

NSS Exploring Economics 1 (3rd Edition)
Exam Kit Plus (SAMPLE)

Chapter 7 Government intervention (II)

I. Exam Trends

	7.1 Unit tax	7.2 Unit subsidy
2005	CE II 9, 11	
2006	CE II 11, 12	
2007	CE I B9(c)-9 CE II 6	CE II 11
2008	CE I B9(b)(ii)-7 CE II 7, 8	
2009	CE B11(c)(i)-7 CE II 13	
2010	CE I A1-5 CE II 11, 12	
2011	CE II 9, 12	
2012	DSE I 16, 17	
2013	DSE I 13	
2014	DSE II B9(a)-5	DSE I 16
2015	DSE I 16	DSE I 12
2016	DSE II B10(c)-7	DSE I 19
2017	DSE I 16	DSE II B11(a)-7
2018		
2019	DSE I 14 DSE II B12(a)(i)-3	
2020	DSE II B10(b)(d)-7	DSE I 15
2021	DSE I 15	DSE I 16 DSE II B10(c)-7
2022	DSE I 15 DSE II A4(a)-6	
2023	DSE I 15, 16	DSE I 20
2024	DSE I 16	
2025	DSE I 16, 17, 22	DSE I 20

II. Exam-type Questions

Multiple Choice Questions

1. Suppose the government reduces the sales tax on gasoline. Which of the following statements is/are correct?
 - A. The demand for railway services, which are powered by electricity, will decrease.
 - B. Consumers' expenditure on gasoline will increase if the demand for gasoline is elastic.
 - C. Gasoline suppliers' net-of-tax revenue will definitely increase.
 - D. All of the above

Reference: HKDSE 2014 Paper 1 Q22

2. If a per-unit tax is imposed on Coke,
 - (1) consumers may reduce their total spending on Coke.
 - (2) Coke suppliers' total revenue (net-of-tax) may increase.
 - (3) total expenditure on potato chips may decrease.
 - (4) the average quality of Coke consumed will decrease.
 - A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (4) only
 - D. (3) and (4) only
3. Suppose a per-unit tax of \$5 is imposed on the producers of Good X. As a result, the equilibrium price rises from \$15 to \$18 and consumers' total expenditure increases by 10%. We can conclude that the demand elasticity is _____ than the supply elasticity, and the demand is _____.
 - A. higher ... elastic
 - B. lower ... elastic
 - C. higher ... inelastic
 - D. lower ... inelastic

Reference: HKDSE 2015 Paper 1 Q12

4. Refer to the following market information for Good X.

Price (\$)	Quantity demanded (units)	Quantity supplied (units)
10	750	350
11	650	450
12	550	550
13	450	650
14	350	750
15	250	850

If the government imposes a per-unit tax of \$4 on Good X,

- (1) sellers' revenue net of tax would become \$3,500.
 - (2) consumers would bear a total tax burden of \$700.
 - (3) consumers' total expenditure on Good X would decrease by \$1,400.
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

Reference: HKDSE 2017 Paper 1 Q16

*5. Refer to the following table showing the market supply schedule for a good.

Price (\$)	10	11	12	13	14
Quantity supplied (units)	4	6	8	10	12

Suppose the original equilibrium price is \$12. If the government imposes a per-unit tax of \$3 on the good, the market price will rise to \$13. Which of the following statements are correct?

- (1) The total revenue net of tax would be \$40.
 - (2) Consumers' total expenditure would be \$52.
 - (3) The ratio of buyers' tax burden to sellers' tax burden would be 1:2.
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

Reference: HKDSE 2022 Paper 1 Q15

- *6. The following table shows the market demand for Good X. The equilibrium price is \$16 and the supply curve is upward sloping.

Unit price (\$)	14	15	16	17	18	19
Quantity demanded (units)	120	110	100	90	80	70

Suppose the government imposes a per-unit tax of \$3 on Good X. At the same time, there is an increase in demand for Good X. As a result, the equilibrium quantity remains unchanged.

Based on the above information, we can conclude that:

- A. consumers' total expenditure on Good X will be \$1,900.
- B. consumers do not need to bear any tax burden.
- C. the demand for Good X is inelastic between the original and new equilibrium points.
- D. consumers bear a larger tax burden than producers.

Reference: HKDSE 2024 Paper 1 Q16

7. After a per-unit sales tax is imposed on a good, its equilibrium price and consumers' total expenditure both decrease by 20%.

From the above information, we can conclude that the _____ the good is _____.

- A. demand for ... perfectly elastic
- B. demand for ... perfectly inelastic
- C. demand for ... unitarily elastic
- D. supply of ... perfectly inelastic

Reference: HKDSE 2024 Paper 1 Q14

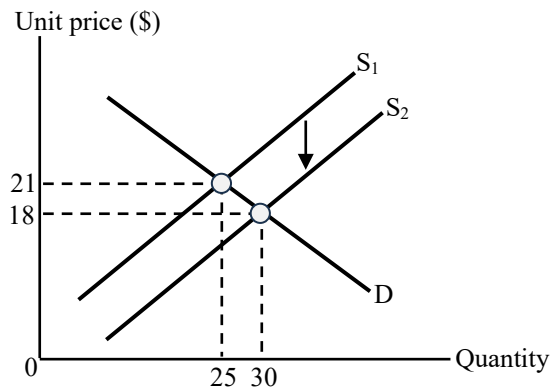
8. Refer to the following demand schedule for Good X. Suppose the government grants a unit subsidy of \$3 on Good X. As a result, the equilibrium price of the good decreases from \$13 to \$12.

Price (\$)	11	12	13	14
Quantity demanded (units)	160	140	120	100

Which of the following statements is correct?

- A. The demand for Good X will increase after the subsidy.
- B. The elasticity of demand for Good X between \$12 and \$13 is larger than 1.
- C. The total amount of subsidy granted is \$360.
- D. Consumers enjoy a larger benefit than sellers.

9. Refer to the following diagram.



Suppose a \$7 per-unit subsidy is granted to suppliers in the above market, causing the supply curve to shift from S₁ to S₂.

What is the total amount of the subsidy benefit for suppliers?

- A. \$75
- B. \$90
- C. \$100
- D. \$120

10. The following table shows the supply and demand schedules for a good.

Price (\$)	Quantity demanded (units)	Quantity supplied (units)
10	140	80
12	135	90
14	130	100
16	125	110
18	120	120
20	115	130

Suppose the government grants a \$6 per-unit subsidy to the producers of the good. Consumers' total expenditure will _____ and the total amount of the subsidy granted is _____.

