

EXAMINERS GENERAL COMMENTS

BREACH OF EXAMINATION INSTRUCTIONS

IN SPITE OF THE EXAMINERS' GENERAL COMMENT IN PREVIOUS EDITIONS OF THE "INSIGHT", IT WAS OBSERVED THAT A NUMBER OF CANDIDATES HAVE CONTINUED TO BREACH EXAMINATION INSTRUCTIONS AS STATED BELOW:

- A) BY ATTEMPTING MORE QUESTIONS THAN ALLOWED IN EACH PAPER;
AND
- B) BY ATTEMPTING MORE QUESTIONS THAN ALLOWED IN EACH SECTION.

INADEQUATE COVERAGE OF THE SYLLABUS

IT HAS BECOME OBVIOUS THAT MANY CANDIDATES DO NOT COVER THE SYLLABUS IN DEPTH BEFORE PRESENTING THEMSELVES FOR THE EXAMINATION. CANDIDATES ARE THEREFORE ADVISED TO BE ADEQUATELY CONVERSANT WITH ALL ASPECTS OF THE SYLLABUS.

FOREWORD

This issue of **INSIGHT** is published principally, in response to a growing demand, as an aid to:

- (i) Candidates preparing to write future examinations of the Institute of Chartered Accountants of Nigeria (ICAN) at an equivalent level;
- (ii) Unsuccessful candidates in the identification of those areas in which they lost marks and need to improve their knowledge and presentation;
- (iii) Lecturers and students interested in acquisition of knowledge in the relevant subject contained therein; and
- (iv) The profession in improving pre-examination and screening processes, and so the professional performance.

The answers provided in this book do not exhaust all possible alternative approaches to solving the questions. Efforts have been made to use methods, which will save much of the scarce examination time.

It is hoped that the suggested answers will prove to be of tremendous assistance to students and those who assist them in their preparations for the Institute's Examinations.

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NOTE

Although these suggested solutions have been published under the Institute's name, they do not represent the views of the Council of the Institute. They are entirely the responsibility of their authors and the Institute will not enter into any correspondence about them.

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AT/151/PII.5

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME
PART II EXAMINATION - MARCH 2015
PRINCIPLES & PRACTICE OF FINANCIAL ACCOUNTING**

Time Allowed: 3 Hours

Section A: PART I MULTIPLE-CHOICE QUESTIONS (30 MARKS)

ATTEMPT ALL QUESTIONS

Write ONLY the alphabet (A, B, C, D or E) that corresponds to the correct option in each of the following questions/statements:

1. VAT liability arises in the books of an enterprise when
 - A. Recoverable input VAT exceeds recoverable output VAT
 - B. Recoverable output VAT exceeds recoverable input VAT
 - C. Recoverable output VAT is nil
 - D. Recoverable input VAT and Recoverable output VAT are equal
 - E. Recoverable input VAT is nil

2. The process of allocating the cost of an intangible asset over its beneficial period is
 - A. Depletion
 - B. Depreciation
 - C. Wear and tear
 - D. Amortisation
 - E. Diminution

Use the following information to answer questions 3 and 4

The following information was extracted from the books of Wamag Enterprises:

	₦
Purchases	270,000
Sales	360,000
Closing inventory	45,000

Gross profit is 25% on cost of goods sold.

3. Calculate the opening inventory
 - A. ~~₦~~45,000
 - B. ~~₦~~ 48,000
 - C. ~~₦~~ 63,000
 - D. ~~₦~~ 65,000
 - E. ~~₦~~ 72,000

4. Calculate the gross profit
- A. ~~₦~~65,000
 - B. ~~₦~~68,000
 - C. ~~₦~~69,500
 - D. ~~₦~~70,000
 - E. ~~₦~~72,000
5. The journal entries required to correct subscriptions received but wrongly recorded as donation is
- A. Dr. Donation Account, Cr. Subscriptions Account
 - B. Dr. Receipts and Payments Accounts, Cr. Donation Account
 - C. Dr. Subscriptions Account, Cr. Donation Account
 - D. Dr. Donation Account, Cr. Receipts and Payments Account
 - E. Dr. Receipts and Payments Accounts, Cr. Subscriptions Account
6. When the Statement of profit or loss and other Comprehensive Income is prepared using nature of expenses method, the following information are disclosed **EXCEPT**
- A. Distribution cost
 - B. Changes in inventories of finished goods
 - C. Employee benefit expenses
 - D. Depreciation and amortization expenses
 - E. Raw materials consumables used
7. The following information should be disclosed in the Statement of Changes in Equity **EXCEPT**
- A. Dividend paid
 - B. Increase in share capital
 - C. Transfer to retained earnings
 - D. Finance cost
 - E. Revaluation surplus
8. Other non-cash items adjusted for in the Statement of Cashflow, in order to arrive at cash flows before adjustment for working capital is
- A. Proceed from bank borrowing
 - B. Proceed from disposal of non-current assets
 - C. Profit on disposal of non-current assets
 - D. Payment of dividend to shareholders
 - E. Cash payment or refunds of Income taxes
9. The following are examples of accounting errors **EXCEPT**
- A. Mathematical mistakes
 - B. Oversight
 - C. Undercasting
 - D. Fraud
 - E. Overcasting

10. The double entry required for the transfer of excess depreciation from the revaluation surplus to retained earnings is:
- A. Dr. Depreciation Account
Cr. Retained earnings
 - B. Dr. Revaluation surplus
Cr. Retained earnings
 - C. Dr. Retained earnings
Cr. Revaluation surplus
 - D. Dr. Revaluation surplus
Cr. Depreciation Account
 - E. Dr. Non-current Asset Account
Cr. Depreciation Account
11. Which of the following are the differences between partnerships and companies?
- i. Partners are liable for all losses of the business
 - ii. Only companies have share capital
 - iii. Both partnership and companies pay tax on their profits
 - iv. Company's affairs are managed by members
- A. i & ii
 - B. ii & iii
 - C. i & iii
 - D. i, ii & iii
 - E. iii & iv
12. Seidu and Yakubu are partners sharing profits or losses equally. They admitted Sauza and the profit sharing ratio became 2: 2: 1. Goodwill was valued at Le 10 million and it is not to be retained in the books .
- The capital account of Seidu before adjusting for goodwill was Le 8million. The capital account balance of Seidu after adjusting for goodwill is
- A. Le 13 million
 - B. Le 9 million
 - C. Le 8 million
 - D. Le 7 million
 - E. Le 6 million
13. Which of the following is **NOT** a Not-For-Profit organisation?
- A. Religious organisation
 - B. Public educational institutions
 - C. Community development associations
 - D. Human rights organisation
 - E. Insurance organisation
14. In a Not-For-Profit organisation, which of the following incomes has the greatest risk of becoming bad debt?
- A. Prepaid expenses
 - B. Accrued subscriptions from members

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- C. Bar sales
D. Income from lectures and symposia
E. Government subvention
15. A social club received life membership fund of ₦50 million. It is the club's policy to credit the fund to income over a period of five years in equal instalments.
- For the second year, state the amount credited to the income and expenditure account and the balance in accumulated fund at the end of that year.
- | | Income and Expenditure
₦'m | Accumulated Fund
₦'m |
|----|-------------------------------|-------------------------|
| A. | 20 | 30 |
| B. | 30 | 20 |
| C. | 10 | 30 |
| D. | 30 | 10 |
| E. | 20 | 20 |
16. The excess of total assets over current liabilities is called:
- A. Net assets
B. Shareholders fund
C. Shareholders fund plus long term liabilities
D. Fixed assets plus liabilities
E. Shareholders fund minus long term liabilities
17. Which of the following is **NOT** included in Cashflows from financing activities?
- A. Cash proceeds from issuing shares
B. Changes during the period in inventories
C. Proceeds from issuing debentures
D. Cash payments of amount borrowed
E. Cash payments to owners to acquire or redeem the entity's shares
18. Which of the following does **NOT** qualify as an intangible asset?
- A. Computer software
B. Registered patent
C. Copyrights that are protected
D. Goodwill
E. Notebook computer
19. The following ratios are profitability ratios **EXCEPT**
- A. Price earnings ratio
B. Gross profit margin
C. Return on equity
D. Return on capital employed
E. Net profit margin
20. In preparing the manufacturing account of an economic entity, understating value of closing work-in-progress will have the following effects **EXCEPT**
- A. The cost of goods manufactured is increased

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- B. Overstate the cost of goods manufactured
 - C. Overstate cost of goods sold
 - D. Understate prime cost
 - E. Understate the profit of manufacturing
21. State the accounting entry for returns outward in the ledger for goods supplied on credit by a creditor:
- A. Debit purchases account
Credit accounts receivables
 - B. Debit accounts payable
Credit returns outward account
 - C. Debit returns outward account
Credit account payable
 - D. Debit accounts receivable
Credit purchase account
 - E. Debit account payable
Credit returns inward account
22. Which of the following is **NOT** used in containers account?
- A. Containers suspense account
 - B. Containers profit and loss account
 - C. Containers sent to customers account
 - D. Containers trading account
 - E. Containers realizable inventory account
- Use the following information to answer questions 23 and 24**
- Salah and Johnson entered into a joint venture to buy up and sell the inventory of a bankrupt manufacturer. Saleh paid L\$20,000 for the inventory and L\$5,000 for expenses. He sold the inventory for L\$40,000 and Johnson paid cash expenses of L\$2,000. They share profit or loss in the ratio 5:3 respectively.
23. Calculate the profit due to Saleh from the joint venture.
- A. L\$8,125
 - B. L\$8,725
 - C. L\$9,375
 - D. L\$9,525
 - E. L\$11,250
24. Calculate the profit due to Johnson from the Joint Venture.
- A. L\$2,250
 - B. L\$3,975
 - C. L\$4,875
 - D. L\$5,625
 - E. L\$6,750
25. Which of the following is **NOT** a type of inventory?
- A. Finished goods
 - B. Raw materials

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- C. Work-in-progress
 - D. Periodic stock
 - E. Livestock and agricultural produce awaiting sale
26. Generally speaking, biological assets relating to agricultural activity should be measured at
- A. Net realizable value
 - B. Historical cost less accumulated depreciation
 - C. A fair value
 - D. Cost or net realizable value
 - E. Historical cost
27. The consideration paid to a lessor for allowing another party to utilize a legal right owned by him is called
- A. Royalty
 - B. Premium
 - C. Short working receivable
 - D. Short working payable
 - E. Commission
28. Under a general liabilities insurance policy, an insurance company undertakes to indemnify a business organization in respect of inventory lost by fire or other causes. The consideration for this is
- A. Bond
 - B. Commission
 - C. Sum insured
 - D. Premium
 - E. Simple interest
29. When a head office sends goods to a branch at cost plus mark-up, unrealized profit will arise on
- A. Cash in transit
 - B. Cost of goods sold
 - C. Branch expenses
 - D. Closing inventory
 - E. Branch Debtors
30. Which of the following branches does **NOT** keep its own accounts?
- A. Local branches
 - B. Foreign branches
 - C. Non-autonomous branches
 - D. Autonomous branches
 - E. Divisional branches

SECTION A: PART II SHORT-ANSWER QUESTIONS (20 Marks)

ATTEMPT ALL QUESTIONS

Write the correct answer that best completes each of the following questions/statements:

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1. AKSON Enterprises bought pharmaceutical and medical products worth ₦250,000 and sold vatable goods worth ₦350,000. What is the AKSON Enterprises VAT liability? if VAT rate is 5%?
2. What is the gross profit on sales worth ₦1,500,000, if the gross profit is 20% on cost of goods sold?
3. State two methods of depreciation which is based on decreasing charge to the final accounts?
4. State the necessary journal entries to record subscriptions received but omitted from the books of accounts.
5. The accounting concept followed when a business records the cost of a non-current asset in its books even though it does not legally own the asset, is called
6. A non-current asset was purchased at the beginning of year 2011 for ₦4,800,000 and depreciated by 20% p.a. using reducing balance method . If the asset was sold for ₦2,400,000 at beginning of year 2014. What is the profit or loss on disposal?
7. An item of inventory which had cost ₦500 was sold for ₦700. It cost the company ₦600 to replace the item. At the time of sale, the ₦600 was the inventory's.....
8. The application of the principal qualitative characteristic and the appropriate accounting standard normally results in financial statements that provide presentation
9. Which of the items recorded in the partners current accounts is not transferred from the statement of distribution of income but is debited directly?
10. When a partnership maintains fixed capital accounting system, the balance may change only in a few instances. State **ONE** of the instances.
11. Which change in partnership structure would **NOT** require the statement of financial position?
12. When a new member of a not-for-profit organizations pays registration fees, what effect will it have on the income and expenditure account?
13. A written acknowledgment of a debt owed by a company normally containing provision or clauses on payment of interest and repayment of capital is called
14. The ratio that indicates the amount of net assets attributable to each ordinary share in issue is known as
15. The item that shows cash generated or paid out from transactions relating to its trading activities with its customers in cash flow preparation is
16. The income that has been earned in the current accounting period but which has not yet been received at the reporting date is known as
17. In a trading system, where payment is delayed and ownership passes to the buyer immediately upon delivery is known as
18. In inventory valuation, a set of accounting steps common with establishing the appropriate amount for inventory balance at the end of a particular period is called
19. State any **TWO** methods of pricing of construction contracts.
20. In hire purchase accounting, state two methods or basis of allocating hire purchase interest over the hire period.

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SECTION B

ATTEMPT ANY FOUR QUESTIONS

(50 Marks)

QUESTION 1

The balances extracted from the books of Sealion Enterprises for the year ended December 31, 2014 were

	₦'000
Inventory	20
Motor vehicle (cost)	450
Capital	292
Salaries and wages	134
Trade payables	95
Provision for depreciation:	
Motor vehicle	102
Trade receivables	370
Motor vehicle expenses	15
Sales	1,800
Purchases	1,300

Additional information:

- Inventory at December 31, 2014 was ₦89,800
- Provision for depreciation: Motor vehicle @ 10% on cost
- Motor expenses of ₦2,200 was wrongly recorded in the salaries and wages account
- Accrued motor vehicle expenses was ₦3,500

You are required to:

Prepare the extended trial balance to include the original trial balance, Adjustments and Adjusted trial balance
(12½ Marks)

QUESTION 2

The summarised statement of profit or loss and other comprehensive income of Jokotade Limited as at December 31, 2014 is presented below

	₦'000
Revenue	21,560
Less: cost of sales	<u>17,248</u>
Gross profit	4,312
Add: Other Income	<u>208</u>
	4,520
Administrative expenses	<u>(3,656)</u>
Profit for the year	864
Other comprehensive Income:	
Revaluation of non-current assets	<u>3,136</u>
Total comprehensive Income for the year	<u>4,000</u>

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The following additional information were extracted from the financial statements and relevant notes

- i. The ordinary share capital and reserves (extract) in the statement of financial position are

	₦'000
Ordinary share capital of 50k each (fully paid)	2,800
Retained earnings as at January 1, 2014	1,936
General reserve as at January 1, 2014	1,368
7½ of ₦1 preference shares of ₦1 each	800

- ii. Jokotade Limited issued 800,000 ordinary shares during the year and total proceeds from the issue amounted to ₦960,000.
- iii. The management of Jokotade Limited recommended a transfer to general reserve an amount of ₦128,000.
- iv. During the year the company paid the following dividends:
- | | |
|-----------------------------|-------|
| | ₦'000 |
| Preference dividend | 56 |
| Ordinary dividend (interim) | 64 |
- v. The total equity and reserve balance of Jokotade Limited in the statement of financial position as at December 31, 2014 amounted to ₦11,744,000.
- vi. You are to assume that preference shares are equity

Required:

Prepare Statement of Changes in Equity of the company as at December 31, 2014 in accordance with IAS 1 (Presentation of Financial Statements)

(Total 12½ Marks)

QUESTION 3

Kofi, Anan and Nkwrumah are in partnership, sharing profits and losses in the ratio 3:2:1 respectively and have the following information:

Statement of Financial Position as at December 31, 2014

	GH¢'000	GH¢'000
Non-Current Assets:		
Premises	1,200	
Motor van	700	
Furniture	<u>30</u>	1,930
Current Assets:		
Inventory	190	
Accounts receivable	210	
Cash and bank balances	<u>605</u>	
	1,005	
Less Accounts payable	<u>375</u>	<u>630</u>
		<u>2,560</u>
Capital Account:		
– Kofi	1,160	

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– Anan	715	
– Nkwrumah	<u>520</u>	2,395
Current Accounts:		
– Kofi	210	
– Anan	79	
– Nkwrumah	<u>(124)</u>	<u>165</u>
		<u>2,560</u>

The following information was also made available in respect of the partnership

On January 1, 2015, Nkrumah retired from the partnership on the following terms:

Goodwill was valued at GH¢400,000. The current values of the premises and motor van were GH¢1,400,000 and GH¢600,000 respectively. The inventories were to be reduced by GH¢16,000 and allowance for doubtful debts was put at GH¢10,000. No goodwill account was to be maintained and the balances of the assets in the books were not to be altered for the purposes of the continuing partners.

