



NLSI Peace Evangelical Secondary School

Secondary 5

Language across the Curriculum (LaC)

| BOOK 1 |

Your Name: _____

Class (No.) : _____ ()

NLSI Peace Evangelical Secondary School

S5 LaC (2022-23)

1 st Term (Maths, P.E., X2)		
Period	Subject	Topic
Cycle 1	Introduction	—
Cycle 2	Maths	Linear Programming P.3
Cycle 3	Geography(X2)	Farming in the Zhujiang Delta P.16
Cycle 4	THS(X2)	Types of accommodation P.25
Cycle 5	ICT (X2)	E- Commerce P.33
1st UT (40mins)		
Cycle 6	PE	Trampoline
Cycle 7	Chinese History(X2)	Self-Strengthening Movement
Cycle 8	Chemistry(X2)	Pollutants
Cycle 9	VA (X2)	What Visual Arts are
1st Exam(45mins)		
2 nd Term (Music, CSD, X1)		
Cycle 13	--	--
Cycle 14	History (X1)	The world between wars
Cycle 15	BAFS(X1)	Franchise
Cycle 16	Music	Pop Music
2nd UT (40mins):		
Cycle 17	CSD	?
Cycle 18	Biology (X1)	Cancer
Cycle 19	Physics (X1)	Currents
Cycle 20	ICT (X1) -Part B only	E- Commerce
2nd Exam (45mins)		

Cycle 2 - Maths

Applications of Linear Programming

4.4 Applications of Linear Programming Teaching Objective

In real life situations, linear programming helps us solve problems involving maximization or minimization of some quantities under certain constraints. For example, it is used in many sectors to maximize the profit or minimize the cost with limited resources.



Factory owners want to maximize their profits from fixed amounts of resources.



Express delivery companies want to minimize their transportation costs in delivering parcels on time.

In general, we can follow the procedure below to solve these problems.

- Step 1:** Identify the unknown quantities and represent them by letters, say x and y .
- Step 2:** Identify all constraints and express them as inequalities in terms of x and y .
- Step 3:** Draw and shade the region that satisfies all the constraints on a coordinate plane.
- Step 4:** Express the objective function in terms of x and y .
- Step 5:** Find the maximum (or minimum) value of the objective function subject to the constraints.

Reminder

In real life situations, x and y are usually restricted to non-negative real numbers or integers.

Example 4.10

Application of linear programming involving real feasible solutions

Ex. 4D
Q5, 6

Teaching Example

A juice bar sells two kinds of mixed fruit juices, *A* and *B*. The amounts of apples and grapes needed to produce each litre of fruit juices *A* and *B* are shown in the table below:

	Apple	Grape
Fruit juice <i>A</i>	4 units	3 units
Fruit juice <i>B</i>	3 units	6 units



The juice bar can obtain 50 units of apples and 90 units of grapes from its supplier daily. Suppose the juice bar has to produce x L of fruit juice *A* and y L of fruit juice *B* each day to meet the demand.

◀ Step 1: The unknown quantities are represented by x and y .

- Write down all the constraints on x and y .
- Draw and shade the region that satisfies the constraints in (a) on a coordinate plane.
- If the juice bar makes a profit of \$100 on each litre of fruit juice *A* and \$150 on each litre of fruit juice *B*, how many litres of each kind of fresh fruit juice should be produced each day to maximize the profit? What is the maximum profit?
(Assume all fruit juice produced can be sold.)

Solution

(a) The constraints are:

$$\begin{cases} 4x + 3y \leq 50 \\ 3x + 6y \leq 90 \\ x \geq 0 \\ y \geq 0 \end{cases}$$

◀ Step 2: Identify all constraints.

◀ The volumes of fruit juices produced must be non-negative real numbers.

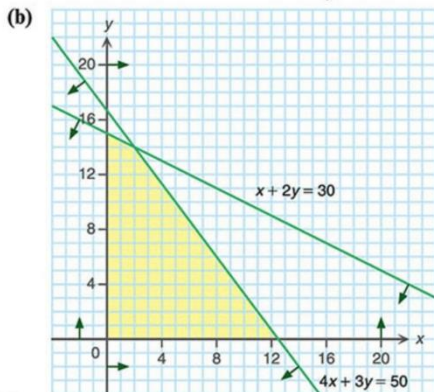
After simplification, we have

$$\begin{cases} 4x + 3y \leq 50 \\ x + 2y \leq 30 \\ x \geq 0 \\ y \geq 0 \end{cases}$$

Tips for Students

The following table helps us find the constraints.

	Amount of apples (unit)	Amount of grapes (unit)
x L of fruit juice <i>A</i>	$4x$	$3x$
y L of fruit juice <i>B</i>	$3y$	$6y$
Maximum amount of supply	50	90



◀ Step 3: Draw and shade the feasible region on a coordinate plane.

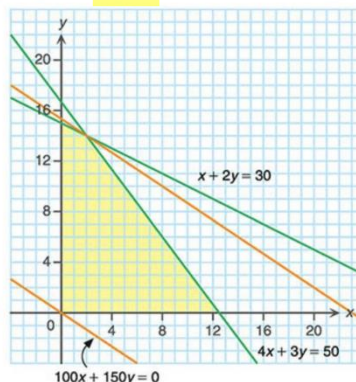
(c) Let P be the profit, then $P = 100x + 150y$.

From the graph, P attains its maximum at (2, 14).

$$\begin{aligned} \therefore \text{Maximum value of } P &= 100(2) + 150(14) = 2300 \end{aligned}$$

\therefore The juice bar should produce 2 L of fruit juice *A* and 14 L of fruit juice *B* each day to attain a maximum profit of \$2300.

◀ Step 4: Express the objective function in terms of x and y .



Step 5: Draw the line $100x + 150y = 0$ (i.e. $2x + 3y = 0$), and translate the line to the rightmost of the feasible region to find the maximum value of P .

Example 4.11

Application of linear programming involving real feasible solutions

Ex. 4D

Q7

Teaching Example

In a factory, two machines, A and B , are used to produce phone cases subject to the following conditions:

- I. Machine A can produce 100 phone cases per hour while machine B can produce 50 phone cases per hour. At least 1000 phone cases should be produced daily.
- II. The total operating time for the two machines is not less than 15 hours daily.



Suppose machines A and B are operated for x hours and y hours respectively each day.

- (a) Write down all the constraints on x and y .
- (b) Draw and shade the region that satisfies the constraints in (a) on a coordinate plane.
- (c) If the costs of running machines A and B are \$500 per hour and \$400 per hour respectively, how many hours should each machine be operated daily to minimize the cost? What is the minimum cost?

Solution

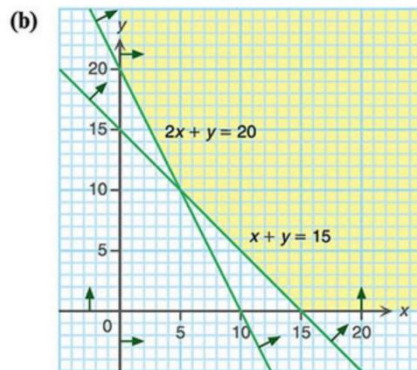
(a) The constraints are:

$$\begin{cases} 100x + 50y \geq 1000 \\ x + y \geq 15 \\ x \geq 0 \\ y \geq 0 \end{cases} \quad \text{i.e.} \quad \begin{cases} 2x + y \geq 20 \\ x + y \geq 15 \\ x \geq 0 \\ y \geq 0 \end{cases}$$

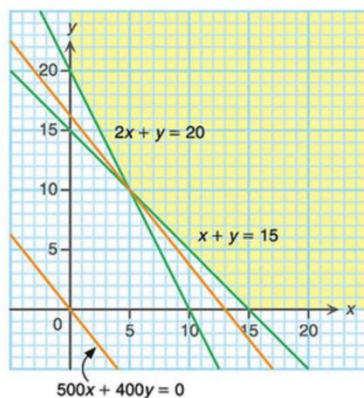
◀ Condition I

◀ Condition II

◀ The operating time for each machine must be non-negative real numbers.



(c) Let \$ C be the cost, then $C = 500x + 400y$.



Tips for Students

Draw the line $500x + 400y = 0$ and translate the line to the leftmost of the feasible region to find the minimum value of C .

From the graph, C attains its minimum at $(5, 10)$.

∴ Minimum value of $C = 500(5) + 400(10) = 6500$

∴ Machine A should be operated for 5 hours and machine B should be operated for 10 hours to attain a minimum cost of \$6500.

Example 4.12

Application of linear programming involving real feasible solutions

Ex. 4D
Q11

Teaching Example

A health centre provides two kinds of diet food, *A* and *B*. The following table shows the ingredients of 1 kg of food *A* and 1 kg of food *B*.

	Fat	Protein	Vitamins
Food <i>A</i>	20 units	40 units	40 units
Food <i>B</i>	15 units	60 units	20 units



After consulting a dietician, Alice wants to have a weekly intake of at most 30 units of fat, at least 72 units of protein and at least 40 units of vitamins from food *A* and food *B*.

After consulting a dietician, Alice wants to have a weekly intake of at most 30 units of fat, at least 72 units of protein and at least 40 units of vitamins from food *A* and food *B*.

Suppose Alice buys x kg of food *A* and y kg of food *B* weekly.

