ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

AA3 EXAMINATION - JANUARY 2016

(AA32) MANAGEMENT ACCOUNTING AND FINANCE

31-01-2016
Morning
[8.45 – 12.00]

No. of Pages : 09
No. of Questions : 09

- **Instructions to candidates** (Please Read Carefully):
  - (1) ***Time Allowed:*** *Reading : 15 minutes*
    Writing : 03 hours
  - (2) ***All questions should be answered.***
  - (3) ***Answers*** *should be in* ***one language****, in the* ***medium*** *applied for, in the* ***booklets*** *provided.*
  - (4) *Submit all workings and calculations. State clearly assumptions made by you, if any.*
  - (5) *Use of Non-programmable calculators is* ***only*** *permitted.*
  - (6) ***Action Verb Check List*** *with definitions is attached. Each question will begin with an* ***action verb****. Candidates should answer the questions based on the* ***definition*** *of the verb given in the Action Verb Check List.*
  - (7) ***Formulae Sheets*** *are attached.*
  - (8) ***Mathematical Tables*** *will be provided.*
  - (9) *100 Marks.*

SECTION A

Four (04) compulsory questions

(Total 20 marks)

Question 01

Retirement is a critical stage in a salary earner's life, at which point the steady employment income will cease and the existing lifestyle needs to be supported through some other source of income. Hence, it is important to have a proper retirement scheme/plan for an employee well before the retirement.

You are required to,

(a) **State** two(02) retirement schemes / plans available in Sri Lanka. (02 marks)

(b) **State** three(03) factors to be considered when evaluating a suitable retirement plan. (03 marks)

(Total 05 marks)

Question 02

Overtrading is a common problem in the most of modern business entities and often occurs when the entities expand their operations aggressively. Overtraded entities eventually face liquidity problems and running out of working capital.

You are required to,

(a) **List** two(02) symptoms of overtrading condition in a business entity. (02 marks)

(b) **State** three(03) alternative strategies that could be adopted to manage inventories of a modern business entity. (03 marks)

(Total 05 marks)

Question 03

Mak (Pvt) Ltd. produces and sells two products namely Product **A** and Product **B**. The company has forecasted the following information for the year ended 31st December 2016:

	Product A	**Product B**
Selling price per unit (Rs.)	200/-	150/-
Variable cost per unit (Rs.)	80/-	90/-

It is estimated that the total fixed overhead cost and the profit for the year ended 31st December 2016 to be Rs.2.3 million and Rs.1 million respectively. Further it is expected to sell one(01) unit of product **A** for every two(02) units of product **B** sold by the company.

You are required to,

(a) **Compute** the combined profit volume ratio based on the expected sales proportion. (02 marks)

(b) **Assess** the quantity of each product to be sold to achieve the target profit. (03 marks)

(Total 05 marks)

Question 04

Codomo (Pvt) Ltd. a personal care products manufacturer is considering to launch an advertising campaign for one of its products for the forthcoming year. The present annual sales quantity without advertising campaigns for this product is 500,000 units.

The following forecasted information is also provided:

- Contribution per unit of the product – Rs.400/-
- Total cost of advertising – Rs. 10 million.

- The outcome of the advertising campaign is expected as follows:

Outcome	Successful	Unsuccessful
Growth in annual sales	10%	1%
Probability	60%	40%

You are required to,

Assess, using a decision tree, whether the advertising campaign should be undertaken by the company. (05 marks)

End of Section A

SECTION B

Three (03) compulsory questions

(Total 30 marks)

Question 05

Bam (Pvt) Ltd. produces a single product and had budgeted to manufacture and sell 50,000 units of this product for the year ended 31st December 2015. The standard cost sheet prepared at the beginning of the year is as follows:

Item	Rs. per unit
Selling price	500
Material cost	200
Labour cost	100
Fixed overhead	100

However, the company could manufacture and sell only 40,000 units during the year 2015. Further, during the year, the selling price and the material cost of the product have been increased to Rs.550/- and Rs.300/- respectively. Meanwhile, the company was able to save Rs.1.2 million from the fixed overhead budget.

You are required to,

(a) **State** four (04) advantages of budgetary controls. (04 marks)

(b) **Prepare** a flexible budget operating statement to compare the budgeted and actual results for the year 2015. (06 marks)

(Total 10 marks)

Question 06

The following information is extracted from the financial statements of **JPL Holdings PLC (JPL)** as at 31st December 2015:

- Issued share capital of **JPL** is Rs.500 million and it comprises with 1,000,000 ordinary shares. **JPL** is a listed company in Colombo Stock Exchange (CSE) and the last traded price of an ordinary share was Rs. 750/-. The dividend paid for the year just ended was Rs. 80/- per share and growth rate of annual dividend payment is 5%.
- The retained earnings of **JPL** were Rs.150 million.
- **JPL** has issued irredeemable preference shares for a value of Rs. 100 million. This consists of 500,000 preference shares and annual dividend per share is Rs. 28/-. The last traded price of a preference share was Rs.280/-.
- Irredeemable, non-quoted long term borrowings of **JPL** were Rs.110 million with annual interest rate of 15%.
- **JPL** is liable for income tax at the rate of 28% per annum on its profits.