Any adjustment considered to be necessary is to be made through the partners' Capital Accounts. Nkwrumah's current account balance should be left as loan in the partnership.

Required:

Prepare the revised Statement of Financial Position (in vertical format) as at January 1, 2015.

Show all workings

(12½ Marks)

QUESTION 4

The trial balance of Danladi Bako Limited as at December 31, 2014 is as follows:

	Debit ₦	Credit ₦
Ordinary share capital		150,000
purchases and Revenue	400,200	547,800
Inventory at January 1, 2014	35,010	
Returns	1,800	2,400
Wages	69,240	
Rent	19,500	
Motor expenses	5,580	
Insurance	1,140	
Irrecoverable debts	180	
Allowance for doubtful receivables January 1, 2014		882
Discounts	1,296	2,433
Light and cooling expenses	4,611	
Bank overdraft interest	111	
Motor vehicle at cost	36,000	
Accumulated depreciation Motor Van at January 1, 2014		18,360
Fixtures and fittings at cost	42,000	
Accumulated depreciation on fixtures and fitting at January 1, 2014		25,200
Land	150,000	

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	Debit	Credit
	₦	₦
Receivables and payables	25,995	34,506
Bank	5,118	
Buildings at cost	150,000	
Aggregate depreciation on building at January, 1, 2014		9,000
Retained earnings at January 1, 2014		<u>157,200</u>
	<u>947,781</u>	<u>947,781</u>

You are given the following additional information

- i. Inventory as at December 31, 2014 was ₦38,520.
- ii. Rent prepaid was ₦1,500 and light and cooling expenses owed was ₦690 as at December 31, 2014
- iii. Land is to be revalued to ₦375,000 as at December 31, 2013
- iv. Following a final review of the receivables as at December 31, 2014, Danladi Bako decides to write off another debt of ₦195. The company also wishes to maintain the allowance for doubtful receivables at 3% of the year end balance.
- v. Depreciation is to be provided on a straight line basis as follows:
 - Building at 2%
 - Fixtures and fittings, assuming a useful economic life of five years with no residual value
 - Motor vehicles at 25%

A full year's depreciation is charged in the year of acquisition and none in the year of disposal.

You are required to:

Prepare a Statement of Profit or Loss and other Comprehensive Income for the year ended December 31, 2014
(12½ Marks)

QUESTION 5

Nationwide Inc. opened a branch in Barisonville. The head office in Monrovia maintains all records and charges goods to branch at cost. The following information was extracted from Nationwide Inc. records:

	L\$
Goods sent to branch by head office at cost	360,000
Returns from branch to head office at cost	16,000
Branch credit sales	300,000
Cash sales sent to head office	84,000
Cash sales stolen	1,200
Goods stolen	400
Branch expenses paid by head office	12,800
Closing inventory at branch at cost	100,000
Cash received from debtors	232,000
Discounts allowed to branch receivables	12,000
Head office	
Opening inventory October 1, 2013	480,000
Purchases	2,800,000

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Sales	3,600,000
Closing inventory September 30, 2014	280,000
Expenses	160,000

You are required to:

Prepare the necessary ledger accounts for the branch for the year ended September 30, 2014 and show the head office trading account.

(Total 12½ Marks)

QUESTION 6

Babu and Lukudi are in partnership sharing profits or losses in ratio 2:1 respectively. On October 31, 2014, the partners decided to dissolve the partnership. The statement of financial position at that date is set out below:

	N'000	N'000
Non-current Assets:		
Plant and equipment		75,000
Motor vehicles		<u>15,000</u>
		90,000
Current Assets:		
Inventories	120,000	
Accounts receivable	36,000	
Bank balance	<u>12,000</u>	
		<u>168,000</u>
		<u>258,000</u>
Capital		
Babu		120,000
Lukudi		<u>30,000</u>
		150,000
Accounts payable		<u>108,000</u>
		<u>258,000</u>

Notes:

- i. The plant and equipment were sold at N79m
- ii. Babu took over one of the vehicles with a book value of N1.5m for N800,000. The remaining vehicles were sold for N12m.
- iii. Inventories were sold for N92m while account receivable realised N34.3m
- iv. The account payable gave a discount of N0.10 on every N1 owed.
- v. The realisation expenses were settled for N4.5m

You are required to prepare:

- a. Realisation Account
- b. Capital Accounts
- c. Bank Account

(12½ Marks)

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

1. B
2. D
3. C
4. E
5. A
6. A
7. D
8. C
9. D
10. B
11. A
12. B
13. E
14. B
15. C
16. C
17. B
18. E

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- 19. A
- 20. D
- 21. B
- 22. E
- 23. A
- 24. C
- 25. D
- 26. C
- 27. A
- 28. D
- 29. D
- 30. C

EXAMINER'S COMMENT

The thirty questions part was attempted by all candidates. About 70% of them scored above average marks.

PART II: SHORT-ANSWER QUESTIONS

- 1. ₦17,500
- 2. ₦250,000
- 3. Diminishing or Reducing balance
Sum of the year's digits
Annuity and sinking fund
- 4. Dr Receipts and payments
Cr Subscription account
- 5. Substance over form

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6. Loss of ₦57,600
7. Current cost
8. Fair value
9. Drawings by partners
10.
 - i. Share of revaluation surplus
 - ii. Share of goodwill
11. Dissolution of partnership
12. Surplus will increase
13. Debentures or loan note or bonds
14. Net assets per share
15. Operating activities
16. Accrued income
17. Credit sale transaction
18. Inventory or stock taking
19.
 - (i) Fixed or lump sum contract
 - (ii) Cost-plus a fixed rate contract
 - (iii) Remeasure contract
 - (iv) Variable pricing contract
20.
 - (i) Straight line or fixed instalment method
 - (ii) Actual method
 - (iii) Sum of the years digit method

WORKINGS

1. Pharmaceutical and medical products are exempted from VAT. The business VAT liability is
5% of ₦350,000 = ₦17,500

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2. 20% on cost of goods sold = 16.7%
 16.7% x ₦1,500,000 = ₦250,500

6. Cost	₦4,800,000
Year 2009	(₦960,000)
Year 2010 (₦4,800,000 – 960,000) x 20% -	(₦768,000)
Year 2011 (₦3,840,000 – 768,000) x 20% -	(₦614,400)
Carrying value	<u>₦2,457,600</u>
Loss = (₦2,400,000 – ₦2,457,600)	= <u>(₦57,600)</u>

EXAMINER'S COMMENT

The twenty question part was attempted by all candidates and the performance was generally poor. About 10% of them scored above average.

SOLUTION 1

SEALION ENTERPRISES

EXTENDED TRIAL BALANCE AS AT 31 December, 2013

	Original Trial balance		Adjustments		Adjusted Trial Balance	
	Dr	Cr	Dr	Cr	Dr	Cr
	₦000	₦000	₦000	₦000	₦000	₦000
Inventory	20				20	
Motor vehicle (cost)	450				450	
Capital		292				292
Salaries & Wages	134			2.2	131.8	
Trade payables		95				95
Provision for depreciation:						
Motor vehicle		102		45		147
Trade receivables	370				370	
Motor vehicle expenses	15		2.2		20.7	
			3.5			
Sales		1,800				1,800
Purchases	1,300				1,300	
Inventory 31 December			89.8		89.8	
Income statement				89.8		89.8
Income statement:						
Provision for depreciation (motor vehicle)			45		45	
Accruals: Motor vehicle expenses						
				3.5		3.5
	<u>2,289</u>	<u>2,289</u>	<u>140.5</u>	<u>140.5</u>	<u>2,427.3</u>	<u>2,427.3</u>

EXAMINER'S REPORT

The question which tests candidates' knowledge of extended trial balance was attempted by about 90% of the candidates. The candidates put up good performance as about 80% scored above average marks.

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SOLUTION 2

JOKOTADE LIMITED STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2013

	Share capital N'000	Share premium N'000	General Reserve N'000	Revaluation Reserve N'000	Retained Earnings N'000	Total N'000
Bal. as at 1/01/2013	3,600 (W1)	-	1,368	-	1,936	690
Total comprehensive income for the year	-	-	-	3,136	864	4,000
Issues of shares	(W2) 400	(W2) 560	-	-	-	960
Dividend paid	-	-	-	-	(W3) (120)	(120)
Transfer to general revenue	-	-	128	-	(128)	-
Bal. 31/12/2013	<u>4,000</u>	<u>560</u>	<u>1,496</u>	<u>3,136</u>	<u>2,552</u>	<u>11,744</u>

WORKINGS

(W1)	Share Capital	N'000
	Ordinary share capital	2,800
	7% N1 preference shares	<u>800</u>
		<u>3,600</u>
(W2)	Issues of shares & share premium	N'000
	Total proceed of share issues	960
Less:		
	Shares issued 800,000 x 50k (normal value)	(400)
	Share premium	<u>560</u>
(W3)	Dividend	N'000
	Preference	56
	Ordinary interim	<u>64</u>
		<u>120</u>

EXAMINERS COMMENT

The question on preparation of statement of changes in Equity of a company was attempted by about 5% of the candidates. About 20% of those who attempted it scored below average marks. The candidates displayed poor understanding of the knowledge required to answer the question.

SOLUTION 3

KOFI ANAN AND NKURUMAH STATEMENT OF FINANCIAL POSITION AS AT JANUARY

	1, 2014	
Non-current assets	₴ '000	₴ '000
Premises	1,200.00	
Motor van	700.00	

INSIGHT

Furniture	<u>30.00</u>	
		1,930.00
Current assets:		
Stock	190.00	
Debtors	210.00	
Cash & bank balances	605.00	
	1,005.00	
Less creditors	<u>375.00</u>	
		<u>630.00</u>
		<u>2,560.00</u>
Capital accounts:		
Kofi	1,112.60	
Anan	<u>683.40</u>	
		1,796.00
Current accounts:		
Kofi	210.00	
Anan	<u>79.00</u>	
		289.00
Loan: Nkurumah		<u>475.00</u>
		<u>2,560.00</u>

Workings

i.	Nkurumah's account	CZ '000	CZ '000
	Opening capital account balance		520
	Add: Share of increase in value of assets:		
	Goodwill -	400	
	Premises -	<u>200</u>	
		600	
	Less: Decrease in motor van - 100		
	Stock - 16		
	Prov. of doubtful debts <u>10</u>		
		<u>126</u>	
		474 x $\frac{1}{6}$ =	<u>79.00</u>
			599.00
			<u>124.00</u>
			<u>475.00</u>
ii.	Kofi's capital account:		
	Opening balance		1,160.00
	Less: Share of Nkurumah's capital		
	account - $\frac{3}{5}$ x 79		<u>47.40</u>
	Closing balance		<u>1,112.60</u>
iii.	Anan's capital account:		
	Opening balance		715.00
	Less: Share of Nkurumah's capital account		
	- $\frac{2}{5}$ x 79		<u>31.60</u>
	Closing balance		<u>683.40</u>

INSIGHT

ALTERNATIVE WORKING

Capital Accounts							
	Kofi	Anan	Nkwurumah		Kofi	Anan	Nkwurumah
	₦ '000	₦ '000	₦ '000		₦ '000	₦ '000	₦ '000
Goodwill	240.00	160.00		- Bal b/f	1,160.00	715.00	520.00
Current a/cs			124.00	Goodwill	200.00	133.00	67.00
Bal. c/d	1,157.00	713.00		Revaluation of assets	37.00	25.00	12.00
Loan a/cs			<u>475.00</u>				
	<u>1,397.00</u>	<u>873.00</u>	<u>599.00</u>		<u>1,397.00</u>	<u>873.00</u>	<u>599.00</u>
Assets a/c	44.00	30.00					
Bal c/f	<u>1,113.00</u>	<u>683.00</u>		Bal b/d	<u>1,157.00</u>	<u>713.00</u>	
	<u>1,157.00</u>	<u>713.00</u>			<u>1,157.00</u>	<u>713.00</u>	

Revaluation Account

	₦ '000		₦ '000
Motor van	100.00	Premises	200.00
Inventory	16.00		
Doubtful debts	10.00		
Share of gain – Capital Accounts:			
Kofi $\frac{3}{6} \times 74$	33.00		
Anan $\frac{2}{6} \times 74$	25.00		
Nkurumah $\frac{1}{6} \times 74$	<u>12.00</u>		
	<u>200.00</u>		<u>200.00</u>

EXAMINER'S REPORT

The question on Partnership Account was attempted by about 80% of the candidates. About 60% displayed good understanding of the question, while about 20% still presented the solution in the “T” form, despite the instruction to present in vertical format and in effect lost good marks.

SOLUTION 4

Danladi Bako Limited Statement of profit or Loss and other Comprehensive Income for the year ended 31 December 2013

	₦	₦	₦
Revenue			547,800
Return Inward			(1,800)
Net Sales			546,000
Cost of sales:			
Opening inventories		35,010	
Purchases	400,200		
Return outwards	<u>(2,400)</u>		
Net purchases		<u>397,800</u>	
Cost of goods available for sales		432,810	
Closing inventories		<u>(38,520)</u>	
Cost of goods sold			<u>394,290</u>
Gross profit			151,510
Discount received			2,433
Decrease in allowance for doubtful receivables			<u>108</u>
Total incomes			154,251
Less operating expenses			

INSIGHT

Rent (19,500 – 1,500)	18,000	
Motor expenses	5,580	
Insurance	1,140	
Irrecoverable debts (180 + 690)	375	
Wages	69,240	
Discount allowed	1,296	
Light and cooling expenses (4,611 + 690)	5,301	
Bank overdraft interest	111	
Depreciation:		
Building (2% *150,000)	3,000	
Fixture & fittings (42,000/5)	8,400	
Motor vehicles (25% *36,000)	<u>9,000</u>	
Total opening expenses		<u>121,443</u>
Profit before tax		32,808
Other comprehensive income		
Gains on revaluation of land		<u>225,000</u>
Total comprehensive income		<u>257,808</u>

Workings

Allowances for doubtful receivables

	N
Balance b/f	882
Balance c/f (3% *(25,995 – 197))	<u>774</u>
Decrease in allowance for doubtful receivables	<u>108</u>

EXAMINER'S COMMENT

The question which tests candidates understanding of the Preparation of Statement of Profit or Loss was attempted by about 75% of the candidates and good performance was displayed. About 50% of the candidates prepared statement of financial position that was not required in the question and they could not also differentiate between sales and purchases in the trial balance.