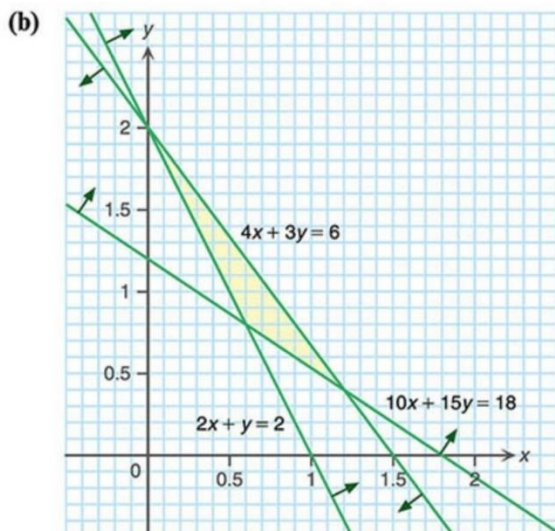
- (a) Write down all the constraints on x and y .
- (b) Draw and shade the region that satisfies the constraints in (a) on a coordinate plane.

Solution

(a) The constraints are:

$$\begin{cases} 20x + 15y \leq 30 \\ 40x + 60y \geq 72 \\ 40x + 20y \geq 40 \\ x \geq 0 \\ y \geq 0 \end{cases} \quad \text{i.e.} \quad \begin{cases} 4x + 3y \leq 6 \\ 10x + 15y \geq 18 \\ 2x + y \geq 2 \\ x \geq 0 \\ y \geq 0 \end{cases}$$

- ◀ Constraint on fat
- ◀ Constraint on protein
- ◀ Constraint on vitamins



Exercise 4D

Level 1

1. A bakery makes x kg of bread and y kg of cakes daily under the following conditions:

$$\begin{cases} x+y \geq 30 \\ x > y \\ x \geq 0 \\ y \geq 0 \end{cases}$$

- | | |
|-----|--|
| I. | Total daily output of bread and cakes should not be less than 30 kg in order to meet the demand. |
| II. | The weight of bread should exceed the weight of cakes. |



Write down all the constraints on x and y .

2. Ken plans to buy x stars and y angels to decorate his Christmas tree under the following conditions:

- | | |
|-----|--|
| I. | He can afford at most \$150 to buy stars and angels. Each star costs \$4 and each angel costs \$6. |
| II. | The total number of stars and angels bought by Ken should not exceed 20. |



Write down all the constraints on x and y .

$$\begin{cases} 2x+3y \leq 75 \\ x+y \leq 20 \\ x \text{ and } y \text{ are non-negative integers.} \end{cases}$$

3. A new brand of dog biscuits with two flavours, chicken-favoured and beef-favoured, is introduced. The amounts of nutrients, A and B , in each pack of chicken-favoured biscuits and beef-favoured biscuits are shown in the table below:

	Nutrient A	Nutrient B
Chicken-favoured biscuit	6 units	4 units
Beef-favoured biscuit	8 units	2 units



Miss Lee wants to buy x packs of chicken-favoured biscuits and y packs of beef-favoured biscuits for her dogs. The dog biscuits bought must contain at least 160 units of nutrient A and 90 units of nutrient B . Write down all the constraints on x and y .

$$\begin{cases} 3x+4y \geq 80 \\ 2x+y \geq 45 \\ x \text{ and } y \text{ are non-negative integers.} \end{cases}$$

4. A craftsman has 100 units of a material for making goldfish lanterns and dragon lanterns. Each goldfish lantern requires 2 units of the material while each dragon lantern requires 5 units of the material. The craftsman takes 14 minutes to make one goldfish lantern and 30 minutes to make one dragon lantern. He plans to spend at least 7 hours to make the lanterns. Let x and y be the numbers of goldfish lanterns and dragon lanterns made respectively. Write down all the constraints on x and y .

$$\begin{cases} 2x+5y \leq 100 \\ 7x+15y \geq 210 \\ x \text{ and } y \text{ are non-negative integers.} \end{cases}$$

5. A manufacturer produces x kg of type A coffee and y kg of type B coffee each day. The compositions, per kg, of the two types of coffee are shown in the table below:

	Ingredient P	Ingredient Q
Type A coffee	4 units	5 units
Type B coffee	4 units	3 units

Suppose the daily supplies of ingredient P and ingredient Q to the manufacturer are 3200 units and 3000 units respectively.

- (a) Write down all the constraints on x and y .

$$\begin{cases} x+y \leq 800 \\ 5x+3y \leq 3000 \\ x \geq 0 \\ y \geq 0 \end{cases}$$

6. A factory produces two kinds of health food, A and B , by using *ginseng* and *cordyceps*. The compositions, per 100 g, of the two kinds of health food are shown below.

	Ginseng (g)	Cordyceps (g)
Health food A	80	20
Health food B	90	10

There are 100 kg of ginseng and 15 kg of cordyceps available. Suppose the factory has to produce x hundred grams of health food A and y hundred grams of health food B .

- (a) Write down all the constraints on x and y .

$$\begin{cases} 8x + 9y \leq 10\,000 \\ 2x + y \leq 1500 \\ x \geq 0 \\ y \geq 0 \end{cases}$$

7. A restaurant offers two types of soup, lobster soup and clam soup. At least 160 cups of soup has to be prepared each day. The manager placed an order for x kg of lobsters and y kg of clams under the following conditions:

- | |
|---|
| I. Each kg of lobsters can make 32 cups of soup while each kg of clams can make 8 cups of soup. |
| II. The weight of lobsters should not exceed that of clams. |

- (a) Write down all the constraints on x and y .

$$(a) \begin{cases} 4x + y \geq 20 \\ x \leq y \\ x \geq 0 \\ y \geq 0 \end{cases}$$

Key Learning Points

1. The function of Linear Programming
2. Steps to solve a Linear Programming Problem
3. Examples of Application of Linear Programming involving real feasible solutions

Part A Language

1. Glossary (35 items, 35 marks)

Please fill in the meanings and Parts of Speech. Then, read the phrases in the last column aloud.

No. & Page	Vocabulary	Meanings	Parts of Speech	Collocations/Phrases
1.1	situations (para. 1)		n.	In real life situations , ...
1.2	linear (para.1)		adj.	linear programming helps us solve ...
1.3	programming (para.1)		n.	linear programming helps us solve ...
1.4a	maximization (para.1)		n.	problems involving maximization or minimization...
1.4b	maximize (para.1)		v.	to maximize the profit
1.4c	maximum (step 5)		adj.	Find the maximum value
1.5a	minimization (para.1)			problems involving maximization or minimization ...
1.5b	minimize (para.1)			to minimize the cost
1.5c	minimum (step 5)			Find the minimum value...
1.6	quantities (para.1)			...of some quantities under certain constraints
1.7	constraints (para.1)			...of some quantities under certain constraints
1.8	sectors (para.1)			...used in many sector
1.9	profit (para.1)			to maximize the profit
1.10	limited (para.1)			the cost with limited resources
1.11	resources (para.1)			the cost with limited resources

1.12	procedure (para.2)			We can follow the procedure ...
1.13	identify (step.1)			Identify the unknown quantities...
1.14	represent (step.1)			represent them by letters...
1.15	express (step.2)			... express them as inequalities in terms of x and y.
1.16	inequalities (step.2)			...express them as inequalities in terms of x and y.
1.17	in terms of (step.2)			...express them as inequalities in terms of x and y.
1.18	shade (step.3)			Draw and shade the region...
1.19	region (step.3)			Draw and shade the region ...
1.20	coordinate plane (step.3)			satisfies all the constraints on a coordinate plane .
1.21	objective (step.4)			Express the objective function ...
1.22	subject to (step.5)			the objective function subject to the constraints.
1.23	feasible (e.g. 4.10)			involving real feasible solutions
1.24	produce (e.g. 4.10)			produce each litre of fruit juices
1.25	litre (e.g. 4.10)			produce each litre of fruit juices
1.26	assume (e.g. 4.10)			Assume all fruit juice produced...
1.27	Restricted to (reminder)			x and y are usually restricted to non-negative real numbers or integers.
1.28	integers (reminder)			x and y are usually restricted to non-negative real numbers or integers .
1.29	simplification (solution a)			After simplification , ...
1.30	attain (solution c)			to attain a maximum profit of \$2300

1.31	consulting (e.g.4.12)			After consulting a dietician,
1.32	dietician (e.g.4.12)			After consulting a dietician ,
1.33	nutrients (ex.4D, 3)			The amounts of nutrients , A and B,
1.34	respectively (ex.4D, 4)			...the numbers of goldfish lanterns and dragon lanterns made respectively .
1.35	compositions (ex.4D, 5)			The compositions of the two types of...

2. Fill in each blank with suitable word(s) and arrange the step in proper order by writing numbers 1-5. (19 items, 19 marks)

Linear Programming	
Step _____	Find the _____ (or minimum) value of the _____ function _____ the constraints.
Step _____	_____ the unknown quantities and _____ them by _____, say x and y.
Step _____	Draw and _____ the _____ that _____ all the _____ on a _____ plane.
Step _____	_____ the objective function _____ x and y.
Step _____	Identify all constraints and express them as _____ in terms of x and y.

