.
- Discussion **may** include: at the new after-tax equilibrium, $MB > MC$, indicating there is an underallocation of resources to the production of the good.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

4.10 (a) Answers **may** include:

- Definitions of subsidy, price floor, income support.
- Theory of government intervention in free competitive markets in the case of subsidies and price floors, with reference to the points that in both cases the quantity of the good produced and consumed will increase and allocative inefficiency will result because there will be an overallocation of resources to the production of the good, since $MC > MB$.
- Diagrams to illustrate the effects of the granting of a subsidy and the imposition of a price floor.
- Examples of cases where subsidies and price controls are used by governments as income supports.

(b) Answers **may** include:

- Reference to definitions, theory and diagrams in part (a).
- Similarities:
  - Increased output.
  - Overproduction and overallocation of resources.
  - Producers become better off because they produce a larger quantity and sell it at a higher price.
  - Workers become better of because of increased employment.
  - Government budget is worse off.
  - Society is worse off because of overallocation of resources.
  - Foreign producers are worse off because of increased competition due to oversupply and lower prices (in the case of subsidies).
  - (higher level) Producer surplus increases.

- Differences:
  - A subsidy leads to an equilibrium P and Q, and therefore no excess supply or demand, whereas a price floor leads to disequilibrium with a surplus of the good (excess supply) that must be purchased by the government in order to maintain the floor.
  - With a subsidy consumers pay a lower price, whereas with a price floor they pay a higher price.
  - With a subsidy consumers buy a larger quantity, whereas with a price floor they buy a smaller quantity.
  - Therefore with a subsidy consumers are better off (lower P and higher Q), whereas with a price floor they are worse off (higher P and lower Q).
  - (higher level) With a subsidy consumer surplus increases, whereas with a price floor it falls.
  - The government budget is worse off in both cases, but with price floors there are extra costs due to the need to store and dispose of the surplus bought by the government.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: consideration of points of similarity and difference.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

4.14 (a) Answers **may** include:

- Definition of minimum wage, price floor.
- Theory of supply and demand for labour, and effects of minimum wage on quantity of labour demand and supplied; effects of eliminating/reducing the minimum wage in terms of reducing the labour surplus (unemployment) of unskilled labour.
- Diagram for the labour market illustrating a minimum wage.
- Examples of uses of minimum wage legislation.

(b) Answers **may** include:

- Definitions, theory, diagram as in part (a).
- Impacts:
  - Quantity of labour demanded will increase.
  - Quantity of labour supplied will fall.
  - Employment (of unskilled labour) will increase.
  - Impacts on workers are mixed: some are worse off as they receive a lower wage, some are better off because they find employment.
  - Allocation of labour resources will improve.
  - Industries relying on unskilled labour will experience a fall in production costs, thus increasing quantity supplied.
  - Diagram showing the industry supply curve shift to the right, leading to higher Q and lower P.

- Consumers will gain as quantity of the goods in such industries increases and price falls.
- Illegal labour that used to work at wages below the minimum wage may be reduced.

- Synthesis or evaluation (discuss).
- Discussion **may** include: rationale of imposing minimum wages, weighing up of costs and benefits, possibility that minimum wages may not always lead to unemployment if they lead to increases in labour productivity, in which case reducing them may limit the possible benefits; impacts on stakeholders; short- and long-term consequences.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

HL topics

Part (a) question

4.15 (a) Answers **may** include:

- Definitions of tax incidence, indirect taxes, price elasticity of demand (*PED*) and price elasticity of supply (*PES*).
- Theory of tax incidence and how the relative shares of consumers and producers are affected by different price elasticities.
- Diagrams illustrating tax incidence: when *PED* is low consumers bear the higher burden, and when *PES* is low producers bear the higher burden.
- Examples of goods with high and low *PED* and *PES*, and implications for tax incidence on consumers and producers.

Chapter 5 Market failure

SL/HL core topics

Part (a) questions

5.4 (a) Answers **may** include:

- Definition of negative consumption externalities.
- Theory of negative consumption externalities in relation to market failure, allocative efficiency and social welfare (*MPB* > *MSB*, or *MSC* > *MSB*).
- Diagrams showing the effects of a negative consumption externality caused by consumption of petrol (gasoline) for cars.
- Examples of negative consumption externalities brought about by the use of petrol (gasoline) for cars.

5.6 (a) Answers **may** include:

- Definition of positive consumption externalities.
- Theory of positive consumption externalities in relation to market failure, allocative efficiency and social welfare (*MSB* > *MPB*, or *MSB* > *MSC*).
- Diagrams showing the effects of a positive consumption externality caused by a cure for HIV/AIDS.
- Examples of positive consumption externalities brought about by a cure for HIV/AIDS.

Part (a) and part (b) questions

5.9 (a) Answers **may** include:

- Definitions of tradable pollution permits (cap-and-trade schemes), allocation of resources.
- Theory of negative production externalities in relation to market failure, allocative efficiency and social welfare (*MSC* > *MPC*, or *MSC* > *MSB*); reference to how tradable permits are intended to work as a market-based solution to the problem of pollution.
- Diagrams showing the demand and supply for tradable permits; showing a negative production externality with welfare loss, and correction of the externality due to the use of tradable permits, leading to an improvement in allocative efficiency.
- Examples of the use of tradable pollution permits.

(b) Answers **may** include:

- Definition of tradable pollution permits.
- Theory of market failure arising from the use of fossil fuels (negative production externalities) and alternative policies to deal with fossil fuel emissions: tradable permits, carbon taxes, legislation and funding for clean technologies.
- Diagrams to show how the alternative policies may reduce fossil fuel emissions.
- Examples of the use of tradable pollution permits.
- Synthesis or evaluation (discuss).
- Discussion **may** include: potential advantages/disadvantages of tradable pollution permits as a method to deal with fossil fuel emissions; relative strengths and weaknesses of the alternative policies listed above (carbon taxes, legislation and funding for clean technologies); the relative strengths and weaknesses of market-based policies versus government regulation and legislation; advantages of internalising the externality; the likely need for international collaboration as pollution is a global problem; discussion whether tradable permits might be the most effective method to deal with fossil fuel emissions; impacts on stakeholders; possible short- and long-term consequences.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

5.12 (a) Answers **may** include:

- Definitions of subsidies, positive consumption externalities.
- Theory of positive consumption externalities in relation to market failure, allocative efficiency and social welfare (*MSB* > *MPB*, or *MSB* > *MSC*).
- Diagrams showing the effects of a positive consumption externality caused by the consumption of education.
- Examples of positive consumption externalities brought about by education.

