CERTIFIED ACCOUNTING TECHNICIAN (CAT)

STAGE 2 EXAMINATION

S2.2 MANAGING COSTS AND CASH FLOWS

PILOT PAPER

ANSWERS

Answer Grid

1.	D		26.	D
2.	B		27.	A
3.	C		28.	E
4.	D		29.	B
5.	E		30.	C
6.	A		31.	E
7.	D		32.	A
8.	C		33.	C
9.	B		34.	C
10.	A		35.	D
11.	A		36.	B
12.	C		37.	A
13.	D		38.	C
14.	A		39.	B
15.	D		40.	A
16.	B		41.	C
17.	A		42.	B
18.	D		43.	C
19.	C		44.	B
20.	C		45.	D
21.	B		46.	A
22.	B		47.	D
23.	E		48.	B
24.	A		49.	C
25.	D		50.	A

Detailed answers to questions

		Marks
(a)	2 marks for each correct answer	2
	Total marks for this section	100

1. D   Investment. An investment centre involves responsibility for revenues, costs and net assets for a specific area of a business.

    A profit centre is concerned with costs and revenues but not assets or liabilities. A cost centre is concerned only with costs. A revenue centre is not a usual form of responsibility centre but would only be concerned with revenue, not costs or net assets.

    (LO 3/1.3)

2. B   Book value of equipment. As the insurance policy relates to equipment, the value of equipment held by each cost centre would be the most appropriate apportionment basis.

    Floor area is useful for overhead costs such as electricity or rent. Percentage of sales made would be appropriate if the overhead cost was related to sales and direct labour hours would be appropriate if the overhead cost was linked to labour hours.

    (LO 4/2.1)

3. C   (i), (ii) and (iii). By selling attractively priced bonds, the Government takes money away from financial institutions and individuals who pay for these bonds, which takes money out of their bank accounts, and reduces the asset bases of banks. Through the buying and selling of treasury bills, the government affects the supply and demand levels for investments generally, which also influences interest rates.

    (LO 1/1.1 and 2/3.2)

4. D   RWF2,934,000. 60% of April sales cash (RWF2,920,000 × 0.6 = RWF1,752,000), 70% of the 40% credit sales in March (RWF2,850,000 × 0.4 × 0.7 = RWF798,000) and 30% of the 40% credit sales in February (RWF3,200,000 × 0.4 × 0.3 = RWF384,000).

    A (RWF2,920,000) is the actual sales for April rather than the cash inflow received in April. B assumes 30% of credit sales pay the month after sale (RWF2,850,00 × 0.4 × 0.3 = RWF342,000) and 70% pay after two months (RWF3,200,000 × 0.4 × 0.7 = RWF896,000), with the correct cash sales (RWF2,920,000 × 0.6 = RWF1,752,000).
    C includes 40% of sales in April being cash (RWF2,920,000 × 0.4 = RWF1,168,000) and 60% of sales are on credit with 70% paying the month after sale (RWF2,850,000 × 0.6 × 0.7 = RWF1,197,000) and 30% paying after two months (RWF3,200,000 × 0.6 × 0.3 = RWF576,000).

    (LO2/1.1 and 1/3.2)

5. E None of the above. Repairs to packing machine (maintenance of the existing earning capacity of non-current assets), purchase of books for resale (purchase of goods for resale) and salaries of retail staff (expenditure incurred in conducting the business) are all types of revenue expenditure.

Capital expenditure would include purchase of non-current assets or the improvement of the earning capability of non-current assets.

(LO 4/1.1)

6. A RWF112,325. The net present value is calculated as (–RWF1,100,000 × 1) + [(RWF300,000 × 0.926) + (RWF360,000 × 0.857) + (RWF395,000 × 0.794) + (RWF425,000 × 0.735)].

B incorrectly assumes the net cash flows start in year 0 (–RWF1,100,000 × 1) + [(RWF300,000 × 1) + (RWF360,000 × 0.926) + (RWF395,000 × 0.857) + (RWF425,000 × 0.794)]. C excludes the capital cost of purchasing the machine (RWF300,000 × 0.926) + (RWF360,000 × 0.857) + (RWF395,000 × 0.794) + (RWF425,000 × 0.735). D does not discount the cash flows (–RWF1,100,000 – [RWF300,000 + RWF360,000 + RWF395,000 + RWF425,000)].

