

## Chapter 5 Depreciation of non-current assets (非流動資產折舊)

### 5.1 Introduction

Based on the **physical wear and tear (損耗)**, **obsolescence (陳舊過時)**, **inadequacy (不足)**, **passage of time (不合時)** and **depletion (消耗)** of tangible non-current assets. We need to calculate the **depreciation (折舊)** of tangible non-current assets. Only **capital expenditures (資本支出)** of non-current assets will be counted as the **cost of non-current assets (非流動資產的成本)**, we then use this cost of the non-current assets to calculate depreciation.

#### 5.2.1 Capital expenditure (資本支出)

Capital expenditure is **expenditure (支出)** that **generates (帶來) long-term benefits (長期利益)** for an **entity (企業個體)**. It usually refers to the money spent on:

- purchase or production of non-current assets (購買或生產非流動資產)
- extension or improvement to existing non-current assets (擴大或改良現有的非流動資產)

Capital expenditure on the purchase of a non-current asset should include its **purchase price (買價)** and any **directly attributable costs (直接應佔成本)**. For examples:

- Purchase price of non-current assets (非流動資產的買價)
- Cost of building an extension of existing non-current assets (擴建非流動資產的成本)
- Cost of upgrading or testing system of non-current assets (提升及測試非流動資產系統的成本)
- Freight and installation cost of new non-current assets (運送和安裝新非流動資產的成本)

#### 5.2.2 Revenue expenditure (收益支出)

**Revenue expenditure** is expenditure that **generates short-term benefits (帶來短期利益)** only. It usually refers to:

- Expenditure spent on daily operations and the expenditure will be exhausted within the year. (花費在日常運作的支出而該支出會在該年度內耗盡)
- For examples: **Office rent (辦公室租金)**, **Wages and salaries (工資及薪金)**, **Repairs and maintenance (維修及保養)**, **Petrol (汽油費)**等等。
- Revenue expenditure does not need to be included as a cost of non-current assets, nor need to calculate depreciation of non-current assets. (收益支出不需要計入作為非流動資產的成本，亦不需要計算非流動資產的折舊)

#### Class work 1

On 1 January 2009, Firm C purchased a machine for \$80,000 and paid legal charges of \$3,000, an installation cost of \$8,000 and an annual insurance premium of \$2,000. Which of the costs incurred on the machine are to be capitalized?

#### Class work 2

On 1 Jan 2010, K Wong paid \$64,000 in cash for a machine to be used in his business. He also paid \$1,000 by cheque for carriage, \$5,000 in cash for installation on 15 Jan 2010 and \$3,000 for the annual maintenance. Show the entries for capital expenditure.

Machine							
2010			\$	2010			\$

## 5.4 Commonly used depreciation methods

- straight-line method (直線法)
- reducing-balance method (餘額遞減法)
- Usage-based method (按使用量計算方法)

### 5.4.1 Straight-line method (直線法)

Under straight-line method, the cost of non-current asset is **written off evenly (平均註銷)** as depreciation over its **estimated useful life (估計使用年限)**. The **fixed depreciation (固定折舊)** of each period (每期固定折舊額) is calculate as :

1. **depreciation charged per period = (cost – residual value) ÷ useful life**

每期的折舊額 = (成本 – 預計剩餘價值) ÷ 估計使用期限

2. **depreciation charged per period = cost x fixed depreciation rate**

每期的折舊額 = 成本 x 固定折舊率

#### Example 1

Suppose Firm A bought a lorry for \$37,500 and adopted the straight-line method of depreciation. Depreciation is calculated at 10% per annum on the cost of the lorry, find the amount of depreciation charged each year.

**Ans: Depreciation charges = \$37,500 x 10% = \$3,750**

#### Example 2

Suppose Firm A bought a machine for \$28,000 and adopted the straight-line method of depreciation. If the machine was estimated to have a useful life of six years and residual value of \$4,000, find the amount of depreciation charged in each of the six years.

**Ans: Depreciation charges = (\$28,000 – \$4,000) ÷ 6 = \$4,000**

#### Class work 7

1. On 1 January 2005, a car was purchased for \$64,000. It will be kept in use of five years with an estimated disposal value of \$2,000.