(b) Answers **may** include:

- Definition of positive consumption externalities.
- Theory of market failure arising from the consumption of education and alternative policies to deal with the external benefits: legislation and regulations, advertising, direct government provision, subsidies.
- Diagrams to show how the alternative policies may correct the problem of externalities of education.
- Examples showing the use of alternative policies.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: relative strengths and weaknesses of alternative policies listed above (legislation and regulations, advertising, direct government provision, subsidies); the relative strengths and weaknesses of market-based policies versus government regulation and legislation; advantages of internalising the externality; consideration of what may be more effective.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

5.15 (a) Answers **may** include:

- Definitions of indirect tax, price inelastic demand, negative production externality.
- Theory of price elasticity of demand (*PED*), price elastic and price inelastic demand; theory of indirect taxation as a method to reduce negative production externalities involving pollution.
- Diagrams illustrating a negative production externality with the case of inelastic demand for petrol (gasoline) resulting in higher tax revenues and smaller reduction of quantity demanded.
- Examples of the imposition of indirect taxes on good with differing *PED*s.

(b) Answers **may** include:

- Definitions as in part (a).
- Theory of market failure arising from the consumption of petrol (gasoline) (negative consumption externalities) and alternative policies to deal with these externalities: legislation and regulations, advertising, indirect taxes.
- Diagrams to show how the alternative policies may correct the problem of externalities of pollution due to petrol (gasoline) consumption.
- Examples showing the use of alternative policies; illustrating other possible goods with negative consumption externalities.
- Synthesis or evaluation (discuss).
- Discussion **may** include: relative strengths and weaknesses of alternative policies listed above (legislation and regulations, advertising, indirect taxes); the relative strengths and weaknesses of market-based policies versus government regulation and legislation; advantages of internalising the externality; impacts on stakeholders, short-term and long-term consequences; consideration of what may be more effective.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

5.17 (a) Answers **may** include:

- Definitions of rivalry, excludability.
- Theory of lack of public goods as a type of market failure.
- Use of the concepts of rivalry and excludability to distinguish between private and public goods.
- Examples of private and public goods, each with reference to rivalry and excludability.

(b) Answers **may** include:

- Definitions of merit goods, positive consumption externalities.
- Theory of market failure in relation to merit goods and public goods; distinction between merit goods and public goods.
- Diagram showing merit goods as goods with positive consumption externalities and direct government provision as one method to correct the externality problem.
- Examples of merit goods and public goods.
- Synthesis or evaluation (discuss).
- Discussion **may** include: in contrast to merit goods, lack of public goods can mainly be corrected by direct government provision; opportunity costs of government spending on merit goods and public goods; issues of which public and merit goods should be provided by the government and in what quantities; the lack of a market for public goods makes it more difficult to attach a value to public goods (whereas merit goods are usually provided by the market); efforts made by government to estimate the value of benefits through cost-benefit analysis; short-term and long-term effects of public provision; impacts on stakeholders.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

5.19 (a) Answers **may** include:

- Definitions of common access resources, economic growth, sustainable/unsustainable resource use, negative externalities.
- Theory of common access resources in relation to their lack of ownership and implications for their sustainable use; relationship of economic growth based on use of fossil fuels to negative consumption and production externalities; relationship of extreme poverty to negative consumption and production externalities.
- Diagrams to illustrate the above.
- Examples of negative production and consumption externalities caused by economic growth based on fossil fuels and extreme poverty.

(b) Answers **may** include:

- Definitions of sustainability, negative production and consumption externalities.
- Theory of market failure arising from negative consumption and production externalities and alternative policy responses to deal with these: legislation and regulations, advertising, indirect taxes, tradable pollution permits, measures to combat poverty that threatens sustainability.
- Diagrams to show how the alternative policies may correct the problem of negative externalities.
- Examples showing the use of alternative policies.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: relative strengths and weaknesses of alternative policies listed above (legislation and regulations, advertising, indirect taxes, tradable pollution permits); the relative strengths and weaknesses of market-based policies versus government regulation and legislation; advantages of internalising the externality; advantages of combating poverty; consideration of what may be more effective.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

HL topics

Part (a) and part (b) questions

5.22 (a) Answers **may** include:

- Definitions of welfare loss, monopoly power, market failure.
- Theory of monopoly: how monopoly power leads to market failure and allocative and productive inefficiency.
- Diagram of monopoly showing welfare loss and inefficiencies, diagram of perfect competition showing maximum consumer and producer (social) surplus.
- Examples of monopoly power.

(b) Answers **may** include:*

- Definitions of monopoly power and alternative government responses
- Theory of anti-monopoly government responses, e.g. legislation to protect competition and regulate mergers, regulation of natural monopoly such as marginal cost pricing for allocative efficiency and average cost pricing for productive efficiency, nationalisation and trade liberalisation.
- Diagrams showing marginal cost pricing and average cost pricing.
- Examples of policies to reduce/regulate monopoly power.
- Synthesis and evaluation (discuss).
- Discussion **may** include: need for government responses to monopoly power, potential benefits of and dilemma posed by natural monopoly, strengths and weaknesses of alternative responses, relative effectiveness of various policies, effects on stakeholders, short- and long-term effects.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

* The material needed to answer this question is contained in the textbook, Chapter 5 and Chapter 7 (pages 192–5).

Chapter 6 The theory of the firm I: Production, costs, revenue and profit (Higher level topic)

HL topics

Part (a) questions

6.2 **(a)** Answers **may** include:

- Definitions of diminishing returns, decreasing returns to scale, short run and long run.
- Theory of production and costs, distinguishing between the short run (diminishing returns) and the long run (decreasing returns to scale).
- Diagrams showing production (*MP*, *AP*) and/or costs (*ATC, AVC, MC*) in the short run, illustrating diminishing returns; and the long-run average total cost curve (*LRATC*) illustrating decreasing returns to scale and diseconomies of scale.
- Examples of diminishing returns and decreasing returns to scale.