- A. increase ... \$750
- B. increase ... \$780
- C. decrease ... \$750
- D. decrease ... \$780

Reference: HKDSE 2016 Paper 1 Q19

11. Suppose the government increases the subsidies for kindergartens. Which of the following is correct?
- A. The supply of kindergarten teachers will increase.
 - B. The total income earned by kindergarten teachers will increase.
 - C. There will be a shortage of kindergarten teachers.
 - D. The charges for school bus services will decrease.
12. Refer to the following market supply and demand schedules for Good X.

Unit price (\$)	11	12	13	14	15	16
Market quantity demanded (units)	150	140	130	120	110	100
Market quantity supplied (units)	120	120	120	120	120	120

If a \$2 per-unit subsidy is provided to the producers of Good X,

- (1) the equilibrium price will remain unchanged.
 - (2) the total revenue including the subsidy will remain unchanged.
 - (3) producers will receive the entire subsidy benefit.
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

Reference: HKDSE 2021 Paper 1 Q16

- *13. The initial equilibrium price and equilibrium quantity of a good is \$10 and 50 units, respectively. Later, the government provides a per-unit subsidy of \$5 on the good.

Suppose the demand for the good is inelastic and the demand elasticity is lower than the supply elasticity. After the subsidy, which of the following are possible values of the new equilibrium price and total expenditure, respectively?

- A. \$7 ... \$420
- B. \$7 ... \$560
- C. \$8 ... \$420
- D. \$8 ... \$560

Reference: HKDSE 2023 Paper 1 Q15

14. Refer to the following supply and demand schedules for Good X.

Unit price (\$)	14	15	16	17	18	19	20
Quantity demanded (units)	200	190	180	170	160	150	140
Quantity supplied (units)	80	100	120	140	160	180	200

If the government provides a \$3 per-unit subsidy for the producers of Good X, the total subsidy provided by the government will be _____ and the ratio of the consumers' share to the producers' share of the subsidy will be _____.

- A. \$510 ... 1:2
- B. \$540 ... 1:2
- C. \$510 ... 2:1
- D. \$540 ... 2:1

Reference: HKDSE 2020 Paper 1 Q15

15. The following table shows the supply and demand schedules for a good.

Price (\$)	Quantity demanded (units)	Quantity supplied (units)
12	55	25
14	50	30
16	45	35
18	40	40
20	35	45
22	30	50
24	25	55

If the government _____, the quantity transacted will become 50 units.

- (1) grants a \$8 per-unit subsidy
 - (2) sets a quota at 50 units
 - (3) sets a price floor at \$22
- A. (1) only
 - B. (1) and (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only

Reference: HKDSE 2023 Paper 1 Q16

16. Refer to the following supply-demand schedules for Good X.

Price (\$)	Quantity demanded(units)	Quantity supplied (units)
30	160	120
40	150	130
50	140	140
60	130	150
70	120	160

Suppose the government imposes a quota at 130 units. Consumers' total expenditure will remain the same if the quota is replaced by _____.

- (1) a unit tax of \$20
 - (2) a minimum price control of \$60
 - (3) a unit subsidy of \$20
- A. (2) only
B. (1) and (2) only
C. (1) and (3) only
D. (1), (2) and (3)

Short Questions

1. Study the following information:

US President Trump argued that imposing tariffs on trading partners could compensate for US trade losses by addressing what he saw as unfair trade practices. At the same time, he admitted that US consumers may suffer from higher prices in the short term and added that the impact on them was minimal.

Under what condition will US consumers bear a smaller tax burden than its trading partners? Illustrate your answer with a supply-demand diagram. (5 marks)

Reference: HKDSE 2014 Paper 2 Q9a

2. Suppose the government of City H tries to restrict the quantity of private cars by imposing either a quota or a per-unit tax on the private car market.
- a. Explain, using the same supply-demand diagram, how quantity can be controlled through the two measures mentioned above, assuming both result in the same quantity. (6 marks)
 - b. Which measure is more effective in controlling quantity if the demand for private cars is increasing? Briefly explain WITHOUT the aid of a diagram. (3 marks)

- *3. In 2024, immediately after the HKSAR government increased the cigarette tax from \$50 to \$66 per pack of 20 cigarettes, the retail price of a pack of cigarettes increased by \$16. The smoking rate dropped after the tax increase.
- With the aid of a supply-demand diagram, explain whether consumers or producers need to entirely bear the increased portion of the tax burden resulting from the increase in the cigarette tax under the above extreme case. (You are NOT required to show on the diagram the decreased portion of the tax burden due to the decrease in the smoking rate.) (5 marks)
 - Would the total cigarette tax revenue *necessarily* increase after the increase in the cigarette tax? Briefly explain your answer. (3 marks)

Reference: HKDSE 2020 Paper 2 Q10bii

4. The European Union has been providing subsidies for various dairy products for its member countries.
- With the aid of a diagram, explain under what condition the total value of dairy products (excluding subsidies) would increase because of the subsidy. (For simplicity, the subsidy is assumed to be a per-unit one.) (7 marks)

Reference: HKDSE 2021 Paper 2 Q10c

5. The government of Country Y grants a per-unit subsidy to the producers of electric vehicles.
- Indicate on a supply-demand diagram the total amount of subsidy granted. Also, state the condition under which electric vehicle consumers enjoy a smaller subsidy benefit than producers. Illustrate your answer with the aid of the same diagram. (6 marks)

Reference: HKDSE 2017 Paper 2 Q11a

- Suggest ONE party that will likely suffer from the subsidisation of electric vehicles. Briefly explain your answer. (3 marks)

6. Country X is a major producer of artificial intelligence (AI) products. To protect its domestic AI industry, the government of Country X considers subsidising the production of AI products. Alternatively, it can impose tariffs on imported chips for AI products.
- From the viewpoint of Country X, state ONE advantage and ONE disadvantage of using a production subsidy instead of import tariffs. (4 marks)

Reference: HKDSE 2020 Paper 2 Q10d

*7. In the trade war between China and the US, the Chinese government has increased the tariffs (import taxes) on agricultural products imported from the US.

Suppose, to alleviate the pressure of the trade war on farmers in the US, the US government increases the subsidies granted to them.

How would you expect the market price of agricultural products in the local US market to change as a result of the two measures mentioned above? Explain your answer WITHOUT the aid of a diagram. (To simplify the analysis, assume that the local US market and the export market to China are separate from each other.)

