Assessment Schedule – 2014

Economics: Demonstrate understanding of the efficiency of different market structures using marginal analysis (91400)

Assessment criteria

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding involves: • providing an explanation of: – pricing and output decisions for perfectly competitive and / or monopolist firms using marginal analysis – efficiency of a market structure – impact of a change in a market on the short and/or long run pricing and / or output decisions of a firm using marginal analysis – a government policy to improve the efficiency of a monopoly market • using an economic model(s) to illustrate concepts relating to the efficiency of different market structures.	*Demonstrate in-depth understanding* involves: • providing a detailed explanation of: – pricing and output decisions for perfectly competitive and / or monopolist firms using marginal analysis – the efficiency of a market structure – the impact of a change in a market on the short and / or long run pricing and / or output decisions of a firm using marginal analysis – a government policy to improve the efficiency of a monopoly market • using an economic model(s) to illustrate complex concepts and / or support detailed explanations relating to the efficiency of different market structures.	*Demonstrate comprehensive understanding* involves: • comparing and / or contrasting: – the efficiency of market structures – the impact of a change in a market on the short and long run pricing and / or output decisions of a firm using marginal analysis – the effectiveness of government policies to improve the efficiency of a monopoly market • integrating an economic model(s) into explanations relating to the efficiency of different market structures.

Note:

Explanation involves giving a reason for the answer.

Detailed explanation involves giving an explanation with breadth (more than one reason for the answer) and / or depth (eg using flow-on effects to link the main cause to the main result).

Each question should be read as a whole before awarding a grade.

Evidence Statement

Question One	Sample answers / Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	(i) Graph showing P_0 and Q_0 – see **Appendix One**. (ii) At Q_0, MC = MR where total profit is maximised, any quantity lower than Q_0 and the firm would be missing out on marginal profits, where MR > MC on every unit before Q_0. Any quantity higher than Q_0, and the firm would be making marginal losses on every unit past Q_0 as MR < MC.	(i) P_0 and Q_0 identified correctly. (ii) MR = MC identified as profit maximising quantity.	(i) P_0 and Q_0 identified correctly. (ii) MR = MC identified as profit-maximising quantity, **plus** idea of producing less and more than Q_0 would reduce total profit on every unit more or less.	
(b)	(i) P_{MC} and Q_{MC} identified where MC = AR – see **Appendix Two**. (ii) At the new equilibrium, the price will be cheaper, and the quantity supplied will increase. This will make the market allocatively efficient. In a monopoly market, MC is the supply curve, and AR is the demand curve. When MC = AR, the market is in equilibrium, the sum of consumer and producer surpluses (total surpluses) are maximised, and there is no deadweight loss.	(i) P_{MC} and Q_{MC} correctly identified. (ii) Idea that total surpluses are maximised and / or there is no deadweight loss.	(i) P_{MC} and Q_{MC} correctly identified. (ii) Total surpluses are maximised and there is no deadweight loss, **plus** the market is in equilibrium with AR as D curve and MC as S curve. *OR* Total surpluses increases at P_{MC}, so allocative efficiency increases.	(i) P_{MC} and Q_{MC} correctly identified. (ii) Total surpluses are maximised, and there is no deadweight loss, **plus** the market is in equilibrium with AR as D curve and MC as S curve.
(c)	Graph shows area that represents the subnormal profit the firm would make at MC = AR – can be labelled as subnormal profit or subsidy – see **Appendix Two**. As shown on the graph at MC = AR, the firm will make a subnormal profit, because AC > AR. Subnormal profit is not sufficient to keep the firm in the market in the long run, so further intervention such as a subsidy might be required to help the firm cover its losses incurred from charging a low price. Graph shows the price P_{AC} where AR = AC for	Subnormal profit identified where MC = AR **OR** MC pricing leads to a subnormal profit. P_{AC} correctly identified.	Subnormal profit identified where MC = AR. Because of subnormal profit, subsidy could be required to avoid the firm exiting the market in the long run.	Subnormal profit identified where MC = AR. Because of subnormal profit, subsidy could be required to avoid the firm exiting the market in the long run. P_{AC} correctly identified.