6.3 **(a)** Answers **may** include:

- Definitions of decreasing returns to scale and diseconomies of scale.
- Theory of production and costs in the long run with reference to decreasing returns to scale as underlying diseconomies of scale; factors responsible for decreasing returns and diseconomies.

- Diagram showing the long-run average total cost curve (*LRATC*) illustrating decreasing returns to scale (and increasing and constant returns to scale).
- Examples of decreasing returns and diseconomies.

6.4 (a) Answers **may** include:

- Definitions of average and marginal product, average variable cost and marginal cost, short run.
- Theory of production and costs in the short run, with particular reference to the law of diminishing returns and how it affects costs of production in the short run.
- Diagrams showing the average and marginal product curves as mirror images of the average variable cost and marginal cost curves.
- Examples of diminishing returns and short-run costs of production.

6.8 (a) Answers **may** include:

- Definitions of normal profit, economic profit, economic costs.
- Theory of the firm with reference to the profit-maximising firm's interest in securing enough revenues to cover all its economic costs (implicit plus explicit costs), including payment for the factor of production entrepreneurship which is a kind of implicit cost.
- Diagram of a firm in perfect competition (or monopolistic competition or monopoly) which is earning normal profit, where $P = ATC$ and economic profit is zero.
- Examples of cases where a firm may be earning normal profit and remaining in business.

Chapter 7 The theory of the firm II: Market structures (Higher level topic)

HL topics

Part (a) and part (b) questions

7.1 (a) Answers **may** include:

- Definition of perfect competition, price-taker.
- Theory of the firm, with reference to the model of perfect competition, consisting of small firms producing a homogeneous product, facing a perfectly elastic demand curve at the level of the price that has been determined in the market, which each firm accepts.
- Diagrams showing the industry and firm in perfect competition, where each firm accepts the price that has been determined in the market (industry).
- Examples of industries/markets that approximate (come close to) the perfectly competitive model.

(b) Answers **may** include:

- Definition of perfect competition, economies of scale.
- Theory of costs of production in the long run with reference to economies of scale and the factors that allow for these to be achieved; theory of the firm with reference to the model of perfect competition, which, consisting of small firms that do not grow to a large size, have very limited possibilities to achieve economies of scale.
- Diagram of the long-run average total cost curve (*LRATC*) indicating the range of average costs over which a firm achieves economies of scale.
- Examples of firms that have achieved economies of scale, and others that have not/cannot.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: consideration of the strengths/usefulness of the model of perfect competition, including the achievement of productive and allocative efficiency, maximum social (consumer plus producer) surplus, production where marginal benefits (*MB*) equal marginal costs (*MC*); low prices and higher quantities produced than in other market structures, competition leads to closure of inefficient firms, etc.; weaknesses of the model, including factors that make it unrealistic such as inability to achieve economies of scale, lack of product variety and others; reference to the point that it is generally used as a standard or benchmark for assessing real-world industries with respect to their achievement of productive and allocative efficiency.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.3 **(a)** Answers **may** include:

- Definitions of perfect competition, supernormal (abnormal) profit, short run, long run.
- Theory of the firm with reference to the model of perfect competition consisting of a structure in which no barriers to entry or exit ensure that in the long run firms exit loss-making industries or enter profit-making ones, such that in the long run all firms will make normal profit.
- Diagrams of perfect competition showing the process of adjustment in the firm and industry (market) from a situation where firms are earning supernormal (abnormal) profits or making losses in the short run to one where they earn normal profits in the long run.
- Examples of real-world industries where this process of entry and exit of firms is approximated (is similar).

(b) Answers **may** include:

- Definitions of monopoly, perfect competition, efficient.
- Theory of the firm with reference to the models of perfect competition and monopoly, and to the efficiency conditions of productive efficiency (production at minimum *ATC*), allocative efficiency (production where $P = MC$), and the possibility of achievement of lower prices by monopoly due to economies of scale.
- Diagrams of perfect competition and monopoly comparing productive and allocative efficiency/inefficiency, social surplus and welfare loss in monopoly, higher price and lower quantity in monopoly; possibility of monopoly achieving greater output and lower price than perfect competition due to the achievement of economies of scale.
- Examples of firms that approximate monopoly and perfect competition.
- Synthesis of evaluation (evaluate).
- Evaluation **may** include: consideration of the importance of the achievement of efficiency as a criterion for assessing alternative market structures; weighing up the strengths and weakness of perfect competition as against monopoly; consideration of which market structure may have more desirable features.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.7 **(a)** Answers **may** include:

- Definitions of monopoly, natural monopoly.
- Theory of the firm with reference to the market model of monopoly and the particular case of natural monopoly.
- Diagram illustrating the case of a natural monopoly.
- Examples of natural monopolies.

(b) Answers **may** include:

- Definition of monopoly.
- Theory of the firm with reference to monopoly and the particular assumptions that underlie this model, as well as the importance of barriers to entry.
- Diagrams for a firm in monopoly, illustrating the profit-maximising position of the firm, results with respect to allocative and productive efficiency, welfare analysis (consumer and producer surplus, social surplus and welfare loss), and the possibility of achieving economies of scale large enough that price is lower and quantity greater in comparison with perfect competition.
- Examples of monopolies.

- Synthesis or evaluation (evaluate).
- Evaluation **may** include: consideration of benefits of producers, including the possibility of supernormal (abnormal) profits in the long run, an increase in the amount of producer surplus at the expense of consumer surplus; consideration of benefits of consumers, including the advantages of research and development due to supernormal (abnormal) profits, the need to be technologically innovative in order to maintain the monopoly position and supernormal (abnormal) profits, the possibility of economies of scale and hence lower prices for consumers.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.8 **(a)** Answers **may** include:

- Definition of product differentiation, non-price competition, monopolistic competition, monopoly.
- Theory of the firm: the difference between price-takers (perfect competition) and price-makers (imperfect competition) with respect to the shape of the demand curve; theory of monopolistic competition, including the importance of product differentiation as a kind of non-price competition that provides monopolistically competitive firms with a degree of monopoly power.
- Diagram of monopolistic competition and profit-maximising (loss minimising) position.
- Examples of firms/industries that are monopolistically competitive and engage in product differentiation.