(4 marks)

Answers

Multiple Choice Questions

- D Option A: When the government reduces the sales tax on gasoline, the cost of providing gasoline-powered transport services decreases and thus the supply of these services increases. As a result, the price of gasoline-powered transport services decreases. Railway services and gasoline-powered transport services are substitutes for each other. When the price of gasoline-powered services decreases, the demand for railway services will decrease.
- B Option (1): After the imposition of the tax, the cost of providing Coke will increase. This will lead to a decrease in the supply of and an increase in the price of Coke. If demand is elastic, total spending will decrease.
Option (3): If potato chips and Coke are complements of each other, when the price of Coke increases, the demand for potato chips will decrease. In this case, total expenditure on potato chips will decrease.
- D Out of the \$5 tax burden, consumers bear \$3 ($= \$18 - \15) per unit, more than suppliers' burden (\$2). Hence, demand is less elastic than supply. Demand is inelastic because consumers' expenditure increases after price increases.
- A After tax, the price will increase from \$12 to \$14, while the quantity will decrease from 550 units to 350 units.
Option (1): Sellers' revenue net of tax $= (\$14 - \$4) \times 350 = \$3,500$
Option (2): Consumers' tax burden $= (\$14 - \$12) \times 350 = \$700$
Option (3): Change in total expenditure $= \$14 \times 350 - \$12 \times 550 = -\$1,700$
- D Option (1): After tax, the net-of-tax price that sellers receive is \$10 ($= \$13 - \3). At this price, the quantity supplied, which is equal to the quantity demanded at \$13, is 4 units.
Option (2): Total expenditure $= \$13 \times 4 = \52
Option (3): Consumers' tax burden per unit = Original market price – Market price after tax $= \$13 - \$12 = \$1$. Producers' tax burden per unit = Original market price – Net-of-tax price that sellers receive $= \$12 - \$10 = \$2$. Thus, the ratio of buyers' tax burden to sellers' tax burden is 1:2.

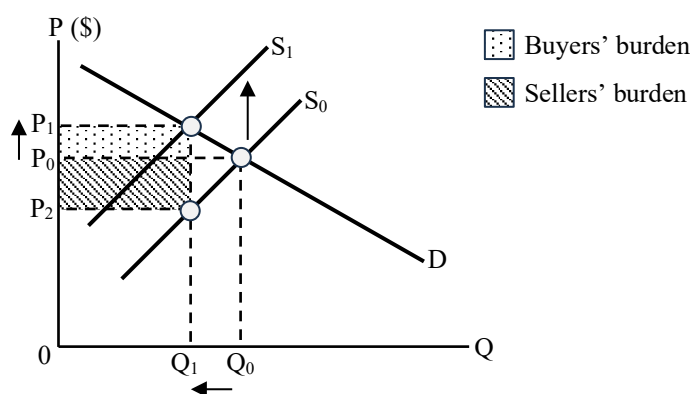
6. A Option A: After the imposition of the tax and the increase in demand, the equilibrium price will rise to \$19 (by \$3), so that the equilibrium quantity remains unchanged (at 100 units).
 Option B: Only when demand is perfectly elastic or supply is perfectly inelastic do consumers bear no tax burden — neither condition applies in this question.
 Option C: We cannot draw a conclusion about the demand elasticity because both supply and demand have changed.
 Option D: Insufficient information to draw a conclusion about the ratio of consumers' and producers' tax burdens.
7. B Option B: When price and total expenditure both decrease by 20%, quantity remains unchanged.
 Option D: Price will remain unchanged if supply is perfectly inelastic.
8. B When the price decreases from \$13 to \$12, the total expenditure increases from \$1,560 to \$1,680. Thus, the demand within this price range is elastic. i.e., $E_d > 1$.
9. D Consumers' subsidy benefit per unit = $\$21 - \$18 = \$3$. Suppliers' subsidy benefit per unit = $\$7 - \$3 = \$4$. New quantity transacted is 30 units.
 Therefore, suppliers' total subsidy benefit = $\$4 \times 30 = \120 .
10. D The equilibrium price will decrease from \$18 to \$14, while the equilibrium quantity will increase from 120 units to 130 units.
 Consumers' total expenditure will decrease from \$2,160 ($= \18×120) to \$1,820 ($= \14×130).
 The total amount of the subsidy granted is \$780 ($= \6×130).
11. B Option B: This is because the demand for kindergarten teachers increases.
12. B Option (3): Since supply is perfectly inelastic, producers will receive the entire subsidy benefit.
13. A Given that the demand is inelastic, provision of a subsidy will result in a decrease in total expenditure (i.e., new total expenditure will be less than \$500).
 Given that the demand is less elastic than the supply, the consumers' benefit will be larger than the suppliers' benefit. The price will fall by more than \$2.5 after the subsidy.
14. D After the subsidy, the equilibrium price will fall from \$18 to \$16 and the equilibrium quantity will increase to 180 units.

15. A Option (2): A quota of 50 units is ineffective; quantity transacted will stay at 40 units.
 Option (3): When a price floor is set at \$22, the quantity transacted is 30 units.
16. B When a quota is set at 130 units, the total expenditure is \$7,800 (= \$60 × 130).
 Option (1): When a unit tax of \$20 is imposed, the price will rise to \$60 while the quantity transacted will fall to 130 units. Total expenditure is \$7,800.
 Option (2): When a minimum price control of \$60 is imposed, the quantity transacted is 130 units. Total expenditure is \$7,800.
 Option (3): When a unit subsidy of \$20 is provided, the price will fall to \$40 while the quantity transacted will rise to 150 units. Total expenditure is \$6,000.
 (Note: Under both Option (1) and Option (2), the market operates at the same point as it does under the quota of 130 units.)

Short Questions

1. Indicate on the diagram:

- Parallel upward shift in supply curve (1 mark)
- New price and quantity (1 mark)
- Correct position of consumers' (buyers') and trading partners' (sellers') tax burden (1 mark)
- Sellers' burden > Buyers' burden (1 mark)

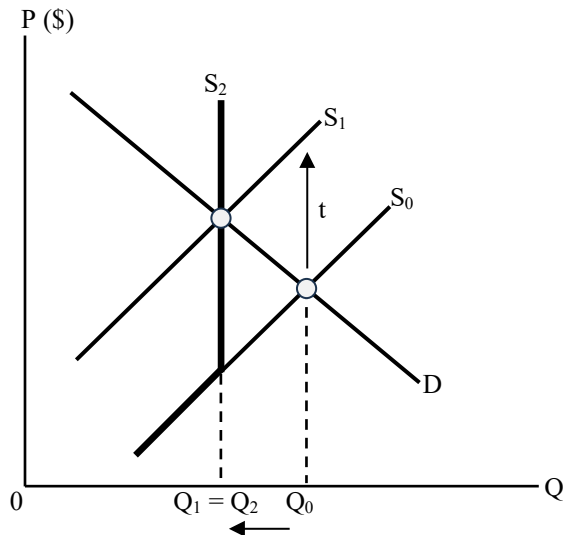


Verbal elaboration:

The condition is that the elasticity of demand is larger than the elasticity of supply. (1 mark)

2. a. Indicate on the diagram:

- A kinked supply curve with an effective quota / Correct position of an effective quota (1 mark)
- Upward shift of supply curve (1 mark)
- Decrease in quantity transacted (1 mark)
- Same new quantity transacted under both measures (1 mark)