	Average Cost pricing. AC pricing is preferable to MC pricing because it eliminates the need for further intervention, as the firm will make a normal profit. However, there will still be a deadweight loss as indicated (either through shading or labelling) on the graph, so the market is not allocatively efficient. The size of the DWL could be preferable, as it would be smaller than the area of subsidy or loss made by the firm under MC pricing.		P_{AC} correctly identified. Market is not allocatively efficient using AC pricing. Deadweight loss shown on the diagram.	Market is not allocatively efficient using AC pricing. Deadweight loss shown on the diagram. AC pricing is preferred, because it eliminates the need for further intervention (normal profit is being made); market is still inefficient, but further intervention required for MC pricing may outweigh the DWL in AC pricing. Diagram fully integrated into answer.

N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence, partial explanations.	Some Achievement evidence.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence. (a) + (b) OR (a) + (c)	Most Merit evidence. (a) + (b) OR (a) + (c)	Excellence evidence. Most points covered.	Excellence evidence. One part may be weaker.

N**0** = No response; no relevant evidence.

Question Two	Sample answers / Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	See **Appendix Three**. (i) • P_0 and Q_0 correctly identified on graph. • Subnormal profit correctly identified and labelled. • AR/MR/D curve shifts upwards to where MC and AC_1 intersect, labelled as P_{LR} on price axis, and Q_{LR} on quantity axis. (ii) Perfectly competitive markets have no barriers to entry and exit, and there is perfect knowledge of market conditions. Because of subnormal profits being made due to increased fixed costs, some firms will exit the industry, which causes market supply to decrease, causing the market price to increase from P_0 to P_{LR}. PC firms are price takers, so must accept the new price, which is shown as $AR_{LR}/MR_{LR}/D_{LR}$.	(i) • P_0 and Q_0 correctly identified. • Subnormal profit correctly identified and labelled. • AR/MR/D correctly moved with P_{LR} and Q_{LR} identified. (ii) Idea of price rising because of firms leaving the market linked to no barriers to exit.	(i) • P_0 and Q_0 correctly identified. • Subnormal profit correctly identified and labelled. • AR/MR/D correctly moved with P_{LR} and Q_{LR} identified. (ii) In detail: no barriers to exit allows firms to exit; market supply decreases, which increases market price; firms are price takers; the price rises to the new market price. Graph incorporated into explanation.	(i) • P_0 and Q_0 correctly identified. • Subnormal profit correctly identified and labelled. • AR/MR/D correctly moved with P_{LR} and Q_{LR} identified. (ii) In detail: no barriers to exit allows firms to exit; market supply decreases, which increases market price; firms are price takers; the price rises to the new market price. Graph incorporated into explanation.
(b)	Graph Four – MC and AC curves both shift upwards, labelled as MC_2 and AC_2 or such, see **Appendix Four**. Short run equilibrium identified where MC_2 intersects with MR, price and quantity labelled as P_{SR} and Q_{SR}. An increase in variable costs causes an increase in both MC and AC, shown as a shift upwards on the graph as MC_2 and AC_2. Because of the increase in MC, at the original quantity, MC_2 > MR, meaning marginal losses being made on every unit between Q_0 and Q_{SR}. The firm will reduce output to where MC_2 = MR to avoid marginal losses and maximise profit. This is in contrast to the increase in fixed costs, which does not cause an increase in marginal cost. The short-run equilibrium	Either MC or AC curves shifted upwards. Idea of the firm decreasing output to maximise profit, because the firm is not maximising profit after the increase in variable costs.	Both MC and AC curves shifted upwards. P_{SR} and Q_{SR} correctly identified. Firm will decrease output to where MC_2 = MR, because there has been an increase in MC and at the original equilibrium, MC_2 > MR and profits are not maximised.	Both MC and AC curves shifted upwards. P_{SR} and Q_{SR} correctly identified. Firm will decrease output to where MC_2 = MR, because there has been an increase in MC and at the original equilibrium MC_2 > MR, and profits are not maximised. **plus** explain that marginal losses are made between Q_0

	does not change, as the firm is still maximising profit (or minimising loss) where MC = MR after the increase in fixed cost.			and Q_{SR}. Contrasted with an increase in fixed costs, the firm will still be maximising profit, because MC has not changed. Diagram fully integrated into answer.