(b) Answers **may** include:

- Definitions of monopoly, monopolistic competition, normal profit, efficiency.
- Theory of the firm referring to monopoly and monopolistic competition, with respect to their long-run profit-maximising equilibrium positions, and their positions with respect to productive and allocative efficiency.
- Diagrams of monopoly and monopolistic competition showing long-run profit maximisation, where the monopolist can earn supernormal (abnormal) profit and the monopolistically competitive firm earns normal profit, and where neither achieves productive or allocative efficiency.
- Synthesis or evaluation (discussion).
- Examples of firms in monopoly and monopolistic competition.
- Discussion **may** include: consideration that due to barriers to entry the monopolist can continue to earn supernormal (abnormal) profits in the long run whereas freedom of entry and exit in monopolistic competition ensures that the firm will make normal profit; firms in both market structures are both productively and allocatively inefficient since they both face downward-sloping demand curves meaning that they both have market power; the inability of the firm in monopolistic competition to produce at minimum *ATC* (productive inefficiency) illustrates excess capacity and is thought of as the 'price' consumers pay for product differentiation; effects of the two market structures on stakeholders.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.10 (a) Answers **may** include:

- Definitions of allocative efficiency, productive efficiency, perfect competition.
- Theory of the firm with reference to perfect competition in the short run and the long run, where there is achievement of allocative efficiency in both cases because the profit-maximising rule $MC = MR$ where $MR = P$ (and therefore the profit-maximising rule becomes $MC = P$) ensures that the firm will always produce at minimum *ATC*; however, this does not apply to productive efficiency, which is not achieved when the firm is earning supernormal (abnormal) profit or loss (positive or negative economic profit respectively).
- Diagrams showing the profit-maximising equilibrium positions of a firm in perfect competition in the short run (earning positive or negative economic profit) and in the long run (normal profit) showing allocative efficiency in both the long run and short run and productive efficiency only in the long run.
- Examples of firms that approximate the conditions of perfect competition.

(b) Answers **may** include:

- Definitions of monopoly, perfect competition.
- Theory of the firm with reference to monopoly and perfect competition and the particular assumptions that underlie these models, and the inability of the monopolist, in contrast to the firm in perfect competition, to achieve productive and allocative efficiency due to the downward-sloping demand curve that indicates the presence of monopoly power.
- Diagrams for a firm in monopoly and perfect competition, illustrating their profit-maximising position in the long run, results with respect to allocative and productive efficiency, welfare analysis (consumer and producer surplus, social surplus and welfare loss in monopoly), and the possibility of achieving economies of scale large enough that price is lower and quantity greater in monopoly in comparison with perfect competition.
- Examples of monopolies and firms that approximate (resemble) perfect competition.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: consideration of benefits of monopoly, including the advantages of research and development made possible by supernormal (abnormal) profits, possibility of developing new technologies due to the need to be technologically innovative in order to maintain the monopoly position and supernormal (abnormal) profits, the possibility of economies of scale leading to lower prices for consumers; disadvantages of monopoly, including lower quantity produced and higher prices, an increase in the amount of producer surplus at the expense of consumer surplus; the presence of welfare loss.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.12 (a) Answers **may** include:

- Definition of monopolistic competition, allocative efficiency, productive efficiency.
- Theory of the firm with reference to the model of monopolistic competition and the assumptions it is based on, including the point that due to product differentiation the firm has some monopoly power leading to a downward-sloping demand curve which prevent the achievement of allocative and productive efficiency.
- Diagram showing the long-run equilibrium position of the monopolistically competitive firm where the firm does not achieve allocative or productive efficiency.
- Examples of firms in monopolistic competition.

(b) Answers **may** include:

- Definitions of perfect competition, monopolistic competition.
- Theory of the firm with reference to the models of perfect and monopolistic competition, including the point that due to free entry and exit in both market structures firms earn zero economic profit in the long run (normal profit); however, the achievement or not of productive and allocative efficiency depends on whether the firm is a price-taker (faces a perfectly elastic demand curve) or a price-maker (faces a downward-sloping demand curve)
- Diagrams showing short-run and long-run equilibrium position of perfectly and monopolistically competitive firms.
- Examples of firms that are monopolistically competitive and others that are more similar to perfect competition, highlighting their differences.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: points of similarity, including large number of firms, free entry and exit, normal profit in the long run and supernormal (abnormal) profit or loss in the short run; points of difference, including market power, productive and allocative efficiency, excess capacity, product variety, possibilities for economies of scale.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.15 (a) Answers **may** include:

- Definitions of oligopoly, collusion, non-collusive oligopoly.
- Theory of oligopoly, with reference to the kinked-demand curve model and how this helps explain price stability over time.
- Diagram of the kinked demand curve.
- Examples of non-collusive oligopoly.

(b) Answers **may** include:

- Definition of monopoly power.
- Theory of the firm for the monopoly and oligopoly, referring to ability to earn supernormal (abnormal) profits in the long run, allocative and productive inefficiency, welfare loss, high prices and low quantities; theory of government responses, e.g. legislation to protect competition and regulate mergers, regulation of natural monopoly, nationalisation.
- Diagrams illustrating perfect competition versus monopoly power (e.g. monopoly, collusive and non-collusive oligopoly); marginal cost pricing and average cost pricing for the case of natural monopoly.
- Examples of policies to reduce monopoly power.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: desirability of government responses to monopoly power, benefits and difficulties of competition policies (e.g. difficulties in proving collusion), benefits and difficulties of merger policies, benefits and difficulties of regulation of natural monopoly, strengths and weaknesses of alternative responses, relative effectiveness of various policies.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

7.18 (a) Answers **may** include:

- Definitions of monopoly, revenue maximisation.
- Theory of the firm with reference to the monopolist who maximises revenue by producing output where marginal revenue (*MR*) is equal to zero, and charges the price that is determined by the demand curve for that level of output.
- Diagram showing the monopolist firm that maximises revenue.
- Examples of firms that maximise revenue, or factors that may lead firms to try to maximise revenues.