(a) Calculate the amount of depreciation for each of the five years using the straight-line method.

(a) \_\_\_\_\_

#### Class work 8

1. On 1 Apr 2006, the 1st day of the financial year, T Young paid \$9,500 in cash for a computer. He also paid \$500 for installation and \$1,000 for annual maintenance fee. The computer was to be depreciated by straight-line method at an annual rate of 20% of the cost. Calculate the amount of depreciation for each year using the straight-line method.

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## 5.4.2 Reducing-balance method (餘額遞減法)

According to reducing-balance method, the **cost of a non-current asset (資產的成本)** is **written off as depreciation at a diminishing rate over its estimated useful life (在估計使用年限內，按一個遞減速率註銷折舊額)**. This means that **the depreciation expense gets smaller each period (每期的折舊額會逐漸減少)**. The decreasing depreciation of each period (每期遞減折舊額) is calculate as :

$$\begin{aligned}\text{depreciation charged in each period} &= (\text{cost} - \text{Accumulated depreciation}) \times \text{fixed depreciation rate} \\ &= \text{NBV} \times \text{fixed depreciation rate} \\ &= \text{last year depreciation} \times (1 - \text{fixed depreciation rate})\end{aligned}$$

$$\begin{aligned}\text{每期的折舊額} &= (\text{成本} - \text{累計折舊}) \times \text{固定折舊率} \\ &= \text{帳面淨值} \times \text{固定折舊率} \\ &= \text{去年折舊} \times (1 - \text{固定折舊率})\end{aligned}$$

**NBV = Net Book Value (Net Realisable Value) = Cost – Accumulated depreciation**

**Accumulated depreciation = Cost – Net Book Value**

**Cost = Net Book Value + Accumulated depreciation**

### Example 3

Suppose firm A bought a lorry for \$20,000 and adopted the reducing-balance method of depreciation. If the lorry to be depreciated at 20% per annum, find the amount of depreciation charged, NBV and accumulated depreciation.

Year	Calculation	Depreciation	Accumulated depreciation	NBV
2009	$\$20,000 \times 20\%$	\$4,000	\$4,000	\$16,000
2010	$(\$20,000 - \$4,000) \times 20\% / \$20,000 \times 80\% \times 20\% / \$4,000 \times 80\%$	\$3,200	\$7,200	\$12,800
2011	$(\$20,000 - \$7,200) \times 20\% / \$20,000 \times 80\% \times 80\% \times 20\% / \$3,200 \times 80\%$	\$2,560	\$9,760	\$10,240

### Class work 5

1. A piece of equipment was purchased for \$12,500 and installing with \$2,000. If the equipment was to be depreciated at 20% per annum using the reducing balance method, find the amount of depreciation charged, NBV and accumulated depreciation.

Year	Depreciation charge for the year	Accumulated depreciation at year end	NBV
Year 1			
Year 2			
Year 3			
Year 4			

2. The motor van cost \$80,000 and had a net book value of \$50,000, find the amount of accumulated depreciation.

3. A machine has an estimated useful life of five years. The depreciation charge for the first two years was as follows:

Year	Reducing-balance method (50% per annum)
2010	\$32,000
2011	\$16,000

Calculate the cost of the machine and its estimated residual value.

### 5.4.3 Usage-based method (按使用量計算方法)

**Usage-based method** is a depreciation method by which the cost of a non-current asset is written off as depreciation at a rate equal to the usage of that asset over its estimated useful life.

$$\text{Amount of depreciation charged in each period} = (\text{Cost} - \text{Estimated residual value}) \times \text{Depreciation rate}$$

The depreciation rate is usually calculated as:

$$\text{Depreciation rate} = \frac{\text{Actual output in each period}}{\text{Total estimated output in all the periods}}$$

The depreciation rate can be fixed or variable, depending on the output produced in each period. It is suitable for a machine.

#### **Class work 6**

1. Firm A purchased a machine for \$12,000 during the year ended 13 December 2009. The machine was estimated to have a useful life of five years, a residual value of \$2,000 and would produce 200,000 units of output. Using the units-of-production method, find the amount of depreciation charged on the machine in each of the four years.