Verbal elaboration:

Per-unit tax: The imposition of a tax increases the price, leading to a decrease in the quantity demanded (or transacted). (1 mark)

Quota: The imposition of a quota directly restricts the quantity transacted (less than the original quantity). (1 mark)

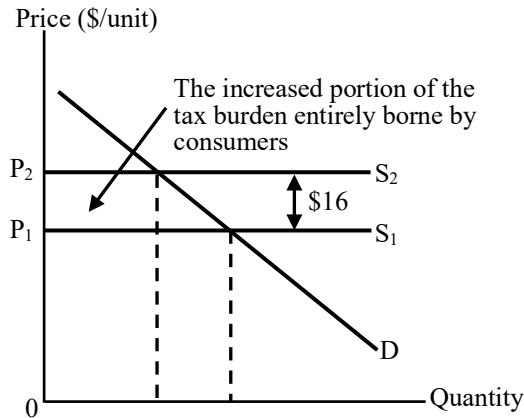
b. When demand increases, under a per-unit tax, the quantity will increase.

However, under a quota system, the quantity supplied is fixed at the controlled quantity. (2 marks)

Hence, a quota is more effective in controlling quantity. (1 mark)

3. a. Indicate on the diagram:

- Upward shift in horizontal supply curve (1 mark)
- The increased portion of the tax burden resulting from the increase in the cigarette tax that is entirely borne by consumers (1 mark)



Verbal elaboration:

The increase in the market price is equal to the increase in the per-unit tax, which suggests either perfectly inelastic demand or perfectly elastic supply.

However, since the smoking rate declined following the tax increase, this indicates that demand is not perfectly inelastic. (2 marks)

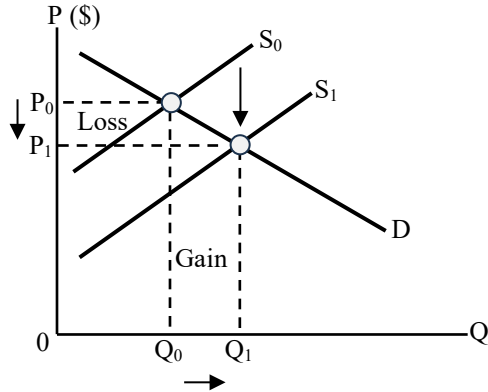
When the supply is perfectly elastic, consumers bear the entire increased portion of the tax burden. (1 mark)

b. No, tax revenue would not necessarily increase. (1 mark)

After the increase in tax, the quantity (transacted) of cigarettes decreases. The total tax revenue is equal to the tax per unit times the quantity transacted. If the percentage increase in the per-unit tax is smaller than (equal to) the percentage decrease in the quantity transacted, the total tax revenue will decrease (remain unchanged). (2 marks)

4. Indicate on the diagram:

- Downward (Rightward) shift in supply curve (1 mark)
- Correct position of gain and loss (1 mark)
- $\text{Gain} > \text{Loss}$ (1 mark)

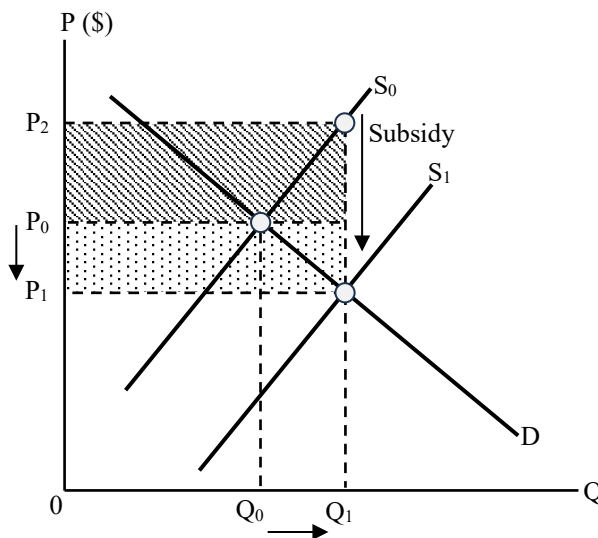


Verbal explanation:

The provision of the subsidy results in an increase in the supply of dairy products. If the demand is elastic, the percentage increase in quantity will be larger than the percentage decrease in price. As a result, the total value of dairy products (excluding subsidies) will increase. (4 marks)

5. a. Indicate on the diagram:

- Parallel downward shift in supply curve (1 mark)
- Correct position of new price and quantity (1 mark)
- Total amount of subsidy (1 mark)
- Producers' benefit and consumers' benefit (1 mark)
- $\text{Consumers' benefit} < \text{Producers' benefit}$ (1 mark)



- Consumers' benefit
- Producers' benefit
- + Total amount of subsidy

Verbal elaboration:

The condition is that the demand elasticity is higher than the supply elasticity. (1 mark)

- b. Producers of conventional vehicles would likely suffer. (1 mark)

Conventional vehicles and electric vehicles are substitutes. When the price of electric vehicles decreases due to subsidies, some consumers will switch to electric vehicles, leading to a fall in demand for conventional vehicles. As a result, the total revenue of conventional vehicle producers will likely decline. (2 marks)

6. Advantage:

Producers of AI products can enjoy lower production costs and thus consumers may benefit from lower prices for AI products. (2 marks)

Disadvantage:

The government pays a cost (money cost) to provide the subsidy while it can earn tax revenue if import tariffs are imposed. (2 marks)

7. Agricultural products exported to China and those sold locally in the US are in competitive supply. When the Chinese government increases the tariffs on US agricultural products, the quantity of agricultural products exported to China decreases. This will lead to an increase in the supply of agricultural products in the local US market. (2 marks)

The subsidies (granted by the US government) will lead to an increase in the supply of agricultural products in the US. (1 mark)

As a result, the price of agricultural products in the local US market will fall. (1 mark)

Chapter 3 Macroeconomic problems

I. Exam Trends

	3.1 Inflation and deflation		3.2 Effects of inflation				3.3 Unemployment and underemployment		3.4 Business cycles	
	Definition and measurement	'Nominal' versus 'real'	Redistributive effect	Other effects	Definition and measurement	Costs of unemployment				
2004	AL II A15		AL II C4(a)		CE II 33	CE IA7-4	CE II 32			
2005		AL II A22	CE IA7-4 CE II 33		CE II 32		CE II 31			
2006	AL II A23	AL II A21			CE IB9(c)-4 CE II 30		CE II 27			
2007	CE II 33 AL II B1(a)		CE IA4-6		CE IB8(b)(i)-4	CE II 30	CE II 31			
2008		AL II A21, 23	CE II 32		CE II 30		CE IA5-3 CE II 29			
2009	CE IA5(a)-2	AL II B2(a-c)	CE IA5(b)-3 CE II 33 AL II A21		CE II 32		CE II 31			
2010		CE IA7(c)-3 AL II A19, 20 CE II 43			CE II 32		CE IA7(a)(b)-3 CE II 31, 44 CE II 33			
2011			CE IB9(a)-3 CE II 35		CE IA5(b)-2	CE IA5(a)-2 CE II 34				
2012	AL II A19 AL II B1(c) DSE II B11(a)-2	AL II B1(c) DSE II B11(b)-3	AL II A22 DSE I 32		DSE I 24	DSE II A6(a)-2	DSE II A6(b)-2			
2013	AL II A22	DSE II A3-5	DSE I 34		DSE II B11(b)(iii)-3		DSE I 33			
2014	DSE II A5(a)-1		DSE I 40 DSE II A5(c)(i)-2				DSE I 39			
2015			DSE I 36		DSE II A5-4					