3. Proofread the following paragraphs. Underline the mistakes, insert any missing words using a “A ” and write the correct words on the lines on the right. (13 items, 26 marks)

<p>In real life situations, linear programming help us solve problems involve maximization or minimization of some quantities under certain constraints. For example, it use in many sectors to maximize the profit or minimize the cost with limit resources.</p>	<hr/> <hr/> <hr/> <hr/>
<p>After consult a dietician, Alice wants to have a weekly intake of at most 30 units of fat, at last 72 units of protein and at least 40 units of vitamins from food A and food B. Suppose Alice buy x kg of food A and y kg of food B week.</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>A new band of dog biscuits with two favors, chicken-favored and beef-favored, is introduced. The amounts nutrients, A and B, in each pack of chicken-favored biscuits and beef-favored biscuits was 6 units and 4 units respective. Miss Lee wants to buy x packs of chicken-favoured biscuits and y packs of beef-favoured biscuits to her dogs.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Part A: Score : _____/70

Part B Knowledge & Skills

Please answer the following questions. **Q & A (Answers)**

1. A new brand of dog biscuits with two favors, chicken-favored and beef-favored, is introduced. The amounts of nutrients, A and B , in each pack of Chicken-favored biscuits and beef-favored biscuits are shown in the table below:

	Nutrient A	Nutrient B
Chicken-favored biscuits	6 units	4 units
Beef-favored biscuits	8 units	2 units

Miss Lee wants to buy x packs of chicken-favored biscuits and y packs of beef-favored biscuits for her dogs. The dog biscuits bought must contain at least 160 units of nutrient A and 90 units of nutrient B . Write down all the constraints on x and y .

Ans:

$$\left\{ \begin{array}{l} 6x + 8y \geq 160 \\ 4x + 2y \geq 90 \\ x \text{ is a non negative integer} \\ y \text{ is a non negative integer} \end{array} \right.$$

(5 marks, 1 mark for each constraint, 1 mark for the open bracket)

$$\left\{ \begin{array}{l} 3x + 4y \geq 80 \\ 2x + y \geq 45 \\ x \text{ is a non negative integer} \\ y \text{ is a non negative integer} \end{array} \right.$$

(5 marks, 1 mark for each constraint, 1 mark for the open bracket)

2. A craftsman has 100 units of material for making goldfish lanterns and dragon lanterns. Each goldfish lantern requires 2 units of material while each dragon lantern requires 5 units of the material. The craftsman takes 14 minutes to make one goldfish lantern and 30 minutes to make one dragon lantern. He plans to spend at least 7 hours to make the lanterns. Let x and y be the numbers of goldfish lanterns and dragon lanterns made respectively. Write down all the constraints on x and y .

Ans:

$$\left\{ \begin{array}{l} 2x + 5y \leq 100 \\ 14x + 30y \geq 420 \\ x \text{ is a non negative integer} \\ y \text{ is a non negative integer} \end{array} \right.$$

(5 marks, 1 mark for each constraint, 1 mark for the open bracket)

$$\left\{ \begin{array}{l} 2x + 5y \leq 100 \\ 7x + 15y \geq 210 \\ x \text{ is a non negative integer} \\ y \text{ is a non negative integer} \end{array} \right.$$

(5 marks, 1 mark for each constraint, 1 mark for the open bracket)

3. A restaurant offers two types of soup, lobster soup and clam soup. At least 160 cups of soup has to be prepared each day. The manager placed an order for x kg of lobsters and y kg of clams under the following conditions:

- Each kg of lobsters can make 32 cups of soup while each kg of clams can make 8 cups of soup.
- The weight of lobsters should not exceed that of clams.

Write down all the constraints on x and y .

Ans:

$$\left\{ \begin{array}{l} 32x + 8y \geq 160 \\ x \leq y \\ x \geq 0 \\ y \geq 0 \end{array} \right.$$

(5 marks, 1 mark for each constraint, 1 mark for the open bracket)

$$\left\{ \begin{array}{l} 4x + y \geq 20 \\ x \leq y \\ x \geq 0 \\ y \geq 0 \end{array} \right.$$

(5 marks, 1 mark for each constraint, 1 mark for the open bracket)

Cycle 3 - Geography

Agriculture in the ZDR before and in 1980s

Physical characteristics of the Zhujiang Delta

The Zhujiang **Delta** can be regarded as a region since it shares similar physical characteristics.

The delta area is mostly **flat** and **low-lying** (Figure 4). The rich supply of **sediment** from the Zhu Jiang makes up the fertile **alluvial** soil there. In addition, the area has a **subtropical monsoon climate**. It has hot wet summers and mild dry winters.

These characteristics have explained why the delta area has been a major agricultural base in South China.

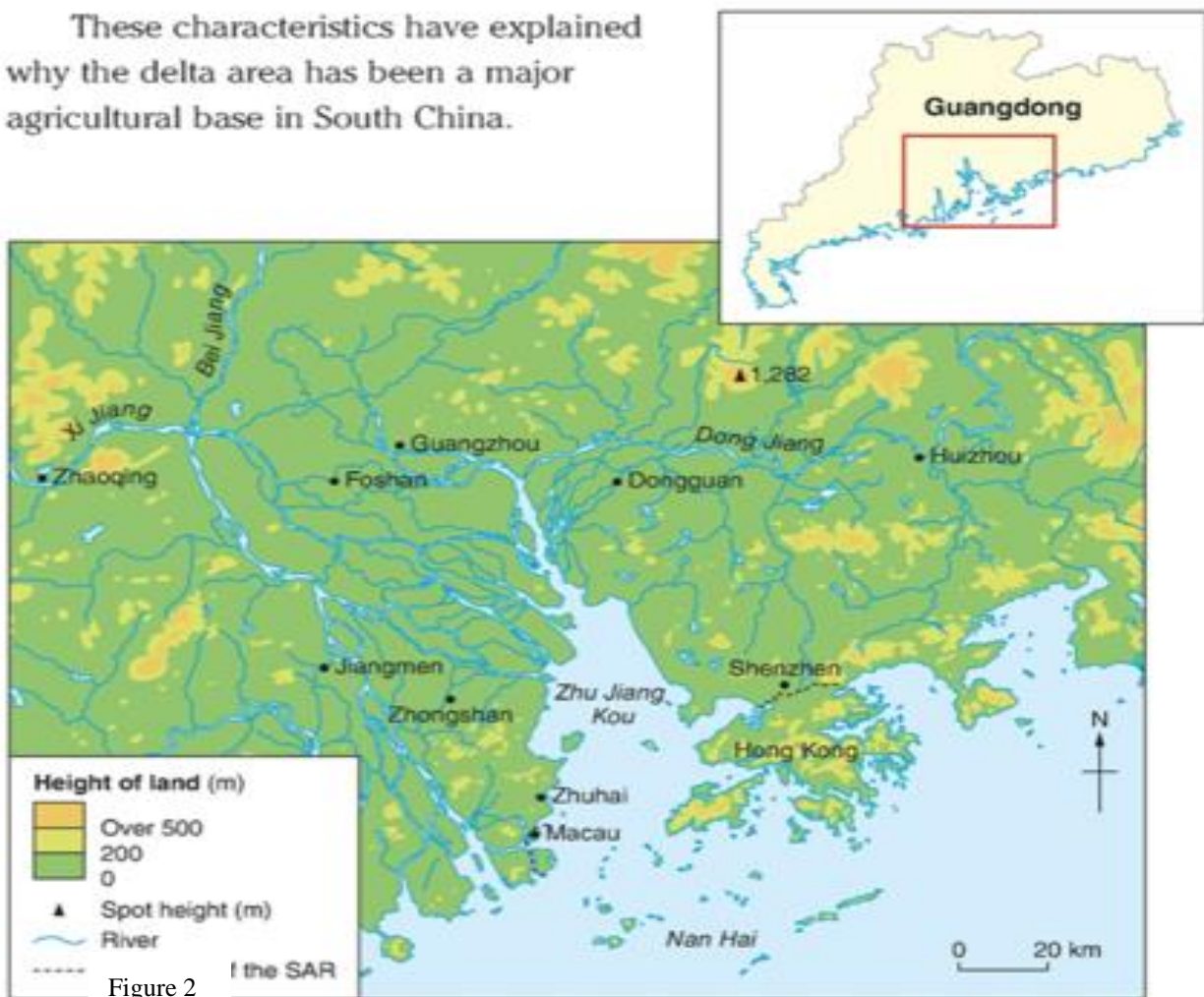


Figure 4 Relief of the ZDR

Zhujiang Delta Region (ZDR) 珠江三角洲區域 alluvial soil 沖積土壤
subtropical monsoon climate 亞熱帶季風氣候 Zhaoqing 肇慶 Foshan 佛山 Dongguan 東莞
Huizhou 惠州 Jiangmen 江門 Zhongshan 中山 Zhuhai 珠海



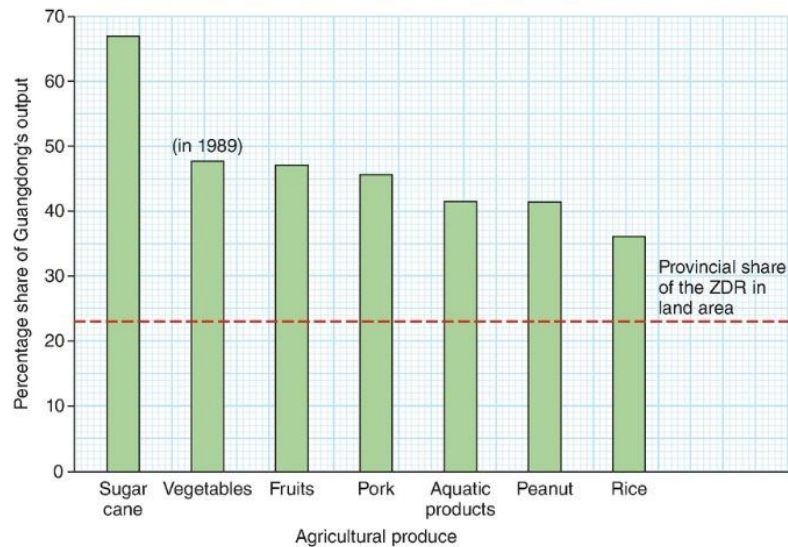
What were the agricultural characteristics of the ZDR before the 1980s?

