THE TAXATION INSTITUTE OF HONG KONG
CTA QUALIFYING EXAMINATION PILOT PAPER
PAPER 1 – ACCOUNTING AND FIANCE

This examination paper consists of two sections.

Answer the compulsory question in Section A and any four questions in Section B.

Time allowed is three hours.

Pilot Paper (2013)

Section A

Question 1 (32 Marks)

High Technology Company Limited ("HTC") is engaged in the business of manufacturing high technology products. It had successively registered Patent Q in a number of countries in January 1991. The development and registration cost of Patent Q was HK$5,000,000 and HTC expected to use the patent for 50 years from date of registration. The development and registration costs of Patent Q satisfy the criteria for recognition as an intangible asset.

On 1 July 2012, HTC engaged a professional appraiser to value Patent Q, which was estimated to have a value of HK$100,000,000 as at 30 June 2012. The valuation was made assuming that Patent Q would be used in its present conditions, and not on a market value basis since no active market existed for such patent.

HTC conducted the valuation of Patent Q because it wanted to obtain funds through issuance of ordinary shares or convertible bonds.

During the year ended 31 December 2012, HTC incurred a total amount HK$6,000,000 in on-going research with a hope to identify new technology that might be useful.

As at 31 December 2012, HTC incurred a total amount of HK$80,000,000 in developing a new technology ("Technology W"). Lawyers of HTC are due to submit patent registrations to relevant authorities and HTC expects to put Technology W in use by the end of 2013. The development costs of Technology W satisfy the criteria for recognition as an intangible asset.

Required

In connection with the above situation,

(a) explain your understanding of the term "intangible asset" and "internally generated goodwill". (6 marks)

(b) calculate the carrying amount of the Patent Q in HTC's statement of financial position as at 31 December 2011 (or 1 January 2012). Explain your answer. (6 marks)

(c) determine how the valuation of Patent Q of HK$100,000,000 affects the carrying amount of Patent Q in HTC's statement of financial position as at 31 December 2012. (4 marks)

(d) calculate the amount of research cost that PHC should recognize in its profit or loss for the year ended 31 December 2012. Explain your answer. (4 marks)

(e) determine how HTC should account for the accumulated development costs of HK$80,000,000 in the year ended 31 December 2012. Explain your answer. (4 marks)

(f) discuss the merits and demerits of raising funds through issuance of ordinary shares and convertible bonds. (8 marks)

Pilot Paper (2013)

Section B

Question 2 (17 Marks)

Explain your understanding of the following terms/concepts in financial reporting:

(a) A complete set of financial statements (4 marks)

(b) Current asset (4 marks)

(c) Comparative information (4 marks)

(d) Correction of material prior period errors (5 marks)

Question 3 (17 Marks)

Complicated Instrument Company Limited ("CIC") is considering the issuance of the following financial instruments at 1 January 2014 to finance its business expansion.

(i) Zero coupon bonds ("Bonds") with aggregate face value of HK$100,000,000, repayable at 31 December 2023. CIC expects to receive net proceeds of HK$80,000,000.

(ii) A total of 100,000,000 preference shares ("Shares") for HK$80,000,000. Holders of these shares are entitled to dividends of HK$0.5 for each share held if CIC declares any dividends for ordinary shares. Holders of preference shares do not have voting rights. At any time after 31 December 2016, the preference shares can be repurchased by CIC at HK$1.0 each.

Required

In connection with the Bonds and Shares,

(a) determine whether they should be classified by CIC as equity or financial liability. Explain your answer. (8 marks)

(b) calculate the carrying amount of the Bonds in CIC's statement of financial position as at 31 December 2014. Explain your answer. (6 marks)

(c) calculate the carrying amount of the Shares in CIC's statement of financial position as at 31 December 2014. Explain your answer. (3 marks)

Pilot Paper (2013)

Question 4 (17 Marks)

During the financial year ended 31 December 2012, Village House Services Company ("VHSC") entered into a contract with an indigenous villager who had obtained a permit from the government to build a three-storey house. VHSC was responsible for the construction work and the labor costs only. The design of the building and the supply all the building materials were the responsibility of another engineering company separately engaged by the villager. In return, the villager agreed to pay VHSC a fixed amount of HK$1,500,000. As at 31 December 2012, VHSC had incurred a total labor cost of HK$800,000 for this project and additional labor cost to complete the construction was estimated to be HK$400,000. VHSC expected to complete the project on schedule and within the budget. During the year, VHSC received progress payments of HK$600,000 from the villager.