	3.1 Inflation and deflation		3.2 Effects of inflation			3.3 Unemployment and underemployment			3.4 Business cycles
	Definition and measurement	‘Nominal’ versus ‘real’	Redistributive effect	Other effects	Definition and measurement	Costs of unemployment			
2016		DSE I 24	DSE I 37		DSE I 25 DSE II A6(a)-2	DSE II A6(b)-3	DSE II A6(c)-2		
2017			DSE I 34		DSE I 27		DSE II A9(a)-1		
2018			DSE II B10(b)-2		DSE II A5(b)-4				
2019	DSE II A6(a)-1	DSE II A6(c)-3	DSE I 37 DSE II A6(b)-3		DSE I 24, 39 DSE II B12(c)-2				
2020	DSE II A4(a)-1		DSE I 34		DSE I 24	DSE II A3(c)-2	DSE II A3(a)(b)-3		
2021					DSE I 25 DSE II B12(b)-2		DSE I 39		
2022		DSE II A6(b)-2	DSE I 39		DSE I 26		DSE II 11(a)(i)-2		
2023		DSE I 39	DSE I 38 DSE II A10(b)-4		DSE I 27 DSE II A6-4				
2024		DSE II A5(a)-2	DSE II A5(c)-2		DSE I 26 DSE II B12(b)-4		DSE II A4-3		
2025		DSE I 35	DSE I 40		DSE II A5(a)-2	DSE II A5(b)-2	DSE I 36		

II. Exam-type Questions

Multiple Choice Questions

1. Refer to the following diagrams.

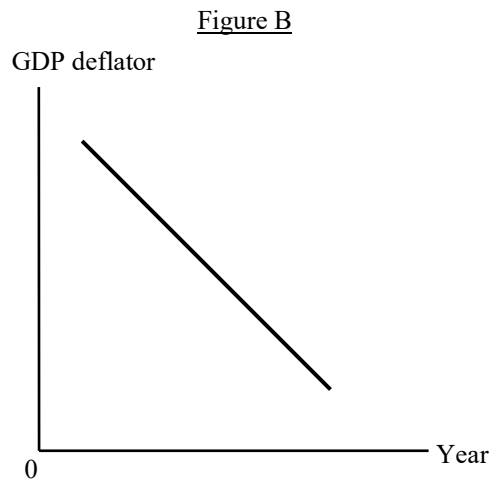
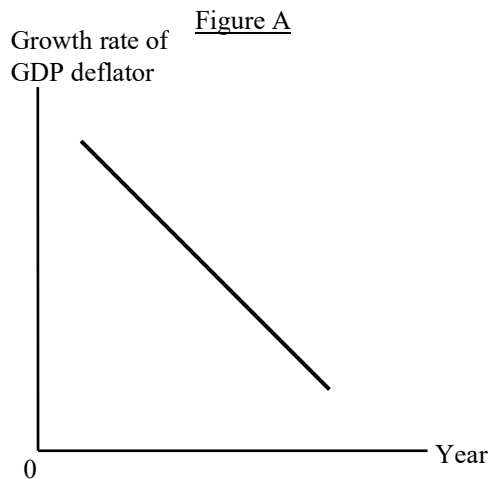
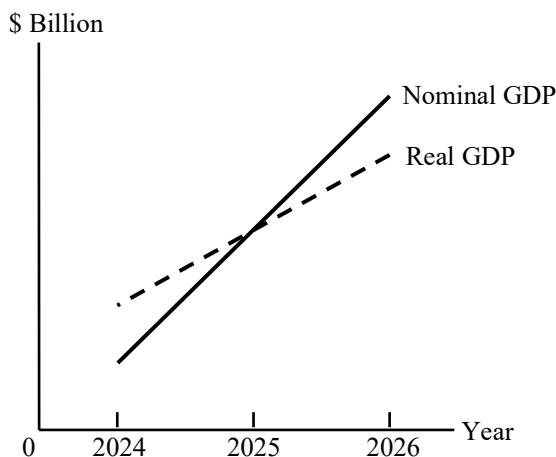


Figure A and Figure B illustrate _____ and _____, respectively.

- A. deflation ... deflation
- B. disinflation ... disinflation
- C. disinflation ... deflation
- D. deflation ... disinflation

2. The following diagram shows an economy's nominal GDP and real GDP.



The above diagram implies that from 2024 to 2025 and from 2025 to 2026, the economy experienced _____ and _____, respectively.

- A. inflation ... inflation
- B. deflation ... deflation
- C. deflation ... inflation
- D. disinflation ... inflation

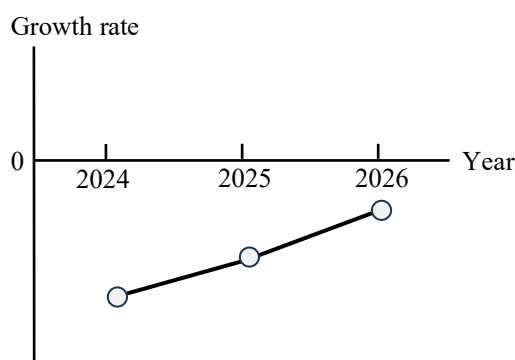
3. Refer to the following data of an economy.

Year	Real GDP	Nominal GDP
2025	1,531,222	1,475,357
2026	1,823,160	1,890,939

The inflation rate during the above period is _____.

- A. 3.72%
- B. 7.11%
- C. 7.65%
- D. none of the above

*4. The following diagram shows the growth rate in an economy's GDP deflator.



Based on the above diagram, which of the following statements about the economy during the above period is correct?

- A. The nominal GDP was growing.
- B. The purchasing power of money was decreasing.
- C. The nominal interest rate was lower than the realised real interest rate.
- D. The growth rate of nominal GDP was higher than that of real GDP.