(b) Answers **may** include:

- Definitions of monopoly, profit maximisation, revenue maximisation.
- Theory of the firm on the monopolist that tries to maximise profit and the monopolist that tries to maximise revenue; may refer to the point that the monopolist always produces in the elastic portion of the demand curve, therefore as price falls and quantity increases relative to the profit-maximising equilibrium, total revenue increases and reaches a maximum at the point where price elasticity of demand (*PED*) = 1.
- Diagram showing the equilibrium position of the profit maximiser and that of the revenue maximiser; diagram showing the total revenue curve reaching a maximum where marginal revenue is zero (in the elastic portion of the monopolist's demand curve).
- Examples of monopolies with the two alternative objectives, or factors that may lead firms to differ on their objectives.

- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: price is lower and quantity is higher for the revenue-maximizing firm; this is likely to be preferred by the author whose income is a fixed percentage of revenues; the publisher might prefer the higher price and lower quantity that maximises profits; reference to why firms may have differing objectives.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

Paper 1 section B: Macroeconomics

Chapter 8 The level of overall economic activity

SL/HL core topics

Part (a) questions

8.2 (a) Answers **may** include:

- Definitions of circular flow, leakages, injections.
- Theory of the circular flow model, explaining the relationship between leakages and injections and how their relative size affects the size of the flow.
- Diagram showing the circular flow model with leakages and injections.
- Examples of leakages and injections that can make the circular flow larger or smaller.

8.4 (a) Answers **may** include:

- Definitions of business cycle, long-term growth trend, expansion, contraction (or recession).
- Theory of the business cycle, referring to the phases of cyclical fluctuations of economic activity around the long-term growth trend, potential output, recessionary (deflationary) and inflationary gaps.
- Diagram showing the business cycle and its phases.
- Examples of actual or theoretical cases of the various phases.

Part (a) and part (b) questions

8.8 (a) Answers **may** include:

- Definitions of GDP, GNI, *per capita.*
- Theory of national income accounting, with reference to the differences between GNP and GNI and why GNI *per capita* is a better measure of income on average per person while GDP *per capita* is a better measure of output produced on average.
- Examples of actual or theoretical cases of differing GDP and GNI *per capita* and what each one is a better indicator of.

(b) Answers **may** include:

- Definitions of national income, national income statistics, GDP, GNI.
- Theory of measurement of national income and output, with reference to the various issues and difficulties that their use presents.
- Examples of some of the difficulties created by the use of national income statistics.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: consideration of the various advantages and disadvantages that present themselves by the use of GDP and GNI to make comparisons of output and income over time and comparisons of standards of living; the possible use of green GDP; issues of quality, composition of output and income distribution, GDP versus GNI and their respective uses; conversions by US$ PPP, etc.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

Chapter 9 Aggregate demand and aggregate supply

SL/HL core topics

Part (a) questions

9.2 **(a)** Answers **may** include:

- Definitions of demand, aggregate demand.
- Theory of negative slope of the demand curve (falling marginal benefits) and of aggregate demand curve (wealth effect, interest rate effect and international trade effects).
- Diagrams illustrating the downward-sloping demand and aggregate demand curves.
- Examples of actual or theoretical factors that underlie the relationships illustrated by the two curves.

9.5 **(a)** Answers **may** include:

- Definitions of aggregate supply.
- Theory of the vertical shape of the *LRAS* curve (the level of real output is independent of the price level) and the Keynesian *AS* curve (factors accounting for the curve's three sections).
- Diagrams illustrating the two curves.
- Examples of actual or theoretical factors accounting for the shapes of the curves.

9.8 (a) Answers **may** include:

- Definitions of short run and long run in macroeconomics, monetarist/new classical perspective.
- Theory of macroeconomic equilibrium in the short run, referring to the *AD* and *SRAS* curves that may determine an equilibrium level of output that differs from potential output (recessionary and inflationary gaps), and equilibrium in the long run, with reference to the position of the *LRAS* curve at the level of potential output.
- Diagrams illustrating short-run and long-run equilibrium based on the *AD-AS* model.
- Examples of actual or theoretical or actual cases of the different types of equilibrium.

9.10 (a) Answers **may** include:

- Definitions of aggregate supply, short run and long run in macroeconomics, monetarist/new classical, Keynesian, economic growth.
- Theory of the relationship between shifts in the *LRAS* and Keynesian *AS* curves and economic growth, with reference to factors that can cause economic growth.
- Diagrams showing the two curves shifting, with rightward shifts indicating positive economic growth.
- Examples of factors that can cause growth and hence shifts in the two curves.

Part (a) and part (b) questions

9.12 (a) Answers **may** include:

- Definitions of inflationary and recessionary gaps.
- Theory of short-run equilibrium with reference to the point that the actual equilibrium of an economy may differ from potential output; inflationary gaps occur with an excess of aggregate demand and recessionary gaps with a deficiency of aggregate demand relative to what is needed to achieve equilibrium at potential (or full employment) output.
- Diagrams illustrating inflationary and recessionary gaps (either the monetarist/new classical or Keynesian models).
- Examples of factors that can cause inflationary and recessionary gaps, or real-world situations where these may have occurred/be occurring.

(b) Answers **may** include:

- Definitions of aggregate supply, monetarist/new classical, Keynesian.
- Theory referring to the monetarist/new classical model according to which long-run equilibrium occurs at the level of potential (full employment) output where the vertical *LRAS* curve is situated; and the Keynesian model according to which equilibrium occurs anywhere along the *AS* curve, indicating the presence of an inflationary gap, recessionary gap, or full employment output.
- Diagrams of the two *AD-AS* models illustrating the possible points of equilibrium in each of the models.

- Examples of actual or theoretical cases where equilibrium output may be interpreted in a similar or contrasting way according to the two perspectives.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: points of similarity, such as possible short-run equilibrium where in both models it is possible to illustrate inflationary and recessionary gaps; points of difference, including the monetarist/new classical assumption of full wage and price flexibility in the long run that ensures equilibrium will occur only at the full employment level of output in contrast to the Keynesian model where this does not happen due to the downward inflexibility of wages and prices; differing implications of the two models with respect to inflation, recession.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

9.14 (a) Answers **may** include:

- Definitions of Keynesian model.
- Theory of the Keynesian three-section *AS* curve, according to which the horizontal section is due to wage-price inflexibility and the presence of excess capacity in the economy, and where market forces cannot bring the economy to potential (or full employment) equilibrium.
- Diagram of the Keynesian *AD-AS* model showing possible levels of equilibrium output.
- Examples of actual or theoretical cases illustrating equilibrium at different levels of output that differ from potential output.