SOLUTION 5

Nationwide Inc. Branch Inventory Account

	L\$		L\$
Goods sent to Branch	360,000	GSTB (Returns)	16,000
Gross profit	141,600	Branch receivables (Credit sales)	300,000
		H/O current a/c (cash sales)	84,000
		Cash sales stolen	1,200
		Goods stolen	400
		Balance c/d	<u>100,000</u>
	<u>501,600</u>		<u>501,600</u>
Balance b/d	100,000		

INSIGHT

Goods sent to Branch Account

	L\$		L\$
Branch inventory (returns)	16,000	Bank inventory	360,000
Purchases	<u>344,000</u>		
	<u>360,000</u>		<u>360,000</u>

Branch receivables account

	L\$		L\$
Branch inventory (Credit sales)	300,000	Cash	232,000
		Discount allowed	12,000
		Balance c/d	56,000
	<u>300,000</u>		<u>300,000</u>
Balance b/d	56,000		

Branch Profit or Loss account

	L\$		L\$
Discount allowed	12,000	Gross profit b/d	141,600
Cash stolen	1,200		
Goods stolen	400		
Branch expenses	12,800		
Net profit	<u>115,000</u>		
	<u>141,600</u>		<u>141,600</u>

Head office Trading Account for the year ended September 30, 2014

	L\$	L\$
Sales		3,600,000
Opening inventory	480,000	
Purchases	2,800,000	
Goods sent to branch	(344,000)	
Cost of goods available for sales	2,936,000	
Closing inventory	(280,000)	
Cost of goods sold		<u>2,656,000</u>
Gross profit		<u>944,000</u>

Defalcations account

	L\$		L\$
Branch stock a/c:			
Cash stolen	1,200	Profit or loss a/c	1,600
Goods stolen	<u>400</u>		
	<u>1,600</u>		<u>1,600</u>

EXAMINER'S REPORT

The question on branch account was attempted by about 80% of the candidates. Their performance was generally good, as about 70% of them scored above average marks.

INSIGHT

SOLUTION 6

Babu and Lukudi

Realisation account

	N'000		N'000
Plant and equipment	75,000.00	Amount realized: Bank	79,000.00
Motor vehicles	15,000.00	Plant and equipment	12,000.00
Inventories	120,000.00	Remaining motor vehicles	92,000.00
Account receivables	36,000.00	Inventories	34,300.00
Realisation expenses	4,500.00	Account receivables	10,800.00
		Discount from trade payables	
		Capital account – Babu	50,000
		M/V taken over	800.00
		Share of loss:	
		Babu	14,400.00
		Lukudi	<u>7,200.00</u>
	<u>250,000.00</u>		<u>250,000.00</u>

Partners capital account

	Babu N'000	Lukudi N'000		Babu N'000	Lukudi N'000
Real (M/V taken over)	800	-	Balance b/f	120,000	30,000
Real loss	14,400	7,200			
Bank	<u>104,800</u>	<u>22,800</u>			
	<u>120,000</u>	<u>30,000</u>		<u>120,000</u>	<u>30,000</u>

Bank account

	N'000		N'000
Balance b/f	12,000	Trade payables	97,200
Amount realized:		Realisation expenses	4,500
Plant and equipment	79,000	Capital account:	
Remaining motor vehicles	12,000	Babu	104,800
Inventories	92,000	Lukudi	22,800
Account receivables	<u>34,300</u>		
	<u>229,300</u>		<u>229,300</u>

Workings

Trade payables account

	N'000		N'000
Bank	97,200	Balance	108,000
Realisation:	<u>10,800</u>		
	<u>108,000</u>		<u>108,000</u>

EXAMINER'S COMMENT

About 80% of the candidates attempted the question which tests their knowledge of accounting treatment of dissolution of partnership. They put up good performance as about 75% of those who attempted the question scored above average marks.

AT/151/PII.6

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME
PART II EXAMINATIONS - MARCH 2015
PUBLIC SECTOR ACCOUNTING
(NIGERIAN VERSION)**

Time Allowed: 3 hours

SECTION A: PART I MULTIPLE-CHOICE QUESTIONS

ATTEMPT ALL QUESTIONS (30 Marks)

Write ONLY the alphabet (A, B, C, D, or E) that corresponds to the correct option in each of the following questions/statements:

1. Under the country's constitution, the Auditor-General for the Federation is appointed by:
 - A. Two-third majority of the workforce of the Federal Audit Department
 - B. Two-third majority of the members of the House of Representatives
 - C. The Governor of the state of origin of the most Senior Audit staff on the recommendation of the Chairman of his local government area
 - D. The President of the country on the recommendation of the Federal Civil Service Commission and subject to the Senate's approval.
 - E. The President of the Institute of Chartered Accountants of Nigeria on the recommendation of Council members subject to the Senate's approval
2. The Finance (Control and Management) Act which was later amended by CAP 144 (Laws of Federation of Nigeria 1990) was first established in:
 - A. 1948
 - B. 1958
 - C. 1968
 - D. 1978
 - E. 1988
3. The purposes of Public Sector Accounting include:
 - i. Demonstrating the propriety of transactions and their conformity with the established rules and regulations
 - ii. Measuring current performance
 - iii. Providing useful information for the efficient control and effective management of government operations

INSIGHT

- A. i & ii
 - B. i, ii and iii
 - C. i
 - D. ii
 - E. iii
4. Which of the following is **NOT** the duty of the National Council on Public Procurement as stipulated in the Act?
- A. Consider and approve policies on public procurement
 - B. Approve the appointment of the Directors of the Bureau of Public Procurement
 - C. Receive and consider for approval, the audited accounts of the Bureau of Public Procurement
 - D. Disapprove the changes to be made in the procurement process
 - E. Give such other directives and perform other functions as may be necessary to achieve the objectives of the Act.
5. According to the Financial Regulations, Act 2009 Section 114, the Head of Finance and Accounts of a Ministry/Extra ministerial office and other arms of government shall perform the following duties, among others **EXCEPT**:
- A. Ensuring compliance with Financial Regulations and the accounting code by all staff under his control and supervision
 - B. Maintaining proper accounting records such as books of accounts, main and subsidiary ledgers
 - C. Ensuring adequate supervision of the disbursement of funds and proper monitoring and accounting for revenue
 - D. Constitute a procurement committee
 - E. Advising the accounting officer on all financial matters as well as the more technical provisions of these regulations and other Treasury and Finance circulars
6. With reference to the Model Financial Memoranda for Local Government, the Duties and Responsibilities of the Finance Department include all the following **EXCEPT**:
- A. The care and custody of the Local Government finance whether in cash or held in the Local Government Bank Account
 - B. Seeing that all revenue due to the Local Government is collected promptly, properly and also paid promptly into the Local Government Funds.
 - C. Participating in the preparation of the Local Government estimates and development plans on the form and manner prescribed
 - D. Keeping the prescribed account and records of the Local Government's financial transactions up to date at all times
 - E. Facilitate the work of the Audit Alarm Committee

7. Which of the following is/are the role(s) of the Accountant-General of the Federation?
- i. Management of the investment of the Federal Government
 - ii. Serving as the Chief Accounting Officer of the nation's receipts and payments
 - iii. Establishing and supervising the Federal Pay Offices in the states
- A. i
 - B. i and iii
 - C. ii
 - D. i, ii and iii
 - E. iii
8. In public sector accounting, authority to write off the arrears of revenue is vested in the
- A. Auditor-General
 - B. Accountant-General
 - C. Director of Finance and Accounts
 - D. Minister of Finance
 - E. Permanent Secretary
9. Which of the following are the functions of Treasurer of the Local Government?
- i. Having responsibility for the administrative control of the finance department of the Local Government
 - ii. Verification of accounting records to ensure their correctness
 - iii. Being a signatory to the Local Government cheques and vouchers
 - iv. Sign all cheques and other documents relating to contract supplies prior to approval.
- A. i, ii, iii and iv
 - B. i, ii and iii
 - C. i, ii and iv
 - D. i and ii
 - E. i and iii
10. Budget becomesafter it has been approved by the National Assembly or House of Assembly.
- A. General Warrant
 - B. Appropriation Act
 - C. Annual estimated figures
 - D. Executive document
 - E. Ministerial approval

INSIGHT

11. The whole system of controls, that is financial or otherwise established to ensure that incomes and expenditures are in line with the budgets and that wastage is reduced to the barest minimum is called
- A. Internal controls
 - B. Financial controls
 - C. Internal audit
 - D. Budgetary control
 - E. Human control
12. Which of the following is **NOT** an advantage of Traditional Budgeting Techniques?
- A. It requires skilled manpower
 - B. It is cheaper to produce
 - C. It is simple to operate
 - D. It guarantees the continuity of projects
 - E. It does not need excellent statistical resources
13. Approval for acceptance of foreign cheque can only be given by
- A. Minister of Finance
 - B. Accounting Officer
 - C. Accountant General
 - D. Sub Accounting Officer
 - E. Director cash supplies
14. Cheque drawn, debit and credit advices collected daily are recorded in
- A. Cash book
 - B. Bank statement
 - C. Voucher register
 - D. Voucher schedule
 - E. Cheque summary register
15. Idle funds in account of Missions abroad may be invested in short term deposit with prior approval of
- A. Accountant-General
 - B. Minister of Finance
 - C. Minister of Foreign Affairs
 - D. President
 - E. Permanent Secretary, Foreign Affairs

16. Which of the following is a non-personal advance?
- A. Correspondence advance
 - B. Motor vehicle advance
 - C. Loss of Government fund advance
 - D. Salary advice
 - E. Salary payslip
17. What category of public sector is Federal Radio Corporation of Nigeria?
- A. Local Government
 - B. Public Limited Company (PLC)
 - C. Government Parastatal
 - D. Federal Government
 - E. State Government
18. Which of the following is **NOT** a composite activity of Government Accounting?
- A. Profit forecast
 - B. Recording
 - C. Reporting
 - D. Summarizing
 - E. Interpreting
19. Which of the following is **NOT** a reason why unallocated stores are held?
- A. To acquire stores in constant demand
 - B. To increase overall cost
 - C. To make stocks immediately available when required for a project
 - D. To save storage space by holding minimum stocks requirement
 - E. To reduce stock at interval for necessary use
20. An order authorizing the local purchase of goods and services locally in a requesting department is known as
- A. Extra-ministerial order
 - B. Internally generated purchase order
 - C. Local Purchase Order
 - D. Chief Accounting Order
 - E. Order from the above

INSIGHT

21. A non-expendable store is
- A. Brush
 - B. Shovel
 - C. Road stuff
 - D. Stationary item
 - E. Motor vehicle
22. On the day of survey, the procedures below should be followed by the board member **EXCEPT**
- A. The board member will first report to the head cashier who will link the member to the cash office
 - B. The cashier will be instructed of the day's transaction (if any) and balance his books
 - C. The board member will count the cash according to specification or review the stamp machine
 - D. The board member endorses and certifies the original and duplicate copies of the cash book.
 - E. The cashier may be allowed to continue his duties after he has signed the report with the board member
23. Which of the following is **NOT** a step in preparing transcript?
- A. Balancing of Analysis Book
 - B. Posting to the Analysis Book
 - C. Ticking of vouchers to the Cash Book
 - D. Posting to the Cash Book
 - E. Collection of vouchers and original Cash Book
24. The Auditor-General for the Federation is expected to write his report, stating whether in his opinion
- i. The Account show a true and fair view
 - ii. Proper books of accounting records are being kept
 - iii. There are adequate safeguards over the custody of public funds
 - iv. Public moneys are expended for the purpose for which they are meant
- A. ii only
 - B. i only
 - C. i, ii, iii and iv
 - D. iii only
 - E. iv only
25. Which of the following is **NOT** a department in the office of the Accountant- General of the Federation?
- A. Treasury Inspectorate Department
 - B. Finance and Accounts Department

INSIGHT

- C. Culture Department
 - D. Treasury Services Department
 - E. Revenue and Funds Department
26. Any amount payable as a retirement benefit under the Pension Reform Act 2004, shall be
- A. Taxed under Personal Income Tax
 - B. Taxed under Companies Income Tax
 - C. Taxed under Capital Gains Tax
 - D. Taxed under Value Added Tax
 - E. Exempted from tax
27. The contribution of any employee to which the Pension Reform Act 2004 applies, shall be made at least at the rate of
- A. 7½%
 - B. 15%
 - C. 2½
 - D. 10%
 - E. 0%
28. Any person proposing to act as a custodian of Pension Fund or Pension Fund Administrator shall seek registration with
- A. Head of Service Office Pension Department
 - B. Office of the Accountant-General Pension Department
 - C. National Pension Commission
 - D. Office of the Auditor-General Pension Department
 - E. Office of the Attorney-General Pension Matters
29. Which of the following action does **NOT** constitute money laundering?
- A. Monies or assets that have obvious link with criminal activities
 - B. Money worth \$10,000 fraudulently obtained from a foreign country's Automatic Teller Machine
 - C. Money or Assets used to fund terrorism
 - D. A transfer by a son legally employed in America to his father in Nigeria through an approved financial institution
 - E. Receipt of \$1,000,000 in Nigeria as sales proceeds for trafficking hard drugs abroad.

INSIGHT

30. A member of the Board of the Securities and Exchange Commission shall cease to hold office **EXCEPT**
- A. He/she participates in formulating policies for the regulation and development of the capital market
 - B. Is of unsound mind
 - C. Becomes bankrupt or makes compromise
 - D. If convicted for a felony or any offence involving dishonesty
 - E. Is guilty of serious misconduct in relation to his duties

SECTION A: PART II

SHORT-ANSWER QUESTIONS

(20 Marks)

ATTEMPT ALL QUESTIONS

Write the correct answer that best completes each of the following questions/statements:

1. The functions of the Accountant-General can be basically grouped into two and
2. The organ of the National Assembly which is responsible for the handling of the queries raised by the Auditor-General for the Federation is
3. An institution that acts on behalf of the government on issues relating to financial transaction is bank.
4. Annual returns in duplicate of all Government strong-rooms and safes will be rendered by all Ministries and extra ministerial departments and other arms of government to the
5. Any external auditor appointed by a Pension Fund Administrator is responsible to for the protection of pension fund.
6. Pension funds shall only be managed by
7. What other statutory revenue allocation accrues to Local Government Councils, apart from the releases from the Federation Account?
8. An arrangement in which the private sector is co-opted into financing socio-economic infrastructure that are usually and exclusively provided by the government is called
9. An officer who controls a vote delegated to him by an Accounting Officer is called
10. The process of putting together the financial information that will enable an organization or a Nation to plan and execute its set goals and objectives is
11. A ministry or department which maintains only the incomplete records of the above-the-line receipts and payments is known as

INSIGHT

12. The administrative instructions issued by the Accountant-General of the Federation to guide the day-to-day operations of government activities are and
13. Stores ledgers are maintained to record all receipts and issues from
14. The system which calculates the physical balance after each issue or receipt of materials is called
15. Which officer convenes the Board of Enquiry in case of any loss of fund in a Ministry or Department?
16. Investment property is treated under IPSAS
17. The audit techniques adopted to ensure the existence of assets and liabilities and their valuation at a date is known as
18. State the private business in which public officers are allowed by the code of conduct law to engage in.
19. In the absence of the Appropriation Act, Section 82 of Chapter V part I of the 1999 Constitution authorizes the President to withdraw money from the Consolidated Revenue Fund for months.
20. It is required that detailed statements of revenue and expenditure submitted for auditing should be arranged according to and

SECTION B: ATTEMPT ANY FOUR QUESTIONS (50 MARKS)

QUESTION 1

The ICPC was established by the Corrupt Practices and Other Related Offences Act, 2000, to examine the practices, systems and procedures of public bodies and where, in the opinion of the Commission, such practices, systems or procedures aid or facilitate fraud or corruption, to direct and supervise a review of them.