Reference: HKDSE 2016 Paper 1 Q24; HKDSE 2023 Paper 1 Q39

5. A bank and its client agree on a loan with an expected real interest rate of 2% and both expect the inflation rate to be 3%. Suppose the nominal interest rate remains constant. If the actual inflation rate turns out to be 1%,

- A. the nominal interest rate is 1%.
- B. the actual real interest rate is 4%.
- C. the bank will lose.
- D. neither will gain or lose.

Reference: HKDSE 2023 Paper 2 Q10b; HKDSE 2025 Paper 1 Q35

6. Which of the following persons will likely lose during unanticipated inflation?

- (1) Bank depositors
 - (2) Bondholders
 - (3) Property owners
 - (4) Holders of cash coupons issued by supermarkets and department stores
- A. (3) only
 - B. (1) and (2) only
 - C. (1) and (4) only
 - D. (1), (2) and (4) only

Reference: HKDSE 2012 Paper 1 Q32, HKDSE 2013 Paper 1 Q34; HKDSE 2017 Paper 1 Q34; 2020 Paper 1 Q34; 2022 Paper 1 Q39

7. In times of unexpected deflation, which of the following individuals/firms would gain?

- A. A debtor borrowing money at a fixed interest rate
- B. An insurance company paying its clients a fixed return
- C. A retiree receiving a fixed monthly pension
- D. A firm owner paying workers a fixed wage

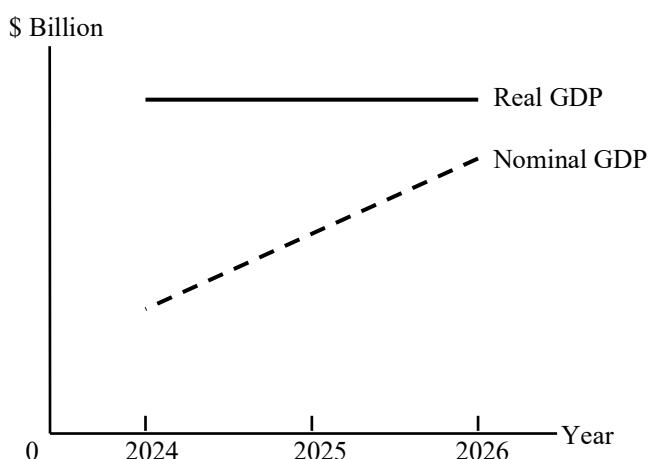
Reference: HKDSE 2015 Paper 1 Q36; HKDSE 2016 Paper 1 Q37; HKDSE 2019 Paper 1 Q37

8. Which of the following is the effect of inflation?

- A. Inflation reduces the purchasing power of money and lowers everyone's standard of living.
- B. Inflation redistributes incomes from fixed future income recipients to fixed future income payers, whether the inflation is over-anticipated or under-anticipated.
- C. Inflation tends to result in reallocation of resources from industries with a lower percentage rise in product price to industries with a higher percentage rise in product price.
- D. If the inflation rate of the domestic economy is higher than the inflation rate of the rest of the world, the domestic economy's trade deficit increases.

Reference: HKDSE 2014 Paper 1 Q40

*9. The following diagram shows an economy's nominal GDP and real GDP.



Suppose people did not expect any change in the price level from 2024 to 2026. Which of the following would gain when the above change in price level occurred?

- A. an elderly person who bought gold in 2024 and sold it in 2026
- B. a borrower who took out a two-year loan from a bank in 2024 at a floating interest rate linked to the inflation rate
- C. an employer who signed fixed nominal wage contracts with his employees from 2024 to 2026
- D. a landlord who signed a two-year contract at a fixed monthly rent with a tenant in 2024

Reference: HKDSE 2023 Paper 1 Q38; HKDSE 2025 Paper 1 Q40

10. Study the following data of an economy in a certain year.

Total population	5,000,000
Population aged 15 and above	4,000,000
Labour force participation rate*	60%
Unemployment rate	10%
Underemployed population	50,000

*Labour force participation rate = Proportion of labour force in population aged 15 and above

Based on the above data, the unemployed population and employed population of the economy are _____ and _____, respectively.

- A. 240,000 ... 2,160,000
- B. 240,000 ... 2,210,000
- C. 300,000 ... 2,700,000
- D. 300,000 ... 2,750,000

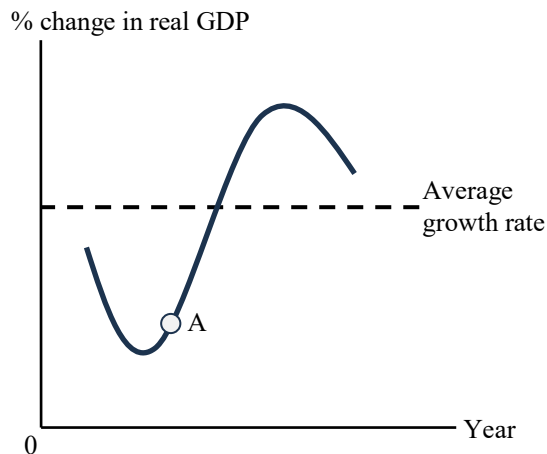
Reference: HKDSE 2020 Paper 1 Q24; HKDSE 2019 Paper 1 Q37

11. Suppose an economy's unemployment rate is 5%. Its government launches a new scheme that attracts 20,000 full-time housewives to join the labour force. Only 18,800 of them can find a job. The economy's unemployment rate _____.
- A. will increase
 - B. will decrease
 - C. will remain unchanged
 - D. cannot be determined

Reference: HKDSE 2012 Paper 1 Q24; HKDSE 2016 Paper 1 Q25; HKDSE 2017 Paper 1 Q27; HKDSE 2021 Paper 1 Q25; HKDSE 2022 Paper 1 Q26; HKDSE 2024 Paper 1 Q26

12. A factory in a country closes due to the decline of the textile industry and all workers are dismissed. Although the affected workers possess specialised skills, these skills are not needed by emerging industries. These workers are most likely experiencing _____ unemployment.
- A. cyclical
 - B. seasonal
 - C. frictional
 - D. structural
13. Mr Wong is a skilled software engineer in Hong Kong. He quits his job and tries to search for a betterpaid position at other companies. During this period, Mr Wong is considered
- A. structurally unemployed.
 - B. frictionally unemployed.
 - C. underemployed.
 - D. not in the labour force.
14. When an economy achieves full employment, this implies that
- A. the unemployment rate reaches 0%.
 - B. the cyclical unemployment rate is 0%.
 - C. frictional unemployment is eliminated.
 - D. the labour force participation rate is 100%.

15. In the following diagram, Point A is situated in a certain phase of the business cycle.



Which of the following economic conditions most likely happens at Point A?

- A. Business confidence is at its lowest level.
- B. Real GDP is falling.
- C. Unemployment level remains high but starts to decline.
- D. Inflation rate is at its peak and accelerating.