(LO 3/3.2)

7. D Fixed cost. The annual depreciation charge is the same each year and relates to a period rather than activity level, so is a fixed cost.

Stepped costs (A) are fixed but only for certain levels of activity. Semi-variable costs (B) include a fixed and variable element. Variable costs (C) vary in total directly with the volume of output, with the variable cost per unit being the same amount for each unit produced.

(LO 3/3.1 and 3/2.2)

8. C (i) and (ii). Etienne will be concerned with cash receipts and payments, such as for cash proceeds received on disposal, as well as income and expenditure, such as for depreciation and calculating the profit on disposal.

(LO 1/1.2)

9. B Chairs waiting to be polished. These chairs are part complete, meaning some work has been done to them but they are not yet ready for sale as they need to be polished.

A and C are both a raw material as the wood and screws have been purchased to be incorporated into the chair but have not as yet had any work carried out or been used. D is a finished good as the chairs are waiting for sale.

(LO 3/2.7)

10. A RWF3,826 per machine hour. The production department uses machine hours more intensively than labour, so the overhead absorption rate is calculated as RWF88,000,000 ÷ 23,000 machine hours = RWF3,826.

B is calculated based on labour hours (RWF88,000,000 ÷ 6,000), C is calculated based on machine hours less labour hours (RWF88,000,000 ÷ (23,000 – 6,000)) and D is calculated based on total number of hours including both machine and labour hours (RWF88,000,000 ÷ (23,000 +

6,000)).

11. A   RWF45,000,000. The full purchase cost of RWF45,000,000 should be recorded as expenditure in the year ending July 2019, with the RWF6,000,000 deposit paid and the remaining RWF39,000,000 (RWF45,000,000 – RWF6,000,000) payable (current liability).

B is the purchase cost less the deposit less one year's depreciation (RWF45,000,000 – RWF6,000,000 – RWF9,000,000), although depreciation should not be charged until the following year. C is the purchase cost less one year's depreciation (RWF45,000,000 – RWF9,000,000). D is the purchase cost less the deposit (RWF45,000,000 – RWF6,000,000), though both are actually expenditure during the year.

12. C   4.69% adverse ((RWF3,200,000 – RWF3,350,000) ÷ RWF3,200,000). The actual costs are greater than the budgeted costs so the variance is adverse.

A and B both divide the difference between actual and budgeted costs by actual costs (RWF3,350,000) rather than budgeted costs (RWF3,200,000). D correctly calculates the percentage variance but shows it as a favourable rather than adverse variance.

13. D   152. The minimum level is calculated as the re-order level (52 litres × 10 days) – average usage of 46 × average lead time of 8.

A is the minimum usage multiplied by the minimum lead time (30 × 6). B is the re-order level – minimum usage × minimum lead time ((52 × 10) – (30 × 6)). C is the re-order level (52 litres × 10 days).

14. A   RWF460,000. The last inventory in is issued first, so issues on 6 June are 8kg at RWF21,200 per kg and issues of 23 June are 2 kg at RWF21,200 and 3 kg at RWF20,000, leaving 23 kg (26kg – 3 kg) at the end of June valued at RWF20,000 per kg. RWF20,000 × 23 kg = RWF460,000.

B uses first-in first-out, issuing the inventory held at the beginning of June first so closing inventory comprises (RWF21,200 × 10 kg) + (RWF20,000 × 13 kg). C values all the 23 kg closing inventory at RWF21,200. D values the closing inventory as a weighted average of RWF20,333 per kg ((RWF20,000 × 26 kg) + (RWF21,200 × 10 kg)) ÷ (26 kg + 10 kg).

15. D   RWF658,000. Job cost is the direct labour (RWF600 × 20 hours = RWF12,000) + material X (RWF7,500 × 30 kg = RWF225,000) + material Y (RWF9,200 × 45 kg = RWF414,000) + overheads (RWF350 × 20 direct labour hours = RWF7,000).

A only includes the direct labour and materials (RWF12,000 + RWF225,000 + RWF414,000) but not the overheads. B includes only the cost of materials X and Y (RWF225,000 + RWF414,000). C includes direct

labour, material X and material Y costs but only the overheads for one hour (RWF12,000 + RWF225,000 + RWF414,000 + RWF350).