N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence, partial explanations.	Some Achievement evidence.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence. (a) or (b)	Most Merit evidence. (a) or (b)	Excellence evidence. Most points covered.	Excellence evidence. One part may be weaker.

N**0** = No response; no relevant evidence.

Question Three	Sample answers / Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	See **Appendix Five**. (i) • P_0 and Q_0 correctly identified on graph. • Deadweight loss correctly identified and labelled or shaded. (ii) Monopoly markets have strong barriers to entry, discouraging competition; monopoly firms will restrict output to where MR = MC in order to maximise profits. The price will be higher and quantity lower than the market equilibrium price and quantity. The allocatively efficient equilibrium for a monopoly is where AR = MC with the MC as supply curve, and AR as demand curve. At MR = MC, consumer and producer surpluses are not maximised, and there is a deadweight loss represented by the area (shaded or labelled) on the graph.	(i) • P_0 and Q_0 correctly identified on graph. • Deadweight loss correctly identified and labelled or shaded. (ii) Monopoly markets have strong barriers to entry. Total surpluses are not maximised / deadweight loss indicates allocatively inefficient.	(i) • P_0 and Q_0 correctly identified on graph. • Deadweight loss correctly identified and labelled or shaded. (ii) Monopoly markets have strong barriers to entry AR = D curve and MC = S curve. Monopolies will restrict output and charge a price higher than market price, which means total surpluses are not maximised / deadweight loss indicates allocatively inefficient.	(i) • P_0 and Q_0 correctly identified on graph. • Deadweight loss correctly identified and labelled or shaded. (ii) Monopoly markets have strong barriers to entry. AR = D curve and MC = S curve. Monopolies will restrict output and charge a price higher than market price, which means total surpluses are not maximised / deadweight loss indicates allocatively inefficient. **Note**: (a) is not required for Excellence, but may be used as replacement evidence for comparison in (b).
(b)	Q_{AE} and P_{AE} identified at same place as Q_1 and P_1 (see **Appendix Six**). Perfectly competitive firms are price takers; they are too small compared to the size of the market to have any influence over the market price, so they must accept the market price. Any quantity the firm can supply will be at the market	Q_{AE} and P_{AE} identified at same place as Q_1 and P_1. Perfect competitors are price takers. There is no deadweight loss *OR* total surpluses are maximised.	Q_{AE} and P_{AE} identified at same place as Q_1 and P_1. Perfect competitors are price takers and too small to influence market price. As price takers, for any quantity supplied – AR and MR are the	Q_{AE} and P_{AE} identified at same place as Q_1 and P_1. Perfect competitors are price takers and too small to influence market price. As price takers, for any quantity supplied – AR and MR are the

	price, which means the AR and MR are the same. Therefore, the profit-maximising equilibrium is the same as the allocatively efficient equilibrium, ie where AR = MR = MC. This is in contrast with a monopoly firm, which must reduce its price when output increases, meaning it faces a downward-sloping ST curve. As prices reduce to sell more output, the marginal revenue is always less than the average revenue, meaning the profit-maximising equilibrium creates a loss of efficiency between the profit-maximising equilibrium and the allocatively efficient equilibrium, ie total surpluses are not maximised.		same, meaning total surpluses are maximised (no deadweight loss), allocatively efficient.	same, meaning total surpluses are maximised (no deadweight loss), allocatively efficient. Monopoly firm must lower its prices to increase output sold, and MR will be less than AR. Monopolies will not produce past MR = MC and, therefore, total surpluses not maximised (deadweight loss). Diagram fully integrated into answer.

N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence, partial explanations.	Some Achievement evidence.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence. (a) or (b)	Most Merit evidence. (a) or (b)	Excellence evidence. Most points covered.	Excellence evidence. One part may be weaker.