(b) Answers **may** include:

- Definitions of aggregate demand, monetarist/new classical, Keynesian.
- Theory of effects of increases in aggregate demand in the two models, referring to the point that in the monetarist/new classical model these are always inflationary (in the short run they result in an increase in real output as well; in the long run they give rise only to increases in the price level); in the Keynesian model the effects depend on which of the three sections of the *AS* curve the *AD* increase occurs.
- Diagrams illustrating the two models and the effects of *AD* increases.
- Examples of actual or theoretical cases illustrating increases in aggregate demand with similar or contrasting effects on the price level in the two perspectives.
- Synthesis and evaluation (compare and contrast).
- Arguments **may** include: points of similarity, such as that *AD* increases are inflationary in both cases when *AD* increases occur anywhere on the Keynesian *AS* curve other than the horizontal section; points of difference, such as the shapes of the *AS* curves, the assumptions on which the models rest, *AD* increases on the horizontal part of the *AS* curve (indicating recession in the economy).

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

Chapter 10 Macroeconomic objectives I: Low unemployment, low and stable rate of inflation

SL/HL core topics

Part (a) questions

10.2 (a) Answers **may** include:

- Definitions of unemployment, structural unemployment.
- Theory of structural unemployment, with reference to different causes, including changes in demand for particular labour skills, labour market rigidities, changes in the geographical location of industries.
- Diagrams illustrating different types of structural unemployment.
- Examples of different types of structural unemployment.

Part (a) and part (b) questions

10.4 (a) Answers **may** include:

- Definition of unemployment.
- Theory of unemployment, with reference to how it is measured, difficulties in measurement including the presence of hidden unemployment, underemployment and the nature of the unemployment rate as an average over an entire population group that ignores regional and other disparities.
- Diagrams illustrating one or more types of unemployment.
- Examples of types of unemployment and difficulties in measurement.

(b) Answers **may** include:

- Definition of unemployment.
- Theory of unemployment with reference to costs and consequences, including the different types of unemployment and their economic, personal and social costs.
- Diagrams illustrating one or more types of unemployment.
- Examples of types and consequences of unemployment.
- Synthesis or evaluation (discuss).
- Discussion **may** include: consideration of the length of unemployment depending on what type it is, which are the more serious types of unemployment imposing greater costs (loss of output, income and tax revenues, costs to government of unemployment benefits, social problems, etc.), the problem of hysteresis often associated with long-term unemployment, consideration of policies to reduce unemployment and the relative costs associated with different policies, impacts on various stakeholders, short- and long-term consequences.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

10.6 (a) Answers **may** include:

- Definitions of inflation, price index, consumer price index.
- Theory of inflation with reference to the use of the consumer price index as a measure of the rate of inflation for the typical household, as well as difficulties presented by the presence of different income earners, changes in consumption patterns, changes in product quality, international comparisons, the use of a core rate of inflation.
- Diagrams illustrating different types of inflation (demand-pull and cost-push).
- Examples of problems arising from the use of the CPI as a measure of the rate of inflation.

(b) Answers **may** include:

- Definitions of inflation, deflation.
- Theory of inflation and deflation, with reference to causes and costs/consequences, such as redistributive effects, uncertainty, menu costs, international competitiveness.
- Diagrams illustrating inflation and deflation.
- Examples of situations involving inflation or deflation.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: points of difference and similarity between inflation and deflation with respect to costs and consequences; effects on stakeholders, the problem of hyperinflation, that deflation occurs rarely, that mild inflation is usually preferable to deflation in view of the latter's potentially very serious consequences.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

HL topics

Part (a) and part (b) questions

10.9 (a) Answers **may** include:

- Definitions of inflation, unemployment, stagflation, Phillips curve.
- Theory of the short-run Phillips curve, with reference to outward shifts of the curve that occur as a result of stagflation, due to a decrease in short-run aggregate supply, involving higher inflation and higher unemployment.
- Diagrams showing the short-run Phillips curve shifting outward; the *AD-AS* model with leftward *SRAS* curve shifts.
- Examples of factors that can cause stagflation; or real-world cases of stagflation.

(b) Answers **may** include:

- Definitions of inflation, unemployment, trade-off, short-run Phillips curve, long-run Phillips curve.
- Theory of the Phillips curve, with reference to the possible trade-off between inflation and unemployment in the short run, and the long-run vertical Phillips curve located at the level of unemployment that is the natural rate, indicating that there is then no trade-off and that unemployment is independent of the rate of inflation.
- Diagrams showing the short-run and the long-run Phillips curves.
- Examples of actual or theoretical cases illustrating the possible trade-off or lack of trade-off.
- Synthesis or evaluation (discuss).
- Discussion **may** include: consideration of the possible trade-off in the short run and lack of a trade-off in the long run, the policy implications including the potential role of demand-side policies to lower unemployment when this is above the natural rate and its possible inflationary consequences when unemployment is below the natural rate.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

Chapter 11 Macroeconomic objectives II: Economic growth and equity in the distribution of income

SL/HL core topics

Part (a) questions

11.2 (a) Answers **may** include:

- Definitions of equity, equality, income distribution, market system.
- Theory of market system with respect to payments of factors of production, how the market system leads to unequal payments due to unequal ownership of factors of production and therefore income inequalities.
- Diagram of Lorenz curve or distribution of income shares by deciles, quintiles, illustrating unequal income distributions.
- Examples of factors in the market system leading to unequal ownership of factors of production and hence income inequalities (for example, the presence of vulnerable groups, including the unemployed, the aged, the unskilled, people with special needs).

11.4 (a) Answers **may** include:

- Definitions of equality, income distribution.
- Theory of measurement of income distribution with reference to use of data on income shares (quintiles, deciles), the Lorenz curve and Gini coefficient.

- Diagrams of hypothetical distribution income shares, Lorenz curve.
- Examples of relative equality/inequality in income shares.

