

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 MANIFEST 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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INSIGHT

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INSIGHT

AT/132/PII.5

ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA (ATSWA)
PART II EXAMINATIONS - SEPTEMBER 2013

PRINCIPLES AND PRACTICE OF FINANCIAL ACCOUNTING

Time Allowed: 3 Hours

SECTION A: PART I

ATTEMPT ALL QUESTIONS

(30 Marks)

MULTIPLE CHOICE 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. Where the records of branch transactions are maintained in the head office books, the trading account of the branch is the
 - A. Goods sent to branch account
 - B. Goods return to head office account
 - C. Branch stock control account
 - D. Goods return to branch account
 - E. Branch mark of account

Use the information given below to answer questions 2 and 3:

Joab consigned goods costing ₦245,000 to Chukazie and Chukazie paid a carriage of ₦25,000. Chukazie sold all the goods for ₦385,000. Chukazie paid the following expenses; stage charge ₦7,400, distribution expenses ₦8,000 and a commission of ₦25,000.

2. What is the balance in the sales account at the end of the period?
 - A. ₦115,000
 - B. ₦140,000
 - C. ₦319,600
 - D. ₦344,600
 - E. ₦385,000
3. Determine the profit on consignment
 - A. ₦40,000
 - B. ₦74,600
 - C. ₦115,000
 - D. ₦140,000
 - E. ₦165,000

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4. The Joint Venture between Bako and Dan Yaro revealed a balance carried down of ₦56,000 on the debit side of Dan Yaro books at the close of the venture. This amount represents
- A. Share of profit to Dan Yaro
 - B. Cash due to Bako
 - C. Share of profit to Bako
 - D. Cash due to Dan Yaro
 - E. Share of loss to Bako
5. In hire purchase transaction, which method allows the components of total profits being separated into cash price, gross profit and interest charges that are then spread in different proportions.
- A. Hire purchase provision method
 - B. Hire purchase stock method
 - C. Hire purchase interest suspense method
 - D. Hire purchase debtor method
 - E. Hire purchase creditor method
6. In the book of the landlord, the Royalty received and receivable credited to the Royalty receivable account is transferred at the year end to
- A. Short working allowable account
 - B. Landlord account
 - C. Profit and loss account
 - D. Grantee's Profit and Loss account
 - E. Sub-Lessee profit and loss account
7. In the Head Office books, stock deficiency in the branch is recorded by debiting
- A. Branch stock, Credit sales Account
 - B. Branch Account, Credit Branch Stock Adjustment Account
 - C. Sales Account, Credit Branch stock Account
 - D. Branch Stock Adjustment Account, Credit Branch Stock Account
 - E. Branch stock Adjustment Account, Credit goods sent to Branch Account
8. The ownership of goods under the hire purchase contract remains with one of the following until the last instalment is paid
- A. Finance house
 - B. Hirer
 - C. Lessor
 - D. Vendor
 - E. Lessee

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9. Which account is used to determine the cost of goods sent to a consignee?
- A. Agent personal Account
 - B. Consignment Account
 - C. Agents Debtor's Account
 - D. Profit and Loss Account
 - E. Goods on consignment Account
10. Which of the following is **NOT** an attribute of goods sent on sales or return?
- A. The customer has the option to accept or reject the goods within an agreed or reasonable time
 - B. The goods are not regarded as sold until the customer has signified his acceptance
 - C. The customer has to give a notice of rejection
 - D. The goods are regarded as sold at the point of transfer on acceptance
 - E. Goods out on approval can be retained beyond an agreed or reasonable time

Use the information given to answer questions 11 and 12.

Kofi consigned goods amounting to ₦320,000 to Paul. Kofi paid ₦20,000 for carriage and insurance to be added to cost of goods. Paul paid landing charges of ₦15,000 and selling cost of ₦12,000. Paul is to receive a commission of 5% on sales plus a 2% del credere. Paul sold all the goods on credit and collected all the cash with a margin of 25% on cost.

