Assessment Schedule – 2014

Economics: Demonstrate understanding of the efficiency of market equilibrium (91399)

Assessment criteria

Achievement	Achievement with Merit	Achievement with Excellence

Demonstrate understanding involves:
• providing an explanation of:
  – market equilibrium and / or changes in market equilibrium
  – efficiency in the market
• using an economic model(s) to illustrate concepts relating to the efficiency of market equilibrium.
	Demonstrate in-depth understanding involves:
	• providing a detailed explanation of:
	  – market equilibrium and / or changes in market equilibrium
	  – impact of changes in markets on efficiency in the market
	• using an economic model(s) to illustrate complex concepts and / or support detailed explanations relating to the efficiency of market equilibrium.
		Demonstrate comprehensive understanding involves:
		• analysing the impact of a change in a market on efficiency by comparing and / or contrasting the different impacts on participants (ie consumer, producer and, where appropriate, government) in that market
		• integrating an economic model(s) into explanations relating to the efficiency of market equilibrium that compare and / or contrast the different impacts.

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) Change in consumer surplus = area $P_{w1}daP_w$. Change in producer surplus = area $P_{w1}cbP_w$. (ii) The consumer surplus will decrease, as consumers are paying a higher price (P_{w1}) for dairy products and consuming less (Q_3). Producer surplus will increase, as producers are supplying a greater quantity of dairy products (Q_4), and receiving a higher price (P_{w1}).	(i) Change in consumer surplus and producer surplus correctly identified. (ii) • Explains that consumer surplus will decrease due to consumers paying a higher price *OR* consuming less. • Explains that producer surplus will increase due to producers receiving a higher price *OR* selling more.	(ii) • Explains in detail that consumer surplus will decrease due to consumers paying a higher price *AND* consuming less. • Explains in detail that producer surplus will increase due to producers receiving a higher price *AND* selling more. • Refers to Graph One to support answers.	(ii) • Explains in detail that consumer surplus will decrease. • Explains in detail that producer surplus will increase. • Integrates Graph One to support answers.
(b)	See **Appendix One**. Allocative efficiency (AE) will increase in both markets, as the increase in producer surplus is greater than the decrease in consumer surplus, resulting in a net gain in surpluses. The increase in AE is greater in the long-run market, as producers are able to increase output by more in response to the world price increase (Q_6 to Q_8). This is because all resources are variable in the long run. Hence, the increase in producer surplus (area $P_{w1}gfP_w$) is greater in the long run, resulting in greater increase in AE, ie area efgh is greater than area abcd.	• Correctly shades the increase in AE on both graphs. • Explains that AE has increased, because net surpluses (producer plus consumer surplus) has increased *OR* because producer surplus has increased.	• Explains in detail that AE has increased because net surpluses has increased due to producer surplus increasing. • Refers to the graph(s) to support answers.	• Explains in detail that AE will increase due to the gain in producer surplus being more than the loss in consumer surplus. • Explains in detail that the increase in AE will be greater in the long run compared to the short run, as all resources are variable and dairy producers can increase output by more. • Integrates Graphs One and Two into the explanation.

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.	Most Merit evidence.	Excellence evidence. Most points covered.	Excellence evidence. One part may be weaker.

N0 = No response; no relevant evidence.