Reference: HKDSE 2014 Paper 1 Q39; HKDSE 2021 Paper 1 Q39; HKDSE 2025 Paper 1 Q36

16. The growth rate of an economy's real GDP is negative, its unemployment rate is increasing and surveys show that citizens tend to be pessimistic about business prospects. The economy is most likely in which phase of a business cycle?

- A. Peak
- B. Recession
- C. Trough
- D. Recovery

Reference: HKDSE 2013 Paper 1 Q33

Short Questions

1. The table below shows Hong Kong's Composite Consumer Price Index in 2023 and 2024.

2023	2024
105.5	107.3

Source: Census and Statistics Department

Suppose people did not expect any change in the price level from 2023 to 2024.

- a. Calculate the inflation rate in 2024. (corrected to 2 decimal places) (2 marks)
 - b. Explain whether each of the following persons would gain or lose as a result of the above price level change.
 - i. In 2023, David took out a personal loan from a finance company at a fixed interest rate, to be repaid in 2024. (2 marks)
 - ii. In 2023, Sue deposited her savings into her time deposit account at a fixed interest rate. (2 marks)
2. In January 2026, Mandy lent \$100,000 to her friend, Sam, for one year at a fixed nominal interest rate of 4%. At that time, both expected the inflation rate for 2026 to be 1.5%. However, the actual inflation rate in 2026 turned out to be 3%.
- a. What was the expected real interest rate for Mandy? (2 marks)
 - b. What was the actual real interest rate Mandy received? (2 marks)
 - c. Explain whether Mandy would gain or lose during the above period. (2 marks)

Reference: HKDSE 2014 Paper 2 Q5c; HKDSE 2019 Paper 2 Q6b; HKDSE 2023 Paper 2 Q10b; HKDSE 2024 Paper 2 Q5c

3. 'If the actual inflation rate is negative, the actual real interest rate must be higher than the nominal interest rate.' Why? (3 marks)

Reference: HKDSE 2022 Paper 2 Q6b

4. An economic recession hits a country, leading to a rise in the unemployment rate.
- Identify the type of unemployment that emerges during a recession. (1 mark)
Reference: HKDSE Sample Paper (2025) Paper 2 Q10cii
 - State TWO losses to society caused by unemployment. (2 marks)
Reference: HKDSE 2012 Paper 2 Q6a; HKDSE 2016 Paper 2 Q6b; HKDSE 2020 Paper 2 Q3c; HKDSE 2025 Paper 2 Q5b
 - Suppose during the recession, many unemployed workers give up looking for jobs and leave the country permanently. Explain how this would affect the country's unemployment rate. (3 marks)
Reference: HKDSE 2015 Paper 2 Q5; HKDSE 2024 Paper 2 Q12b

5. The following table shows some information about Economy X.

Population aged 15 and above	5,000,000
Labour force participation rate	64%
Employed population	3,097,600
Underemployed population	50,000

- Calculate the unemployment rate of the economy. Show your workings. (2 marks)
HKDSE 2016 Paper 2 Q6a; HKDSE 2025 Paper 2 Q5a
 - To cope with a shortage of skilled IT workers, the government of Economy X introduces a new policy to attract skilled IT workers from overseas. Suppose 1,000 skilled IT workers immigrate to Economy X. All successfully find a job and none of the local IT workers is replaced. Explain how this policy would affect Economy X's unemployment rate. (3 marks)
Reference: HKDSE 2015 Paper 2 Q5; HKDSE 2018 Paper 2 Q5b; HKDSE 2024 Paper 2 Q12b
6. a. i. Define the natural rate of unemployment and state its relationship with frictional unemployment and structural unemployment. (2 marks)
- Explain why the natural rate of unemployment is not 0% even when an economy is at full employment. (2 marks)
Reference: HKDSE Sample Paper (2025) Paper 2 Q10b
- Give ONE example of frictional unemployment and ONE example of structural unemployment, respectively. (2 marks)
 - During a severe recession, an economy's actual unemployment rate is much higher than the natural rate of unemployment. Name the type of unemployment that creates this situation and explain its cause. (3 marks)

7. Disrupted by the COVID-19 pandemic, Hong Kong's real GDP decreased and its unemployment rate rose in 2020.

a. Identify which phase of the business cycle Hong Kong was most likely experiencing in 2020. (1 mark)

b. Apart from decreasing real GDP and a rising unemployment rate, state TWO other general economic phenomena that occur in this phase. (2 marks)

Reference: HKDSE 2012 Paper 2 Q6b; HKDSE 2016 Paper 2 Q6c; HKDSE 2020 Paper 2 Q3a-b; HKDSE 2022 Paper 2 Q11ai; HKDSE 2024 Paper 2 Q4

c. Explain how the government's fiscal balance may change at the above phase. (3 marks)

HKDSE 2024 Paper 2 Q13a

Answers

Multiple Choice Questions

- C In Figure A, the growth rate of the GDP deflator is positive but is decreasing, so there is disinflation. In Figure B, the GDP deflator falls continuously and there is deflation.
- A $\text{GDP deflator} = (\text{Nominal GDP} \div \text{Real GDP}) \times 100$. From 2024 to 2025, the GDP deflator increased from a figure smaller than 100 to 100. From 2025 to 2026, it continued to increase from 100 to a figure larger than 100. In both periods, the economy experienced inflation.
- C $\text{GDP deflator} = (\text{Nominal GDP} \div \text{Real GDP}) \times 100$
 $\text{GDP deflator in 2025} = (1,475,357 \div 1,531,222) \times 100 = 96.35$
 $\text{GDP deflator in 2026} = (1,890,939 \div 1,823,160) \times 100 = 103.72$
The inflation rate during the period = $[(103.72 - 96.35) \div 96.35] \times 100\%$
 $= 7.65\%$
- C Options A and B: The growth rate of the GDP deflator was negative, implying that the general price level was decreasing. The purchasing power of money was increasing. Since the change in real GDP is not given, the change in nominal GDP is uncertain.
Option C: Nominal interest rate = Actual real interest rate + Actual inflation rate. When the growth rate of the general price level was negative, actual (i.e., realised) inflation rate was negative. The nominal interest rate was lower than the actual (i.e., realised) real interest rate.
Option D: Growth rate of nominal GDP \approx Growth rate of real GDP + Growth rate of the general price level. Since the growth rate of the general price level was negative, the growth rate of nominal GDP was lower than the growth rate of real GDP.
- B Options A and B:
Nominal interest rate
 $= \text{Expected real interest rate} + \text{Expected inflation rate}$
 $= \text{Actual real interest rate} + \text{Actual inflation rate}$
In this example, nominal interest rate = $2\% + 3\% = 5\%$ = actual real interest rate + 1% . Hence, actual real interest rate = $5\% - 1\% = 4\%$.
Options C and D: Since the actual inflation rate is smaller than expected, the purchasing power of fixed future payments is higher than expected. As a result, recipients of fixed future payments (i.e., the bank) will gain, while payers of fixed future payments (i.e., the client) will lose.