Required

In connection with the above construction project,

(a) calculate the amount of revenue that should be recognized by VHSC in its profit or loss for the financial year ended 31 December 2012. Explain your answer. (11 marks)

(b) calculate the amount of expenses, and hence the amount of profit, that should be recognized by VHSC in the financial year ended 31 December 2012. Explain your answer. (6 marks)

Question 5 (17 Marks)

Discuss the following from the perspective of financial management:

a) Why would a company invest in another company in the long term through acquisition? (5 marks)

b) What are the indicators of financial distress of a company? (5 marks)

c) What are the different types of payouts/distributions to shareholders? (7 marks)

Pilot Paper (2013)

Question 6 (17 Marks)

Wealthy Company Limited ("WCL") normally offers 3-month credit term to its customers. That is, the invoice amount of goods sold is due for payment 3 months after the invoice day. Sometimes, customers may prefer to settle the amount immediately after taking delivery, and they normally ask for a discount for early payment. WCL now borrows from banks at an interest rate of 8% per annum to finance its daily operations.

Required

In connection with the above situation,

(a) explain the term present value (PV) of a future cash flow and its relation with the risk of the cash flow. (6 marks)

(b) calculate an appropriate PV for an invoice amount of HK$1,000,000 to be settled after 3 months. Explain your answer. (4 marks)

(c) a customer requests for a 2.5% early payment discount in return for immediate settlement on delivery. Calculate the effective interest rate per annum if a 2.5% discount is granted. Should WCL grant the 2.5% discount? Discuss. (7 marks)

***************** **END OF PAPER** ****************

Suggested Solutions to Pilot Paper (2013)

Question 1

Q1(a)

An intangible asset is an identifiable non-monetary asset without physical substance.

An asset is identifiable if it either:

(a) is separable, i.e. capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so; or 3

(b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

In some cases, expenditure is incurred to generate future economic benefits, but it does not result in the creation of an intangible asset that meets the recognition criteria in financial reporting standards. 3

Such expenditure is often described as contributing to internally generated goodwill.

Internally generated goodwill is not recognized as an asset because it is not an identifiable resource (i.e. it is not separable nor does it arise from contractual or other legal rights) controlled by the entity that can be measured reliably at cost.

Q1(b)

An intangible asset shall be measured initially at cost.

Since an active market for Patent Q does not exist, HTC should not measure Patent Q at fair value and should adopt the cost model to measure Patent Q.

In the absence of information suggesting the otherwise, it is appropriate for HTC to amortise the development and registration cost of Patent Q over its estimated useful life of 50 on a straight-line basis. 6

Therefore, the carrying amount of Patent Q as at 1 January 2012 should be HK$2,900,000 [HK$5,000,000 x(50-21)/50].

Q1(c)

HTC should measure Patent Q at the cost model, i.e. cost less accumulated depreciation and accumulated impairment. 4

The valuation suggests that the need for recognition of impairment is very unlikely.

The carrying amount of Patent Q as at 31 December 2012 should therefore be HK$2,800,000 [HK$5,000,000 x (50-22)/50]

Q1(d)

Under the relevant financial reporting standards, no intangible asset arising from research shall be recognized. Expenditure on research shall be recognized as an expense when it is incurred. 4

Therefore, the whole amount of research expenditures of HK$6,000,000 should be recognized as an expense in HTC's profit or loss in the year ended 31 December 2012.

Q1(e)

Unless Technology W itself has an active market, which is normally unlikely, HTC should use the cost model to account for Technology. Unless Technology W has an indefinite useful life, HTC should amortise of development cost over its estimated useful life starting from the date when Technology W is available for use, and should recognize any impairment of the intangible asset. Since Technology W was not yet available for use as at 31 December 2012 and there was no indication of impairment, the carrying amount of Patent W should be HK$80,000,000. 4

Q1(f)

The principal merits of issuing ordinary shares to raise funds are:

(i) the company has no obligation to pay back the amount received to the shareholders at a fixed date for a fixed amount, i.e. liquidity risk is lower;

(ii) If the company already exhausts its capital to raise debts, i.e. cost of raising additional debts is very high, issuing ordinary shares may be the last resort to obtain capital for growth.

The principal demerits of issuing ordinary shares are 4

(i) it may dilute the interest of the existing shareholders and reduce the value of their shares if the new shares are to be issued at a price attractive enough to the new investors;

(ii) Issuing shares reduces the leverage of HTC. It is generally believed that each firm has an optimal leverage level. Reducing leverage reduces the firm's value if the resulting leverage moves away from HTC's optimal leverage level.