(LO 3/2.6)

16. B Bullet. Under bullet repayments, the full amount of the loan remains outstanding for the entire term of the loan and the full amount is then repaid at the end of this period. Interest is charged on the full loan amount throughout the loan term.

    Under a balloon repayment term (A), some of the loan principal is repaid during the term of the loan but the majority is repaid at the end of the loan period. In an amortising repayment term (C), the loan principal is gradually repaid over the term of the loan until there is no principal outstanding at the end of the loan period. D refers to a type of interest rate rather than repayment terms.

    (LO 2/3.3)

17. A RWF119,280,000. Total direct costs for one year of suitcases are ((4 hours × RWF12,000) + RWF23,000) × (140 × 12 months) = RWF119,280,000.

    B only includes one hour of labour for each suitcase and only one month (RWF12,000 + RWF23,000) × 140. C includes the correct cost per suitcase but only for one month
    ((4 × RWF12,000) + RWF23,000) × 140. D includes only one hour of labour for each suitcase (RWF12,000 + RWF23,000) × (140 × 12 months).

    (LO 4/3.4)

18. D (i), (ii) and (iii). Internal reporting and accurate information are important to management for planning, control and decision-making.

    (LO 3/1.1)

19. C Capital receipt. Capital receipts are receipts from the owners of the business and, for a company, this will be the issue of additional share capital.

    Revenue receipts (A) are receipts relating to the day to day operations of the business. Capital payments (B) are payments for the purchase of non-current assets. Disbursements (D) are payments made on behalf of another party.

    (LO 1/2.1)

20. C RWF44. The prime cost is the total direct cost, comprising direct materials (RWF26) and direct labour (RWF18).

    A is the prime cost plus production and non-production overheads (RWF26 + RWF18 + RWF8 + RWF22). B is the prime cost plus production overheads (RWF26 + RWF18 + RWF8). D is the direct materials only, so excludes direct labour.

    (LO 3/1.4)

21. B   Increase of 50 units. The difference between marginal costing profit and absorption costing profit is RWF400,000 (RWF1,800,000 – RWF2,200,000). Movement in inventory is RWF400,000 ÷ OAR of RWF8,000 = 50 units. As profit under marginal costing is less than the profit using absorption costing there has been an increase in inventory during the month.

A has the correct number of units but suggests a reduction in inventory which would be evident if profit was higher under marginal costing not absorption costing. C and D have multiplied the difference in profit (RWF400,000) by the OAR (RWF8,000).

(LO 3/2.3)

22. B   Electricity only. The variance for electricity is $((3.8 - 4.6) \div 3.8) \times 100 = 21\%$ which exceeds the company's threshold of 10%. The variances for water, $((3.6 - 3.9) \div 3.6) \times 100 = 8.3\%$, and rent, $((4.2 - 4.4) \div 4.2) \times 100 = 4.8\%$, are both below the company's 10% threshold so should not be reported.

(LO 4/3.5)

23. E   None of the above. Breakeven point = RWF16,000,000 ÷ (RWF520,000 – RWF80,000) = 36.36. The company must therefore have at least 37 attendees to break even.

A has rounded down the breakeven number of attendees. However, a loss of RWF160,000 (RWF16,000,000 – ((RWF520,000 – RWF80,000) × 36)) would be made if only 36 people attended the course. B only covers fixed costs but not variable costs (RWF16,000,000 ÷ RWF520,000). C is the expected number of attendees. D is the margin of safety (60 – 37).

(LO 3/3.3)

24. A   Ethical or legal. Fiduciary duty can have a legal or ethical obligation.
(LO 1/1.3 and 1/1.4 and 2/3.1)

25. D   Last-in first-out (LIFO). An advantage of LIFO is that the inventory is valued close to the market price, even during times of inflation.

First-in first-out (FIFO) may value closing inventory close to the market price, but inventory issues will not be close to market price, especially in times of high inflation. Under weighted average pricing, prices tend to lag a little behind current market values when there is gradual inflation. Last-in last-out is not a standard inventory valuation method.