11. What is the amount of del credere due to Paul?
- A. ₦6,400
 - B. ₦8,000
 - C. ₦8,500
 - D. ₦8,875
 - E. ₦9,175
12. Calculate the total commission due to Paul
- A. ₦22,400
 - B. ₦28,000
 - C. ₦29,750
 - D. ₦31,062
 - E. ₦32,112

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13. In hire purchase transaction, which of the following is the accounting entry for cash received in respect of hire purchase in the books of the hirer?
- A. Dr. Hire Purchase Trading Account; Cr. Cash Account
 - B. Dr. Cash Account; Cr. Hire Purchase Trading Account
 - C. Dr. Hire Purchase Sales; Cr. Hire Purchase Trading Account
 - D. Dr. Profit and Loss Account; Cr. Hire Purchase Interest Account
 - E. Dr. Hirer's Account; Cr. Cash Account
14. In accounting for lease transaction, which type of lease allows the lessor to retain the risks and rewards associated with ownership
- A. Operating Lease
 - B. Sale and Lease back
 - C. Finance Lease
 - D. Balloon Lease
 - E. Pepper corn rent lease
15. In the books of the landlord in accounting for royalty, state the accounting entries when royalties are received from tenants
- A. Dr. Tenant Account; Cr. Landlord Account
 - B. Dr. Tenant Account; Cr. Cash/Bank Account
 - C. Dr. Cash/Bank Account; Cr. Tenant/Lessee Account
 - D. Dr. Tenant Account; Cr. Profit and Loss Account
 - E. Dr. Profit and Loss Account; Cr. Tenant Account
16. Which account is used primarily to determine profit or loss made from a Joint Venture?
- A. Joint Venture Account with Venturer
 - B. Memorandum Joint Venture Account
 - C. Trading Profit and Loss Account
 - D. Current Account with co-Venturer
 - E. Income and Expenditure Account
17. A system whereby a proportion of inventory is checked or counted daily so that over the year each line of inventory would have been counted at least once in known as:
- A. Periodic inventory calling
 - B. Perpetual Inventory system
 - C. Continuous inventory taking
 - D. Stock taking after the Balance sheet date
 - E. Standard inventory taking

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18. In the statement of cash flows under which category is bank interest expense disclosed?
- A. Operating activities
 - B. Investing activities
 - C. Financing activities
 - D. Working Capital charges
 - E. None of the above
19. Under IFRS a resource controlled by an organisation as a result of past events and from which future economic benefits can be generated is called
- A. Economic benefit
 - B. Expandable supplies
 - C. An asset
 - D. Equity Capital
 - E. Goodwill
20. Each of the following is referred to as an element of financial statements under IFRS **EXCEPT**
- A. An asset
 - B. A liability
 - C. Income
 - D. Expense
 - E. Revenue reserve
21. Under construction contract accounting, which of the following is a method of profit recognition?
- A. Standard contract method
 - B. Completed contract method
 - C. Whole contract method
 - D. Part-year contract method
 - E. Actual-year contract method
22. In Joint Venture Account, each Venturer will enter in its own records transactions that
- A. concern both parties
 - B. concern it only
 - C. concern bank related issues for both parties
 - D. concern other party only
 - E. involve cash only

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23. Finance lease is a contract between two parties for the purpose of:
- A. Buying and selling goods
 - B. Credit sales and purchase
 - C. Acquiring an asset
 - D. Cash purchases and sales
 - E. Buying materials for production
24. Actual cost of inventory include the following **EXCEPT**
- A. Purchase price
 - B. Carriage inward
 - C. Direct wages
 - D. Direct expenses
 - E. Carriage outward
25. The following are examples of intangible assets **EXCEPT**
- A. Goodwill
 - B. Patents
 - C. Copyright
 - D. Human Resources
 - E. Accounting software
26. Which of the following is **NOT** a debit entry in contract account opened for a project?
- A. Material purchased
 - B. Wages paid
 - C. Direct expenses
 - D. Material transfer
 - E. Overhead paid
27. Which of the following is **NOT** a characteristic of Last In First Out (LIFO)
- A. Prices at which stocks are issued is actual cost
 - B. Raw materials issued are at latest batches price
 - C. In a period of rising prices, profit are understated
 - D. In a period of falling prices, profit are overstated
 - E. In a period of rising prices, profit are overstated

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Use the following to answer Questions 28 and 29

Adewale sent goods worth ₦160,000 on consignment to Chukwu.

Adewale paid freight and charges amounting to ₦10,000.

Chukwu is to receive a commission of 5% on sales plus 1% del credere. 75% of the goods were sold by Chukwu at ₦414,000 for cash only.