Part (a) and part (b) questions

11.7 (a) Answers **may** include:

- Definitions of production possibilities, economic growth.
- Theory of economic growth in the context of the production possibilities model, with reference to the factors that can cause increases in actual output (reduction in unemployment and increase in productive efficiency, causing movement of a point closer to the *PPC*) and the factors causing increases in production possibilities (improvements in technology and resources quality, increases in resource quantity, causing an outward shift of the PPC).
- Diagram of the *PPC* showing increases in actual output and increases in production possibilities.
- Examples of factors causing increases in actual output and in production possibilities.

(b) Answers **may** include:

- Definitions of economic growth, sustainability.
- Theory of economic growth with respect to its possible impacts on sustainability with reference to negative impacts when growth is pursued without regard for the environment and positive impacts if care is taken to make economic growth consistent with the preservation of natural capital.
- Diagram illustrating economic growth (*PPC* or *LRAS* or Keynesian *AS*).
- Examples of negative and positive impacts of economic growth on the environment and sustainability.
- Synthesis and evaluation (evaluate).
- Evaluation **may** include: the problem of unsustainable resource use, the neglect by economics of the factor of production 'land', the use of green GDP accounting methods, consideration of a variety of types of growth and government policies that can make the pursuit of growth consistent with sustainability (market-based policies to correct negative externalities, the promotion of green technologies and green investments, greater emphasis on human capital), consideration of the extent to which there is an inevitable trade-off.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

11.9 (a) Answers **may** include:

- Definitions of investment, capital, human capital, natural capital, economic growth.
- Theory of growth with reference to the benefits of investments in physical capital, human capital and natural capital. (Alternatively the *AD-AS* model may be used.)

- Diagram based on the *PPC* model showing increases in production possibilities (outward *PPC* shifts) due to improvements/increases in the different kinds of capital. (Alternatively the *AD-AS* model may be used.)
- Examples of improvements/increases in the quantity of different types of capital leading to economic growth.

(b) Answers **may** include:

- Definitions of economic growth, unemployment, inflation, current account.
- Theory of economic growth with reference to possible effects on unemployment, inflation and current account.
- Diagrams of the *PPC*, the *AD-AS* model showing impacts of growth on unemployment and inflation.
- Examples of situations where economic growth has had certain effects on unemployment, inflation and the current account.
- Synthesis or evaluation (discuss).
- Evaluation **may** include: positive or negative impacts on unemployment depending on the type of unemployment (distinction between cyclical, and structural, etc. unemployment); positive or negative impacts on inflation depending on where the economy is in the business cycle, agreement between monetarist/new classical and Keynesian perspectives that economic growth occurring when the economy is at or near potential output economic growth is inflationary (disagree elsewhere); positive or negative impacts on the current account depending on consideration of short-term growth (over the business cycle) which is likely to worsen a current-account deficit or long-term growth that is likely to have no impact on the current account.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

11.12 (a) Answers **may** include:

- Definitions of income redistribution, transfer payments, merit goods.
- Theory of income distribution and redistribution, with reference to transfer payments and subsidised or direct provision of merit goods by the government as methods to redistribute income.*
- Diagram of Lorenz curve shifting toward the line of perfect income equality illustrating income redistribution in favour of lower income groups.
- Examples of transfer payments and provision of merit goods that redistribute income.

* Students may also refer to government intervention in the form of minimum wage legislation.

(b) Answers **may** include:

- Definitions of efficiency, resource allocation, progressive taxation, transfer payments, merit goods.

- Theory of the relationship between greater equality in income distribution and efficiency in the allocation of resources, with consideration of potential conflict and potential consistency that may arise in connection with alternative policies: progressive taxation, transfer payments, direct or subsidised provision of merit goods, minimum wage legislation.
- Diagrams showing how subsidies result in a lower price for consumers and larger quantity produced; showing how minimum wage legislation results in a higher than equilibrium wage; showing Lorenz curve shifting toward the line of perfect income equality illustrating income redistribution in favour of lower income groups.
- Examples of policies in favour of greater income equality that either conflict or are consistent with the achievement of efficiency.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: points of similarity and difference with respect to possible disincentive effects of high income taxes resulting from a highly progressive tax system, the regressive nature of indirect taxes, possible disincentive effects of transfer payments; the ability of progressive income taxes and transfer payments to act as automatic stabilisers thus reducing unemployment, merit goods and increased allocative efficiency as governments correct positive consumption externalities, minimum wage legislation possibly inconsistent with allocative efficiency.

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Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

Chapter 12 Demand-side and supply-side policies

SL/HL core topics

Part (a) questions

12.3 (a) Answers **may** include:

- Definitions of central bank, interest rates.
- Theory of how interest rates are determined by the interaction of the supply of money, influenced by policies of the central bank, and the demand for money; reference to the role of central banks in the economy.
- Diagram of the money market showing interest rate determination.
- Examples of central bank actions to change interest rates under conditions of inflation or recession.

12.5 (a) Answers **may** include:

- Definitions of inflation, inflation targeting, monetary policy.
- Theory of the stabilisation objectives of monetary policy including a low rate of inflation and full employment, as opposed to the policy of inflation targeting which aims at maintaining a particular targeted rate of inflation.

- Diagram of the business cycle, showing how monetary policy aims at reducing the intensity of the business cycle; business cycle or *AD-AS* diagrams showing recessionary and inflationary gaps that monetary policy tries to eliminate by bringing the economy toward potential output.
- Examples of policies involving either inflation targeting or a balance of the objectives of full employment and low inflation.

Part (a) and part (b) questions

12.7 (a) Answers **may** include:

- Definitions of automatic stabilisers, business cycle.
- Theory of business cycle fluctuations and the role of automatic stabilisers (unemployment benefits and transfer payments) in making these fluctuations less intense in the absence of any government intervention.
- Diagram of the business cycle.
- Examples of automatic stabilisers in the context of recession and inflation.