Required:

State any **FIVE** actions that may constitute offences and their penalties under the Act.

(12½ Marks)

QUESTION 2

Baba Onigba State of Iludun extracted the following information from their treasury's final account for the year ended December 31, 2014.

	2014	2013
	₦'M	₦'M
Tax collected	1,313	1,150

INSIGHT

Revenue from services	987	750
Grant from China	875	675
Interest from Chase Mahaton	982	759
Accrued Operating Surplus	821	525
Proceeds from Sale of Treasury Bills	639	495
Proceeds from Sale of Bonds	789	653
Purchase of equipment	700	650
Employee cost	1,450	1,210
Pension	350	290
Contractor supplies	150	120
Interest on loans	101	89
Other administrative expenses	301	207
Purchase of foreign currency	315	301
Proceeds from sale of equipment	115	100
Loans	340	240
Repayment of loans	140	120
Cash book balance as at January 1	2,701	2,015

Required:

Prepare Cash Flow Statement in compliance with IPSAS 2.

(12 ½ Marks)

QUESTION 3

A Vote Book (DVEA. TR BK 46R), being a record of expenditure and liabilities incurred in respect of votes or funds placed at the disposal of a department or ministry is to ensure that there is no extra budgetary spending.

The following financial information is in respect of purchase of stationery in the Ministry of Men Affairs.

- 01/08/13: Authorised Appropriation: ₦2,000,000
- 02/08/13: Paid ~~₦~~46,000 for pencils purchased from Yemi Bookshop on PV. No:001
- 07/08/13: Paid ~~₦~~51,000 for biros purchased from Yemi Bookshop PV No. 002
- 12/08/13: Issued LPO No: 0031 to Yinkus Bookshop for ~~₦~~90,000 for photocopying papers
- 16/08/13: Paid Yinkus Bookshop on PV No: 003
- 20/08/13: Paid for staple pins of ~~₦~~25,000 from Challenge Bookshop on PV No: 004
- 25/08/13: PV 000: 005 of ~~₦~~140,000 was raised for payment to CSS Bookshop in respect of carbon papers purchased

INSIGHT

- 26/08/13: Issued LPO No: 0032 for supply of calculators to Kayode Stores Limited for ~~₦~~400,000
- 28/08/13: Paid ~~₦~~350,000 on PV No: 006 for the purchase of file Jackets from Ajayi Stores Limited
- 29/08/13: Paid Kayode Stores Limited on PV. No: 007
- 31/08/13: Issued LPO No: 0033 for supply of Higher Education Books to Abiola Bookshop Ltd. for ~~₦~~400,000

Required:

Record the above transactions in a DVEA book of the Ministry of Men Affairs in respect of the purchase of stationery. (12½ Marks)

QUESTION 4

The Office of the Auditor-General for Local Government was established in 1989 in line with the Civil Service Reform of 1988 which was excised from the State Audit Department as it was then known.

Required:

- a. Highlight the framework documents that govern the operations of the Auditor-General for Local Government. (3½ Marks)
- b. Itemise **SIX** statutory functions of the Auditor-General for Local Government. (9 Marks)
- (Total 12½ Marks)**

QUESTION 5

- a. List **FIVE** similarities between self-accounting and sub-accounting ministries. (7 ½ Marks)
- b. Identify **FIVE** steps in preparing transcripts. (5 Marks)
- (Total 12½ Marks)**

QUESTION 6

Oliver Local Government approved a project "Ola Street" improvement program, expected to cost ₦500,000,000. Ministry of Rural Development provides a soft loan of ₦300,000,000 for this project, the remaining fund requires the participation of Corporate Institutions resident in the street, which they paid willingly. A purchase order was issued for materials worth ₦320,000,000; Engineering cost was ₦15,000,000; and compensation of ₦30,000,000 to the

INSIGHT

land owners. The Commissioner for Rural Development announced the State donation of ₦250,000,000 for this project. Transport and freight cost ₦50,000. Interest on soft loan is at 4% per year. Equipment rental costs ₦20,000,000, wages of workers paid amounted to ₦90,000,000.

The project is expected to be completed within the year. The soft loan is repayable at the end of the project.

Required:

- a. Compute a Contract Account in compliance with IPSAS 11. (10½ Marks)
- b. Briefly state **TWO** of the disclosure requirements in IPSAS 11. (2 Marks)
(Total 12½ Marks)

INSIGHT

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

1. D
2. B
3. B
4. D
5. D
6. E
7. D
8. D
9. D
10. B
11. A
12. A
13. C
14. A
15. A
16. E
17. C
18. A
19. B
20. C
21. E
22. E
23. E
24. C

- 25. C
- 26. E
- 27. A
- 28. C
- 29. D
- 30. A

EXAMINER'S COMMENT

Multiple Choice Questions are 30 questions which cover all the areas of the syllabus.

It is a compulsory question. In the multiple choice question 1 – 10, all the candidates attempted the questions and they scored over 60% of marks allocated.

In multiple choice questions 11 – 20, well over 80% of the candidates attempted the question and performance was poor as only about 35% of the candidates scoring above 40%.

Multiple choice questions 20 – 30, no major pitfall was noticed, scores hovered around 70% of marks allotted.

PART II SHORT-ANSWER QUESTIONS

- 1. Management function and Routine functions
- 2. Public Account Committee
- 3. Central Bank
- 4. Accountant-General
- 5. National Pension Commission
- 6. Pension Fund Administrators
- 7. Allocation from the state internally generated revenue (IGR)
- 8. Public Private Partnership (PPP)
- 9. Officer Controlling Expenditure
- 10. Budgeting
- 11. Non-self Accounting Unit
- 12. Treasury and Finance Circulars

13. Stores
14. Perpetual Inventory System
15. FR. 2531 – The Accountant-General
16. IPSAS 16
17. Verification
18. Farming in part or all its entirety
19. 6 months
20. Heads and Sub-Heads

EXAMINER'S COMMENT

This is a compulsory question and this recorded 100% attempt. All the areas of the syllabus were covered.

SAQ 1- 10 – performance was fair as scores clustered around six out of ten marks obtainable by about 50% of the candidates.

SAQ 11 – 20 – this portion recorded poor performance as more than 70% of the candidates scoring below 30% of marks obtainable.

SECTION B

Offences & Penalties under the corrupt practices and other related offences Act 2000 include:

SOLUTION 1

SECTION	OFFENCES	PENALTY
8	Accepting gratification	7 Years Imprisonment
9	Giving or Accepting gratification through agent	7 Years Imprisonment
10	Acceptor or giver of gratification	7 Years Imprisonment
11	Concealing offences relating to corruption	7 Years Imprisonment
12	Fraudulent acquisition of property	7 Years Imprisonment
13	Fraudulent receipt of property	3 Years Imprisonment
14	Offences committed through postal system	7 Years Imprisonment
15	Deliberate frustration of investigation of the commission	7 Years Imprisonment
16	Making false statements or return	7 Years Imprisonment
17	Gratification by and through agents	5 Years Imprisonment
18	Bribery of Public Officer	5 Years Imprisonment
19	Using office or position for gratification	5 Years Imprisonment
20	Forfeiture of gratification and other penalties	Forfeit the gratification and pay fine
21	Bribery in relation to auctions	3 Years Imprisonment
22	Bribery for given assistance etc in regards to contracts	₦1 million or 7 Years Imprisonment
23	Duty to report bribery transactions ₦10,000 or	2 Years Imprisonment
24	Dealing with property acquired through gratification	5 Years Imprisonment
25	Making false or misleading statements to the Commission	

INSIGHT

26	Attempt, conspiracy punishment as offence	₦10,000 or 2 years imprisonment
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EXAMINER'S COMMENT

The question tested candidates' knowledge of ICPC Act under the Offences and Punishments. Less than 50% of the candidates attempted this question and were confusing the requirements to Offences punishable under the Money Laundering Act. Performance was very poor as there was no single candidate that scores above 40% of marks obtainable. The candidates are enjoined to cover the syllabus in subsequent examinations.

SOLUTION 2

BABA ONIGBA STATE ILUDUN CASH FLOW STATEMENT FOR THE PERIOD ENDED 31ST DECEMBER 2013

	2014 ₦ M	2013 ₦ M
CASH FLOW FROM OPERATION:		
RECEIPTS:		
Taxation	1,313	1,150
Sales of services	987	750
Grants	875	675
Interest received	982	759
Accrued from operating surplus	<u>821</u>	<u>525</u>
Operating receipt	4,978	3,859
Less payment		
Employee cost	(1,450)	(1,210)
Pension	(350)	(290)
Suppliers	(150)	(120)
Other Administrative expenses	<u>(301)</u>	<u>(207)</u>
(a) Net operating cash flow	2,251	1,827
 INVESTING ACTIVITIES:		
RECEIPTS:		
Proceed from sales of treasury bill	639	495
Proceed from sales of bond	789	653
Proceed from sales of equipment	<u>115</u>	<u>100</u>
Total investment receipts	1,543	1,248
PAYMENTS:		
Purchases of equipment	<u>(700)</u>	<u>(651)</u>
(b) Net cash flow on Investments	843	598
FINANCING ACTIVITIES		
RECEIPTS		
LOAN	340	240
Payments: Repayment of loan	(140)	(120)

INSIGHT

Purchase of foreign currency	(315)	(301)
Interest on loan	(101)	(89)
(c) Net cash flow from financing	99	39
Net increase/(decrease) in cash and cash equivalent	1,668	2,695
Cash and cash equivalent of beginning of period	2,701	2,013
	4,369	4,710

EXAMINER'S COMMENT

The question tested candidates' knowledge on the Preparation of Cash flow Statement in Compliance with IPSAS 2. About 70% of the candidates attempted the question. Major pitfall was the inability of the candidates to distinguish between Income and Expenditure Accounts with Cash Flow Statement.

Performance was poor as over 65% of the candidates scored below 40% of marks obtainable.

SOLUTION 3

MANAGING FINANCE OF GOVERNMENT MARCH 2014

MINISTRY OF MEN AFFAIRS VOTE BOOK

HEAD 508	Authorised Appropriation
Sub-Head 005	AGW ₦2,000,000
Service-Stationeries	AIE 000010
	Others
	Total ₦2,000,000

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Line	Date	PV	Particular	Pmt	Cum. R	Bal	Liab Ref	Liab Incurred	Liab clear	Liab outstanding	Remark	Uncom Balance		
				₦	₦	₦		₦	₦	₦		₦		
1	1/8/13					2,000,000						2,000,000		
2	2/8/13	001	Pencil Yemi	46,000	46,000	1,954,000						1,954,000		
3	7/8/13	002	Biro Yemi	51,000	97,000	1,903,000						1,903,000		
4	12/8/13	-	-	-	-	-	0031	90,000		90,000	LPO Yinka	1,813,000		
5	16/8/13	003	Payment to Yinka	90,000	187,000	1,813,000			90,000	Nil	Settlement	1,813,000		
6	20/8/13	004	Pins challenges	25,000	212,000	1,788,000	-	-	-	-	-	1,788,000		
7	25/8/13	005	Cp CSS Book	140,000	352,000	1,648,000	-	-	-	-	-	1,648,000		
8	26/8/13	-	-	-	-	-	0032	40,000	-	400,000	LPO Kayode	1,248,000		
9	28/8/13	006	File Jak Ajayi	350,000	702,000	1,298,000	-	-	-	400,000	-	898,000		
10	29/8/13	007	Kayode Stores	400,000	1,102,000	898,000	-	-	400,000	Nil	Settlement	898,000		
11	30/8/13	-	-	-	-	898,000	0033	400,000	-	400,000	LPO Abiola	498,000		

EXAMINER'S COMMENT

The question tested candidates' knowledge on Vote Book Preparation. About 90% of the candidates attempted the question and showed fair understanding of the requirements of the examiner.

Performance was fair as about 50% of the candidates scored above 60% of marks obtainable.

It was a booster question for any well prepared candidate.

SOLUTION 4

The constitutional and financial responsibilities of principal officers of government:

- (a) The office of the Auditor General for Local Government operates within the following framework:
 - (i) The local government financial memoranda
 - (ii) Guideline on local government operations
 - (iii) Updated circulars issued from time to time
 - (iv) Civil Service Reform Act 1988
 - (v) Appropriate Act
 - (vi) Gazette
- (b) Statutory functions of the Auditor-General for Local Government
 - (i) He is responsible for the audit of the financial statement of local government
 - (ii) He evaluates the integrity and validity of the financial statements of all local government and writes report on them
 - (iii) He approves sanctions/surcharges through the local government service commission
 - (iv) Issuing annual statutory audit reports
 - (v) Carrying out prepayment audit of gratuity and pension of local government retirees, teaching and non-teaching staff of primary schools in the state
 - (vi) Executing pre-payment audit of major projects of local government
 - (vii) Ensure that proper and adequate system of account is maintained and established

INSIGHT

- (ix) Ensure that effective and efficient internal control system is established on the local government
- (x) Heading the losers and Audit Alarm Committee at the local government level

EXAMINER'S COMMENT

The question is divided into two parts, while part 'a' tested on the Framework governing the Operation of the Auditor-General for Local Government, part 'b' was on Statutory Function of the Auditor-General.

Over 90% of the candidates attempted this question. In part 'a', only about 20% of the candidates scored above 30% of marks obtainable and in part 'b', about 60% scored 50% and above of marks obtainable.

SOLUTION 5

- (a) Similarities between self accounting and sub-accounting ministries includes
 - i. Both do not forward vouchers of their units to the Accountant-General of the Federation
 - ii. Both render expenditure in Heads total in their transcripts
 - iii. Both operates a central pay office
 - iv. Both give a breakdown of expenditure totals at the end of each financial year
 - F. Both establish an internal audit unit
 - vi. Both are approved by the Minister of finance to be of the status
 - vii. Both operate current accounts with banks
- (b) Steps in preparing transcripts include:
 - i. Collection of vouchers and original cash book
 - ii. Ticking of vouchers to the cash book
 - iii. Posting into analysis book
 - iv. Balancing of analysis book
 - v. Sorting into heads and sub-heads

- vi. Compilation of the transcript
- vii. Pre-listing of payment vouchers
- viii. Preparation of voucher schedule

EXAMINER'S COMMENT

The question is divided into two parts. Part 'a' of the question tested on the difference between Self Accounting and Sub-Accounting Units, while the 'b' part was on the process of Preparing Transcripts. About 95% of the candidates attempted this question.

In part 'a', less than 10% of the candidates scored above 10% of marks obtained, while in part 'b', about 90% of them scored over 75% of the marks allocated.