Year	Units of output	Depreciation charge for the year
2009	60,000	$(\$12,000 - \$2,000) \times (60,000/200,000) = \$3,000$
2010	50,000	
2011	30,000	
2012	40,000	

2. J Lau, a manufacturer, has purchased a machine for \$80,000. It has an estimated life of five years and a scrap value of \$10,000 and would produce 250,000 units of output. Find the amount of depreciation charged on the machine using usage-based method in each of the three years.

Year	Units of output	Depreciation charge for the year
1	40,000	
2	40,000	
3	10,000	

#### **HKDSE (2017, 3)**

#### **(Depreciation)**

Star Manufacturing Company acquired a production machine for \$432,000 on 1 January 2013. The expected total production hours of the machine are 10,000 hours during its useful life of four years. No residual value is expected and annual depreciation is to be provided based on the usage of the machine.

The actual annual hours used for production were as follows:

Year	Actual production hours
2013	1,800
2014	2,300
2015	2,400
2016	2,500

#### **REQUIRED:**

- (a) Calculate the annual depreciation expenses of the machine for 2014 and 2015.

(a) \_\_\_\_\_  
\_\_\_\_\_

## Deal with Different Depreciation period

There are two calculation of different depreciation period:

### In year

### In month

### In year

If the question includes the following key words, the depreciation should be calculated in year:

1. A full year's depreciation is to be provided in the year of acquisition
2. A full year's depreciation on motor vehicles is to be charged in the year of purchase but none in the year of disposal.
3. A full year's depreciation on equipment is to be charged in the year of purchase but none in the year of disposal.
4. Full year depreciation is calculated in the year of purchase but none in the year of sale.

### In month

If the question includes the following key words, the depreciation should be calculated in month:

1. It is the company's policy to depreciate all non-current assets on a monthly basis.
2. The company depreciates its motor vehicles on a monthly basis using the straight-line method.
3. The depreciation expense is calculated on monthly basis.
4. No words mention depreciation is in year.

### In year

#### Example 1

**HKDSE (2019, 5)**

**(Incomplete record)**

5. On 1 January 2018, Mr Lee started City Trading Company. On 20 October 2018, the company purchased the equipment costing \$80,000. The residual value of the equipment is \$5,000. Depreciation of 10% per annum is to be provided on equipment using the reducing-balance method. A full year's depreciation is to be provided in the year of acquisition but none in the year of disposal. The equipment was sold on 31 May 2020.

**REQUIRED:**

Calculate the depreciation expenses of the equipment for each of the three years of 2018, 2019 and 2020.

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### In month

#### Example 2

**HKDSE (2014, 2)**

**(Depreciation)**

Angel Company has its financial year ending on 31 December. It purchased a machine for \$240,000 on 1 October 2011. The machine has been depreciated using the straight-line method based on an estimated useful life of 10 years and residual value of \$4,000. The depreciation expense is calculated on monthly basis. Unfortunately, the machine was totally destroyed in an accident on 30 June 2013.

**REQUIRED:**

Compute the depreciation expense for the machine for each of the three years of 2011, 2012 and 2013.

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## Fully depreciated of non-current assets

The accumulated depreciation of non-current assets can't be greater than their original cost. If the accumulated depreciation of non-current assets is equal to the cost of the non-current assets (maximum accumulated depreciation), no more depreciation expense is charged for the non-current assets.

### HKDSE (2018, 7)

A piece of equipment which was purchased for \$250,000 in 2012 was still in use during 2017. It is the company's policy to charge depreciation on equipment at a rate of 20% per annum on a straight-line basis. A full year's depreciation on equipment is to be charged in the year of purchase. Calculate the annual depreciation expenses of the equipment for 2017.

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### HKDSE (2017, 3)

#### (Depreciation and Cost Classification)

Star Manufacturing Company acquired a production machine for \$432,000 on 1 January 2013. The expected total production hours of the machine are 8,000 hours during its useful life of four years. No residual value is expected and annual depreciation is to be provided based on the usage of the machine.