Before the 1980s, the ZDR was an important agricultural base in Guangdong (Figure 3). Most land and people were engaged in farming. Various types of crops and livestock were grown and reared.



Refer to Figure 3.

- 1 What is the percentage share of the ZDR in the total land area of Guangdong?
- 2 With reference to your answer in Question 1, account for the importance of the ZDR to the agriculture of Guangdong in 1980.



Source: 《珠江三角洲經濟區統計資料 (1980-1994)》; Agricultural Statistical Yearbook of Guangdong 1993

Figure 3 Output of major agricultural produce in the ZDR as a percentage share of Guangdong's output in 1980

At that time, the large population favoured intensive farming. Most of the farm work was done by manual labour. The levels of mechanisation and technology were low.



Figure 4 Rice was one of the most important agricultural produce in the ZDR before the 1980s

Under the planned economy, the government decided the types of agricultural produce to be produced. The produce was mainly for subsistence and the surplus was handed over to the government for further allocation. Moreover, to ensure a high level of self-sufficiency in the food supply, plenty of land in the ZDR was used to grow food crops such as rice.





How have rapid industrialisation and urbanisation hindered agricultural development in the ZDR?

Since the 1980s, however, there has been a dramatic change in agricultural development in the ZDR. The relative importance of agriculture in the region has declined significantly (Figure 2 on p. 51). Such a decline is closely related to the negative effects of industrialisation and urbanisation (Table 2).

Table 2 Negative effects of industrialisation and urbanisation on some agricultural factors in the ZDR

Agricultural factor	Change under rapid industrialisation and urbanisation									
<p>a Land</p> <p>Large pieces of extensive lowland in the delta region</p>	<p>Shrinking agricultural land</p> <p>Plenty of agricultural land has been converted to various urban uses such as factories, houses and commercial buildings</p>									
<p>b Labour supply</p> <ul style="list-style-type: none"> The ZDR is populous Most people engaged in agriculture 	<p>Reduction of farm labour</p> <ul style="list-style-type: none"> Many farmers have moved to the urban areas for jobs and higher income Only the elderly and children, who are less able to work, stay behind in the rural areas <div style="text-align: center;"> <table border="1"> <caption>Data for Figure 5</caption> <thead> <tr> <th>Year</th> <th>Rural population (%)</th> <th>Urban population (%)</th> </tr> </thead> <tbody> <tr> <td>1980</td> <td>71.6%</td> <td>28.4%</td> </tr> <tr> <td>2018</td> <td>14.1%</td> <td>85.9%</td> </tr> </tbody> </table> <p>Source: 《珠江三角洲經濟區統計資料 (1980-1994)》; Guangdong Statistical Yearbook 2019</p> <p>Figure 5 Shares of rural and urban population in the ZDR in 1980 and 2018</p> </div>	Year	Rural population (%)	Urban population (%)	1980	71.6%	28.4%	2018	14.1%	85.9%
Year	Rural population (%)	Urban population (%)								
1980	71.6%	28.4%								
2018	14.1%	85.9%								
<p>c Drainage</p> <p>The dense river network on the delta provides adequate irrigation water</p>	<p>Lack of clean water for irrigation</p> <p>Pollutants from active industrial and urban activities cause serious water pollution. This results in water shortages</p>									
<p>d Soil</p> <p>Thick and fertile alluvial soil in the delta region</p>	<p>Degradation of soil quality</p> <p>Air and water pollutants contaminate the soil too. This in turn affects crop yields</p>									





How have rapid industrialisation and urbanisation benefited agricultural development in the ZDR?

However, a rapidly urbanised and industrialised environment also offers opportunities for agricultural development in the ZDR (Table 3). These help keep agriculture developing in the region. Nowadays, agriculture supplies the region with a large range of produce.

Table 3 Positive effects of industrialisation and urbanisation on some agricultural factors in the ZDR

Agricultural factor	Change under rapid industrialisation and urbanisation
a Market	Larger market for high-value agricultural produce due to the rise of a large urban population with higher incomes
b Transport	Better transport infrastructure , such as more highways, railways, seaports and airports, enables the delivery of perishable agricultural produce to places farther away, including export overseas
c Capital and technology	<p>Increased capital investment and technological inputs</p> <ul style="list-style-type: none"> After years of industrialisation and urbanisation, more capital has been accumulated and can be invested in agricultural technologies, such as automation and precision agriculture Larger markets and better infrastructure under industrialisation and urbanisation, together with the open policy in agriculture, have attracted foreign investment from places such as from Hong Kong, Taiwan and Japan. These foreign firms bring in capital and modern agricultural technologies
d Government policy	<p>More preferential policies for agriculture</p> <p>To sustain agricultural development under rapid urbanisation, the central government has:</p> <ul style="list-style-type: none"> continued the policy of self-sufficiency in food supply and adopted the 'prime farmland' system, i.e. prohibiting any conversion of designated highly fertile and productive farmland to other uses provided farmers with subsidies and loans to encourage the adoption of machines and modern agricultural technologies adopted measures to improve farmers' incomes and living standards, e.g. abolishing agricultural tax and improving rural infrastructure. This attracts people to stay in rural areas



Key Learning Points

1. Physical characteristics of the Zhujiang Delta (ZDR)
2. Agricultural characteristics of the ZDR before the 1980s
3. Negative & positive effects of industrialization and urbanization for the agricultural development in the ZDR after 1980s?

Part A Language (70 marks)

1. Glossary (20 items, 20 marks)

Please fill in the meanings and Parts of Speech. Then, read the phrases in the last column aloud.

No.	Vocabulary	Meanings	Parts of Speech	Collocations/Phrases
1.1	delta		n.	The Nile Delta The Zhujiang Delta
1.2	sediment			There was a <u>brown</u> sediment in the <u>bottom</u> of the <u>bottle</u> .
1.3	alluvial			1. an alluvial <u>plain</u> 2. Some alluvial <u>deposits</u> are a rich source of diamonds.
1.4	subtropical			a subtropical <u>climate</u>
1.5	rear			He <u>describes</u> how these <u>birds</u> rear <u>their</u> young.
1.6	mechanisation			The <u>decline</u> in <u>farm</u> <u>population</u> was <u>caused</u> by <u>increased</u> mechanization of <u>agriculture</u> .
1.7	subsistence		n.	The <u>family</u> was <u>living</u> at subsistence <u>level</u> .
1.8	surplus			1. Fortunately the company's <u>bank</u> <u>account</u> is currently in surplus. 2. <u>There is no surplus capacity in our transport system.</u>
1.9	Self-sufficiency			She <u>encouraged</u> self-sufficiency in her <u>daughters</u> .
1.10	industrialisation			The country produces the most electronic appliances in the world because of its high level of industrialization.
1.11	urbanisation			Urbanization of the town can only occur if large employers move into the area.
1.12	populus			<u>China</u> is the world's most populous <u>country</u> .
1.13	irrigation		.	Hundreds of <u>wells</u> that <u>provide</u> <u>irrigation</u> to <u>farmers</u> have been <u>shut</u> down.
1.14	contaminate			Much of the <u>coast</u> has been contaminated by nuclear waste.
1.15	infrastructure			The <u>war</u> has <u>badly</u> <u>damaged</u> the country's infrastructure.

1.16	perishable			It's <u>important</u> to <u>store</u> perishable <u>food</u> in a <u>cool</u> <u>place</u> .
1.17	capital			We put \$20,000 capital into the <u>business</u> , but we're <u>unlikely</u> to <u>see</u> any <u>return</u> for a few <u>years</u> .
1.18	designate			She has been designated to <u>organize</u> the <u>meeting</u> .
1.19	rapidly			Things are <u>changing</u> very rapidly.
1.20	sustain			He <u>seems</u> to <u>find</u> it <u>difficult</u> to sustain <u>relationships</u> with women.

2. Fill in the blank (16 items, 2 marks each, 32 marks)

Please fill in the blank with **correct form of the word**. The blanks marked with a (*) require more attention to the word forms.

The ZDR is one of the most (2.1) _____ areas in China. The (2.2) _____ is mostly flat and low-lying area with the rich supply of (2.3) _____ from the Zhu Jiang which makes up the fertile (2.4) _____ soil.

Before 1980s, the area was almost engaged in farming, such as growing crops and (2.5)* _____ the livestock. At that time, the farm work was done by the low level of (2.6) _____. The main produce, such as rice was mainly for (2.7) _____.

Since the (2.8)* _____ development of (2.9) _____ and (2.10) _____ in the 1980s, there had been a dramatic change in agriculture area in ZDR. Pollutants from active industrial and urban activities caused seriously water and air pollution. As a result, the soil was (2.11) * _____. This in turn affected crops yields.