(b) Answers **may** include:

- Definitions of fiscal policy, monetary policy, recession.
- Theory of fiscal and monetary policy to deal with recession, with reference to their strengths and weaknesses.
- Diagram based on the *AD-AS* model showing a recessionary (deflationary) gap and the *AD* curve shifting to the right in order to close the gap.
- Examples of the use of fiscal and monetary policies illustrating their relative effectiveness/ineffectiveness.
- Synthesis or evaluation (compare and contrast).
- Arguments **may** include: consideration of points of similarity and difference with respect to the effectiveness of these policies, such as time lags, strength of impact on aggregate demand, political constraints, inability to deal with supply-side causes of instability, relative ability to fine-tune the economy, crowding out, relative effectiveness in recession.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

12.11 (a) Answers **may** include:

- Definitions of supply-side policies, interventionist, market-based.
- Theory of how supply-side policies are intended to work and their objective of influencing the production and supply-side of the economy; interventionist policies, including government investments in human capital, new technology development, infrastructure and industrial policies; market-based policies including increasing competition, labour market reforms, incentive-related policies.
- Diagram based on the *AD-AS* model with the *LRAS* curve shifting to the right, or the Keynesian *AS* curve shifting to the right, in both cases indicating an increase in potential output.
- Examples of the above policies.

(b) Answers **may** include:

- Definitions of supply-side policies, unemployment, inflation.
- Theory of the effects of supply-side policies, both interventionist and market-based, on unemployment and inflation.
- Diagram based on the *AD-AS* model (either monetarist/new classical or Keynesian) showing the *LRAS* or *AS* curve shifting to the right, with inflationary pressures being reduced.
- Examples of policies and their effects on unemployment and inflation.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: inability of supply-side policies to deal with cyclical unemployment; supply-side policies may reduce natural (structural, frictional, seasonal) unemployment; some market-based (competition policies) may increase it; positive and negative aspects of these polices, such as effects on the government budget, effects on worker protection and income inequality; ability of supply-side policies to reduce inflation over long periods of time; competition policies may reduce cost-push inflation arising from too much monopoly power.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

12.13 (a) Answers **may** include:

- Definitions of labour market reforms, economic growth.
- Theory of the expected effects of labour market reforms (reducing minimum wages, labour union power, unemployment benefits, job security) and their potential positive effects on lowering labour costs, increasing firm profitability, increasing investment and therefore increasing potential output.
- Diagrams of the labour market showing lower labour costs that arise from a reduction or elimination of the minimum wage; of the *AD-AS* model showing the *LRAS* curve shifting to the right and therefore indicating a higher level of potential output.
- Examples of labour market reforms indicating the above effects.

(b) Answers **may** include:

- Definitions of labour market reforms, inflation, economic growth, equity.
- Theory of labour market reforms (reduction of minimum wages, labour union power, unemployment benefits, job security) and their potential effects on employment, inflation, economic growth, equity.
- Diagrams of the labour market showing an increase in employment that arises from a reduction/elimination of the minimum wage; of the *AD-AS* model showing the *LRAS* curve shifting to the right and therefore illustrating economic growth and lower inflationary pressures.
- Examples of the above policies and their effects.
- Synthesis or evaluation (evaluate).
- Evaluation **may** include: consideration of the positive and negative effects of different kinds of labour market reforms (listed above) on employment, inflation, economic growth and equity (in the sense of income equality).

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

12.18 (a) Answers **may** include:

- Definitions of unemployment, cyclical (demand-deficient) unemployment, structural unemployment.
- Theory of the causes of cyclical and structural unemployment, and the relevance of fiscal policies that have both demand-side and supply-side effects (government investments in physical and human capital) that increase aggregate demand thus reducing cyclical unemployment, and that increase long-run *AS* (or Keynesian *AS*) thus increasing potential output and lowering structural unemployment.
- Diagrams in the *AD*-*AS* model showing the *AD* curve shifting to the right and closing a recessionary gap; the *LRAS* (or Keynesian *AS*) curves shifting to the right and increasing potential output.
- Examples of such policies and their effects.

(b) Answers **may** include:

- Definitions of unemployment, demand-deficient unemployment.
- Theory of demand-deficient unemployment arising in the downward phase of the business cycle and the need for demand-side, i.e. fiscal and monetary policies to lower this type of unemployment.
- Diagrams based on the *AD*-*AS* model (either the monetarist/new classical or Keynesian) showing a recessionary gap that may be potentially closed by increases in *AD* following the use of fiscal and monetary policies.
- Examples of such policies increasing aggregate demand and reducing demand-deficient unemployment.
- Synthesis or evaluation (examine).
- Examination **may** include: consideration of the assumptions on which fiscal and monetary policy rest, use of taxes and government spending to increase aggregate demand, changes in the money supply to lower the rate of interest and increase investment and consumption spending and hence aggregate demand, potential problems such as the crowding-out effect, political constraints, the possible ineffectiveness of monetary policy in recession, and others.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

HL topics

12.25 (a) Answers **may** include:

- Definitions of recessionary gap, demand-side policies, unemployment, natural rate of unemployment.
- Theory of the short-run Phillips curve indicating a trade-off between inflation and unemployment, and the long-run Phillips curve indicating that the rate of unemployment, situated at the natural rate, is independent of the rate of inflation; as the unemployment rate falls in response to expansionary demand-side policies, it hits the natural rate of unemployment of 7%, beyond which the continued use of expansionary policies will only result in inflation rather than further reduction of unemployment.
- Diagrams of the short-run and long-run Phillips curves.
- Examples of demand-side policies and their effects on unemployment and inflation.

(b) Answers **may** include:

- Definitions of inflation, rate of inflation, unemployment rate.
- Theory of the short-run and long-run Phillips curve, indicating a trade-off between inflation and unemployment in the short run and a rate of unemployment at the natural rate that is independent of the rate of inflation.
- Diagrams of the short.run and long.run Phillips curves.
- Examples of policies to lower the rate of inflation and their consequences for the rate of unemployment (contractionary fiscal and monetary policies).
- Synthesis and evaluation (discuss).
- Discussion **may** include: consideration of contractionary demand-side policies (fiscal and monetary) to lower the rate of inflation; consideration of long-run versus short-run consequences: the possibility that in the short run a higher rate of unemployment will result if this is initially lower than the natural rate (a downward movement along the short-run Phillips curve); further increases in unemployment above the natural rate occur only in the short run; unemployment returns to the natural rate in the long run even as the rate of inflation decreases further (a downward movement along the long-run Phillips curve); impacts of the policies on stakeholders.

Opinions or conclusions should be presented clearly and should be supported by appropriate examples.