28. Calculate the value of closing inventory
- A. ₦44,375
 - B. ₦42,500
 - C. ₦46,875
 - D. ₦40,275
 - E. ₦43,400
29. What is the total amount due to Chukwu including reimbursement of expenses?
- A. ₦22,700
 - B. ₦21,200
 - C. ₦20,400
 - D. ₦20,700
 - E. ₦23,100
30. Hire purchase interest is also known as:
- A. Bank charge
 - B. Finance charge
 - C. Standard cheque
 - D. Commission on turnover
 - E. Value Added charge

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PART II:

SHORT-ANSWER QUESTIONS

(20 Marks)

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

1. Extended Trial Balance is an alternative way of arriving at the figures to be included in the
2. The excess of current assets over current liabilities is known as
3. The Closing Balance in Receipts and payments Account represents in financial statements.
4. Which account is to be credited with the cash received in respect of trade receivables?
5. The amount at which an asset is recognized after deducting any accumulated depreciation and accumulated impairment losses is called
6. Explain the term “useful life of a non-current asset”.
7. Explain the term “impairment loss”.
8. The specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements are called
9. Based on the Data extracted below, from the records of Gragbo Social Club for the year ended 31 December, 2012, determine the subscription earned in the year.

	₦
Subscriptions in arrears at 1/1/2012	25,000
Subscriptions in advance at 1/1/2012	10,000
Subscriptions in arrears at 31/12/2012	5,000
Subscriptions in advance at 31/12/2012	15,000
Subscriptions received during the year	225,000

10. List two matters normally contained in a Partnership Deedand
11. When a partnership maintains fixed capital accounts the share of profit is credited to account.
12. The ledger account entries to record loss on realization of asset on the dissolution of partnership are and

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13. In the statement of cash flows, proceeds from sale of property is treated as cash from activities.
14. State two current liabilities that are not considered as changes in working capital in the statement of cash flows.
15. When a liability is due to be settled within 12 months of the statement of financial position date it is classified as liability.
16. In the statement of comprehensive income, expenses can be classified according to their function or
17. The document which shows the sales made by the consignee, along with his expenses and commission to the consignor is known as
18. The goods sent to branch at cost plus 25% was ₦30,000 in the goods sent to branch account. How much will be shown in the branch stock account in respect of these goods?
19. A hire purchase contract is basically between the and the
20. The additional commission paid to the consignee by the consignor for undertaking to pay the consignor for any debt arising from goods sold by him to third party on credit is known as

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SECTION B:

ATTEMPT ANY FOUR QUESTIONS

(50 Marks)

QUESTION 1

Doe Trading Stores maintain incomplete records. The following information was extracted from the records of the stores:

	YEAR ENDED 31 DEC. 2011	YEAR ENDED 31 DEC. 2012
	L\$	L\$
Property (Free hold)	1,500,000	1,500,000
Motor van	360,000	360,000
Stock	74,000	130,000
Loan from Bank	600,000	600,000
Trade Debtors	130,000	196,000
Prepaid Expenses	16,000	-
Trade Creditors	90,000	74,000
Bank Balance	200,000(DR)	40,000(CR)
Investment	-	500,000
Cash Balance	106,000	366,000
Accrued Expenses	-	10,000

The following additional information was also made available in respect of 2012 accounting year.

- i. Additional capital of L\$500,000 was introduced into the business
- ii. The Managing Director, Mr. Doe withdrew the sum of L\$40,000 during the year
- iii. Depreciation is to be provided on book value of the assets as follows:
Freehold property 5%
Delivery Van 10%
- iv. Allowance for doubtful debts of L\$3,000 is to be made

You are required to:

Calculate the profit earned by Doe Trading Store for year 2012

(Show all workings)

(Total 12½ Marks)

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QUESTION 2

- a. Explain the term “Property, Plant and Equipment”. (2½ Marks)
- b. Explain the following concepts as they relate to IAS 16, Property, Plant and Equipment:
- i. Carrying amount
 - ii. Fair value
 - iii. Depreciable value
 - iv. Residual value
 - v. Recoverable amount

(10 Marks)
(Total 12½ Marks)

QUESTION 3

Kola, Daisi and Lemo are in partnership sharing profits and losses in the ratio 3:2:1 respectively.