(LO 3/2.1 and 3/2.7)

26. D   RWF12,000,000 under absorbed. Actual machine hours were as budgeted, resulting in RWF96,000,000 overheads being absorbed. Actual overheads were RWF108,000,000, meaning that RWF12,000,000 overheads were under absorbed (RWF96,000,000 – RWF108,000,000).

A and B are the calculated number of machine hours (RWF96,000,000 ÷ RWF640). C identifies the difference between absorbed and actual overheads as being over absorbed.

(LO 4/2.3)

27. A RWF1,800,000 inflow. Cash receipts of RWF26,300,000 – cash payments of RWF24,500,000 (RWF12,200,000 + RWF11,400,000 + RWF900,000) gives a net cash inflow of RWF1,800,000.

B is the total cash outflow (RWF12,200,000 + RWF11,400,000 + RWF900,000). C is the total cash inflow of the RWF26,300,000 receipts. D is the correct amount but incorrectly states it as a net cash outflow, even though cash receipts are greater than cash payments.

(LO 2/1.3)

28. E None of the above.

Unexpected discounts received on material purchased would result in a favourable (not adverse) material price variance. Poorer quality material purchased and used would potentially result in favourable material price variance and adverse material usage variance, as the material would be cheaper to buy but could result in more waste. Lower grade labour than budget used would result in a favourable labour rate variance, but could also cause an adverse material usage variance as the less skilled labour may be less efficient and use more material.

(LO 4/3.3)

29. B RWF3,200,000. Budgeted cash receipts of RWF2,900,000 + favourable variance of RWF300,000 = actual cash receipts of RWF3,200,000.

A is the budgeted cash receipts. C is showing the RWF300,000 as an adverse variance (RWF2,900,000 – RWF300,000). D adds on the favourable variance multiplied with the budget to the budgeted cash receipts RWF2,900,000 + (RWF2,900,000 × RWF300,000).

(LO 2/2.1)

30. C 20%. The idle time ratio is concerned with labour being idle and is calculated as the idle labour hours divided by the total labour hours multiplied by 100 (260 ÷ 1,300) × 100 = 20%.

A is the difference between budgeted and actual machine hours (3,200 – 2,700) divided by the total budgeted machine hours of 3,200 multiplied by 100. B is the difference between budgeted and actual machine hours divided by the actual machine hours and total labour hours, multiplied by 100 ((3,200 – 2,700) ÷ (2,700 + 1,300) × 100). D is the total labour hours divided by the idle labour hours (1,300 ÷ 260).

(LO 4/1.2)

31. E None of the above. Absorption costing includes all production overheads within the costs of cost units. Marginal costing includes only variable costs in cost units and writes off fixed costs as period costs.

(LO 3/1.2)

32. A RWF1,130. Budgeted overheads of RWF67,800,000 ÷ 60,000 machine hours gives a pre-determined overhead absorption rate of RWF1,130 per machine hour.

B is the pre-determined overhead absorption rate based on direct labour hours (RWF67,800,000 ÷ 42,375). C is the direct labour hours divided by the total overheads (rounded to thousands) and D is the machine hours

divided by the total overheads (rounded to thousands).

(LO 4/2.4)

33. C   2,933. $EOQ = \sqrt{(2 \times RWF3,200 \times (56,000 \times 12)) \div 500} = 2,932.85$ rounded up to nearest whole litre of 2,933.

A uses the monthly demand of 56,000 rather than annual.
$\sqrt{(2 \times RWF3,200 \times 56,000) \div 500} = 846.6.$ B square roots the numerator before dividing by the denominator $\dfrac{\sqrt{(2 \times RWF3,200 \times (56,000 \times 12))} \div 500}{} =$ 131.2. D uses the monthly demand rather than annual and square roots the numerator before dividing by the denominator
$\sqrt{(2 \times RWF3,200 \times 56,000)} \div 500 = 37.9.$

(LO 3/2.1)

34. C   Seasonal variations in past will continue. The company's focus on winter sport products means most sales are made during October to March. The prediction of the timing of sales receipts in the past is therefore crucial to cash forecasts.

If the multiplicative model of time series analysis is used it does not matter whether the trend is increasing or decreasing (A). The very nature of forecasting means that extrapolation is used (B), although interpolation does tend to produce more reliable results. The multiplicative or additive model are both valid approaches to time series analysis (D).