You are required to,

(a) **Compute** the following:

(i)	Cost of ordinary share capital.	(02 marks)
(ii)	Cost of preference share capital.	(01 mark)
(iii)	Cost of debt.	(01 mark)
(iv)	Weighted average cost of capital (WACC).	(04 marks)

(b) **State** two(02) underlying assumptions when applying WACC as the discounting factor in investment appraisals. (02 marks)

(Total 10 marks)

Question 07

Holdings PLC, a diversified company with many subsidiaries, is in the process of finalizing the group capital investment budget. The following proposal has been put forward for evaluation:

The company is expecting to expand the capacity of the manufacturing plant by purchasing a new machinery at a cost of Rs.200 million.

The ordering, delivery and assembly of the machinery will take one year and the expected useful life of the machinery is 5 years from the commencement of operations. The existing machinery can be sold for Rs.25,000,000/- as scrap after assembling of the new machinery and the new machinery is expected to have a scrap value of Rs.36,000,000/- at the end of the fifth year of operations.

Revenue expected to be earned and the expenses expected to be incurred due to the purchase of the new machinery have been identified as follows:

Year	2	3	4	5	6
Revenue (Rs.)	55,000,000	70,000,000	80,000,000	80,000,000	80,000,000
Maintenance Expenses and Overheads (Rs.)	10,000,000	15,000,000	18,000,000	21,600,000	25,920,000
Depreciation (Rs.)	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000

Ignore Taxation.

You are required to,

(a) **Calculate** the following based on the information given above:

(i) Payback period.

(ii) Net Present Value if the company's cost of capital is 14%.

(iii) Profitability Index. (08 marks)

(b) **Assess** with reasons whether **Holdings PLC** should go ahead with this proposal or not. (02 marks)

(Total 10 marks)

End of Section B

SECTION C

Two (02) compulsory questions.

(Total 50 marks)

Question 08

Compass (Pvt) Ltd. (CPL), produces a cleaning compound in 10 litre drums. **CPL** operates a standard costing system and has budgeted to manufacture and sell 10,000 drums of this product per month.

The following standard costing information is relevant to a 10 litre drum of this compound:

	Per drum	Rs.
Material – X	8.5 litres at Rs.160/- per litre	1,360
Material – Y	2.5 litres at Rs.320/- per litre	800
Standard material cost per drum		2,160

The actual information for the month of December 2015 was as follows:

(1) Number of 10 litre drums manufactured and sold was 10,000.

(2) **CPL** had purchased and utilised 90,000 litres of Material X during the month. 40% of purchases were made at Rs.175/- per litre while the balance was bought at Rs.180/- per litre.

(3) 24,000 litres of Material Y were purchased at Rs.360/- each and utilised for the production of the month.

(4) Material prices have increased by 15% over the expected levels due to the increase in exchange rate.

You are required to:

(a) **Calculate** the actual material cost per 10 litre drum. (03 marks)

(b) **Calculate** the revised standard material cost per drum, after incorporating the impact of increased exchange rate. (02 marks)

(c) **Calculate** following operating variances using the revised standard material cost per drum, computed in above (b).

(i) Material price variances.

(ii) Material usage variances. (04 marks)

(d) **Prepare** a statement to reconcile the actual material cost with budgeted material cost (revised) for the month, using the variances calculated in (c) above. (02 marks)

(e) **Calculate** the actual material mix variance and actual material yield variance separately. (08 marks)

(f) **State** three(03) possible causes for an adverse material usage variance. (03 marks)

(g) **Explain** the importance of analyzing material variances into planning and operating elements. (03 marks)

(Total 25 marks)

Question 09

(A) **Kandy (Pvt) Ltd. (KPL)** is producing three products namely **P**, **Q** and **R** in its Homagama factory.