To help keep agriculture developing in the area, the Chinese government started to develop a better transport (2.12) _____, such as highways, railways and airports which enabled the delivery of (2.13) _____ products to places farther away. For example, Hong Kong and overseas.

To maintain the (2.14) * _____ agriculture development in the area, the government insisted to adopt the policy of (2.15) _____ to accumulate more (2.16) _____ in order to invest in agricultural technologies for improving the quality of the products.

3. True (T), False (F) and Not Given (NG) (9 items, 2 marks each, 18 marks)

- 3.1 The ZDR has a subtropical monsoon climate with hot dry summer and mild humid winter.
- 3.2 The ZDR is located in the Guangdong province in South China.
- 3.3 Before 1980s, the ZDR had been developed on a high level of mechanization and technology in agricultural economy in South China.
- 3.4 Since 1980s, the plenty of agriculture land had been converted to different urban uses in the ZDR, such as factories, residential and commercial areas.
- 3.5 Industrialisation and urbanization encouraged the elderly and the young to move from the rural area to the city for jobs and better education.
- 3.6 Pollutants from the air and water affects the quality of water supply and crops irrigation. This results in food and water storage in the area.
- 3.7 The government policy in agriculture in the ZDR may attract the foreign investment from places, such as the U.S.A and European countries.
- 3.8 In order to maintain the high value of agricultural development in the ZDR, Chinese government adopts lots of measures to appeal farmers to stay in urban areas.
- 3.9 In the ZDR, the larger market for high value of agricultural produce due to the rise of a large urban population with higher incomes of the people in the city.

Part A: Score : _____/70

Part B Knowledge & Skills (30 marks)

Please answer the following questions. **Q & A (Answers)**

1) Refer to Figure 2.

a) Name the three tributaries of Zhu Jiang River. (2 marks)

They are Xi Jiang, Bei Jiang and Dong Jiang. (all correct ~ 2 marks)

b) Describe the characteristic of relief in the Zhujiang delta area? (2 marks)

The delta area is mostly flat and lowlying. (2 marks)

2) Besides relief, what other physical characteristics can explain why Zhujiang delta area have been a major base in South China? (6 marks)

The rich supply of sediment from the Zhu Jiang makes up the fertile alluvial soil there. (2 marks)

In addition, the area has a subtropical monsoon climate (2 marks). It has hot wet summers and mild dry winters. (2 marks)

3) Refer to Figure 3.

a) What is the percentage share of the ZDR in the total land area of Guangdong? (1 mark)

23% (1 mark)

b) With reference to your answer in Question 1, account for the importance of the ZDR to the agriculture in 1980. (3 marks)

The ZDR was important to the agriculture of Guangdong. (1 mark)

The percentage shares of the outputs of all the major agricultural produce in the ZDR were larger than its provincial share in land area. (2 marks)

4) What are the negative effects of industrialization and urbanization in the ZDR in terms of

a) land (3 marks)

Plenty of agricultural land has been converted to various urban landuses (2 marks)

This results in shrinking agricultural land. (1 mark)

b) labour supply (3 marks)

Many farmers have moved to the urban areas for jobs and higher income (2 marks)

This results in reduction of farm labour (1 mark)

5) Explain why rapid industrialization and urbanization benefited agricultural development in the ZDR?
(10 marks)

Larger market for high-value agricultural produce due to the rise of a large urban population with higher incomes.
(2 marks)

Besides, better transport infrastructure enables the delivery of perishable agricultural produce to place farther away.
(2 marks)

Furthermore, more capital has been accumulated can be invested in agricultural technologies. (2 marks)

Larger market, better infrastructure, together with the open policy in agriculture, have attracted foreign investment. (2 marks)

These foreign firms bring in capital and modern agricultural technologies. (2 marks)

In addition, the central government has adopted more and more preferential policies for agriculture such as the 'prime farmland system'. (2 marks)

(any 5, 10 marks)

Part B: Score : _____ **/30**

END

Cycle 4 -S.5 Tourism & Hospitality Studies

Hotels and Their Classifications

As **Hotel** is the **predominant** type of commercial accommodation in Hong Kong, we, therefore, will discuss in depth about how hotels can be classified.

The Hotel Proprietors Ordinance Chapter 158 provides a clear definition of a hotel:

“Hotel” means an **establishment** held out by the **proprietor** as offering sleeping accommodation to any person presenting himself who appears able and willing to pay a reasonable sum for the services and facilities provided and who is in a fit state to be received.



Guest room

A hotel is classified as a commercial establishment providing accommodations, meals and other guest services. Originally guests had two choices:

- **Luxury** hotels; or
- Budget hotels.

In some countries, hotels were built to serve middle-class families and, when the economy in general **boomed** and room supply increased; hoteliers then focused on setting themselves apart by offering specialised accommodation for:

- **Conventioneers;**
- Business groups; and
- Special weekend events and families.

As diversity flourished so did competition and brand loyalty. Anyone who can pay (within reason) can rent a room for a night in a hotel. Hotels vary greatly in style and services, from luxury, business, resort, townhouse to boutique and budget. A standard room will have a bed, bathroom facilities, shower, telephone, TV, lounge area and mini-bar. Housekeeping services available include laundry and dry-cleaning. Nowadays guests would usually have access to a wireless computer network and also to a business centre. Most major hotels will have restaurants and bars available for guests and if they are situated in a large city they are usually located near the business districts, tourist destinations and/or airports.

According to the tourism statistics in year 2017, there are a total of 285 hotels in Hong Kong which provide more than sixty thousands rooms in different scales. Classification systems of hotels are numerous and some of them are developed for evaluation purposes. Figure 2.2 summarizes some common factors criteria which are usually applied in hotel classification.

Hotels can be classified by:

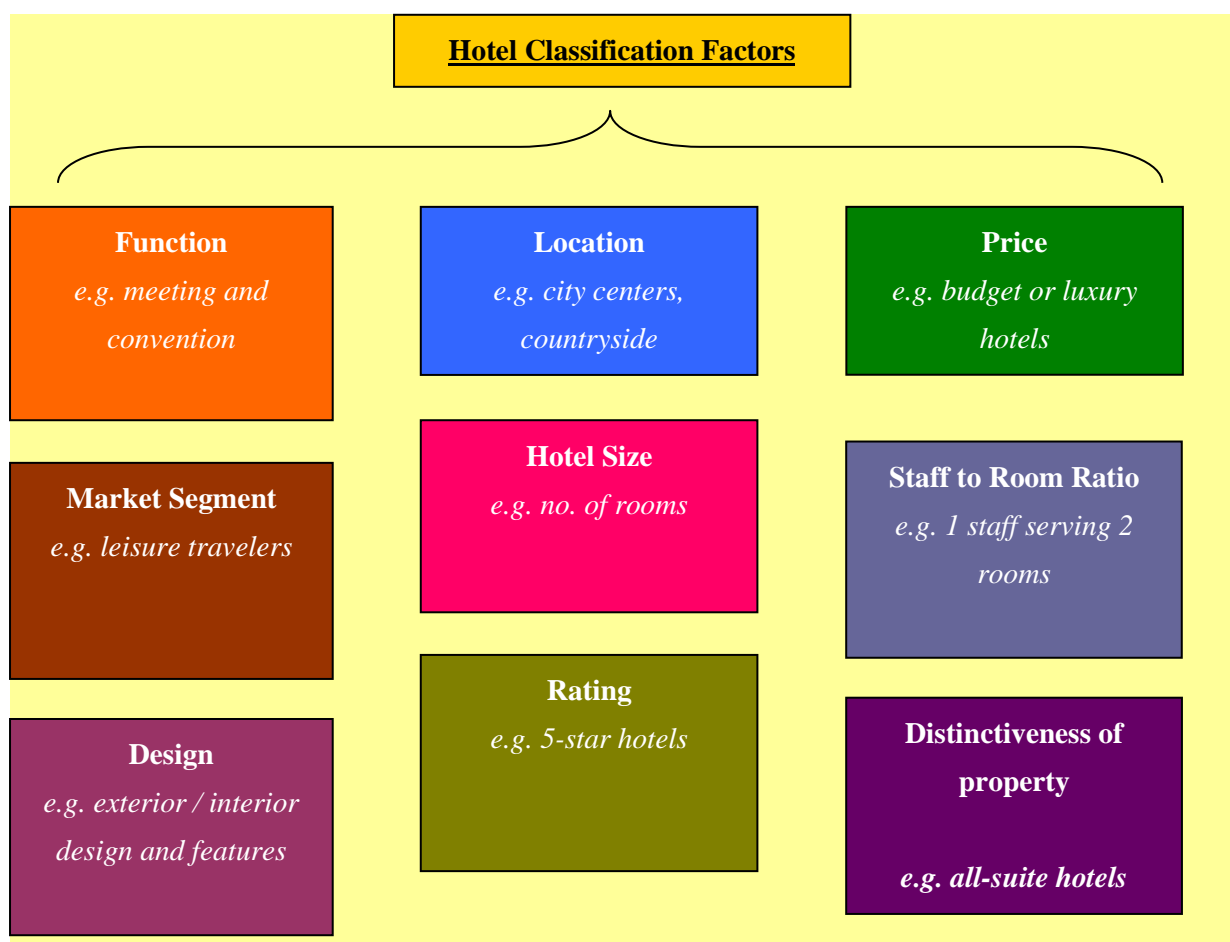


Figure 2.2 – Hotel Classification Factors

2.1.3 Types of Accommodation

The following chart shows various types of accommodation used by travelers and their respective characteristics:

Name(s)	Characteristics
City centre hotels	These hotels are located within the heart of a city. The type may vary greatly from business, suites, residential, economy, mid-scale to luxury.
Suburban hotels	Suburban hotels tend to be smaller properties which usually provide full-service, and locate in suburban area.
Airport hotels	These hotels are designed especially to accommodate air travelers. They offer a mix of facilities and amenities. The majority offer customers transportation to and from the airport.
Highway hotels or Motels	They are designed for overnight stays for car travelers, often with very basic facilities. The rooms usually have direct access to an open parking lot. They are often smaller than most hotels. They are located on the outskirts of towns and cities.
Convention hotels	These hotels can provide a large quantity of rooms. In addition to accommodation, they provide extensive meeting and function space for holding conventions. There are banquet areas within and around the hotel complex. Most of them provide an in-house laundry, a business centre, airport shuttle service, and 24-hour room service. They are often in close proximity to convention centres and other convention hotels.
Commercial hotels	They are located in downtown areas. They tend to be smaller than convention hotels. Meeting and function space are smaller, and there are fewer banquet areas.
Resort hotels	These hotels are located in picturesque, sometimes remote settings. Customers travel long distance to resorts. Usually, they tend to stay longer. Resorts typically provide a comprehensive array of recreational amenities, as well as a variety of food & beverage outlets ranging from informal to fine-dining restaurants.
Spa hotels	They are located in resort-type settings or as part of city spa hotels. They provide accommodations, spa treatments, programs and cuisine. Programs offered vary widely. They may include relaxation/stress management, fitness, weight management, grief/life change and pilates/yoga. Spas have professional staff that often include dieticians, therapists, masseurs, exercise physiologists, and in some cases, physicians.
Casino hotels	They have gambling operations which are the major revenue centres. They also provide live entertainment. A wide variety of luxury amenities, hotel services including fine and casual dining and shopping centres are typically available on site.

All-suite hotels	The guest rooms in these hotels are larger than normal hotel rooms, with separate areas for working, sleeping and relaxing. A living area or parlour is typically separated from the bedroom, and some properties offer a kitchen set-up in the rooms. The amenities and services can vary widely. They can be found in various locations such as urban, suburban, or residential.
Boutique hotels	Boutique hotels differentiate themselves from traditional hotels and motels by providing personalized accommodation and services/facilities. They are sometimes known as "design hotels" or "lifestyle hotels". The price varies greatly. They are very different in their "look and feel" from traditional lodging properties. They are more intimate, and, perhaps, more luxurious, and stand out as an individual. The amenities vary greatly depending on what the hotel's environment and theme chosen. For example, a boutique hotel may not offer Wi-Fi Internet, air conditioning, or cable/pay TV if it is focus on comfort and solitude.
Timeshares or Vacation ownership	This is a type of shared ownership where a buyer purchases the right to use the property for a portion of each year. In many cases, when the timeshare is purchased, the buyer receives a deed. This indicates that the buyer can use the property each year at the time specified for the number of years based on the deed and the purchase can be handed down to the buyer's heirs.

Key Learning Points

- Hotels and their Classifications
- Types of Accommodation

Part A Language

1. Glossary (18 items, 18 marks)

Please fill in the meanings and Parts of Speech. Then, read the phrases in the last column aloud.

No. & Page	Vocabulary	Meanings	Parts of Speech	Collocations/Phrases
1.1	Predominant (p.1)	佔主導地位		Hotel is the predominant type of commercial accommodation in Hong Kong.
1.2	Classifications (p.2) Classify (p.1)		n. v.	We will discuss how hotels can be classified .
1.3	establishment (p.1)		n.	Hotels means an establishment held out by the proprietor...
1.4	Proprietor (p.1)			Hotels means an establishment held out by the proprietor ...
1.5	Guest (p.1)			A hotel provides accommodations and meals to guests .
1.6	luxury (p.1),		n. adj.	Guests can choose between luxury or budget hotels.
1.7	boom(p.1)	興盛		The economy in general boomed .
1.8	Conventions (p.3), Conventioneers (p.1)		n.	Specialized accommodation for conventioneers , business groups...
1.9	Flourish (p.2)		v.	Diversity flourished so did competition and brand loyalty.
1.10	Brand loyalty (p.2)		n.	Diversity flourished so did competition and brand loyalty .
1.11	vary (p.2)	分別		Hotels vary greatly in style and services.
1.12	characteristics (p.3)			The chart shows various types of accommodation and their characteristics .
1.13	suites (p.3)		n.	The type of hotels may vary greatly from business, suites , residential...to luxury.

1.14	Banquet (p.3)			There are banquet areas within and around the hotel complex.
1.15	Beverage (p.3)		n.	Resorts provide a variety of food and beverage outlets.
1.16	Intimate (p.4)	親密		Boutique hotels are more intimate .
1.17	Solitude (p.4)			A boutique hotel may not offer Wi-Fi Internet if it focuses on comfort and solitude .
1.18	Heirs (p.4)			The purchase can be handed down to the buyer's heirs .

2.Fill in each blank with an appropriate word. (8 items, 16 marks)

A hotel is 2.1) _____ as a commercial establishment providing 2.2) _____, meals and guest services.

Hotels 2.3) _____ greatly in style and services, from budget, townhouse, resort, business to 2.4) _____. Nowadays guests usually have 2.5) _____ to a wireless computer network, wifi and also to a business centre.

The types of accommodation used by travellers can be classified by their 2.6) _____. For example, boutique hotels are different from traditional ones by providing 2.7) _____ facilities and accommodations. They may not provide Wifi Internet or pay TV if it focuses on comfort and 2.8) _____.

3.Matching: Please match the characteristics with the 8 types of accommodation by writing the letter from a to h. Each type can be matched more than once. **(11 items, 22 marks)**

- | | | |
|--|--------------------------------------|----------------------------|
| a. Convention hotels | b. Commercial hotels | c. Resort hotels |
| d. Spa hotels | e. Casino hotels | f. All-suite hotels |
| g. Timeshares or Vacation ownership | h. Historic conversion hotels | |

Characteristics	Types a - h
1. The location is not likely in the heart of a city. Hotels provide a variety of recreational amenities, food and beverage outlets for visitors who may stay for a week.	
2. The hotels can be used for a period of time in a year as the visitors actually share the ownership.	

3. The hotels provide luxury services and live entertainment which are supported by the income from gambling operations.	
4. You can enjoy a wide range of services such as fitness centres, yoga classes as well as body treatments.	
5. The rooms are more spacious. There are places for working, cooking and dining.	
6. The hotels provide many rooms, large halls for conference and meetings. They are suitable for visitors on business purposes.	
7. The hotels are located close to the business districts. However, they cannot accommodate big events and business activities.	
8. The hotel is built in an beautiful environment in which they can enjoy different types of dining.	
9. You can relax and improve your eating habits in the hotel.	
10. The visitors can give the accommodation to their next generation.	
11. The hotels were turned to commercial establishments from historic buildings.	

4.True (T) or False (F) and Not Given (NG) (7 items, 14 marks)

- 3.10 _____ Hotel means an establishment offering sleeping accommodation to the poor and sick. (p.1)
- 3.11 _____ There is wider variety of hotels and stronger competitions nowadays. (p.2)
- 3.12 _____ Rating is the most common classification factor. (p.2)
- 3.13 _____ Brand loyalty is commonly promoted by different hotels nowadays.
- 3.14 _____ Airport hotels provide free transportation to and from the airport.
- 3.15 _____ Motels or Highway hotels are located in the town and cities.
- 3.16 _____ All-suite hotels can be found in a residential area.

Part A: Score : _____ **/70**

Part B Knowledge & Skills

Figure 2.1 – Types of Accommodation

1. Name three types of Accommodation that classified by location. (3 marks)
 - City centre hotels
 - Suburban hotels
 - Airport hotels

2. Name three types of Accommodation that classified by function. (3 marks)
 - Convention hotels
 - Commercial hotels
 - Resort hotels
 - Spa hotels
 - Casino hotels

(Any three)

3. What are the characteristics of Boutique hotels? (7 marks)

Boutique hotels differentiate themselves from traditional hotels and motels by providing personalized accommodation and services/facilities. They are sometimes known as "design hotels" or "lifestyle hotels". The price varies greatly. They are very different in their “look and feel” from traditional lodging properties. They are more intimate, and, perhaps, more luxurious, and stand out as an individual. The amenities vary greatly depending on what the hotel’s environment and theme chosen. For example, a boutique hotel may not offer Wi-Fi Internet, air conditioning, or cable/pay TV if it is focus on comfort and solitude.

4. What are the differences between convention hotels and commercial hotels? (10 marks)

Convention hotels can provide a large quantity of rooms. In addition to accommodation, they provide extensive meeting and function space for holding conventions. There are banquet areas within and around the hotel complex. Most of them provide an in-house laundry, a business centre, airport shuttle service, and 24-hour room service. They are often in close proximity to convention centres and other convention hotels. Meanwhiles, commercial hotels are located in downtown areas. They tend to be smaller than convention hotels. Meeting and function space are smaller, and there are fewer banquet areas.