6. D Options (1), (2) and (4): During unanticipated inflation, recipients of fixed future payments (i.e., the bank depositors and bondholders) and holders of monetary assets (i.e., the cash coupons holders) will lose. This is because the purchasing power of fixed future payments and monetary assets will drop unexpectedly.
Option (3): If the percentage rise in the property price is larger than the unanticipated inflation rate, property owners would gain.
7. C During unexpected deflation, recipients of fixed future payments (i.e., the retiree) will gain, while payers (i.e., the debtor, the insurance company and the firm owner) will lose, because the purchasing power of the fixed future payments unexpectedly increases.
8. C Option A: Although inflation reduces the purchasing power of money, if the percentage increase in people's nominal income or wealth is larger than the inflation rate, their living standard will improve instead.
Option B: Fixed future income payers gain only under under-anticipated inflation (anticipated inflation rate < actual inflation rate), not under over-anticipated inflation (anticipated inflation rate > actual inflation rate).
Option D: The trade balance of the domestic economy would deteriorate but it may not experience a trade deficit.
9. C $\text{GDP deflator} = (\text{Nominal GDP} \div \text{Real GDP}) \times 100$. During the above period, as the real GDP was fixed, while the nominal GDP increased continuously, the value of GDP deflator was increasing, i.e., there was inflation. The above inflation is unanticipated as people did not expect any change in the price level; thus, fixed future payment payers will gain.
Option A: The nominal value of real assets (gold) may increase with inflation. However, if the percentage increase in nominal value is lower than the inflation rate, the purchasing power of these assets may fall.
Option B: The real value of the loan repayment will remain unchanged. Hence, the borrower will neither gain nor lose.
Option D: Fixed future payment recipients will lose.

10. A Labour force participation rate
 = (Labour force ÷ Population aged 15 and over) × 100%
 Labour force
 = Labour force participation rate × Population aged 15 and over
 = 60% × 4,000,000 = 2,400,000
 Unemployed population
 = Labour force × Unemployment rate = 2,400,000 × 10% = 240,000
 Employed population
 = Labour force – Unemployed population
 = 2,400,000 – 240,000 = 2,160,000
11. A 6% [= (20,000 – 18,800) ÷ 20,000 × 100%] of these full-time housewives cannot find a job, which is higher than the original unemployment rate.
12. D
 13. B
 14. B
 15. C
 16. B

Short Questions

1. a. Inflation rate in 2024
 = [(107.3 – 105.5) ÷ 105.5] × 100% (1 mark)
 = 1.71% (1 mark)
- b. i. David would gain, because (1 mark)
 the real value of his repayment is lower than expected. (1 mark)
- ii. Sue would lose, because (1 mark)
 the real value of interest she receives is lower than expected. (1 mark)

2. a. Expected real interest rate
 = Nominal interest rate – Expected inflation rate (1 mark)
 = 4% – 1.5% = 2.5% (1 mark)
- b. Actual real interest rate
 = Nominal interest rate – Actual inflation rate (1 mark)
 = 4% – 3% = 1% (1 mark)
- c. Lose, because (1 mark)
 the actual real interest rate received (1%) was lower than the expected real interest rate (2.5%) / the purchasing power of the repayment she received was less than expected. (1 mark)
3. Nominal interest rate = Actual real interest rate + Actual inflation rate (1 mark)
 Rearranging terms, actual inflation rate = nominal interest rate – actual real interest rate
 When the actual inflation rate is negative, nominal interest rate – actual real interest rate < 0, implying that nominal interest rate < actual real interest rate. (2 marks)
4. a. Cyclical unemployment (1 mark)
- b. Losses:
- Loss of output (GDP)
 - Loss of human capital (skills deteriorate)
 - Increased social problems (e.g., crime)
- (Any TWO of the above or other reasonable answers. 1 mark × 2 = 2 marks)
- c. Unemployment rate = (Unemployed population ÷ Labour force) × 100%. (1 mark)
- When unemployed workers leave the country, they are no longer in the labour force. Both the unemployed population (numerator) and the labour force (denominator) decrease by the same magnitude. (1 mark)
- Because the numerator is smaller than the denominator, the percentage decrease in the numerator is larger than the percentage decrease in the denominator, causing the unemployment rate to decrease. (1 mark)

5. a. Labour force = $5,000,000 \times 64\% = 3,200,000$ (1 mark)
 Unemployed population = $3,200,000 - 3,097,600 = 102,400$
 Unemployment rate = $(102,400 \div 3,200,000) \times 100\% = 3.2\%$ (1 mark)
- b. Unemployment rate = $(\text{Unemployed population} \div \text{Labour force}) \times 100\%$ (1 mark)
- The labour force increases by 1,000, while the unemployed population remains unchanged. (1 mark)
- Therefore, Economy X's unemployment rate decreases. (1 mark)
6. a. i. Natural rate of unemployment is the lowest possible unemployment rate when the labour market is in equilibrium. It consists of frictional unemployment and structural unemployment. (2 marks)
- ii. No matter how strong the economy is, people still experience regular job transitions (causing frictional unemployment), and industries continue to undergo structural changes (causing structural unemployment). (2 marks)
- b. Frictional unemployment: University graduates spend a few months going on interviews before getting their first job. / Workers voluntarily quit their jobs to look for a better one. (1 mark)
- Structural unemployment: Many manufacturing workers in Hong Kong became unemployed due to the relocation of the manufacturing industry to the mainland. (1 mark)
- (Or other reasonable answers)
- c. Cyclical unemployment. (1 mark)
- This is caused by economic fluctuations in the business cycle. During a recession, consumption and investment decrease. Labour demand decreases. If the nominal wage rate remains unchanged or decreases by a smaller percentage than the equilibrium nominal wage rate, cyclical unemployment will appear. (2 marks)

7. a. Recession / Contraction. (1 mark)

b. Economic phenomena:

- Low/falling inflation rate or even deflation
- Falling business confidence and levels of investment
- Falling levels of consumption

(Any TWO of the above or other reasonable answers except decreasing real GDP and rising unemployment rate. 1 mark \times 2 = 2 marks)

c. The government's fiscal balance would deteriorate (i.e., fiscal surplus decreases or fiscal deficit increases). (1 mark)

Government revenue: As the economy contracts, incomes, expenditures and profits drop. Hence, government tax revenue (from salaries tax, goods and services taxes as well as profits tax) decreases. (1 mark)

Government expenditure: As the economy contracts, more people become unemployed. Hence, government spending on transfer payments (like unemployment benefits) increases. (1 mark)