The principal merits of issuing convertible bonds to raise funds are:

(i) the tax effect of interest payments may lead to an increase of the firm value;

(ii) Convertible bonds are more attractive than a simple bond without conversion right. Convertible bond holders may be willing to accept a lower level of interests. 4

The principal demerits of convertible bonds to raise funds are:

(i) the company has obligation to pay interests and may be required to pay back the principal amount if the bond holder do not exercise the conversion right when the bonds mature i.e. liquidity risk is higher;

(ii) Issuing convertible bonds is likely to increase the firm's leverage. It is generally believed that each firm has an optimal leverage level. Increasing leverage reduces the firm's value if the resulting leverage moves away from HTC's optimal leverage level.

Total: 32

Reference:

HKAS/IAS 38 "Intangible Assets"

Chapters 15, 16 and 17 of "Corporate Finance", Ross, Westerfield and Jaffe (2010)

Suggested Solutions to Pilot Paper (2013)

Question 2

Q2(a)

A complete set of financial statements comprises:

(a) a statement of financial position as at the end of the period;

(b) a statement of comprehensive income for the period;

(c) a statement of changes in equity for the period;

(d) a statement of cash flows for the period, and notes, comprising a summary of significant accounting policies and other explanatory information.

4

Q2(b)

An entity shall classify an asset as current when:

(a) it expects to realise the asset, or intends to sell or consume it, in its normal operating cycle;

(b) it holds the asset primarily for the purpose of trading;

(c) it expects to realise the asset within twelve months after the reporting period; or

(d) the asset is cash or a cash equivalent.

4

Q2(c)

An entity shall disclose comparative information in respect of the previous period for all amounts reported in the current period's financial statements.

An entity shall include comparative information for narrative and descriptive information when it is relevant to an understanding of the current period's financial statements.

4

Q2(d)

Prior period errors are omissions from, and misstatements in, the entity's financial statements for one or more prior periods.

An entity shall correct material prior period errors retrospectively by:

(a) restating the comparative amounts for the prior period(s) presented in which the error occurred; or

(b) if the error occurred before the earliest prior period presented, restating the opening balances of assets, liabilities and equity for the earliest prior period presented

5

Total: 17

Reference:

HKAS/IAS 1 "Presentation of Financial Statements"

HKAS/IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors"

Suggested Solutions to Pilot Paper (2013)

Question 3

Q3(a)

In general, a financial liability is any liability that is a contractual obligation:

(i) to deliver cash or another financial asset to another entity; or

(ii) to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavourable to the entity.

An instrument is an equity instrument if the instrument includes no contractual obligation: 4

(i) to deliver cash or another financial asset to another entity; or

(ii) to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavourable to the issuer.

A debt is a common financial liability and an ordinary share is a common equity instrument.

The Bonds should be classified as a financial liability of CIC since CIC has the obligation to deliver cash of HK$100,000,000 to holders of the Bonds as at 31 December 2023.

Since CIC has no obligation to deliver cash to holders of the preference shares, the Shares should be classified as equity of CIC. CIC has a right, not an obligation, to repurchase the preference shares at the pre-determined price of HK$1.0. Payment of dividends to preference shareholders is contingent on dividends payment to ordinary shareholders, and CIC has no contractual obligation to pay dividends to ordinary shareholders. 4

Q3(b)

Implicit interest rate of the Bonds is 2.2565% per annum.
{[(HK$100,000,000/HK$80,000,000)^(1/10) – 1] x 100%}

Carrying amount of the Bonds as at 31 December 2014 would be HK$8,180,520. 6

[HK$80,000,000 x 1.022565]

Q3(c)

The carrying amount of equity instrument of CIC should not be changed until derecognition. Therefore, the carrying amount of the Shares as at 31 December 2013 should be HK$80,000,000. 3

Total: 17

Reference:

HKAS32 “Financial Instruments - Presentation”

HKFRS/IFRS 9 “”Financial Instruments – Recognition and Measurement”

Suggested Solutions to Pilot Paper (2013)

Question 4

Q4(a)

If the entity is not required to acquire and supply construction materials under an agreement to construct an asset, it is likely to be only an agreement for the rendering of services.

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated with the transaction shall be recognized by reference to the stage of completion of the transaction.

The stage of completion of a transaction may be determined by the proportion that costs incurred to date bear to the estimated total costs of the transaction. 6

Progress payments and advances received from customers often do not reflect the services performed.

Percentage of completion based on cost incurred is 66.67%.

[HK$800,000/(HK$800,000+HK$400,000)] 5

Therefore, the amount revenue from the construction services to be recognized for the year ended 31 December 2012 should be HK$1,000,000. [HK$1,500,000 x 66.67%]

Q4(b)

Similarly, when the outcome of a transaction involving the rendering of services can be estimated reliably, costs associated with the transaction shall be recognized as expenses by reference to the stage of completion of the transaction, i.e. costs incurred to date.

