Assessment Schedule – 2021

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

Assessment Criteria

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

Evidence

Q1	Sample evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	See Appendix.	P_2 correctly labelled.		
(b)	See Appendix.	Two of: - change in CS correctly shaded and labelled - change in PS correctly shaded and labelled - DWL correctly shaded and labelled.		
(c)	The subsidy will result in a loss of allocative efficiency as the cost of the subsidy to the Government is not fully offset by the gain in consumer surplus plus the gain in producer surplus, resulting in a deadweight loss. This means total surpluses are not maximised.	Explains that there is a loss of allocative efficiency due to a DWL being created OR total surpluses not maximised.	Explains in detail that there is a loss of allocative efficiency due to a DWL being created. The cost of the subsidy is not fully offset by the gain in CS plus the gain in PS. (*Must have offsetting idea.*)	
(d)	Consumer surplus will increase as consumers are paying a lower price, P_1, and consuming a higher quantity, Q_1. So, the difference between the price they are willing to pay and the price they are actually paying has increased, and they are consuming more units from which to generate a surplus. Producer surplus will also increase as producers are receiving a higher price, P_2, and selling a higher quantity, Q_1. So, the difference between the price they are willing to supply at and the price they actually receive has increased, and they are selling more units from which to generate a surplus. The demand for heating and home insulation for some low-income earners may be elastic because these products could be high-budget items as the price is high relative to their low income. Also, some low-income earners may view these products as luxury items and use substitutes such as warm clothing. If the demand for heating and home insulation is elastic, then the subsidy could be effective as the increase in the quantity demanded will be proportionally greater than the	Explains: • CS increases because of the lower price paid OR the higher quantity consumed • PS increases because of the higher price received OR the higher quantity sold • the demand is elastic, with ONE valid reason.	Explains in detail: • CS increases because of the lower price paid AND the higher quantity consumed OR the difference between the price paid and the price consumers are willing to pay has increased. • PS increases because of the higher price received AND the higher quantity sold OR the difference between the price received and the price producers are willing to receive has increased • the demand is elastic, with TWO valid reasons.	Explains in detail: • CS increases because of the lower price paid AND the higher quantity consumed. So, more units from which to gain a surplus OR the difference between the price paid and the price consumers are willing to pay has increased • PS increases because of the higher price received AND the higher quantity sold. So, more units from which to gain a surplus OR the difference between the price received and the price producers are willing to receive has increased • the demand is elastic, with TWO valid reasons

	reduction in price from the subsidy. So, there will be a significant increase in the number of low-income earners purchasing home insulation and heating. (*Okay to have valid explanations for why the subsidy may not be effective.)*			• the subsidy could be effective as the increase in quantity demanded will be proportionally greater than the decrease in price if demand is elastic for low-income earners OR the subsidy may not be effective, with valid reason given.

N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence.	Some Achievement evidence, partial explanations.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence.	Most Merit evidence.	Excellence evidence. One part may be weaker.	All points covered.
				Must refer to Graph One.		Integrates relevant information from Graph One into answer.	

N0 = No response; no relevant evidence.

Q2	Sample evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	The increase in demand for medication, from D to D_1, will create a shortage of medication at the original price of $9 per packet. Consumers will bid up the price, which will reduce the quantity demanded from 65 million packets to 50 million packets as the medication will become less affordable, and increase the quantity supplied from 35 million packets to 50 million packets as the medication becomes more profitable to produce. Equilibrium will be restored at a higher equilibrium price of $12 per packet, and a higher equilibrium quantity of 50 million packets, where the quantity demanded equals the quantity supplied.	THREE of: • shortage created at original price • consumers bid up the price • QD decreases as it is less affordable • QS increases as it is more profitable • equilibrium restored where Qs = Qd.	ALL of: • shortage created at original price • consumers bid up the price • QD decreases as it is less affordable • QS increases as it is less profitable • equilibrium restored where Qs = Qd.	
(b)	See Appendix.	A horizontal line, labelled P_{MAX}, drawn at $9.		
(c)	Change in CS = $82.5 million increase Change in PS = $127.5 million decrease DWL = $45 million	ONE correct calculation.	TWO correct calculations.	
(d)	Consumer surplus will increase by $82.5 million, as the increase in surplus from the reduction in the price paid for the medication ($12 to $9 per packet) is greater than the loss of surplus from the reduction in quantity purchased (50 million to 35 million packets). So, the difference between the price paid and the price consumers are willing to pay has increased. Producer surplus will decrease by $127.5 million, as they are receiving a lower price for the medication ($12 to $9 per packet) and selling a lower quantity (50 million to 35 million packets). So, they are producing fewer units from which to gain a surplus and the difference between the price they supply and the price they are willing to supply at has increased. There is a loss of allocative efficiency, represented by the deadweight loss of $45 million. This is because the loss of producer surplus of $127.5 million is not fully offset by the gain in consumer surplus of $82.5 million, the difference being the deadweight loss. So total surpluses are no longer maximised.	Explains: • CS will increase due to the lower price paid • PS will decrease due to the lower price received OR the lower quantity sold • there will be a loss of allocative efficiency due to the DWL created OR as total surpluses are no longer maximised.	Explains in detail: • CS will increase as the increase in surplus due to the lower price paid is greater than the loss in surplus due to the lower quantity purchased • PS will decrease due to the lower price received AND the lower quantity sold • there will be a loss of allocative efficiency due to the DWL created as the loss of PS is not fully offset by the gain in CS. (Must have offsetting idea)	Explains in detail: • CS will increase as the increase in surplus due to the lower price paid is greater than the loss in surplus due to the lower quantity purchased. So, the difference between the price paid and the price consumers are willing to pay has increased • PS will decrease due to the lower price received AND the lower quantity sold. So fewer units from which to gain a surplus OR the difference between the price received and the price producers are willing to receive has decreased • there will be a loss of allocative efficiency due to