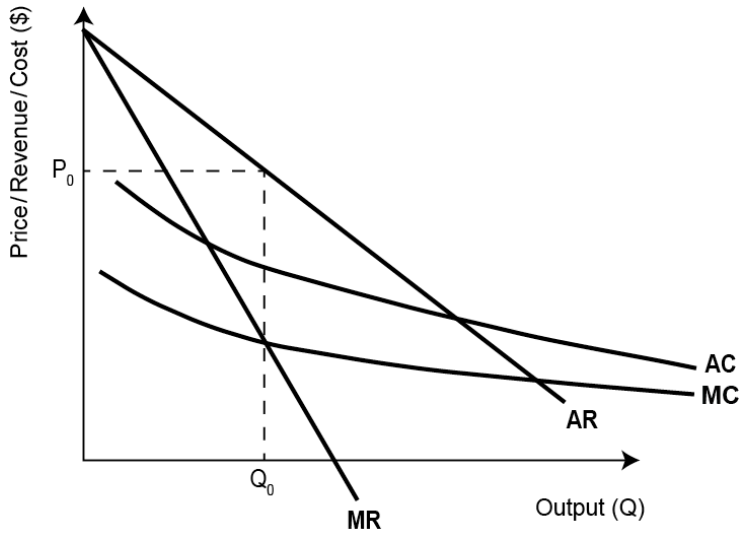
N**0** = No response; no relevant evidence.

Cut Scores

	Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
Score range	0 – 6	7 – 12	13 – 18	19 – 24

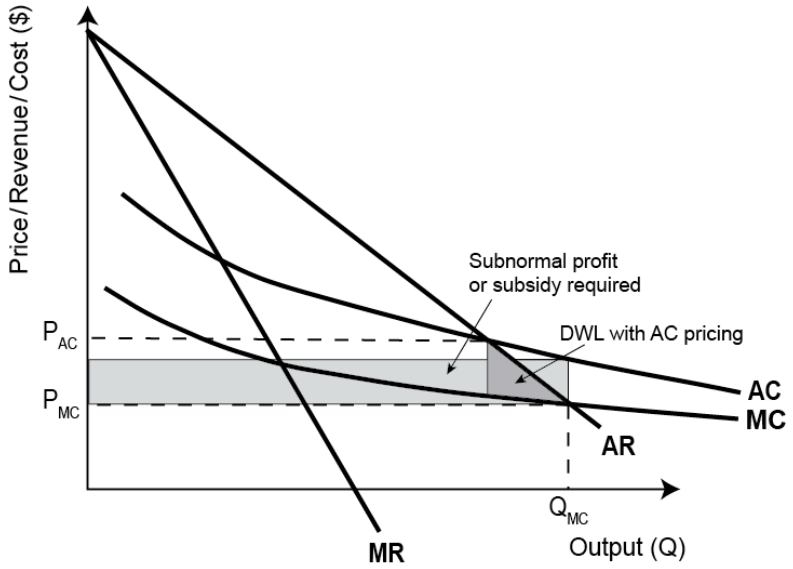
Appendix One – Question One (a)

Graph One: A natural monopoly market



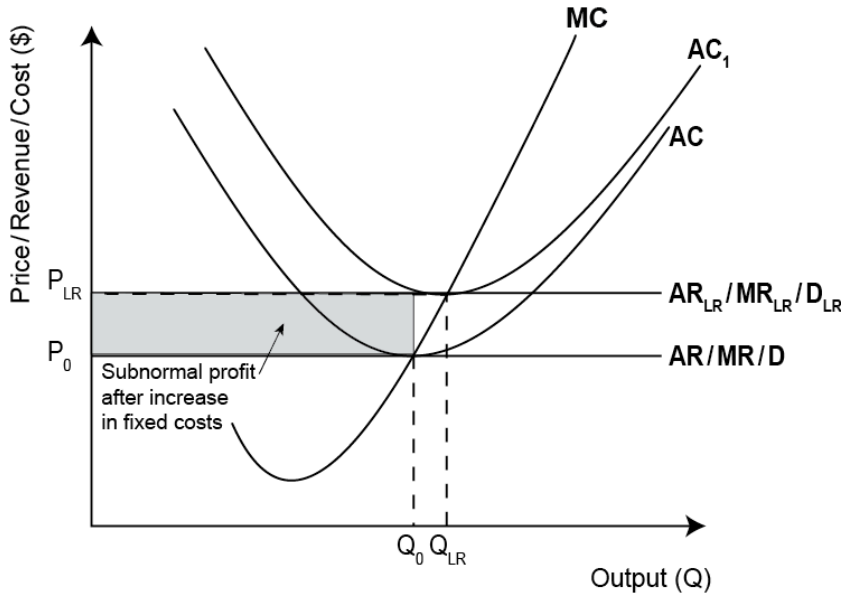
Appendix Two – Question One (b) and (c)