The actual annual hours used for production were as follows:

<u>Year</u>	<u>Actual production hours</u>
2013	1,800
2014	2,300
2015	2,400
2016	2,500

(a) Calculate the annual depreciation expenses of the machine for 2015 and 2016.

(a) 

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### HKDSE (2012, 2)

#### (Depreciation)

The non-current assets of Moody Company as at 31 December 2010 were as follows:

	Cost	Accumulated depreciation
	\$	\$
Machinery (all purchased in 2007)	3,600,000	3,455,000

On 1 March 2011, a piece of machinery was bought at a price of \$2,400,000. On the same date, a component costing \$60,000 was installed into the machinery to increase its productivity over the coming four years. It is the company's policy to depreciate machinery at a rate of 25% per annum on cost.

(a) calculate the depreciation expenses of the machinery for the year ended 31 December 2011

(a) 

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## 5.5 Accounting entries for depreciation (折舊所需的會計分錄)

Two separate accounts (兩個獨立帳戶), called **depreciation** (折舊帳戶) and **accumulated depreciation** (累計折舊帳戶), would be opened to record the **depreciation charged** (折舊費用) and the **accumulated depreciation** (累計折舊) respectively. The **depreciation account** is an **expense account** (費用帳戶). Its **balance** (其餘額) will be **transferred** (轉到) to the **profit and loss account** at the end of an accounting period. The **accumulated depreciation account** is actually a **contra-asset account** (資產對銷帳戶) and is **used together with the non-current asset account** (與非流動資產帳戶一起使用) in order to **determine** (以確定) the **NBV of non-current assets** (非流動資產的帳面淨值).

The double entries for depreciation are as follows (非流動資產折舊的入帳步驟)

- 1 Record the depreciation charged for an accounting period (記錄會計期內的折舊)  
 Dr Depreciation account  
 Cr Accumulated depreciation account
- 2 Transfer the depreciation to the profit and loss account (在會計期末，折舊會被轉到損益帳)  
 Dr Profit and loss account  
 Cr Depreciation account

### Example 4

Using example 1, the depreciation charged on the lorry for the years ended 31 December 2009, 2010 and 2011 as shown below:

Depreciation: Lorries					
2009			\$	2009	\$
Dec	31	Accumulated depreciation (1)	<u>3,750</u>	Dec	31 Profit and lost (2) <u>3,750</u>
Accumulated Depreciation: Lorries					
2009			\$	2009	\$
Dec	31	Balance c/f	<u>3,750</u>	Dec	31 Depreciation (1) <u>3,750</u>
Profit and Loss					
2009			\$		
Dec	31	Depreciation: Lorries (2)	<u>3,750</u>		
Income Statement for the year ended 31 December (extract)					
					\$
<b>Expenses:</b>					
Depreciation: Lorries					3,750
Balance Sheets as at 31 December (extract)					
					\$
<b>Non-Current assets</b>					
Lorries at cost					16,000
Less Accumulated depreciation					(3,750)
					<u>12,250</u>

NBV of the non-current assets as at the end of each financial year.

The Accumulated depreciation will be **bought down** to the next accounting year (累計折舊會帶落下一個會計年度) as the **contra-asset account** as follows:

Accumulated Depreciation: Lorries					
2009			\$	2009	\$
Dec	31	Balance c/f	<u>3,750</u>	Dec	31 Depreciation <u>3,750</u>
2010				2010	
Dec	31	Balance c/f	<u>7,500</u>	Jan	1 Balance b/f 3,750
				Dec	31 Depreciation <u>3,750</u>
			<u>7,500</u>		<u>7,500</u>

## Class work 7

1. On 1 January 2005, a car was purchased for \$64,000. It will be kept in use of five years with an estimated disposal value of \$2,000.
  - (a) Calculate the amount of depreciation for each of the five years using the straight-line method.
  - (b) Prepare the necessary journal entries for the depreciation of first year and show the entries for depreciation in the ledger and journal, the income statement and the balance sheet for 2007.