				the DWL created as the loss of PS is not fully offset by the gain in PS. (*Must have offsetting idea.*)

N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence.	Some Achievement evidence, partial explanations.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence.	Most Merit evidence.	Excellence evidence. One part may be weaker.	All points covered.
				Must refer to Graph Three or Table One.		Integrates relevant information from Graph Three AND Table One into answer.	

N0 = No response; no relevant evidence.

Q3	Sample evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)(i)	P_2bcP_1	THREE correct labels.		
(ii)	P_1cdP_4			
(iii)	P_2bdP_4			
(iv)	bcd			
(b)(i)	P_5aP_{min}	TWO correct labels.		
(ii)	$P_{min}adP_7$			
(iii)	acd			
(c)	Consumer Surplus For the indirect tax, the consumer surplus will decrease by the area P_2bcP_1. This is because consumers are paying a higher price, P_1 to P_2, and are consuming a lower quantity, Q_1 to Q_2. So, they are consuming fewer units from which to gain a surplus, and the difference between the price paid and the price they are willing to pay has decreased. For the minimum price control, the consumer surplus also decreases, from the area P_5cP_1 to the area P_5aP_{min}. This is because consumers are paying a higher price, P_1 to P_5, and consuming a lower quantity, Q_1 to Q_3. So, they are consuming less units from which to gain a surplus and the difference between the price paid and the price they are willing to pay has decreased. Allocative efficiency For the indirect tax, there will be a loss of allocative efficiency. This is because the loss of producer surplus plus the loss of consumer surplus (area P_2cdP_4) is not fully offset by the gain in tax revenue for the Government (area P_2bdP_4). The difference is the deadweight loss (area bcd) and total surpluses are not maximised. For the minimum price control, there is also a loss of allocative efficiency. This is because the loss of consumer surplus (area $P_{min}acP_{1)}$ is not fully offset by the gain in producer surplus (area $P_{min}abP_1$ minus area bcd). This creates a deadweight loss (area acd) and total surpluses are no longer maximised.	Explains: • CS will decrease for an indirect tax due to the higher price paid OR the lower quantity consumed • CS will decrease for the minimum price due to the higher price paid OR the lower quantity consumed • There will be a loss of allocative efficiency for the indirect tax due to the DWL created or as total surpluses are not maximised • There will be a loss of allocative efficiency for the minimum price control due to the DWL created or as total surpluses are not maximised • The indirect tax will be less beneficial for producers as their surplus will decline OR they will receive less revenue.	Explains in detail: • CS will decrease for an indirect tax due to the higher price paid AND the lower quantity consumed • CS will decrease for the minimum price due to the higher price paid AND the lower quantity consumed • There will be a loss of allocative efficiency for the indirect tax due to the DWL created as the loss of CS plus loss of PS is not fully offset by the gain in tax revenue for the Government *(must have offsetting idea)* • There will be a loss of allocative efficiency for the minimum price control due to the DWL created as the loss of CS is not fully offset by the gain in PS *(must have offsetting idea)* • The indirect tax will be less beneficial for producers as their surplus will decline AND they will receive less revenue.	Explains in detail: • CS will decrease for an indirect tax due to the higher price paid AND the lower quantity consumed. So, less units from which to gain a surplus OR the difference between the price paid and the price consumers are willing to pay has increased • CS will decrease for the minimum price due to the higher price paid AND the lower quantity consumed. So, fewer units from which to gain a surplus OR the difference between the price paid and the price consumers are willing to pay has increased • There will be a loss of allocative efficiency for the indirect tax due to the DWL created as the loss of CS plus loss of PS is not fully offset by the gain in tax revenue for the Government *(must have offsetting idea)*