Question Two	Sample answers / Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	See **Appendix Two**. (i) Supply curve shifted right by $2.50 and new equilibrium price and quantity clearly labelled. (ii) The increase in supply due to the subsidy will result in a surplus of 25 000 at $5. Producers will lower the price to clear surplus stock. As the price falls, the quantity demanded increases while the quantity supplied decreases until quantity demanded equals quantity supplied, so equilibrium is restored at the new price of $3.50 (or P_{e1}) and quantity of 50 000 (or Q_{e1}).	Supply curve shifted right by $2.50 and new equilibrium price and quantity clearly labelled. Explanation of how market forces will move the market to the new equilibrium, but with no reference to figures from Graph Three.	Detailed explanation of how market forces will move the market to the new equilibrium, including reference to figures from Graph Three, including new equilibrium price of $3.50 ($P_{e1}$) and new quantity of 50 000 (Q_{e1}).	
(b)	Change in consumer surplus = $67 500 Change in producer surplus = $45 000 Cost of subsidy = $125 000 DWL = $12 500 Evidence used to support explanations in (c) only, but may be used for N1 and N2.			
(c)	The consumer surplus has increased by $67 500, as consumers are paying $1.50 less and purchasing an extra 10 000 units of the good. The producer surplus has increased by $45 000, as producers are receiving an extra $1 and are selling an extra 10 000 units of the good. The Government will have to pay $125 000 for the subsidy, which will mean less money to spend on other areas of the economy. The subsidy has created deadweight loss of $12 500, as the cost of the subsidy ($125 000) has not been fully offset by the combined gain in producer and consumer	Explains that the subsidy results in a loss of allocative efficiency by reference to TWO of: • consumer surplus will increase, due to consumers paying a lower price *OR* consuming more • producer surplus will increase, due to producers receiving a higher price *OR* selling more • the Government will have to pay $125 000.	Explains in detail that the subsidy results in a loss of allocative efficiency, as it creates a deadweight loss *AND* explains in detail TWO of: • consumer surplus will increase due to consumers paying a lower price *AND* consuming more • producer surplus will increase due to producers receiving a higher price *AND* selling more • that the Government will have to pay $125 000, so there is less to spend on other areas • uses some calculations from	• Explains in detail that consumer surplus will increase. • Explains in detail that producer surplus will increase. • Explains in detail that the Government will have to pay $125 000, so there is less to spend on other areas (or any other acceptable consequences eg might save on future health cost). • Explains in detail that the deadweight loss represents a loss of allocative efficiency by

surplus ($112 500). Hence, some allocative efficiency has now been lost in this market.		Table One to support the explanation.	comparing the cost of the subsidy with the gain in consumer and producer surpluses. • Integrates the calculations from Table One into the explanations.

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.	Most Merit evidence.	Excellence evidence. Most points covered.	Excellence evidence. One part may be weaker.

N0 = No response; no relevant evidence.

Question Three	Sample answers/Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	(i) See **Appendix Three**. (ii) • Consumers will be paying less for power, which increases their surplus; but this is offset by their drop in power consumption, as a shortage is created at P_{max}. But there will be an overall increase in their surplus. • Power companies will be producing and, hence, selling less power (Q_s), as it is less profitable at the lower maximum price. Hence, their surplus will decrease to the shaded area shown on Graph Four. • Allocative efficiency will decrease, as a deadweight loss is created.	(i) New CS, PS, and deadweight loss shaded. (ii) Explains that a maximum price control results in a loss of allocative efficiency by reference to TWO of: • consumer surplus will increase because of consumers paying a lower price • producer surplus will decrease because of producers receiving a lower price *OR* selling less • a deadweight loss is created.	(ii) Explains in detail that a maximum price control results in a loss of allocative efficiency by explaining in detail TWO of: • consumer surplus will increase because of consumers paying a lower price, but some of this increase is offset by a drop in power consumption • producer surplus will decrease because of producers receiving a lower price *AND* selling less • a deadweight loss is created. Refers to Graph Four in the explanation.	(ii) Explains in detail that a maximum price control results in a loss of allocative efficiency by explaining in detail TWO of: • consumer surplus will increase because of consumers paying a lower price, but some of this increase is offset by a drop in power consumption • producer surplus will decrease because of producers receiving a lower price *AND* selling less • a deadweight loss is created. Refers to Graph Four in the explanation.
(b)	See **Appendix Three**. Producer surplus will increase to the shaded area indicated on Graph Five. This is because they will be selling more electricity (Q_1 to Q_2), and receiving a higher price (as they are no longer paying GST to the Government). Consumers will be paying less for electricity (P_1 to P_2) and consuming more (Q_1 to Q_2), so consumer surplus will increase to the shaded area indicated on Graph Five. Allocative efficiency will increase, as the deadweight loss is removed and there is an increase in net	• The new equilibrium price and quantity clearly labelled. • The new producer and consumer surplus has been shaded. • Explains that removing GST will increase allocative efficiency by reference to TWO of: – producer surplus will increase, as power companies will be receiving a higher price *OR* selling a greater quantity	Explains in detail that removing GST will increase allocative efficiency by explaining in detail TWO of: • producer surplus will increase as power companies will be receiving a higher price *AND* selling a greater quantity • consumer surplus will	• Explains in detail that removing GST will increase allocative efficiency. • Explains in detail that removing GST is more allocatively efficient, as it increases producer and consumer surplus **compared to** a maximum price, which creates a deadweight

surpluses. Removing GST is more allocatively efficient, as it increases both producer and consumer surplus, and removes the deadweight loss associated with GST. This is in contrast to a maximum price control, which will decrease allocative efficiency, as the loss in PS is not fully offset by the gain in CS, so a deadweight loss is created, and PS plus CS is not maximised.	– consumer surplus will increase, as they are paying a lower price for electricity *OR* consuming a higher quantity – the deadweight loss is removed.	increase, as they are paying a lower price for electricity *AND* consuming a higher quantity • the deadweight loss is removed. Refers to Graph Five in the explanation.	loss / reduces producer plus consumer surplus. Integrates Graphs Four and Five into the explanations.

| 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.