SOLUTION 6

OLIVER LOCAL GOVERNMENT

OLA STREET PROJECT IMPLEMENTATION ACCOUNTS

DR		CR	
	N'M		N'M
Materials	320	Soft loan	300
Engineering	15	State donation	250
Compensation	30	Corporate participation	200
Equipment rental	20		
Interest on loan	12		
Freight	0.05		
Wages	<u>90</u>		
	487.05		
Balance c/d	<u>262.95</u>		
	<u>750</u>		<u>750</u>
		Balance b/d	262.95
Repayment of loan	300	Balance due	37.05
	<u>300</u>		<u>300</u>
Loan due for payment	37.05		

Disclosure requirement under IPSAS 11

- (1) Equity:(a) The amount of contract revenue
- (b) Method used to determine the contract revenue

INSIGHT

- (c) The method used to determine the stage of completion of contract in progress
- (2)
 - (a) Aggregate amount of cost of incurred and recognized surplus
 - (b) Amount of advances received
 - (c) The amount of retention
- (3)
 - (a) The gross amount due from customer for contract
 - (b) The gross amount due to customer as liabilities

EXAMINER'S COMMENT

The question is on Contract Account in compliance with IPSAS 11. Many of the candidates ran away from this question as only about 45% attempted it. The performance was high as about 70% of the candidates that attempted the question scored about 70% of total marks obtainable.

AT/142/PII.7

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME
PART II EXAMINATION - MARCH 2015
QUANTITATIVE ANALYSIS
Time Allowed: 3 Hours**

SECTION A: PART I MULTIPLE-CHOICE QUESTIONS (30 MARKS)

ATTEMPT ALL QUESTIONS

Write ONLY the alphabet (A, B, C, D or E) that corresponds to the correct option in each of the following questions/statements:

1. Mr A offers the barman ₦1,000 for a round of 5 bottles of beer. He glances at the change he gives him and sees that there is at least ₦100. The inequality that expresses the price of a bottle of the beer is
 - A. $1,000 - 5x \leq 100$
 - B. $5x - 1,000 \geq 100$
 - C. $1,000 - 5x \geq 100$
 - D. $5x - 1,000 \leq 100$
 - E. $5x \leq 100$
2. The basis of the Operations Research (OR) approach is that of constructing in an objective and factual manner and experimenting to show the results of various possible courses of action.
 - A. Equation
 - B. A Graph
 - C. Models
 - D. Tableau
 - E. Symbol
3. If the degree of association between two variables ranges between 0 to 1 then the relationship is said to be a
 - A. Perfect positive correlation
 - B. Zero correlation
 - C. Positive Correlation
 - D. Perfect negative correlation

- E. Negative correlation
4. If $f(x) = ax^2 + bx + c$, $f(x)$ becomes a linear function when
- A. $a > 0$
 - B. $a < 0$
 - C. $a = 0$
 - D. $a \neq 0$
 - E. $a = b$
5. The following are the properties of a median **EXCEPT** that
- A. It is unique
 - B. It is not sensitive to extreme values
 - C. It is used to locate the middle number in a set of data
 - D. Its value is not affected even if the distribution has open classes in the beginning or end of the distribution.
 - E. It is easy to calculate
6. The Coefficient of variation is computed as
- A. $\frac{\sigma}{x} \times 100\%$
 - B. $\frac{s^2}{x} \times 100\%$
 - C. $\frac{\bar{x}}{\sigma} \times 100\%$
 - D. $\frac{\sigma^2}{x} \times 100\%$
 - E. $\frac{\bar{x}}{\sqrt{\sigma^2}} \times 100\%$
7. The computed value, which when compared with the tabulated value, which enables one to decide whether to accept or reject a hypothesis, is known as
- A. Hypothesis Statistic
 - B. Calculated Statistic
 - C. Computed Statistic
 - D. Test Statistic
 - E. Point Statistic
8. A mother-care shop owner sells, on the average, 215 packets of disposable nappies per day with a standard deviation of 25. He has been told that other shops in the area perform better in sales. He therefore decides to engage in an extensive advertisement campaign and later checks whether there has been general improvement in sales. The corresponding alternative hypothesis is stated as
- A. $H_1 : \mu \geq 215$

- B. $H_1 : \mu = 215$
- C. $H_1 : \mu > 215$
- D. $H_1 : \mu \neq 215$
- E. $H_1 : \mu < 215$

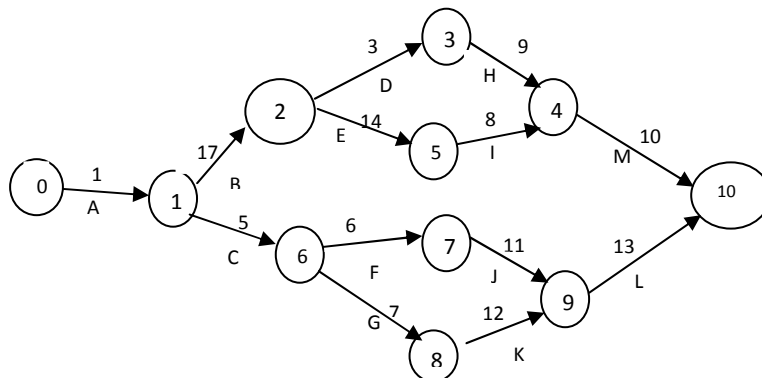
9. All of the following are true of a transportation problem **EXCEPT**

- A. It is a linear programming problem
- B. It is an example of a network optimisation problem
- C. The total available and the total requirement are known quantities
- D. The solution at every stage is feasible
- E. It is always presented in a matrix form

10. Part of the PERT/CPM procedure that involves moving forward through the project network to determine the Earliest Start and Earliest Finish Times of each activity is called

- A. Backward Pass
- B. Forward Pass
- C. Immediate Predecessor
- D. Critical activity
- E. Project network

The diagram below is the network of a construction project.



11. Find the time it would take to complete the project

- A. 36 days
- B. 38 days
- C. 40 days
- D. 42 days
- E. 50 days

12. The Shadow cost is also known as

- A. Sensitive cost
- B. Optimal cost

- C. Dual cost
 - D. Minimal cost
 - E. Maximal cost
13. The coefficient of a slack variable within the objective function in a maximising Linear Programming problem is always
- A. -2
 - B. -1
 - C. 0
 - D. +1
 - E. +2
14. Problems to be solved by Linear Programming must conform with the following **EXCEPT** that
- A. A choice of alternative actions must be possible
 - B. Decision variables must be more than two
 - C. The problem must be expressible numerically
 - D. All variables involved must have linear relationship
 - E. There must be one or more restrictions on available resources
15. Which of the following is **NOT** true for a random experiment?
- A. The outcomes are independent
 - B. The sample space is finite
 - C. The outcomes are predictable
 - D. The outcomes are called sample points
 - E. The sample space is synonymous with universal set
16. If the cost function is $2x^2 + 6x - 18$ and the revenue function is $3x^2 - 2x$, then the marginal profit, when $x=5$, is
- A. 1
 - B. 2
 - C. 3
 - D. 14
 - E. 23
17. If a business establishes its profit function to be $0.05e^{3x^2} + 0.2e^{2x} + 1000$, find the marginal profit to the nearest thousand when $x = 2$
- A. 95,000
 - B. 96,000
 - C. 97,000
 - D. 98,000
 - E. 99,000

18. Which of the following costs should be minimum in order to determine the optimum replacement point of an item that fails suddenly
- A. Total annual cost
 - B. Average annual cost
 - C. Maintenance cost
 - D. Depreciation cost
 - E. Labour cost
19. In preparing a frequency table, all of the following terms are relevant **EXCEPT**
- A. Class interval
 - B. Class limit
 - C. Class boundary
 - D. Sample survey
 - E. Class size or width
20. What is the Present Value of an annuity of ₦35,000 for 7 years at 5.5% compounded annually?
- A. ~~₦~~413,451.02
 - B. ~~₦~~411,600.42
 - C. ~~₦~~313,021.67
 - D. ~~₦~~312,956.72
 - E. ~~₦~~198,903.85
21. What compound interest rate will be required to obtain ₦220,000 after 4 years with an initial principal of ₦100,000?
- A. 21.9%
 - B. 12.5%
 - C. 11.5%
 - D. 11.2%
 - E. 11.01%
22. An accounting firm uses 400 units of an item per year. It is found that the carrying costs are ₦4 per annum and ordering cost is ₦50 per order. What is the Economic Order Quantity?
- A. 50
 - B. 80
 - C. 100
 - D. 150
 - E. 250

INSIGHT

23. The annual demand for a product is 20,000 units while the ordering cost is ₦10 per order with holding cost of ₦3 per unit per annum. If the re-order quantity is 1,500, the total cost per annum is
- A. ₦133.33
 - B. ₦400.00
 - C. ₦2,383.33
 - D. ₦2,550.00
 - E. ₦100,003.00
24. All of the following are the advantages of the postal method over the personal interview method **EXCEPT** that,
- A. Postal method is relatively cheaper than interview
 - B. Investigator's bias will not occur
 - C. Respondents will feel free to answer some sensitive questions
 - D. Rate of non-response is usually high
 - E. Respondents will have enough time to consult sources
25. Which of the following is **NOT** a method of determining seasonal indices?
- A. Simple average percentage
 - B. Percentage moving average
 - C. Least squares
 - D. Link relative
 - E. Ratio to trend
26. The following statements are correct about the Moving Average method of measuring the trend **EXCEPT** that the
- A. method is suitable for forecasting
 - B. method is simpler than the least squares method
 - C. extreme values are always at the end
 - D. method is not good for non-linear trend
 - E. method removes the effect of cyclic fluctuations completely
27. The weekly cost function of a manufacturing company is modelled as $C(x) = 30x + 200$, find the unit cost
- A. 130
 - B. 210
 - C. 220
 - D. 230
 - E. 240

INSIGHT

28. If the marginal cost function of an item is $3q^2 - 2q + 2000$, determine the total cost when $q=10$
- A. 20,000
 - B. 20,900
 - C. 21,000
 - D. 21,100
 - E. 22,000
29. The prices of an accounting machine in the years 2013 and 2014 were ~~N~~50,000 and ~~N~~60,000 respectively. Using the year 2013 as the base year, the price relative is
- A. 120.00%
 - B. 83.33%
 - C. 80.00%
 - D. 20.00%
 - E. 16.67%
30. The Laspreyer's method for calculating price index uses
- A. Current year's weights
 - B. Both current and base year's weights
 - C. Base year's weights
 - D. Total weight
 - E. Average weights

SECTION A: PART II SHORT-ANSWER QUESTIONS (20 Marks)

ATTEMPT ALL QUESTIONS

Write the correct answer(s) that best completes each of the following questions/statements:

1. If the arithmetic mean of 1, 2, y, 4 and 5 is 3, the value of y is
2. The graphical representation of time series values against different points is known as
3. The standard Linear Programming problem in canonical form is required before a method can be applied
4. The amount of spare time associated with an activity is known as.....
5. The two types of policy used when replacement of an item is done based on sudden failure are and
6. The statistical error committed if H_0 is rejected when it (H_0) is true is called
7. The test-statistic for a large sample in the hypothesis testing of the mean is known as the
8. The multiplication law of probability is applicable to both events andevents.

INSIGHT

9. The solution to a Linear Programming problem is always at point of the boundary of the..... region
10. The price index obtained by using the arithmetic mean of the base year's quantity and current year's quantity as weight is called..... price index
11. Another name for the cumulative frequency polygon is the
12. A sample which reflects all the general characteristics of the parent population is called a
13. In Operations Research (OR), the term used to describe an input variable which has an arbitrary or constant value in the model, is known as
14. If the revenue and cost functions of a business are represented by $R(x)-C(x)<0$, then the business is said to be running at a
15. If the cost function is $3x^2+4x-2$, the marginal cost function is
16. A situation where there is demand for an item but the item is not in store is referred to as
17. The maximum cost is obtainable when the marginal cost function is
18. A project is said to be desirable if the Net Present Value is
19. The Present Value of ₦2.8 million at 15% simple interest rate over six years is
20. A typical transportation problem is concerned with a number of and a number of

SECTION B: Attempt any FOUR questions out of which at least one must come from each sub-section (50 Marks)

SUB-SECTION I

QUESTION I

FADAWAS Textiles Company quarterly data for textile material sales (in ₦'000,000) for four consecutive years is given in the table below:

	Quarter	Quarter	Quarter	Quarter
Year	I	II	III	IV
1	17	21	25	32
2	20	26	34	38
3	27	31	41	44
4	33	37	45	47

You are required to:

- a. Calculate the moving average of order 4. (4 Marks)
 - b. Estimate the seasonal variation using percentage moving average. (8½ Mark)
- (Total 12½ Marks)**

QUESTION 2

The following table indicates the distribution of marks obtained at the Quantitative Analysis of ATSWA Examination by a group of 120 candidates:

Marks	Number of Candidates
01-19	8
20-39	16
40-49	19
50-59	27
60-69	23
70-79	13
80-89	10
90-99	4

You are required to:

- a. i. Draw the cumulative frequency curve.
ii. If the pass mark is 40 and distinction is 75, estimate the number of candidates who passed and the number who obtained distinctions.
(6 Marks)
- b. Compute the coefficient of
i. Quartile deviation
ii. Variation
(6½ Marks)
- (Total 12½ Marks)**

SUB-SECTION II**QUESTION 3**

- a. A manufacturing company, from the past experience and estimates for the future, has decided that the cost of production of its sole product, P, an advanced process machine is

$$C = 900 + 3x + 0.02x^2$$

where C = total cost in ₦'000,000

x = quantity produced (and sold).

The marketing department has estimated that the price of the product is related to the quantity produced and sold by the equation

$$P = 107 - 2x,$$

where P = price per unit in ₦ '000,000

x = quantity sold.

You are required to:

Calculate the maximum profit.

(7½ Marks)

- b. The demand and cost functions of GLABOW Nigeria Limited are given below:

$$P = 32,500 - 4q^2$$

$$C = 8,000 + 17,400q$$

Where:

P is the price per item

q is the quantity produced and sold

C is the total cost.

You are required to calculate:

- i. The marginal revenue function

(3 Marks)

- ii. The marginal profit function

(2 Marks)

(Total 12½ Marks)

QUESTION 4

- a. An investor purchased some shares for ₦8,000. When the price per share increased by ₦2.50, he sold all but 2000 of the shares for ₦ 4000. How many shares did he buy originally?
(6½ Marks)
- b. A model for the sales of a product, S, in terms of the amount spent on advertising, A, and the price of the product, P, is given by $S = 1,500(50 - Pe^{0.001A})$

You are required to:

- i. State the expression which represents advertising expenditure in terms of sales and price.

(4 Marks)

- ii. If desired sales are ₦15,000 and the price is ₦30, how much should be spent on advertising?

(2 Marks)

(Total 12½ Marks)

SUB-SECTION III

QUESTION 5

DAMABEN garments company produces two types of suits namely: fitted and padded. They both require three main processes: cutting, sewing and packaging. A fitted suit requires 3hours of cutting, 5hours of sewing and 2hours of packaging while a padded suit requires 2hours of cutting, 4hours of sewing and 2.5hours of packaging. The company has 450 working hours of cutting, 800 working hours of sewing and 500 working hours of packaging. Each fitted suit sells for GH¢6,500 and each of padded suit sells for GH¢5,800.

You are required to:

- a. Use the above information to formulate the relevant Linear Programming problem.
(4½ Marks)

- b. Determine the optimal level of production using graphical method.
(8 Marks)

(Total 12½ Marks)

QUESTION 6

The demand for an item is 5,000 per month, the ordering cost is ₦40 per order, holding cost per item is ₦0.80 per annum and the price per unit of item is ₦15.