Provision for loss should be made only if VHSC expect that the estimated total cost exceed the fixed contract amount. 6

The amount of service expenses of HK$800,000 should be recognized for the year ended 31 December 2012.

The amount of profit in connection with the project is therefore HK$200,000.
[HK$1,000,000 – HK$800,000]

Total: 17

Reference:

HKAS/IAS 16 "Revenue"

Interpretation 15 "Agreements for the Construction of Real Estate"

Suggested Solutions to Pilot Paper (2013)

Question 5

Q5(a)

The principal reason for a company to invest in another company through acquisition is synergy.

When the acquirer believe that the value of the combined entity is greater than the simple addition of the separate values of the two entities before acquisition, it is said that synergy exists, and this is the most common motive for one company to acquire another.

There are a number of factors that may contribute to synergy in the business combination. For example, these may include increase in revenue due to better marketing position and distribution channels, a more comprehensive portfolio of products and reduction in competition so as to gain monopoly power. These may also include reduction in cost as a result of economy of scale, vertical integration, technology transfer, elimination of inefficient management etc. 5

In some cases, tax gains or surplus funds held by the acquired entity may also be the driven force for an acquisition.

Q5(b)

Financial distress means a situation where a company's operating cash flows are not sufficient to meet its obligations to settle debts or payable due to others.

Indications that a company is under financial distress include: inability to pay debts when they are due, poor financial positions as indicated in the financial statements, such as net current liability and poor interest coverage, reduction in dividends level, closing production plants, reporting operating losses, layoff of staff, resignation of senior management. 5

Q5(c)

Common types of distributions to shareholders include:

(i) regularly cash dividends, in the form of interim and/or final divdends.

(ii) extra cash dividends, which is cash dividends other than regularly cash dividends that the shareholders would normally expect;

(iii) stock dividend, which means issuing new shares to existing shareholder without requiring them to pay cash to the company to subscribe for the new shares; 6

(iv) stock split, which is the increase in the number of shares held by existing shareholder without requiring them to pay additional cash to the company.

(v) stock purchase, which means the company buy back the shares from the shareholders for cash.

(vi) distribution in kind, which means transferring assets of the company to the shareholders without requiring them to pay for the transfer.

Total: 17

Reference:

Chapters 19, 29 and 30 of "Corporate Finance", Ross, Westerfield and Jaffe (2010)

Suggested Solutions to Pilot Paper (2013)

Question 6

Q6(a)

The present value of a future cash flow is the value of the future cash flow as of today.

It is computed by discounting the future cash ("A") at an appropriate discount rate per period ("R") if the future cash flow is to be received after a fixed number of periods ("n").

The formula is $PV = A/(1+R)^n$

The higher the risks, i.e. the uncertainty, of the future cash flow, the higher the discounting rate should be used.

If the future cash flow is considered to be certain, the risk free interest rate should be used as the discount rate. 6

Q6(b)

Since WCL borrows at banks at annual interest rate of 8%, or a quarterly interest rate of 2% [8%/4], to finance its working capital, an appropriate PV of the $1,000,000 to be settled after 3 month may be HK$980,392 [HK$1,000,000/(1+2%)] 5

Q6(c)

At a 2.5% discount, WCL shall receive HK$975,000 now instead of HK$1,000,000 after three months. The effective interest rate per quarter is 2.564% [(HK$1,000,000/HK$975,000 – 1) x 100%], or 10.26% p.a. This is 2.26% p.a. higher than the interest rate for WCL borrowing from the banks.

It may be argued that it is less favourable if WCL accepts the HK$975,000 and uses it to repay bank borrowing of HK$975,000. This is because if WCL does not do so, it only needs to repay the bank HK$994,500 [HK$975,000 x (1+2%)] while receiving HK$1,000,000 from the customer three months later. Therefore, it would have a gain of HK$5,500 [HK$1,000,000 – HK$994,500] after three months if it does not grant the discount.

However, if WCL grants the 2.5% discount and receive HK$975,000 now, WCL would avoid the risks that the customer may default payment three months later.

Therefore, as long as WCL considers that the higher interest rate of 10.26 p.a. covers the level of credit risks associated with the customer, it is reasonable for WCL to grant the 2.5% discount to the customer in exchange for the customer's immediate settlement. 7

Total: 17

Reference:

Chapter 4 of "Corporate Finance", Ross, Westerfield and Jaffe (2010)