The following information is extracted from the budgets prepared for forthcoming year:

		P	Q	R
Selling Price per unit	(Rs.)	150/-	145/-	280/-
Direct Material Cost per unit	(Rs.)	50/-	40/-	100/-
Direct Labour Cost per unit (Rs. 120/- per hour)	(Rs.)	40/-	30/-	80/-
Variable Production Cost per unit	(Rs.)	20/-	15/-	40/-
Fixed Overhead Cost absorbed per unit	(Rs.)	20/-	15/-	40/-
Machine Time Utilized per unit	(minutes)	10	5	20
Maximum Demand per year	(units)	7,000	5,000	10,000

The following information has been also forecasted for the forthcoming year:

- Available machine time is 5,000 hours.
- Direct labour utilized in the factory is skilled labour and maximum available labour time is 10,000 hours.
- Material can be supplied without any shortage.

You are required to,

(a) **Identify** the limiting factor/scarce resource at **KPL's** production with required computations. (05 marks)

(b) **Calculate** the contribution per limiting factor for each of **KPL's** products separately. (03 marks)

(c) (i) **Identify** the production plan that would maximize **KPL's** contribution for the forthcoming year.

(ii) **Compute** the expected contribution for the year. (04 marks)

(d) **Calculate** the maximum price for the scarce resource that you would advise to spend if the shortage could be supplied externally. (03 marks)

(B) **KPL** produces a component required for the products produced by its Kottawa factory in a rented building at a monthly rental cost of Rs.300,000/-. **KPL** produces 10,000 units of this component per month and the average total cost of producing one component is Rs.2,750/-. The total fixed cost of production excluding rental cost of the building is Rs.3 million per month and 40% of this fixed cost can be saved if the manufacturing of the component is stopped.

This component is available in the external market at a price of Rs.2,500/- per unit.

You are required to,

(a) **Assess** whether **KPL** should continue to produce the component at the rented building. (06 marks)

(b) **Assess** whether you would change your advice if the monthly requirement of **KPL** for this component increases to 20,000 units. (04 marks)

(Total 25 marks)

End of Section C

ACTION VERB CHECK LIST

Knowledge Process	Verb List	Verb Definitions
Level 01 **Comprehension** Recall & explain important information	**Define**	Describe exactly the nature, scope, or meaning.
	Draw	Produce (a picture or diagram).
	Identify	Recognize, establish or select after consideration.
	List	Write the connected items one below the other.
	Relate	To establish logical or causal connections.
	State	Express something definitely or clearly.
	Calculate/Compute	Make a mathematical computation
	Discuss	Examine in detail by argument showing different aspects, for the purpose of arriving at a conclusion.
	Explain	Make a clear description in detail revealing relevant facts.
	Interpret	Present in an understandable terms.
	Recognize	To show validity or otherwise, using knowledge or contextual experience.
	Record	Enter relevant entries in detail.
	Summarize	Give a brief statement of the main points (in facts or figures).

Knowledge Process	Verb List	Verb Definitions
Level 02 **Application** Use knowledge in a setting other than the one in which it was learned / Solve closed-ended problems	**Apply**	Put to practical use.
	Assess	Determine the value, nature, ability, or quality.
	Demonstrate	Prove, especially with examples.
	Graph	Represent by means of a graph.
	Prepare	Make ready for a particular purpose.
	Prioritize	Arrange or do in order of importance.
	Reconcile	Make consistent with another.
	Solve	To find a solution through calculations and/or explanation.

Knowledge Process	Verb List	Verb Definitions
Level 03 **Analysis** Draw relations among ideas and compare and contrast / Solve open-ended problems.	**Analyze**	Examine in detail in order to determine the solution or outcome.
	Compare	Examine for the purpose of discovering similarities.
	Contrast	Examine in order to show unlikeness or differences.
	Differentiate	Constitute a difference that distinguishes something.
	Outline	Make a summary of significant features.

FORMULAE SHEET

Quantitative Finance:

Simple interest:

$S = X\ (1 + nr)$

Compound Interest:

$S = X\ \{1 + r\}^n$

Discounting:

Present Value = Future Value $\times \frac{1}{(1+r)^n}$

Perpetuity:

Present Value of perpetuity = $\frac{A}{r}$

Accounting Rate of Return:

ARR = $\frac{\text{Average annual profits from the investment}}{\text{Average investment}}$ X 100%

ARR = $\frac{\text{Estimated average profits}}{\text{Estimated initial investment}}$ X 100%

Internal Rate of Return (IRR):

$IRR = \frac{[N_1 r_2 - N_2 r_1]}{[N_1 - N_2]}$ X 100%

Or

$IRR = a\% + \frac{NPV_A}{[NPV_A - NPV_B]}\ (b - a\ )\%$

Inventory Control:

Economic Order Quantity:

With instantaneous replenishment:

$\sqrt{\frac{2C_0D}{C_n}}$

With gradual replenishment:

$\sqrt{\frac{2C_0D}{C_n\{1 - D/R\}}}$