(a) \_\_\_\_\_

(b)

Journal				
Date		Details	Dr	Cr
2005			\$	\$

### Depreciation: Car

2007			\$	2007			\$

### Accumulated Depreciation: Car

2007			\$	2007			\$

### Income Statement for the year ended 31 December 2007 (extract)

	2007
Expenses:	\$

### Balance Sheets as at 31 December 2007 (extract)

	2007
Non-Current assets	\$

## 5.6 Disposal of non-current assets (非流動資產變賣)

When the **disposal (變賣)** of non-current assets occurs, a separate account **disposal (變賣帳戶)** will be opened. We will use disposal account to record the **disposal (變賣)** and **find out the profit or loss (計算損益)** on the disposal of non-current assets (**非流動資產變賣時**).

The double entries for disposal of a non-current asset (**非流動資產變賣的入帳步驟**)

- 1 因為變賣資產已經賣走，所以先把變賣資產減去，再把資產的成本轉到變賣帳戶

Dr Disposal account  
Cr Non-current asset account

- 2 亦因為變賣資產已經賣走，所以需要把該資產的累計折舊減去，再轉到變賣帳戶

Dr Accumulated depreciation account  
Cr Disposal account

- 3 記錄變賣收入

Dr Cash/Bank/Debtor's account  
Cr Disposal account

- 4 在會計期末把變賣損益轉到損益帳戶

(a) Profit on disposal (出現變賣利潤)

Dr Disposal account  
Cr Profit and loss account

(b) Loss on disposal (出現變賣損失)

Dr Profit and loss account  
Cr Disposal account



**Example 5**

Suppose the lorry was sold for \$4,500 cash on 1 January 2011, the entries for disposal account as shown below:

Disposal: Lorries					
2011				2011	
Jan	1	Lorries (1)	\$ 16,000	Jan	1
					1
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Lorries							
2011			\$	2011		\$	
Jan	1	Balance b/f	16,000	Jan	1	Disposal: Lorries (1)	16,000

Accumulated Depreciation: Lorries							
2011			2011				
Jan	1	Disposal: Lorries (2)	7,500	Jan	1	Balance b/f	7,500

Cash			
2011		\$	
Jan	1	Disposal: Lorries (3)	4,500

Profit and loss			
2011			
Dec	31	Disposal: Lorries (4)	4,000

The entries for journal as shown below:

Journal		
Details	Dr	Cr
	\$	\$
<b>Disposal: Lorries</b>	<b>16,000</b>	
<b>Lorries</b>		<b>16,000</b>
<b>Accumulated Depreciation: Lorries</b>	<b>7,500</b>	
<b>Disposal: Lorries</b>		<b>7,500</b>
<b>Cash</b>	<b>4,500</b>	
<b>Disposal: Lorries</b>		<b>4,500</b>
<b>Profit and loss – Loss on disposal</b>	<b>4,000</b>	
<b>Disposal: Lorries</b>		<b>4,000</b>

Since the disposal account is zero balance at the end, the entries for disposal of non-current assets in the Journal can be simplified as follow: (當題目要求在日誌處理非流動資產變賣時，因為變賣帳戶最終是零餘額。非流動資產所需的會計分錄可簡化如下)

Journal		
Details	Dr	Cr
	\$	\$
<b>Accumulated Depreciation: Lorries</b>	<b>7,500</b>	
<b>Cash</b>	<b>4,500</b>	
<b>Profit and loss – Loss on disposal</b>	<b>4,000</b>	
<b>Lorries</b>		<b>16,000</b>

In summary, we have

(a) Profit on disposal (變賣利潤)

Journal		
Details	Dr	Cr
	\$	\$
<b>Accumulated depreciation –Furniture</b>	<b>10,000</b>	
<b>Cash</b>	<b>40,000</b>	
Profit and loss – Profit on disposal		20,000
<b>Furniture</b>		<b>30,000</b>

(b) Loss on disposal (出現變賣損失)

Journal		
Details	Dr	Cr
	\$	\$
<b>Accumulated depreciation –Furniture</b>	<b>10,000</b>	
<b>Cash</b>	<b>10,000</b>	
Profit and loss – Loss on disposal	10,000	
<b>Furniture</b>		<b>30,000</b>

- (A) A motor vehicle, which was purchased for \$150,000 in 2013, was damaged in a traffic accident and then sold for \$50,000 in December 2017. No entries were made in the books regarding the disposal. It is the company's policy to charge depreciation on motor vehicles at a rate of 20% per annum on a reducing-balance basis. A full year's depreciation on motor vehicles is to be charged in the year of purchase but none in the year of disposal.