Graph Two: A natural monopoly market after Commerce Commission intervention



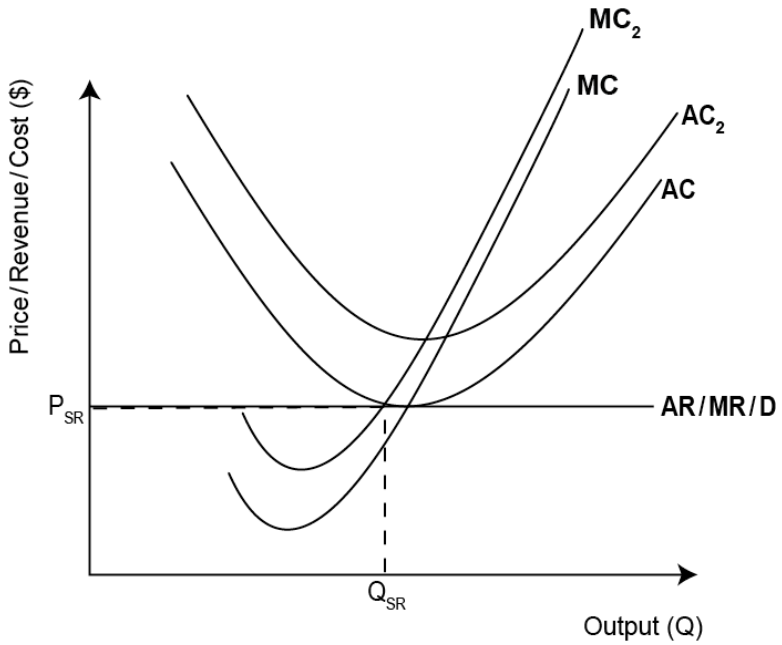
Appendix Three – Question Two (a)

Graph Three – A beef farm as perfect competitor facing an increase in fixed costs



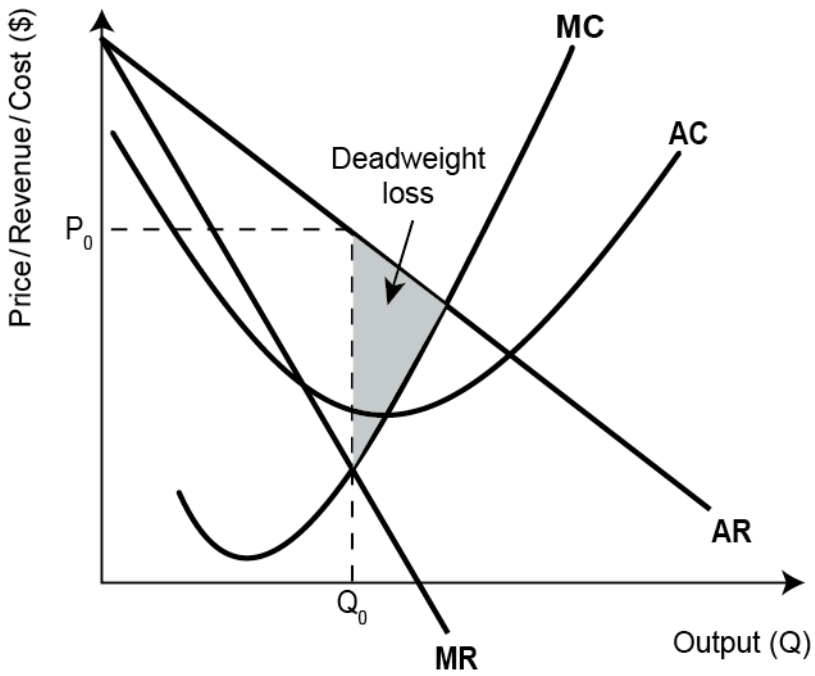
Appendix Four – Question Two (b)

Graph Four – A beef farm as perfect competitor facing an increase in variable costs



Appendix Five – Question Three (a)

Graph Five – A monopoly firm



Appendix Six – Question Three (b)

Graph Six – A perfectly competitive firm