You are required to:

- a. Determine the best number of units to order so as to minimize the total cost.
(4½ Marks)
- b. Determine the associated minimum cost, if no discount is allowed.
(4 Marks)
- c. If a discount rate of 2% is offered for orders of 30,000 units and above by the supplier, calculate the total cost.
(4 Marks)

(Total 12½ Marks)

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

(30 Marks)

1. C
2. C
3. C
4. C
5. E
6. A
7. D
8. E
9. D
10. B
11. E
12. C
13. C
14. B
15. C
16. B
17. D
18. B
19. D
20. E
21. A
22. C
23. C
24. D
25. C
26. A

27. D
28. B
29. A
30. C

(Workings)

11.

Paths	Durations
A – B – D – H – M	$1 + 17 + 3 + 9 + 10 = 40$ days
A – B – E – I – M	$1 + 17 + 14 + 8 + 10 = 50$ days
A – C – F – J – L	$1 + 5 + 6 + 11 + 13 = 36$ days
A – C – G – K – L	$1 + 5 + 7 + 12 + 13 = 38$ DAYS

(E) = 50 Days

$$16. \quad \text{Profit} = 3x^2 - 2x - 2x^2 - 6x + 18$$

$$= x^2 - 8x + 18$$

$$\frac{dp}{dx} = 2x - 8$$

When $x = 5$

$$\frac{dp}{dx} = 2(5) - 8 = \underline{\underline{2}}$$

$$17. \quad P(x) = 0.05e^{3x^2} + 0.2e^{2x} + 1000$$

$$\frac{dp(x)}{dx} = 0.3xe^{3x^2} + 0.4e^{2x}$$

$$\text{When } x = 2, \quad \frac{dp}{dx} = 0.6e^{12} + 0.4e^4$$

$$= 97,871$$

$$\approx \underline{\underline{98,000}}$$

$$\begin{aligned}
 20. \quad P &= A \frac{[1 - (1 + r)^{-n}]}{r} \\
 A &= 35,000; r = 0.055; n = 7 \\
 \therefore P &= 35,000 \frac{[1 - (1 + 0.055)^{-7}]}{0.055} \\
 &= \text{N}198,903.85
 \end{aligned}$$

$$\begin{aligned}
 21. \quad A_n &= P(1 + r)^n \\
 220,000 &= 100,000(1 + r)^4 \\
 (1 + r)^4 &= 2.2 \\
 (1 + r) &= (2.2)^{1/4} = 1.21788 \\
 r &= 1.21788 - 1 \\
 r &\approx 0.21788 \\
 r &\approx 21.79
 \end{aligned}$$

$$\begin{aligned}
 22. \quad \text{EOQ} &= \sqrt{\frac{2C_0D}{Cc}} \\
 &= \sqrt{\frac{2 \times 50 \times 400}{4}} = 100
 \end{aligned}$$

$$\begin{aligned}
 23. \quad \text{TC} &= \text{Ordering Cost} + \text{Holding Cost} \\
 &= \frac{cd}{Q} + \frac{Qh}{2} \\
 &= \frac{10(20,000)}{1,500} + \frac{(1,500)(3)}{2} = \text{N}2,383.333
 \end{aligned}$$

$$\begin{aligned}
 27. \quad \text{If } C(x) &= 30x + 200 \\
 \text{Then unit cost implies } x &= 1 \\
 \therefore C(1) &= 30(1) + 200 = 230
 \end{aligned}$$

$$\begin{aligned} 29. \quad PR &= \frac{P_n}{P_o} \times 100 \\ &= \frac{60,000}{50,000} \times 100 = 120.00\% \end{aligned}$$

EXAMINER'S COMMENT

Virtually every part of the syllabus contributes to this section. On the average, the candidates' performance was fairly good with an average score of 60%

SHORT- ANSWER QUESTIONS

1. 3
2. Time plot
3. Simplex
4. Float
5. Individual replacement; group replacement
6. Type 1 error
7. Z - test
8. Independent, conditional or dependent
9. "Corner", "Feasible" (in that order)
10. Marshal Edge –worth
11. Cumulative Frequency Curve or Ogive
12. Representative sample
13. Parameter
14. Loss
15. $6x + 4$
16. Stock out
17. Zero
18. Positive
19. ₦1.478,684.20
20. Sources; destinations

Workings

$$2. \quad \text{A.M} = \frac{\sum x}{n}$$

$$3 = \frac{1+2+y+4+5}{5}$$

$$\Rightarrow 12 + y = 15$$

$$y = 15 - 12 = 3$$

$$15. \quad \text{MC} = \frac{dc(x)}{dx}$$

$$\text{When } C(x) = 3x^2 + 4x - 2$$

$$\text{then } \frac{dc(x)}{dx} = 6x + 4$$

$$19. \quad A_n = P(1+r^n)$$

$$2.8 = P[1 + (0.15)^6]$$

$$2.8 = 1.9p$$

$$\therefore P = \frac{2.8}{1.9} = 1.47368420$$

$$\therefore P = \text{R}1,473,684.20$$

EXAMINER'S COMMENT

No part of the syllabus is left out in compiling questions for this section. Relatively, the candidates' performance was fair with an average score of 75%.

INSIGHT

SOLUTION 1

C1	C2	C3	C4	C5	C6	
Year	Quarter	Sales (‘000,000)	4-Quarter Moving totals	4-Quarter Centered Moving totals	Centered Moving Average or Trend (C5 ÷ 8)	Seasonal Variation
1	I	17	-	-	-	-
	II	21	95	-	-	-
	III	25	98	193	24.125	103.63
	IV	32	103	201	25.125	128
2	I	20	112	215	26.875	74.77
	II	26	118	230	28.75	90.43
	III	34	125	243	30.375	111.93
	IV	38	130	255	31.875	119.22
3	I	27	137	267	33.375	80.90
	II	31	143	280	35	88.57
	III	41	149	290	36.5	112.33
	IV	44	155	304	38	115.79
4	I	33	159	314	39.25	84.08
	II	37	162	321	40.125	92.20
	III	45				
	IV	47				

Simple Calculations

$$\begin{aligned} \text{Seasonal Variation} &= \frac{\text{Actual}}{\text{Trend}} \times \frac{100}{1} \\ \text{For Yr 1 (III)} &= \frac{25}{24.125} \times \frac{100}{1} = 103.63 \\ \text{For Yr 1 (IV)} &= \frac{32}{25} \times \frac{100}{1} = 128 \end{aligned}$$

EXAMINER’S COMMENT

The question tests candidates’ knowledge of the Time Series with particular attention to the Moving Average of Order 4 and Seasonal Variation. About 60% of the candidates attempted the question with an average score of 5 marks out of the maximum of 12½ marks. The major pitfall identified is the inability of the candidates to compute the moving average and seasonal variation. Some of them also have problem in centering the moving averages. Candidates are advised to make adequate preparation to ensure better performance in subsequent examinations

SOLUTION 2

Marks	Classes	X	F	Cf	Fx	F (x - \bar{x}) ²
01 – 19	0.5 – 19.5	10	8	8	80	15863.37
20 – 39	19.5 – 39.5	29.5	16	24	472	10024.01
40 – 49	39.5 – 49.5	44.5	19	43	845.5	1911.42
50 – 59	49.5 – 59.5	54.5	27	70	1471.5	0.0243
60 – 69	59.5 – 69.5	64.5	23	93	1483.5	2286.22
70 – 79	69.5 – 79.5	74.5	13	106	968.5	5184.41
80 – 89	79.5 – 89.5	84.5	10	116	845	8982.01
90 – 99	89.5 – 99.5	94.5	4	120	378	6390.40
			120	-	6544	50641.86

$$a. \quad \bar{x} = \frac{\sum fx}{\sum f} = \frac{6544}{120} = 54.53$$

$$\text{Variance} = \frac{\sum f(x - \bar{x})^2}{\sum f - 1} = \frac{50641.86}{119} = \underline{425.56}$$

$$\therefore \sigma = \sqrt{425.56} = 20.63$$

$$Q_1 = L_{q_1} + \left(\frac{\frac{N}{4} - Cfbq_1}{fq_1} \right) Cq_1$$

$$= 39.5 + \left(\frac{30 - 24}{19} \right) 10 = 42.66$$

$$Q_3 = L_{q_3} + \left(\frac{\frac{3N}{4} - Cfbq_3}{fq_3} \right) Cq_3$$

$$= 59.5 + \left(\frac{90 - 70}{23} \right) 10 = 68.20$$

$$b(i). \quad \text{Coefficient of quartile deviation} = \left(\frac{Q_3 - Q_1}{Q_3 + Q_1} \right)$$

$$CQD = \left(\frac{68.20 - 42.66}{68.20 + 42.66} \right) = \left(\frac{25.54}{110.86} \right) = 0.23$$

b(ii). Coefficient of Variation is

$$\begin{aligned} CV &= \frac{\sigma}{\bar{x}} \times 100\% = \frac{20.63}{54.53} \times 100\% \\ &= 27.8\% \end{aligned}$$

EXAMINER'S COMMENT

The question tests candidates' knowledge of Measures of Dispersion and Presentation of data. It also demands from the candidates their knowledge of coefficient of quartile deviation and coefficient of variation. Candidates are expected to calculate both the first quartile (Q1) and the third quartile (Q3) to be able to calculate the coefficient of Deviation. About 98 % of all the candidates attempted the question with less than 10% scoring an average of 6½ marks out of 12½. The major pitfalls of the candidates are their inability to present the data correctly and in understanding the concept of measures of dispersion, calculation of first and third quartiles.

SOLUTION 3

$$\begin{aligned} \text{a. Profit} &= \text{Revenue} - \text{Cost} \\ \text{Revenue} &= Px \\ P &\text{ denotes Price} \\ \therefore \pi &= Px - C \\ &= (107 - 2x) \times -(900 + 3x + 0.02x^2) \\ &= 107x - 2x^2 - 900 - 3x - 0.02x^2 \\ &= 104x - 900 - 2.02x^2 \\ \therefore \pi &= -2.02x^2 + 104x - 900 \\ \frac{d\pi}{dx} &= -4.04x + 104 \\ \text{At the tp. } \frac{dp}{dx} &= 0 \\ 0 &= -4.04x + 104 \\ \therefore 4.04x &= 104 \\ X &= \frac{104}{4.04} = 25.74 \\ \frac{d^2\pi}{dx^2} &= -4.04 < 0 \\ \therefore x &= 25.74 \text{ gives maximum value of profit} \\ \text{Profit} &= \pi \\ &= -2.02x^2 + 104x - 900 \\ &= -2.02(25.74)^2 + 104(25.74) - 900 \\ &= -1,338.35 + 2,676.96 - 900 \end{aligned}$$

INSIGHT

$$= 438.61 \quad \text{i.e.} \quad \text{N}438,610,000$$

3a. A Litre

$$\begin{aligned} R(x) &= (107 - 2x)x \\ &= 107x - 2x^2 \end{aligned}$$

$$\frac{dR(x)}{dx} = MR = 107 - 4x$$

$$C(x) = 900 + 3x + 0.02x^2$$

$$\frac{dC(x)}{dx} = MC = 3 + 0.04x$$

Profit is maximised when $MR = MC$

$$\text{i.e.} \quad 107 - 4x = 3 + 0.04x$$

$$104 = 4.04x$$

$$x = \frac{104}{4.04} = 25.74$$

b(i). $P = 32500 - 4q^2$

But Revenue $R = p \cdot q$
 $\Rightarrow (32500q - 4q^2)q$

$$\text{i.e.} \quad R = 32500q - 4q^3$$

$$\text{Marginal Revenue} = \frac{dR}{dq}$$

Since R is now a function of q

$$\frac{dR}{dq} = 32,500 - 12q^2$$

ii. $R = 32,500q - 4q^3$

$$C = 8000 + 17400q$$

But Profit is $\pi = R - C$

$$\therefore \pi = 32,500q - 4q^3 - 8000 - 17400q$$

$$\text{i.e.} \quad \pi = 15,100q - 4q^3 - 8000$$

$$\therefore = \text{Marginal Profit function is}$$

$$\frac{d\pi}{dq} = 15,100 - 12q^2$$

EXAMINER'S COMMENT

The question is majorly on the application of calculus to business. Candidates are expected to know basic differentiation in getting marginal expressions. About 95% of the candidates

INSIGHT

attempted the question with about 45% of them scoring 6 marks out of 12½. The noticed pitfall of the candidate is their inability to differentiate the given functions correctly.

SOLUTION 4

i(a). Let x represent the number of the shares originally bought.

The price of these must have been $\frac{8,000}{x}$ each

∴ He sells $(x - 2,000)$ shares for $\left(\frac{8,000}{x} + 2.5\right)$ and obtains ~~₦~~4,000

That is

$$(x - 2,000) \left(\frac{8,000}{x} + 2.5 \right) = 4,000$$

$$(x - 2,000) \left(\frac{8,000 + 2.5x}{x} \right) = 4,000$$

Multiplying both sides by x

$$(x - 2,000) (8,000 + 2.5x) = 4,000x$$

$$8,000x + 2.5x^2 - 16,000,000 + 5,000x = 4,000x$$

$$8,000x + 2.5x^2 - 16,000,000 + 5,000x = 4,000x$$

$$2.5x^2 + 9,000x - 16,000,000 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-9,000 \pm \sqrt{9,000^2 - 4(2.5)(16,000,000)}}{2(2.5)}$$

$$x = \frac{-9,000 \pm \sqrt{81,000,000 + 160,000,000}}{5}$$

$$x = \frac{-9,000 \pm \sqrt{15,524.17}}{5}$$

$$x = \frac{6524.17}{5} \quad \text{or} \quad \frac{-24,524.17}{5}$$

INSIGHT

$$x = 1,304,834 \quad \text{or} \quad -4,904,834$$

\therefore The number of shares originally bought is 1,305 since number of shares cannot be negative

b(i). $S = 1,500(50 - pe^{+0.001A})$

$$S = 1,500(50) - 1,500pe^{+0.001A}$$

$$1,500pe^{+0.001A} = 1,500(50) - S$$

$$1,500pe^{+0.001A} = 75,000 - S$$

$$\therefore e^{+0.001A} = \frac{75,000 - S}{1,500p}$$

Take the log of both sides to base (e) gives

$$0.001A = \text{Log}_e \left(\frac{75,000 - S}{1,500p} \right)$$

$$0.001A = + \text{Log}_e \left(\frac{75,000 - S}{1,500p} \right)$$

$$\therefore A = \frac{1}{0.001} \text{Log}_e \left(\frac{75,000 - S}{1,500p} \right)$$

$$= 1,000 \text{Log}_e \left(\frac{75,000 - S}{1,500p} \right)$$

b(ii) When $S = \text{R}15,000$, $p = \text{R}30$

$$\therefore A = + \frac{1}{0.001} \text{Log}_e \left(\frac{75,000 - 15,000}{1,500(30)} \right)$$

$$= + \frac{1}{0.001} \text{Log}_e (1.33)$$

$$= \frac{\text{Log}_e 1.33}{0.001} = 285.179$$

$\therefore \text{R}285.18$ should be spent on advertising

INSIGHT

EXAMINER'S COMMENT

This question is on basic mathematics where candidates' knowledge in worked problem is tested. About 10% of all the candidates attempted the question with about 20% scoring 7 marks out of 12½ in the average. Candidates could not interpret the worked problem correctly.