**REQUIRED:** Prepare the necessary journal entries to correct the above. Narrations are not required.

**Journal**

	Dr	Cr
Details	\$	\$

**Class work 9**

1. On 1 Apr 2006, the 1st day of the financial year, T Young paid \$9,500 in cash for a computer. He also paid \$500 for installation and \$1,000 for annual maintenance fee. The computer was to be depreciated by straight-line method at an annual rate of 20%, ignoring salvage value. On 31 Mar 2008, the computer was sold for \$4,250 in cash. Prepare the journal entries to record the disposal of the computer.

**Journal**

Details	Dr	Cr
	\$	\$

3. Valor Company acquired a machine on 1 January 2002. The machine has an estimated useful life of five years. The depreciation charge for the first three years was calculated for this machine using two different depreciation methods as follows:

Year	Straight-line method (5 years)	Reducing-balance method (50% per annum)
2002	\$12,400	\$32,000
2003	\$12,400	\$16,000
2004	\$12,400	\$8,000

- (a) Calculate the cost of the machine and its estimated residual value.  
 (b) Prepare journal entries to record the disposal of the machine based on the straight-line method, assuming that the machine was sold on 30 September 2005 for \$36,000 on credit. (Narrations are not required.)

(a) \_\_\_\_\_  
 \_\_\_\_\_

(b)

**The Journal**

Details	Dr	Cr
	\$	\$

## Depreciation of non-current assets in different situations of a company

If the situations of the non-current assets are different, we should separate these assets and calculate the depreciation of each non-current asset one by one.

### Class work 9

4. Fat Tat Ltd started its toy manufacturing business on 1 July 2003. The following machines were purchased during the two years ended 30 June 2005:

Purchase date		Cost
1 July 2003	Machine (No. 1)	\$400,000
1 March 2004	Machine (No. 2)	\$600,000
1 May 2005	Machine (No. 3)	\$540,000

It is the company's policy to calculate depreciation at 40% per annum on a reducing balance basis with a proportionate charge in the years of acquisition or disposal.

- Calculate the depreciation of the machine in 2005.
- Prepare journal entries to record the depreciation of the machine in 2005.

(a) **Depreciation of Machine (No. 1) in 2003 = \$400,000 x 40% x 6/12 = \$80,000**

**Depreciation of Machine (No. 1) in 2004 = (\$400,000 - \$80,000) x 40% = \$128,000**

**Depreciation of Machine (No. 1) in 2005 = (\$400,000 - \$208,000) x 40% = \$76,800**

**Depreciation of Machine (No. 2) in 2004 = \$600,000 x 40% x 10/12 = \$200,000**

**Depreciation of Machine (No. 2) in 2005 = (\$600,000 - \$200,000) x 40% = \$160,000**

**Depreciation of Machine (No. 3) in 2005 = \$540,000 x 40% x 8/12 = \$144,000**

**Depreciation of Machine in 2005 = \$76,800 + \$160,000 + \$144,000 = \$380,800**

(b)

The Journal		
	Dr	Cr
Details	\$	\$
<b>Depreciation – Machinery</b>	<b>380,000</b>	
<b>Accumulated depreciation: Machinery</b>		<b>380,000</b>

**HKDSE (2013, 2)**

**(Depreciation)**

Mr Chan commenced his retail business on 1 January 2011 and acquired five pieces of equipment costing \$135,000 each on that date. No other addition and disposal were made during 2011. Information relating to the equipment for the year ended 31 December 2012 is as follows:

	\$
Payments for new equipment – Purchase cost	280,000
– Testing fees	12,500
– Repairs and maintenance fees for 2012	42,600
Proceeds from sale of two pieces of equipment purchased in 2011	104,500

Depreciation on equipment is to be provided at a rate of 20% per annum using the reducing balance method. Full year depreciation is calculated in the year of purchase but none in the year of sale.