5. Why are business travelers important for hotels? (7 marks)

On top of it being a growing sector, business travel is great for hotels because it’s less seasonal and more predictable as events are organized well in advance. Often, their work requires corporate travellers to visit the same place regularly which can lead to solid repeat business if hotels keep the guests happy.

Part B: Score : _____ /30

END

Cycle 5 -

Information & Communication Technology (ICT)



Learning Target

- Describe the activities and practices of e-commerce.
- Understand the three models of e-commerce.
- Recognize the benefits and limitations of e-commerce.

18.5 E-commerce Time Allocation 60 mins

The population growth of Internet users is **unprecedented**. Commerce has become one of the Internet's most promising **fields of application**. **Electronic commerce (e-commerce)** has become an important part of the Internet and it is the fastest growing sector of the world's economy.

18.5.1 Elements of E-commerce

Commerce is the exchange of goods and services in return for money. Electronic commerce covers business activities that take place on the Internet. The fundamental idea behind **conventional** commerce and e-commerce is the same, but they are different in the way they actually carry out business (Table 18.9).

.....
electronic commerce (e-commerce) 電子商貿

.....
unprecedented 前所未有的

285 



Element	Description	Conventional commerce	E-commerce
Advertisement	A way to get attention from customers	Commercials on TV; advertisements in newspapers and magazines; leaflets on streets	Commercials on web sites
Shop	A place where products are sold	Shops; superstores	Web sites
Order	A way to accept orders	Via phone or fax	Via online forms
Bill payment	A way to accept money	Cashier	A merchant account to handle credit card payments
Fulfilment	A way to deliver products	Customers go to the shop and pick up the items in person.	Items are packed and mailed.
Customer service	A way to provide service to customers	Via phone or face-to-face communication	Through e-mail, online forms and FAQs
Authentication	A security measure to validate the identity of the customer	<ul style="list-style-type: none"> Cash payment: Normally customers are not asked to explain the source of the cash. Credit card payment: The credit card is validated but the identity of the holder is only recognized by the signature on the credit card. 	<ul style="list-style-type: none"> The billing requires a merchant account to handle credit card payments. An e-commerce transaction involves the authorization from both the issuing bank and the acquiring bank.

Table 18.9 Methods of conventional commerce and e-commerce

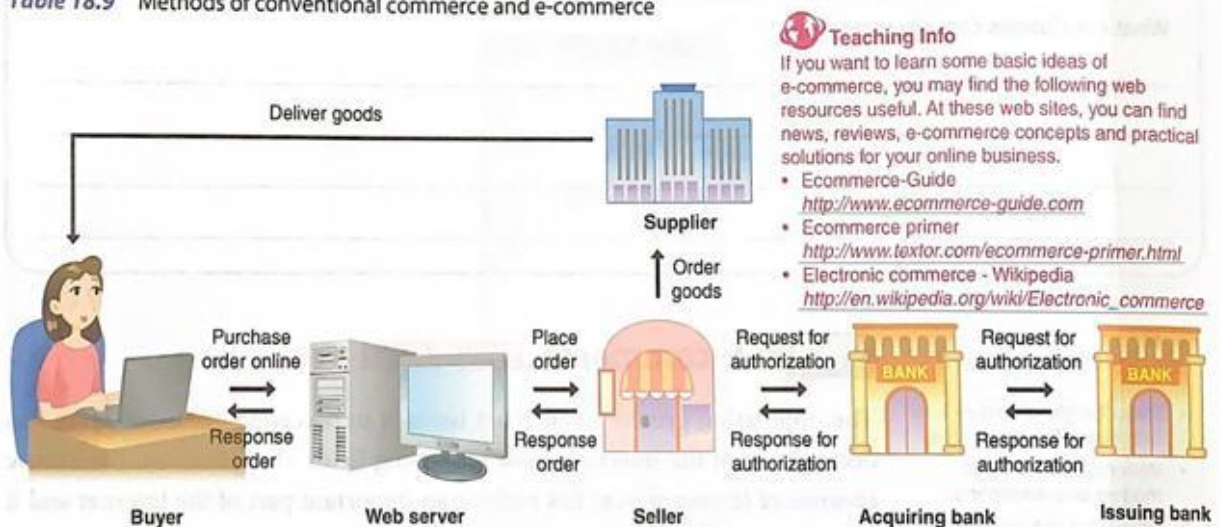


Fig. 18.27 An e-commerce transaction of a B2C conceptual model involves a buyer, a seller, an issuing bank and an acquiring bank.

- Basic Guide to E-Commerce (Doing Business Over the Internet/Web) http://managementhelp.org/infomgmt/e_cmmrce/e_cmmrce.htm

As illustrated in Figure 18.27, the billing in e-commerce requires a merchant account to handle credit card payments. Therefore an e-commerce transaction involves a buyer and a seller, as well as an issuing bank and an acquiring bank. The figure shows a Business-to-Customer (B2C) e-commerce model and we will discuss three basic e-commerce models in the following section.



More to Learn

Electronic fund transfer (EFT)

Electronic fund transfer (EFT) is a system for transferring money from one bank account to another using a network of computer-based systems. EFT can be done via an automatic teller machine (ATM), a point-of-sale (POS) terminal, e-banking and automatic fund transfer.

Examples of EFT are:

- Payment through EPS or credit card at a POS terminal
- Transfer of money online
- Transfer of money from one bank account to another with an ATM
- Payroll payment
- Settling of bills with PPS online or by phone

The advantages of using EFT include:

- No time constraint
- High efficiency and accuracy
- High security
- Lower administrative costs



Transferring money with an ATM



More to Learn

Electronic Data Interchange

Electronic Data Interchange (EDI) is a set of electronic data transmission standards that controls electronic documents such as **invoices** and purchasing orders between business partners on the Internet and via telephone lines. With EDI, the electronic data received can be reused in the successive stages of the transaction. It helps reduce typing mistakes and the workload on paper work.



Teaching Info

When talking about e-commerce, you may come across the term 'click-and-mortar'. With reference to a traditional brick-and-mortar store, click-and-mortar represents a company that exists online and in the physical world. Click-and-mortar stores generally target consumers and follow the B2C model. It is also known as 'bricks-and-clicks' or 'clicks-and-bricks', as well as 'bricks, clicks and flips' where flips referring to catalogues.

18.5.2 E-commerce Models

Companies are currently using three basic models of e-commerce: **Business-to-Business (B2B)**, **Business-to-Consumer (B2C)** and **Consumer-to-Consumer (C2C)**.

B2B e-commerce refers to transactions or services made between two companies on the Internet. Examples include online technical support, online market research and online credit card payment services, etc.

electronic fund transfer (EFT) 電子轉賬 Business-to-Business (B2B) 企業對企業
Business-to-Consumer (B2C) 企業對顧客 Consumer-to-Consumer (C2C) 顧客對顧客

Additional Question

Suggest two other examples of B2B web sites with one is China-based.

Solution

Alibaba.com (<http://www.alibaba.com>) is a well-known B2B web site in China.

Another example of B2B web site is Global Sources (<http://www.globalsources.com>).

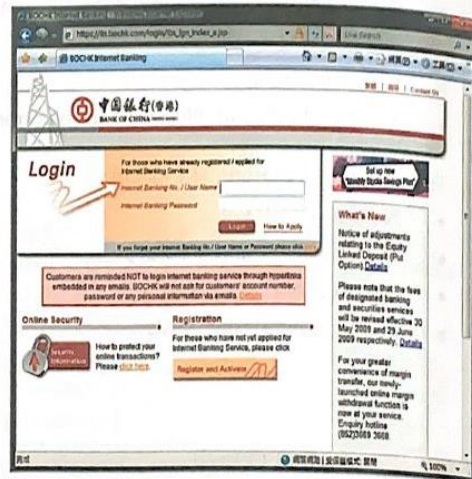
With B2C e-commerce, companies develop marketplaces on the Internet to sell products and provide services directly to consumers. For example, we can shop for books from online bookshops or acquire banking services through Internet banking. Most e-commerce web sites provide comprehensive multimedia catalogues, interactive order processing forms, secure electronic payment systems and online customer support.

C2C e-commerce allows individuals to buy and sell items through an **auction** process at an auction web site, such as eBay and Yahoo! Auction.



Source: <http://support.microsoft.com>

B2B e-commerce: Online help and support by Microsoft (Hong Kong) Limited



Source: <http://www.bochk.com>

B2C e-commerce: Internet Banking provided by Bank of China (Hong Kong) Limited



Source: <http://www.parknshop.com>


B2C e-commerce: Online shopping at Park'n Shop



Source: <http://www.ebay.com>

C2C e-commerce: A popular online marketplace - eBay

Fig. 18.28 Examples of e-commerce models

 **Teaching Info**

Which B2B web sites are the best? You may get some ideas from the following:

- Top B2B Sites of World
<http://www.chinapromoter.com/english/b2b-list/top-b2b-sites.htm>
- Top B2B web sites
<http://www.b2bleader.com/topb2b/>
- Web Marketing Association's WebAward (<http://www.webaward.org/>) - the information for the Best B2B Websites:
http://www.webaward.org/winners_detail.asp?yr=all&award_level=best&category=B2B

18.5.3 Advantages and Disadvantages of E-commerce for Seller and Buyer

E-commerce has advantages and disadvantages for both the seller and the buyer.