SOLUTION 5

- a. let x_1 be the decision variable representing the number of fitted suit produced and x_2 be the decision variable representing the number of padded suits produced

$$\text{maximum: } Z = 6500x_1 + 5800x_2$$

$$\begin{aligned} \text{subject to: } & 3x_1 + 2x_2 \leq 450 && \text{(cutting constraints)} \\ & 5x_1 + 4x_2 \leq 800 && \text{(sewing constraints)} \\ & 2x_1 + 2.5x_2 \leq 500 && \text{(package constraints)} \\ & x_1, x_2 \geq 0 && \text{(non-negativity constraints)} \end{aligned}$$

- b. for constraint, $3x_1 + 2x_2 \leq 450$

$$3x_1 + 2x_2 = 450$$

$$\text{When } x_1 = 0; \quad x_2 = 225 \quad \Rightarrow \quad (0, 225)$$

$$x_2 = 0; \quad x_1 = 150 \quad \Rightarrow \quad (150, 0)$$

$$\text{For constraint } 5x_1 + 4x_2 \leq 800$$

$$3x_1 + 2x_2 = 450$$

$$\text{When } x_1 = 0; \quad x_2 = 200 \quad \Rightarrow \quad (0, 200)$$

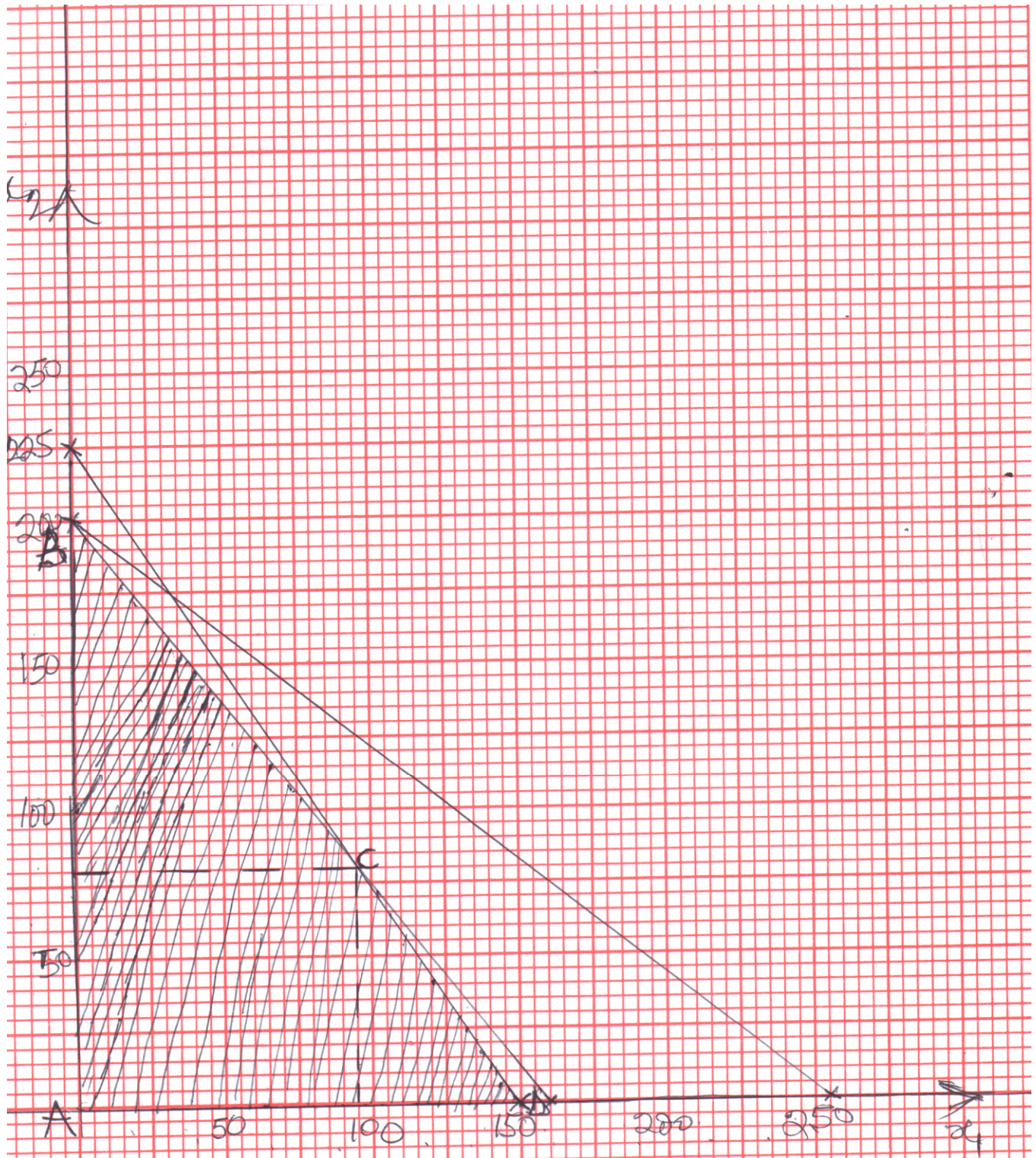
$$x_2 = 0; \quad x_1 = 160 \quad \Rightarrow \quad (160, 0)$$

$$\text{For constraint } 2x_1 + 2.5x_2 \leq 500$$

$$2x_1 + 2.5x_2 = 500$$

$$\text{When } x_1 = 0; \quad x_2 = 200 \quad \Rightarrow \quad (0, 200)$$

$$x_2 = 0; \quad x_1 = 250 \quad \Rightarrow \quad (250, 0)$$



From the graph:

$$\begin{aligned}
 A(0, 0) &= 6500(0) + 5800(0) = 0 \\
 B(0, 200) &= 6500(0) + 5800(200) = \text{N}1,160,000 \\
 C(95, 80) &= 6500(95) + 5800(80) = \text{N}1,081,500 \\
 D(150, 0) &= 6500(150) + 5800(0) = \text{N}75,000
 \end{aligned}$$

The optimal production level is obtained as

$$\begin{aligned}
 \text{No of fitted suits} &= 0 \\
 \text{No of padded suits} &= 200
 \end{aligned}$$

EXAMINER'S COMMENT

This is a question on Linear Programming where candidates are expected to turn those worked problems into linear programming models with clear identification of the objective function to be optimized and the associated constraints. About 95% of the candidates attempted the question with about 70% of them scoring above 6½ marks out of 12½. The major pitfall identified is their inability to attach correct inequality signs.

SOLUTION 6

$$\begin{aligned}
 \text{a. Required quantity (Q)} &= \sqrt{\frac{2cd}{h}} \\
 d &= \text{annual demand} = 5000 \times 12 = 60,000 \\
 c &= 40; \quad d = 60,000; \quad h = 0.8 \\
 Q &= \sqrt{\frac{2(40)(60,000)}{0.8}} = 2,449,489 \\
 &= \approx 2450 \text{ units}
 \end{aligned}$$

b. If no discount is allowed:

$$\begin{aligned}
 \text{Cost of purchase} &= 60,000 \times 15 = \text{N}900,000 \\
 \text{Holding Cost} &= \frac{2450}{2} \times 0.8 = \text{N} 980 \\
 \text{Ordering Cost} &= 25 \times 40 = \text{N} 1,000 \\
 \therefore \text{Total Cost (if no discount is allowed)} &= \text{N}901,980
 \end{aligned}$$

c. If 2% discount is allowed then,

$$\begin{aligned}
 &2\% (30,000 \text{ items}) \\
 \text{Cost of purchase} &= (60,000)(15)(0.98) = \text{N}882,000 \\
 \text{Holding Cost} &= \left(\frac{30,000}{2}\right)(0.8) = \text{N} 12,000
 \end{aligned}$$

INSIGHT

$$\begin{aligned} \text{Ordinary Cost} &= \left(\frac{60,000}{30,000} \right) (4.0) = \underline{\text{N } 80,000} \\ \therefore \text{Total Cost (if 2\% discount is allowed)} &= \underline{\underline{\text{N}974,000}} \end{aligned}$$

EXAMINER'S COMMENT

This question tests candidates' knowledge of Inventory Control. About 60% of the candidates attempted the question with about 20% of them scoring between 3 and 6 marks out of 12½ marks. The identified pitfall is the inability of the candidates to write down the correct formulae.

AT/151/PII.8

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME
PART II EXAMINATION – MARCH 2015
INFORMATION TECHNOLOGY**

Time Allowed – 3 hours

SECTION A: PART I MULTIPLE-CHOICE QUESTIONS (30 Marks)

ATTEMPT ALL QUESTIONS

Write only the alphabet (A, B, C, D,E) that corresponds to the correct option in each of the following questions

1. The unit of measurement of a Computer Storage is
 - A. Bite
 - B. Byte
 - C. Buyte
 - D. Digits
 - E. Records

2. A configuration of electronic components that perform input, processing, output, storage and control functions is called
 - A. Processing System
 - B. Computer System
 - C. Information System
 - D. Network System
 - E. Application System

3. Computer Peripheral include
 - A. Control and Logic devices
 - B. Input and Control devices
 - C. Input and Output devices
 - D. Output and Logic devices
 - E. Output and Control devices

4. Which of the following is **NOT** a software?
 - A. Computer program utilities
 - B. User program
 - C. Diskette
 - D. MS-DOS

- E. Desktop packages
5. The Spreadsheet program is best suited for
- A. Drawings
 - B. Creating letters
 - C. Numerical work
 - D. Presentation and Talks
 - E. Software Development
6. MODEM is an acronym for
- A. Modulotion – Demodulotion
 - B. Modular – Demodular
 - C. Modulotar – Demodulator
 - D. Modulator – Demodulator
 - E. Modulotor – Demodulotor
7. Which of the following does **NOT** involve System Implementation?
- A. Programming and System testing
 - B. Documentation and training
 - C. Changeover and Master file conversion
 - D. Hardware Acquisition, Installation and Site preparation
 - E. Analysis and Systems Evaluation
8. The aspect of Information Technology that stresses the healthy design of work places, workstations and even software packages is referred to as
- A. Bispoke
 - B. Human Machine Interface
 - C. Ergonomics
 - D. Prototyping
 - E. Biometrics
9. Which of the following is **NOT** a Computer crime?
- A. Trojan horse method
 - B. Data Diddling
 - C. Data Security
 - D. Impersonation
 - E. Data Leakage
10. Which of the following is **NOT** a Multimedia?
- A. Text and video
 - B. Sound and Images
 - C. Video and Sound
 - D. Compiler and Mouse
 - E. Video and Images

11. The number 836_{ten} in Binary Coded Decimal (BCD) is
- A. 100001110000
 - B. 100000110110
 - C. 100100100010
 - D. 001000101
 - E. 1101000100
12. When a computer is first turned on, the program that is read from the ROM is called
- A. Load Program
 - B. The prompt
 - C. Protocol
 - D. Bootstrap Program
 - E. The Utility Programs
13. The contents of a Compact Disk of 1.2 GB Size is to be transferred into 1.44MB $3\frac{1}{2}$ inches diskettes. Calculate the number of such diskettes that will be needed.
- A. 801
 - B. 833
 - C. 834
 - D. 850
 - E. 1,728
14. Programs are integrated to unify the user interface. The term “user interface” entails allowing
- A. Programs to work together
 - B. Data to be transferred from one system to another
 - C. Communication between the computer and the user
 - D. Data to be stored in a clipboard
 - E. The use of wild card commands to instruct the computer
15. What is a debugger ?
- A. A program that monitors another program while it is running
 - B. A program that corrects the syntax errors of another program
 - C. A program that collects all the names of data items in another program
 - D. A program that generates source code for a problem
 - E. A prototype that produces predefined reports and modules for a problem
16. In the ISO Reference Model for Open System Interconnection, the layer that establishes, maintains and terminates logical connection for data transfer is
- A. Physical layer
 - B. Network layer
 - C. Transport layer

- D. Presentation layer
 - E. Session layer
17. Which of the following is **NOT** a purpose of System Specification?
- A. Serving as a contract document between the Project team and Management
 - B. Acting as a reference document for later Evaluation and Modification of the system
 - C. Specifying the work load for the Operating staff
 - D. Serving as Operating manual for users
 - E. Used by Programmers to enable them write programs
18. The functions of a Web Browser is to
- A. Access the internet, search for and view data
 - B. Allow the URL to read web addresses
 - C. Download files
 - D. Allow for point-to-point connection
 - E. Serve as users interface
19. The term “downsizing” means
- A. Reducing the size of computer installation
 - B. Changing computer department to information centre
 - C. Reducing computing costs by transferring computer facilities from mainframe to mini or from mini to micros.
 - D. Re-engineering the company’s processing activities
 - E. Centralising computer operations within the organization
20. The use of Firewalls is now common to protect Computer Resources. This means
- A. Building a fence round the computer environment to check unauthorized access
 - B. Installing computers within the four walls of a room
 - C. Providing security guards to man the entry and exit of a computer installation
 - D. To scramble data and information that are sent through mail
 - E. To provide computers with software that serve as “gatekeepers” in filtering information that come into the company’s computer systems
21. Which of the following is **NOT** a good quality of information?
- A. Reliable and Accurate
 - B. Low level of Details
 - C. Complete and Precise
 - D. Timely
 - E. Relevant

22. The computer generation which uses Transistor and Magnetic Core is
- A. First Generation
 - B. Second Generation
 - C. Third Generation
 - D. Fourth Generation
 - E. Fifth Generation
23. Which of the following is **NOT** an impact printer ?
- A. Dot Matrix
 - B. Plotter
 - C. Daisywheel
 - D. Laser Jet
 - E. Character Printer
24. The system software that consists of programs for routine, repetitive tasks which can be shared by many users is known as
- A. Operating System
 - B. Utility program
 - C. Editor
 - D. Application Package
 - E. Spreadsheet
25. Which of the following is **NOT** an algorithm ?
- A. Program Flowchart
 - B. Structured Pseudocode
 - C. Data Structure
 - D. Decision Table
 - E. Decision Tree
26. The structure or configuration of a network is known as
- A. MODEM
 - B. Local Area Network (LAN)
 - C. Wide Area Network (WAN)
 - D. Metropolitan Area Network (WAN)
 - E. Topology
27. Which of the following is **NOT** a stage in traditional Systems Development Life Cycle ?
- A. Prototyping

INSIGHT

- B. Feasibility Study
 - C. Systems investigations
 - D. System Analysis
 - E. System Design
28. A special facility within an organization that provides training and support for end-user computing is known as
- A. Outsourcing unit
 - B. End-user Help unit
 - C. Information centre
 - D. System Building centre
 - E. Structure development unit
29. Establishing an application of safeguards to protect data, software and computer hardware from accidental or malicious modification, destruction or disclosure is known as
- A. Anti-intruder
 - B. Protective system
 - C. Control system
 - D. Anti-Computer virus
 - E. Security
30. An international network of computers and people from all over the world is called
- A. Electronic mail
 - B. Facsimile
 - C. Telex
 - D. Internet
 - E. Intranet

PART II

SHORT-ANSWER QUESTIONS

(20 Marks)

ATTEMPT ALL QUESTIONS

Write the answers that best complete each of the following questions/statements

- 1. Processing in which records are collected together and later processed together is called
- 2. The Interpreter, after translating an application program does not produce
- 3. Repetitive function that provides for more efficient programming is called

INSIGHT

4. The input device which emphasizes the use of special magnetisable ink for coding is known as
5. The use of system programs became available during the generation of computers
6. One way of ensuring that transmitted data preserves its confidentiality is to use a technique known as
7. The name given to microelectronic storage circuits on silicon chips is
8. A debit card that has a microprocessor and memory embedded in it is called
9. The program that performs housekeeping functions for a computer system is called
10. A concept where memory capability provided is much more than the actual memory capacity is
11. A communication network that is designed to cover an office, a building or work site is called
12. An act of obtaining illegal access to data and information on computer system is known as
13. The commission of illegal acts through the use of a computer or against a computer system is known as
14. Forum in which people share information and ideas on a defined topic through large electronic bulletin boards where anyone can post messages on the topic for others to see and respond to is called
15. A network tool that allows someone to log onto one computer system while doing work on another is called
16. Early microcomputer operating systems were command driven, but makes extensive use of icons, buttons, bars and boxes to perform the same task.
17. A program is a collection of written in a particular computer language
18. The most important object used in a database is called
19. The technique of performing office business outside one's workplace is referred to as
20. Database is used to view, change and analyze data in different ways

SECTION B -

Attempt Any FOUR Questions

(50 Marks)

QUESTION 1

- a. Explain the terms “Distributed System” and “Computer Network” (1 Mark)
 - b. What is a “Stand-Alone System”. (1 Mark)
 - c. Mention **FIVE** advantages of using networks. (2½ Marks)
 - d. What does the acronym OSI Stand for? (1 Mark)
 - e. List the **SEVEN** layers of OSI. (7 Marks)
- (Total 12½ Marks)**

QUESTION 2

- a. List **FIVE** Validation Checks used in Data Processing. (2½ Marks)
 - b. Outline **TWO** functions of each of the following key computer personnel
 - i. Programmer
 - ii. System Analyst
 - iii. Data Processing Manager
 - iv. Computer Operator
 - v. Computer engineer(10 Marks)
- (Total 12½ Marks)**

QUESTION 3

There are different types of data processing methods depending on needs, size and nature of the business.