- Calculate the capital expenditure of the new equipment.
- Calculate the depreciation of equipment for 2012.

(a) **Capital expenditure of the new equipment = \$280,000 + \$12,500 = \$292,500**

(b) **Depreciation of remaining equipment in 2011 = \$135,000 x 3 x 20% = \$81,000**

**Depreciation of remaining equipment in 2012 = (\$135,000 x 3 – \$81,000) x 20% = \$64,800**

**Depreciation of disposal equipment in 2012 = 0**

**Depreciation of new equipment in 2012 = \$292,500 x 20% = \$58,500**

**Depreciation of equipment for 2012 = \$64,800 + \$58,500 = 123,300**

## Class work 10

1. Fat Tat Ltd started its toy manufacturing business on 1 July 2003. The following machines were purchased during the two years ended 30 June 2005:

Purchase date		Cost
1 July 2003	Machine (No. 1)	\$400,000
1 March 2004	Machine (No. 2)	\$600,000
1 May 2005	Machine (No. 3)	\$540,000

On 1 June 2005, the Machine (No. 1) was sold for \$100,000. It is the company's policy to calculate depreciation at 40% per annum on a reducing balance basis with a proportionate charge in the years of acquisition or disposal.

- (c) Prepare journal entries to record the disposal of the machine.

The Journal		
	Dr	Cr
Details	\$	\$

## HKDSE (2013, 2)

## (Depreciation)

Mr Chan commenced his retail business on 1 January 2011 and acquired five pieces of equipment costing \$135,000 each on that date. No other addition and disposal were made during 2011. Information relating to the equipment for the year ended 31 December 2012 is as follows:

	\$
Payments for new equipment – Purchase cost	280,000
– Testing fees	12,500
– Repairs and maintenance fees for 2012	42,600
Proceeds from sale of two pieces of equipment purchased in 2011	104,500

Depreciation on equipment is to be provided at a rate of 20% per annum using the reducing balance method. Full year depreciation is calculated in the year of purchase but none in the year of sale.

For the retail business of Mr Chan, prepare the following accounts for the year ended 31 December 2012:

- (a) Equipment account                      (b) Accumulated depreciation account – Equipment

(a) Equipment							
2012			\$	2012			\$

(b) Accumulated Depreciation: Equipment							
2012			\$	2012			\$

W1:  $675,000 \times 20\% = \$135,000$                       W2:  $270,000 \times 20\% = \$54,000$

W3: Cost of non-disposal equipment =  $\$675,000 - \$270,000 = \$405,000$

Depreciation for non-disposal equipment in 2011 =  $\$405,000 \times 20\% = \$81,000$

Depreciation for non-disposal equipment in 2012 =  $(\$405,000 - \$81,000) \times 20\% = \$64,800$

Depreciation for disposal equipment in 2012 = 0

Depreciation for new equipment in 2012 =  $\$292,500 \times 20\% = \$58,500$

Total depreciation in 2012 =  $\$64,800 + \$58,500 = \$123,300$

## Trade-in of non-current assets (非流動資產的易新)

Trade-in of non-currents assets refers to use the cost of old assets and the trade-in price (舊的資產再加上易新價) to exchange (更換) a new assets. Actually, there are two transactions of non-current assets (兩個資產的交易) in the trade-in transaction (易新交易中). The old assets is disposal (舊資產賣走) and buy the new assets (新資產買入). In other words, trade-in of non-current assets is to use the trade-in allowance (置換讓價) to sell the old assets and use trade-in price (易新價) to buy the new assets.