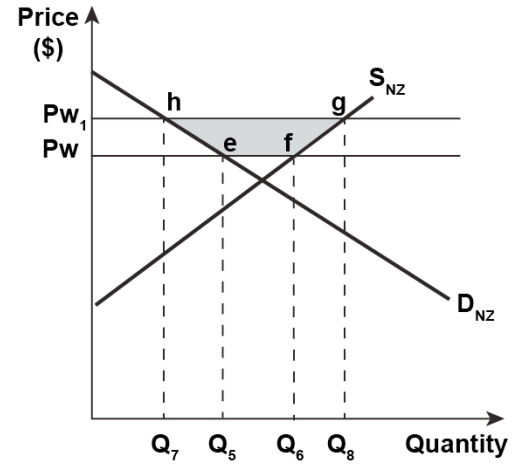N0 = No response; no relevant evidence.

Cut Scores

	Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
Score range	0 – 7	8 – 12	13 – 18	19 – 24

Appendix One – Question One (b)

Graph One: Short-run New Zealand market for dairy products (inelastic supply)
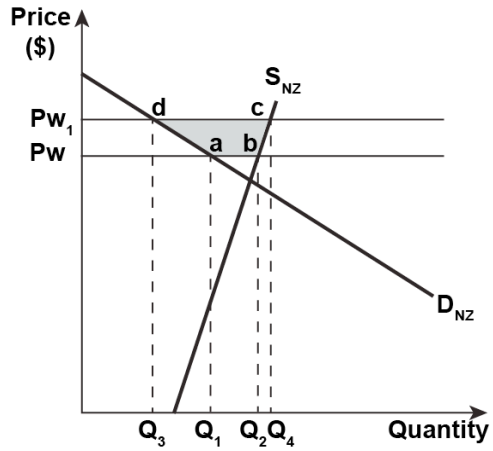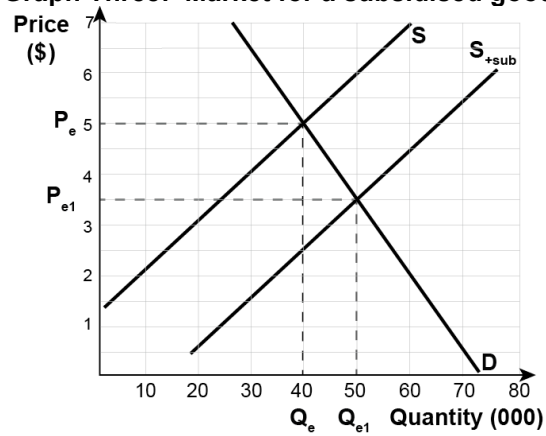

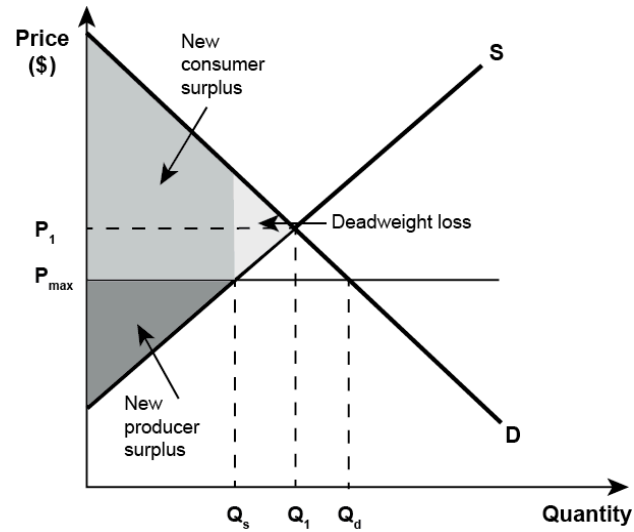**Graph Two: Long-run New Zealand market for dairy products (elastic supply)**

Appendix Two – Question Two (a)

Graph Three: Market for a subsidised good

Appendix Three – Question Three (a)

Graph Four: The New Zealand electricity market with a maximum price

Appendix Four – Question Three (b)

Graph Five: The New Zealand electricity market with GST removed