You are required to :

Describe briefly each of the following types of information processing techniques

- a. Batch processing (2½ Marks)
 - b. On-line Realtime processing (2½ Marks)
 - c. Distributed processing (2½ Marks)
 - d. Centralized processing (2½ Marks)
 - e. Decentralized processing (2½ Marks)
- (TOTAL 12½ Marks)**

QUESTION 4

- a. i. An e-mail typically consists of a header and text.
Give an example of a standard format of an e-mail. (2½ Marks)
- ii. Give an example each of an e-mail address, a website address
and an IP address. (3 Marks)

INSIGHT

- b. i. Define the following terms:
- E-Business (1 Mark)
 - Expert system (1 Mark)
 - Firewall (1 Mark)
 - Hacking (1 Mark)
- ii. Explain briefly the relationship of internet worked e-business enterprise with internet, intranet and extranet (3 Marks)
- (Total 12½ Marks)**

QUESTION 5

A major challenge to computerisation arises from virus attacks leading to high maintenance costs and heightened risk of data loss

You are required to:

- a. Define Computer Virus? (1½ Marks)
- b. i. List two effects of Computer Virus
ii. Mention one way of recovering from Virus attack (3 Marks)
- c. Give **FOUR** ways through which a computer may be infected by virus. (4 Marks)
- d. Mention **FOUR** ways by which virus infection may be prevented. (4 Marks)
- (Total 12½ Marks)**

QUESTION 6

Office automation enhances efficiency and improves the hygiene of the work place

You are required to :

- a. Define office automation? (1½ Marks)
- b. Give **FOUR** examples of programs that make it possible to meet office needs and give **ONE** example of the use of each. (8 Marks)
- c. Give **THREE** impacts of office automation on employees. (3 Marks)
- (Total 12½ Marks)**

INFORMATION TECHNOLOGY SOLUTIONS SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

1. B
2. B
3. C
4. C
5. C
6. D
7. E
8. C
9. C
10. D
11. B
12. D
13. C
14. C
15. B
16. E
17. D
18. A
19. C
20. E
21. B

- 22. B
- 23. D
- 24. B
- 25. C
- 26. E
- 27. A
- 28. C
- 29. E
- 30. D

EXAMINER'S COMMENT

This section contains 30 compulsory multiple choice questions.

The questions cover the greater part of the syllabus.

The performance of the candidate in this section was good as 70% of the candidates scored over 50% of the allocated marks.

PART II: SHORT-ANSWER QUESTIONS

- 1. Batch processing
- 2. Object code
- 3. Looping/Iteration
- 4. Magnetic Ink Character Recognition/Reader (MICR)
- 5. Second
- 6. Encryption
- 7. Read Only Memory (ROM)/Memory chip
- 8. Smart card
- 9. Utility program
- 10. Virtual memory

INSIGHT

11. Local Area Networking (LAN)
12. Hacking
13. Computer crime
14. Usenet
15. Telnet
16. Windows/Graphical User Interface (GUI)
17. Instructions
18. File/Table
19. Telecommuting
20. Management System (DBMS)/Query Language

EXAMINER'S COMMENT

This section contains 20 compulsory short answer questions. The questions cover a wide area of the syllabus.

The performance of the candidates in this section was fair as 50% of the candidates scored below 50% of the allocated marks.

The major pitfall was that many candidates could not give satisfactory answers to the questions.

Candidates are advised to pay more attention to basic concepts and definitions.

SOLUTION 1

- 1a. Distributed system is a term used to describe computer systems that have several interconnected processors placed in separate locations. Each processor tends to have its own "local" peripherals (disks, printers, terminal) in addition to any peripheral attached to central processor.

Computer network is a system of computers and workstations connected together.
- b. A "stand-alone system" is a computer system that is not connected to other computer systems.
- c. Advantages of using networks include:
 - i. The sharing of resources (e.g. computer and staff) and information

INSIGHT

- ii. The provision of local facilities without the loss of central control
 - iii. The even distribution of work, processing loads
 - iv. Shared risk and mutual support
 - v. Improved and more economic communication facilities in general e.g. including voice communication
 - vi. Fast means of communication wherever the user may be
 - vii. Access to large databases and other main frame facilities
- d. OSI stands for Open System Interconnection
- e. The seven layers of open system interconnection are:
- i. The physical layer
 - ii. The data link layer
 - iii. The network layer
 - iv. The transport layer
 - v. The session layer
 - vi. The presentation layer
 - vii. The application layer

EXAMINER'S COMMENTS

This question tests candidate's knowledge on a mixture of topics including computer networking and transmission layers.

It demands for the definitions of distributed systems and computer network, including the advantages of using the networks.

Over 90% of the candidates answered this question and the performance was highly impressive as over 70% of them scored above 60% of the allocated mark.

Candidates are advised to keep up this high standard.

SOLUTION 2

- a. The validation checks include:

INSIGHT

- i. Field check: checks that all fields are present and have correct number of characters
 - ii. Range check: checks that value falls within appropriate range
 - iii. Character check: checks fields and make sure that they contain only characters
 - iv. Format check: checks fields for correct format
 - v. Reasonableness: checks that quantities are not abnormally low or high
 - vi. Check digit or hash total: used to check correctness of numbers or field values
 - vii. Limit check
 - viii. Sequence check
- b.
- i. **Programmer**
 - ✓ Designs and test program logic
 - ✓ Codes programs and prepares them for computer operations
 - ✓ Prepares flow-charts and codes routines required to process data
 - ✓ Thoroughly test the operation of completed program and linkage to other programs
 - ii. **System Analyst**
 - ✓ Gathers and analyse information for developing and modifying data processing systems
 - ✓ Designs and specifies systems and methods of installing them and supervises their installation
 - ✓ Evaluates operational systems and recommends improvements
 - ✓ Documents fact-finding and system study results
 - ✓ Makes formal presentations of findings recommendations and specifications informal reports and in oral presentations
 - iii. **Data Processing Manager**
 - ✓ Plans and directs all data processing activities of the corporation
 - ✓ Plans for improvements to the corporations activities through new or improved systems
 - ✓ Organises data processing resources to provides efficient and effective services to users
 - iv. **Computer Operator**
 - ✓ Operates the computer and monitors systems performance on the console

INSIGHT

- ✓ Ensure that input data and files are entered as required in order to maintain production schedules
- ✓ Monitors console messages and reacts according to directions from systems software or application programs
- ✓ Performs procedures required for system back-ups including copying systems files, check point message logs etc.
- ✓ Observes system operations and analyses when programs appear to be operating correctly
- ✓ Analyses potential problems and takes corrective action where called for
- ✓ Maintains records to supplement console log, including problem, documentation and action taken.

v. **Computer Engineer**

- ✓ Maintains the computer and peripherals in good working order
- ✓ Monitors the computer room environment and specifies ideal conditions
- ✓ Periodically cleans the computer and sensitive parts
- ✓ Repairs or replaces defective components in the computer
- ✓ Installs new computers or additional peripherals

EXAMINER'S COMMENTS

This question tests candidates' understanding on processing validation checks and principal functions of certain computer personnel.

Only about 45% of the candidates attempted this question and the performance was poor, as about 30% of the candidates scored above 40% of the allocated mark.

The major pitfall was that many candidates could not list the validation checks. Also, the functions of the computer personnel could not be outlined properly.

Candidates are advised to pay more attentions to the validation checks and read standard texts for future examinations.

SOLUTION 3

- i. Batch processing is the processing as a group of a number of transactions of a similar kind which have been entered over a period of time to a computer system.

Batch processing allows better control over the input data, because data can be grouped into numbered batches.

Bulk volume processing in batch mode allows the processing to be divided into separate stages, where each stage of processing is performed by a separate computer program.

INSIGHT

- ii. On-line real time processing is a method whereby the computer processes that input data as it is entered and alters or updates the required file immediately.

Terminals are utilized to enter data for on-line operations, since they provide immediate and direct input to the data processing flow, eliminating the need for manual transmittal.

The speed of data collection and input is usually increased.

- iii. Distributed processing is a method of processing whereby there exists several interconnected processors in separate locations, each processor has its own local peripheral, including disk storage, printers and terminals.

Each processor may on occasions act autonomously and at other times cooperate the main purpose of the distributed processing is to give end-users control over and responsibility for their own data.

- iv. Centralised processing system handles all processing at a single computer site; it maintains a single central base, has centralized development of applications has central provision for technical services. The advantages of this type of system are in economics of scale.

One major disadvantage of this type of system is that failure in the system may paralyze the whole organization.

- v. Decentralised processing is one that does not have a central control of system development, no communication links among autonomous computing units and databases in various sites. Each unit funds its own information processing activities and is totally responsible for all developments and operations.

EXAMINER'S COMMENTS

This question tests candidates' understanding on computer processing techniques.

60% of the candidates attempted this question and the performance was fair as over 60% of the candidates scored above 50% of the allocated marks.

Candidates are advised to keep up this high performance.

SOLUTION 4

- a. i. A standard format of an e-mail message:
- To: <receiver name @ receiver address>
- From: <sender name @ sender address>
- Date: 1st January 2004

INSIGHT

cc: <copy receiver name @ copy address>

bc: <blind copy receiver name @ blind copy receiver address>

Reply to: <sender name @ sender address>

Subject: Title of the text

Message text is inserted here and can be any length

ii. Examples:

e-mail address: james@yahoo.com

Website address: www.undp.org

IP address: 192. 168. 0. 243

b. i.

- E business: The use of internet technology to internetwork and empower business process, e-commerce and enterprise communications and collaboration that take place within a company and its customers, suppliers and other business stakeholders.
- Expert system: This is an artificial intelligence. An expert system is a computer system that emulates the decision making ability of a human expert. It is designed to solve complex problems by reasoning i.e. it is knowledge-based. It is involved in many activities such as medical diagnosis, robot control, meteorological survey and missile equipment.
- Fire wall: are software and communication processors that protect computer network from intrusion by screening all network traffic and serving as a safe transfer point for access to and from other networks.
- Hacking: The unauthorized access and use of the computer system. It also includes sometimes the obsessive use of the computer system.

ii.

- **The relationship of internet worked E-business enterprise with internet**

The internet is a global system of interconnected computer network that allows a business enterprise to contact any other business enterprises in the world. Simply put that internet enables and facilitates business processes throughout the world.

INSIGHT

- **The relationship of internet worked E-mail enterprise with intranet**

The intranet is a private network that is contained within an enterprise. A business enterprise cannot access the intranet since it is only possible for members of the enterprise to access the network.

- **The relationship of internet worked E-business enterprise with extranet**

An intranet is an internal corporate network that uses the infrastructure and standards of the internet and the World Wide Web. An intranet can connect all types of computers.

An extranet is a type of intranet that is accessible to outsiders, but limited to only those with valid user identification numbers.

EXAMINER'S COMMENT

This question tests candidates' understanding on a mixture of topics including features of the e-mail and features of certain information systems. It also demands for the standard format of an e-mail.

60% of the candidates attempted this question, but the performance was poor as about 40% of the candidates scored below 50% of the allocated marks.

The major pitfall was that many candidates could not answer 4(b) (ii). Candidates are advised to read more on e-commerce using standard textbooks.

SOLUTION 5

a. A virus is a self-replicating program segment that automatically spreads in a computer system and corrupts or destroys all or selected files and folders.

b. Effects of virus include:

- ✓ Encountering strange messages
- ✓ Unpredictable behavior of the system
- ✓ Deletion of file data and information
- ✓ It makes computer operation to be slow

One may recover from virus attack by:

- ✓ Restoring data from virus update backup

If however, backup has not been maintained or backup files short of restore, one would need to use

INSIGHT

- ✓ File recovery software in order to recover all lost or missing files and folders.
- c. A computer can be corrupted by virus through:
 - i. E-mail with or without attachment
 - ii. Downloading files from internet
 - iii. Connecting a storage device that is virus infested
 - iv. Non installation of antivirus software
 - v. Connection to a network
- d. Virus infection can be prevented by:
 - i. Using updated antivirus software
 - ii. Performing virus scan at least once a week
 - iii. Scanning all e-mail before sending or receiving
 - iv. Scanning storage media before connecting to computer system
 - v. Keep web browsers and operating system up-to-date

EXAMINER'S COMMENT

This question tests candidates' knowledge on computer virus. Over 90% of the candidates attempted this question and the performance was good, as over 60% of the candidates scored above 50% of the allocated marks.

Candidates are advised to keep up this high standard.

SOLUTION 6

- a. Office automation refers to all tools and methods that are applied to office activities which make it possible to process written, visual and sound data in a computer-aided manner.

Office automation is intended to provide elements which make it possible to simplify, improve and automate the organization of the activities of the company or group of people (management of administrative data, synchronization of meetings etc).

- b. Examples of programs that enhance office automation include:

- i. Word processing package, MS-word
- ii. Desktop publishing packages, Corel draw
- iii. Multimedia programs, skype
- iv. Spreadsheet package, MS-Excel, Accounting packages
- v. Database software
- vi. Presentation tool software

Their uses include the following:

Word processing

- i. Text manipulation. The user is given the ability to insert, delete, move, edit, retrieve text etc.
- ii. Production of standard letters. A standard letter can be typed and stored and then be used over a period of time.
- iii. Mail merging. This gives the facility for standard letters to be personalized by the use of details stored on a mailing list.

Desktop publishing packages:

- i. **Mix of text with graphics:** The package allows user to manage and manage text with graphics.
- ii. **Varied type and layout styles:** The package provides a variety of fonts or typestyles and one can create different rules, borders, columns and page numbering.

Multimedia programs:

- i. This enable video conferencing, telecommuting
- ii. Electronic email

Spreadsheet package:

- i. This enables arithmetic calculation and other logic formula. Accounting packages are in this category.

c. Impacts of Office Automation include:

INSIGHT

- i. Office automation allows direct replacement of some task
- ii. It brings about enhancement of activities and hence leads to increase in productivity
- iii. With the emergence of internet, office can communicate with their client and perform new functions.
- iv. It will enable employees to work from home at any time of the day
- v. It reduces paper activities and save cost, time and stress to employees

EXAMINER'S COMMENT

This question tests candidates' knowledge on the concept of office automation.

40% of the candidates attempted this question and the performance was good as 60% of the candidates scored above 50% of the allocated marks.

Candidates are advised to keep up this high standard.