The double entries for trade-in of a non-current asset (非流動資產易新的入帳步驟)

- Transfer the cost of the asset to the disposal account (因為舊的資產已經賣走，所以我們要把舊的資產減去，再轉到變賣帳戶)  
 Dr Disposal account  
 Cr Non-current asset account
- Transfer the accumulated depreciation on the asset to the disposal account (亦因為舊的資產已經賣走，所以需要把該資產的累計折舊減去，再轉到變賣帳戶)  
 Dr Accumulated depreciation account  
 Cr Disposal account
- Record the trade-in allowance from disposal account to non-current asset account (記錄以舊資產換得的易新優惠來換取部份新資產，易新優惠當作新資產部份成本)  
 Dr Non-current asset account  
 Cr Disposal account
- Transfer the profit/loss on disposal to the profit and loss account (計算易新過程在變賣帳戶獲得的利潤或損失，再在會計期末將損益轉到損益帳戶)  
 (a) Profit on disposal (出現變賣利潤)  
 Dr Disposal account  
 Cr Profit and loss account  
 (b) Loss on disposal (出現變賣損失)  
 Dr Profit and loss account  
 Cr Disposal account
- Record the buying of new non-current assets with trade-in price (記錄以現金或銀行支付易新價購買新資產)  
 Dr Non-current asset account  
 Cr Bank/Cash/Creditor

Since the disposal account is zero balance at the end, the entries for trade-in of non-current assets in the Journal can be simplified as follow: (當題目要求在日誌處理非流動資產的易新時，因為變賣帳戶最終是零餘額。非流動資產所需的會計分錄可簡化如下)

### (a) Profit on disposal (變賣利潤)

Journal		
Details	Dr	Cr
	\$	\$
Accumulated depreciation – Office Furniture	20,000	
Office Furniture: Trade-in allowance	20,000	
Profit and loss – Profit on disposal		10,000
Office Furniture		30,000
Office Furniture	40,000	
Bank/Cash/Debtor		40,000

### (b) Loss on disposal (出現變賣損失)

Journal		
Details	Dr	Cr
	\$	\$
Accumulated depreciation – Office Furniture	10,000	
Office Furniture: Trade-in allowance	20,000	
Profit and loss – Loss on disposal	10,000	
Office Furniture		40,000
Office Furniture	40,000	
Bank/Cash/Debtor		40,000

The following are the balances extracted from the books of KK Company Limited as at 31 December 2017:

	\$
Equipment	2,020,000
Retained profits, 1 January 2017	74,000

Additional information:

- (ii) On 1 May 2017, a piece of old equipment was traded in for a new model which cost \$62,000, at a trade-in value of \$21,000. The old equipment was purchased on 1 March 2015 at a cost of \$50,000. The bookkeeper did not make any entries for the above trade-in arrangement.

Besides, another piece of equipment which was purchased for \$250,000 in 2012 was still in use during 2017. It is the company's policy to charge depreciation on equipment at a rate of 20% per annum on a straight-line basis. A full year's depreciation on equipment is to be charged in the year of purchase but none in the year of disposal.

- (a) Prepare the journal entries for recording the trade in of the equipment in 2017. Narration is not required.  
 (b) Calculate the annual depreciation expenses of equipment for 2017.

(a)

Journal	Debit	Credit
Details	\$	\$

(b)

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### Class work 9

Suppose Firm A bought a lorry for \$16,000 on 1 January 2009 and adopted the straight-line method of depreciation. The lorry was estimated to have a useful life of four years and residual value of \$1,000. Suppose we trade in the lorry for a new one at a cost of \$14,500 and the trade-in value of the old lorry was \$4,500 on 1 January 2011, and the balance was paid by cash.

- (a) Find the accumulated depreciation of the lorry as at 1 January 2011

(b)

Lorries							
2011			\$	2011			\$

Lorries Disposal							
2011			\$	2011			\$

2. (i) On 1 October 2010, an old motor vehicle costing \$350,000 with a net book value of \$100,000 as at 1 January 2010 was trade-in for a new one. A trade-in allowance of \$9,000 was given. The list price of a new vehicle is \$400,000 and a trade discount of 10% was allowed. Ocean Limited paid \$2,400 for annual license fee, \$10,000 for installing an air-conditioning system in the motor vehicle and \$3,000 for freight charges. The scrap value of the new machine is \$4,000.
- (ii) Motor vehicle – 20% on reducing balance method per annum
- (a) Calculate the cost of new vehicle to be capitalized.
- (b) Prepare journal entries to record the trade-in of the motor vehicle.

(a)

	\$

(b)

**Journal**

	Debit	Credit
Details	\$	\$