	The indirect tax will be less beneficial for producers as they will receive less surplus, declining by the area P_1cdP_4. This is because producers are receiving a lower price, P_1 to P_4, and are selling a lower quantity, Q_1 to Q_2. However, for the minimum price control, the producer surplus increases from the area P_1cP_7 to the area $P_{min}adP_7$. This is because even though producers are losing surplus due to the lower quantity sold (area bcd), this is outweighed by the gain in surplus due to the higher price received (area $P_{min}abP_1$). Also, for the indirect tax, producers will receive less revenue (decreasing from $P_1 \times Q_1$ to $P_4 \times Q_2$.). Whereas for the minimum price control, the revenue received may actually increase, if the increase in price is greater than the decline in the quantity sold.		• The indirect tax will be less beneficial for producers as their surplus will decline AND they will receive less revenue, OR the surplus will increase for the minimum price control AND the revenue may increase.	• There will be a loss of allocative efficiency for the minimum price control due to the DWL created as the loss of CS is not fully offset by the gain in PS *(must have offsetting idea)* • The indirect tax will be less beneficial for producers as their surplus will decline AND they will receive less revenue, whereas the surplus will increase for the minimum price control AND the revenue may increase.

N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence.	Some Achievement evidence, partial explanations.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence.	Most Merit evidence.	Excellence evidence. One part may be weaker.	All points covered.
				Must refer to Graph Five or Graph Four.		Integrates relevant information from both graphs into answer.	

N0 = No response; no relevant evidence.

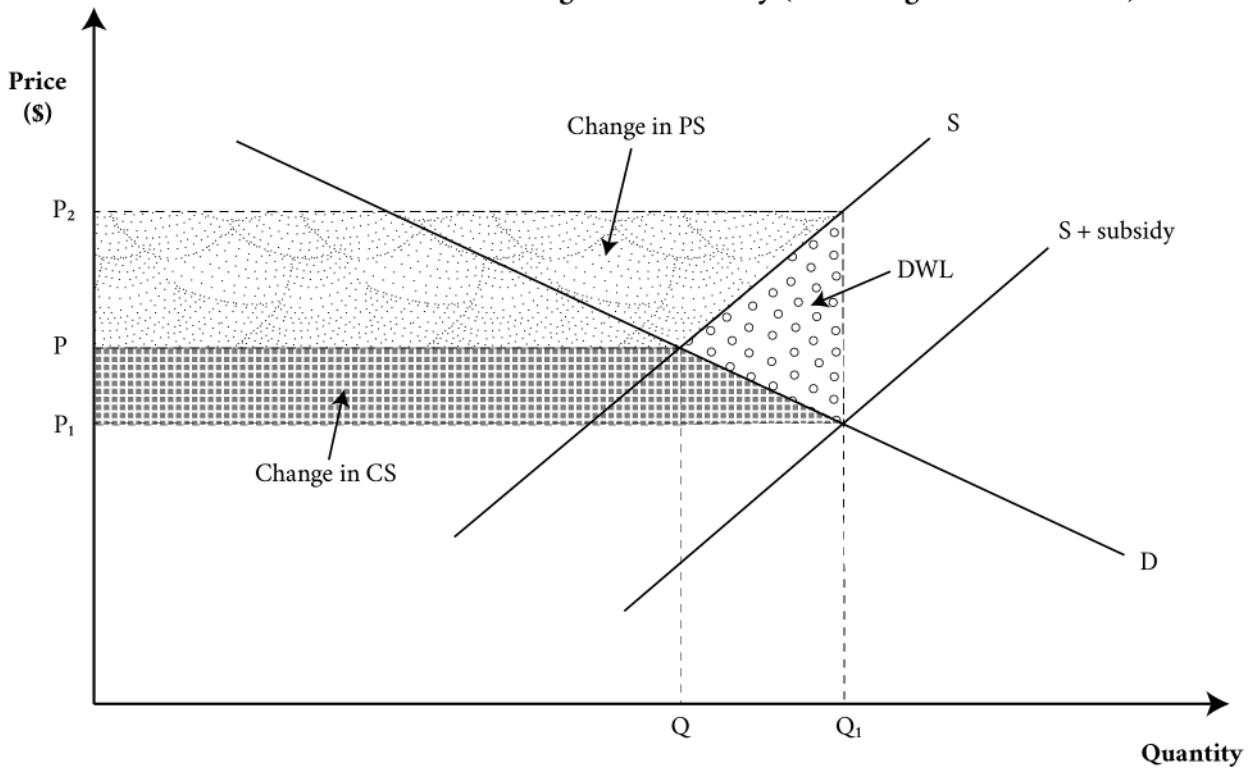
Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 6	7 – 13	14 – 19	20 – 24

Appendix

Question One (a) and (b)(i), (ii), (iii)

Graph One: The New Zealand low-income homeowners' market for home insulation and heating with a subsidy (assuming elastic demand)



Question Two (b)

Graph Three: The New Zealand market for a medication