(LO 2/1.2 and 1/3.5)

35. D   RWF12,690,000 adverse. Sales revenue from 8,460 doors should have been RWF431,460,000 (8,460 × 51,000) but actually was RWF418,770,000 (8,460 × RWF49,500) so the difference (RWF431,460,000 – RWF418,770,000) is the selling price variance.

A is (RWF51,000 – RWF49,500) × (8,460 – 8,200). B is (RWF51,000 – 49,500) × budgeted sales of 8,200. C is the activity variance of (8,200 – 8,460) × budgeted selling price of RWF51,000.

(LO 4/3.1)

36. B   27.67 days. The trade receivables collection period is calculated as trade receivables (RWF202,000) divided by credit sales (RWF4,100,000 × (1 – 0.35)) multiplied by 365 days. (RWF202,000 ÷ RWF2,665,000) × 365.

A has included all sales, not just credit sales (RWF202,000 ÷ RWF4,100,000) × 365. C has included all current assets, not just trade receivables and all sales (RWF630,000 ÷ RWF4,100,000) × 365. D includes all current assets (RWF630,000 ÷ (RWF4,100,000 × 0.65)) × 365.

(LO 2/3.4)

37. A   RWF107,880,000. The overhead absorption rate was RWF8,000 calculated as budgeted overheads divided by budgeted direct labour hours (RWF102,400,000 ÷ 12,800). Overheads absorbed were 8,000 × 14,260 hours = RWF114,080,000. Actual overheads are overheads absorbed of RWF114,080,000 less over absorption of RWF6,200,000 = RWF107,880,000.

B adds on the over absorbed overheads to the budgeted overheads (RWF102,400,000 + RWF6,200,000). C is the overheads absorbed (RWF8,000 × 14,260 hours). D is the budgeted overheads less the overheads over absorbed (RWF102,000,000 – RWF6,200,000).

(LO 3/2.4)

38. C 3 years 5 months. Cash flow balance at end of year 3 is RWF280,000 (RWF2,100,000 – RWF580,000 – RWF610,000 – RWF630,000). Cash flow balance at end of year 3 divided by net cash flow in year 4 multiplied by 12 months gives 5.4 months ((RWF280,000 ÷ RWF620,000) × 12 months), rounded to 3 years 5 months.

    A has taken whole years. B has taken the difference between net cash flows across the four years of RWF2,440,000 and capital outlay of RWF2,100,000 and taken this as a proportion of the capital outlay to calculate the 2 months ((RWF2,440,000 – RWF2,100,000) ÷ RWF2,100,000) × 12. D has included an additional year for capital outlay and cash inflows.

    (LO 3/3.4)

39. B Overhead. The administrative labour costs have been incurred in the course of making a product but cannot be directly or fully traced to a product.

    A direct cost (A) can be directly attributable to a product. A semi-variable cost (C) costs contain both fixed and variable components, so are partly affected by the level of activity. A variable cost (D) varies in total directly with the volume of output.

    (LO 4/2.5)

40. A 59 days. The cash operating cycle is calculated as the inventory holding period plus the trade receivables collection period less the trade payables payment period (72 days + 48 days – 61 days).

    B adds the trade payables payment period rather than taking it away (72 days + 48 days + 61 days). C adds the trade receivables collection period and the trade payables payment period but deducts the inventory holding period (61 days + 48 days – 72 days). D adds the trade receivables collection period and the trade payables payment period, omitting the inventory holding period (48 days + 61 days).

    (LO 1/3.4)

41. C Machine hours. The assembly department is machine intensive so machine hours are the most appropriate basis for overhead absorption.

    Consumer cost (A) is a suitable base for overheads such as research and development. Sales value (B) is appropriate for the absorption of selling and marketing overheads. Direct labour hours (D) is most appropriate for labour intensive departments.

    (LO 3/2.5)

42. B Semi-variable. The electricity includes a fixed cost element of RWF3,000,000 for the year and a variable element of RWF100 per unit used, so this is a semi-variable cost.

Fixed costs (A) remain the same and are not affected by activity. Stepped costs (C) are fixed but only for certain levels of activity. Variable costs (D) vary in total directly with the volume of output, with the variable cost per unit being the same amount for each unit produced.