Party	Advantage	Disadvantage
Seller	<ul style="list-style-type: none"> • Access to worldwide markets • Minimal sales cost • Increased competitiveness between large companies • Able to analyze the purchasing habits of customers and provide a tailored recommendation for each customer 	<ul style="list-style-type: none"> • Unable to interact face-to-face with customers • Additional cost on building and maintaining the web server • Difficulties in promoting the service to traditional customers (non-Internet users)
Buyer	<ul style="list-style-type: none"> • Can find hard-to-get items with minimum effort and cost • Automated cost-comparison available 	<ul style="list-style-type: none"> • Must pay for shipping and wait for delivery • Cannot see or feel the products before purchasing • Difficult to return defective items to the seller

Table 18.10 Advantages and disadvantages of e-commerce

 **Example 7**

- What is the most popular payment method for transactions through the Internet?
- Suggest **two** ways for a customer to send his comments to an e-commerce web site.
- Suggest **three** potential risks for a customer when purchasing goods on a B2C web site.

Solution

- Credit card payment
- By e-mail and online forms
- The purchased goods could get lost or damaged during shipping.
 - The credit card information could be stolen during transaction.
 - The web site is fake.

Key Learning Points

1. Elements of E-commerce
2. E-commerce Models
3. Advantages & Disadvantages of E-commerce for Seller and Buyer

Part A Language

1. Glossary (18 items, 18 marks)

Please fill in the meanings and Parts of Speech. Then, read the phrases in the last column aloud.

No.	Vocabulary	Meanings	Parts of Speech	Collocations/Phrases
1.1	Unprecedented		Adj.	The population growth of Internet users is unprecedented .
1.2	application	申請(X)		Commerce has become a promising field of application .
1.3	conventional		Adj.	The fundamental idea behind conventional commerce and e-commerce is the same.
1.4	Fulfillment	履行		The seller fulfills the purchase order by delivering products.
1.5	Authentication			An e-commerce transaction requires authentication of the account of the customer.
1.6	validate			The credit card is validated .
1.7	signature		n.	The identity of the holder is recognized by the signature on the credit card.
1.8	transaction			An e-commerce transaction involves an authorization.
1.9	authorization	授權		An e-commerce transaction involves an authorization from the issuing bank and the acquiring bank.
1.10	acquiring		Adj.	...an acquiring bank.

1.11	transfer		n. v.	Electronic fund transfer (EFT) is a system for transferring money from on bank account to another.
1.12	constraint	限制		No time constraint
1.13	accuracy			High efficiency and accuracy...
1.14	Invoices			...electronic documents such as invoices and purchasing orders....
1.15	auction		n.	e-commerce allows individuals to buy and sell items through an auction process.
1.16	Minimal		Adj.	Minimal sales cost
1.17	defective			...to return defective items to seller.
1.18	automated		Adj.	Automated cost-comparison available.

2. Fill in the blank (15 items, 30 marks)

Please fill in the blank with **correct form of the word**. The blanks marked with a (*) require more attention to the word forms.

E-commerce and 2.1) _____ commerce have same fundamental idea but differ in the way that they actually carry out business.

For e-commerce, advertisement is a way to get attention from customers through 2.2) _____ on websites. Fulfilment is a way to 2.3) _____ products to customers after the items get packed. Authentication which is a security measure to 2.4) _____ the identity of the customer, involves the authorization from both issuing and acquiring 2.5)* _____.

Electronic fund transfer is a system for transferring money from one bank account to another using a network of 2.6) _____ systems. An example is 2.7) _____ can be made through EPS or credit card at a POS terminal. The advantages of using EFT are high security, efficiency and 2.8) _____.

Electronic Data Interchange controls electronic documents such as 2.9) _____ and purchasing orders. It helps reduce mistakes and 2.10) _____ workload.

Consumer-to-Consumer model allows individuals to buy and sell items through an 2.11) _____ website such as eBay.

For e-commerce, the seller can access to 2.12) _____ markets though they may not be able to interact with customers 2.13)* _____. For buyers, they can enjoy 2.14) _____ price-comparison. However, they may not be able to return the 2.15) _____ items directly.

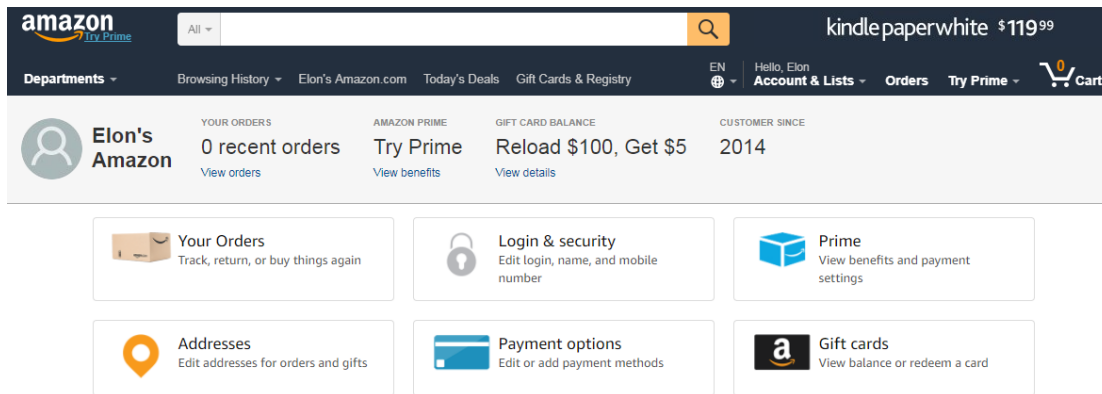
3.True (T), False (F) and Not Given (NG) (11 items, 22 marks)

- 3.17 _____ Nowadays, commerce has become one of the Internet's most successful aspect of application.
- 3.18 _____ For conventional commerce, the payment can only be made by cash.
- 3.19 _____ The advantage is using EFT is that consumers can transfer money anytime.
- 3.20 _____ Business-to-Business model allows companies to provide technical support online.
- 3.21 _____ Online shopping at Park'n Shop is an example of Business-to-Business model.
- 3.22 _____ Business-to-Consumer model allows companies to provide direct services to consumers online.
- 3.23 _____ Internet Banking provided by Bank of China (HK) Limited is an example of Consumer-to-Consumer model.
- 3.24 _____ For conventional commerce, the seller can analyze the purchasing habits of customers and make recommendations more easily.
- 3.25 _____ It is a disadvantage for banks to allocate additional cost on building and maintaining the web server.
- 3.26 _____ The buyer cannot check the products in person when purchasing online.
- 3.27 _____ Business-to-Consumer model is the most popular model we use in our daily lives.

Part A: Score : _____ **/70**

Part B Knowledge & Skills

1. The following shows a screen capture of a buyer's account page on an e-commerce web site.



(a) Describe the e-commerce model adopted by the web site. (2 marks)

B2C (1)

A company develops a web site for selling products to online customers (1)

(b) Name two e-commerce models, other than the one described in (a) (2 marks)

B2B, C2C (2)

(c) (i) State **two** advantages of this e-commerce model over a physical store for the company. (2 marks)

All Internet users can buy things from the web site anytime and anywhere. (1)

Sales revenues can be raised easily as customers' buying habits can easily be recorded and can be further analysed for recommending related items to each of them specifically. (1)

(ii) State **two** disadvantages of this e-commerce model over a physical store for the company. (2 marks)

Plenty of marketing expenses are required to promote the web site to all Internet users. (1)

It is difficult to sell the goods to customers who are unable to access the Internet. (1)

(iii) State **one** merit of this e-commerce model over a physical store for buyers. (1 mark)

Buyers can compare and purchase things easily without leaving their homes. (1)

(iv) State **one** demerit of this e-commerce model over a physical store for buyers. (1 mark)

When buyers are not satisfied with the products delivered, it is difficult for them to return the product for an exchange. 2. State the major difference between conventional commerce and e-commerce regarding the following aspects: (1)

2(a) Advertisement (2 marks)

Conventional commerce: broadcasted through TV, newspapers and so on (1)

E-commerce: put on web sites. (1)

- (b) Placing order (2 marks)
 Conventional commerce: orders are placed via phone or fax (1)
 E-commerce: online forms are used (1)
- (c) Place of transaction (2 marks)
 Conventional commerce: at places such as shops, stores, and offices (1)
 E-commerce: done through the Internet (1)
- (d) Paying the bill (2 marks)
 Conventional commerce: in cashier (1)
 E-commerce: handle by credit card payments (1)
- (e) Delivering products (2 marks)
 Conventional commerce: customers go to the shop and pick up the items in person (1)
 E-commerce: items are packed and mailed (1)

3. (a) State **two** advantages and **two** disadvantages of e-commerce over conventional commerce for sellers.(8 marks)

Advantages: E-commerce allows sellers to gain access to global markets. (2)
 Since offices and salespersons are not required, huge costs can be reduced. (2)

Disadvantages: Sellers need to build and maintain e-commerce web sites. (2)
 It is difficult to promote e-commerce web sites to traditional customers. (2)

(b) State **one** advantage and **one** disadvantage of e-commerce over conventional commerce for buyers. (2 marks)

Advantage: It is easier to find rare items on the Internet. (1)
Disadvantage: Buyers may need to pay for shipping and wait for delivery. (1)

Part B: Score : _____/30

End