(LO 3/1.4)

43.   C   RWF2,400,000 adverse. Making 300 tables should have cost the company RWF11,250,000 (900 × RWF12,500) but actually cost RWF13,650,000. To make the 300 tables cost the company RWF2,400,000 (RWF11,250,000 – RWF13,650,000) more than it should have done, so the variance is adverse.

A and B both use the budgeted labour hours of 900 to calculate actual costs rather than the actual labour hours of 1,050 ((900 × RWF12,500) – (900 × RWF13,000)). B also incorrectly states a favourable variance suggesting the labour cost the company less than expected. D calculates the correct cost difference between actual and budgeted costs but indicates that it cost the company less than expected by stating a favourable variance.

(LO 4/3.2)

44.   B   Flexible as can choose to use part of the overdraft facility. The full overdraft facility agreed with the bank does not need to be used, meaning that the precise amount of funding required does not need to be estimated, as long as the facility granted is greater than the anticipated amount of overdraft requirement.

The overdraft is repayable on demand, so is only really suitable for the financing in the short term. Although an increase to the overdraft can be requested, once an overdraft facility has been agreed with the bank it may be difficult to persuade the bank to increase that facility if additional finance is required.

(LO 2/3.4 and 1/2.2)

45.   D   RWF30,960,000,000. Actual sales of 86,000 × reduced selling price of RWF360,000.

A uses the initially planned selling price and actual sales volume (RWF400,000 × 86,000). B uses the budgeted selling price and budgeted sales volume (RWF400,000 × 80,000). C uses the planned sales volume and actual selling price (RWF360,000 × 80,000).

(LO 2/2.1)

46.   A   Negotiate a loan or bank overdraft. This would provide the cash (cash receipt) to cover the van purchase.

B suggests improving credit control procedures but all sales are made in cash. C suggests reducing the period of credit taken from suppliers, but all payments to suppliers are currently made in cash and to improve the company's cash position an increase in credit taken from suppliers would be needed. An increase in the proportion of credit sales would result in a slight immediate reduction in cash receipts as customers take longer to pay.

(LO 2/2.2)

47. D   RWF76,400. Etienne is expected to paint one table every 20 minutes which is 24 tables ((60 ÷ 20) × 8) per shift. So, painting 26 tables in a shift is a saving of 40 minutes
((26-24) × 20 minutes). Bonus for time saved is RWF6,400 (RWF160 × 40 minutes). Total earnings for shift is RWF76,400 comprising bonus plus standard shift pay (RWF6,400 + RWF70,000).

A (RWF70,320) uses the bonus payment of RWF160 per additional table. B (RWF6,400) includes the correct bonus payment but excludes the shift payment of RWF70,000. C (RWF70,160) includes a single bonus payment of the RWF160.

(LO 4/1.2)

48. B   2,700 kg. Production required to meet sales demand and change in inventory levels is 340 units of product M (350 sales – 160 opening inventory + 150 closing inventory). Purchase requirement for material Q is 2,700 kg ((340 × 8 kg) – 40 kg opening inventory + 20 kg closing inventory).

A adds the opening inventory and subtracts the closing inventory of material ((340 × 8 kg) + 40 kg – 20 kg). C uses the number of product M sales without adjusting for finished goods inventory ((350 × 8 kg) – 40 kg + 20 kg). D also does not adjust for inventory changes for product M but also adds the opening inventory and subtracts the closing inventory for material ((350 × 8 kg) + 40 kg – 20 kg).

(LO 1/3.1)

49. C   Government securities. The risk of default is negligible so government securities tend to hold the base level for returns in the market.

The level of risk on the investments rises from government securities to unsecured loans, convertible loan stocks and then equities with the highest level of risk.

(LO 1/2.3, 1/3.6 and 2/3.5)

50. A   RWF10,747,000. The total overheads for P1 comprise the given RWF8,235,000 + apportionment from S1 of RWF1,380,000 (0.6 × RWF2,300,000) + apportionment from S2 of RWF1,132,000 ((RWF2,300,000 × 0.1 + RWF2,600,000) × 40%).

B does not include the apportionment of overheads from S2 (RWF1,132,000). C includes the correct apportionment from S1 (RWF1,380,000) but the apportionment from S2 that relates to P2 (RWF1,698,000). D does not include the overheads apportioned from the two service centres.

(LO 3/2.4)