Statement of financial position as at 31 December, 2012				
	R'000	R'000		R'000
Capital Accounts			Non-current Assets	
Kola	1,160		Premises	1,200
Daisi	715		Motor van	700
Lemo	<u>520</u>		Furniture & Fittings	<u>30</u>
		2,395		1,930
Current Accounts:			Current Assets:	
Kola	210		Inventory	190
Daisi	<u>79</u>		Trade Receivable	210
		289	Current Account:	
Trade payables		375	Lemo	124
			Cash at Bank	<u>605</u>
		<u>3,059</u>		<u>1,129</u>
				<u>3,059</u>

On 1 January, 2013 Lemo retired from the partnership on the following terms:

Goodwill was valued at R400,000. The current value of the Premises and Motor van were R1,400,000 and R300,000 respectively. The inventory was to be reduced by R16,000 and allowance for doubtful debts was put at R10,000. No Goodwill Account was to be maintained and the balances of the assets in the books were not to be altered for the purpose of the continuing partnership. Any adjustment considered to be necessary is to be made through the partners' Capital Accounts. Lemo's balance should be left as loan in the partnership.

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You are required to prepare the revised statement of financial position in vertical format as it would appear immediately after Lemo had retired.

Show all workings

(Total 12¹/₂ Marks)

QUESTION 4

One of the sources of finance open to a company to obtain the capital for running the business is by the issue of preference share capital. A prospective investor has the opportunity to select from the many classes of preference shares available among which are cumulative preference shares and Redeemable preference shares

Required:

- a. Outline two advantages of holding preference share capital over ordinary share capital (4 Marks)
- b. State the main characteristic of the cumulative preference shares (2¹/₂ Marks)
- c. What are the legal requirements for the redemption of Redeemable preference share capital? (6 Marks)

(Total 12¹/₂ Marks)

QUESTION 5

Joax Manufacturing Trading Ltd delivers goods to customers in cases which are valued in the books at ₦20 each. It charged out to customers at ₦35 and credited them at ₦30 each if returned within a stipulated time.

On January 1, 2012, there were 40,000 cases in stock and 60,000 in the hands of customers (all returnable). Purchases during the year to 31 December 2012 was 50,000 cases at ₦30 each. 64,000 cases were sent to customers while 46,000 cases were returned during the period; 160 cases were scrapped for ₦1,000.

Closing stock in customers' hand on 31 December, 2012 were 4,800

You are required to prepare:

- a. Container Stock Account
- b. Container Trading Account

(Total 12¹/₂ Marks)

QUESTION 6

KAKANLA Local Government Council awarded ₦500m contract for the building of low cost housing to Kufor Builders Plc on 1 January 2012. The contract is to be completed in 4 years.

The following information was provided in respect of the contract:

2012 Expenditure include:	₦
Materials purchased	16,500,000
Wages	8,250,000
Sub-contractors cost	10,800,000
Other direct expenses	4,200,000
Plant purchased	32,800,000
Accrued direct expenses	90,000
Accrued wages	105,000
Materials on site	7,742,500
The 2013 expenditure and other information are:	
Wages	3,855,000
Materials purchased	7,650,000
Plant purchased	3,800,000
Direct overhead	3,625,000
Payment to sub- contractors	8,954,000
Progress payment	120,000,000
Material loss	280,000
Materials on site	1,650,000
Accrued wages	200,000
Advance payment to sub-contractors	1,491,000
Materials returned to suppliers	862,500
Materials transferred to other contractors	3,000,000
Value of work certified	144,000,000
Value of work not certified	8,222,500
Retention money	6,750,000

The following information are also relevant to the contract:

- i. Plant are depreciated at the rate of 25% on book value
- ii. The work done in 2012 was not certified and no profit was taken by the company in that year
- iii. The cost to be incurred to complete the project in subsequent years is estimated to be ₦300m

You are required to prepare:

- a. Contractee Account (Kakanla Local Government).
- b. Retention Account
- c. Low cost housing contract account for 2012 and 2013
- d. Profit taken

(Total 12¹/₂ Marks)

SUGGESTED SOLUTIONS

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

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

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

EXAMINER'S COMMENT

The thirty questions that cover all areas of the Syllabus were attempted by all the candidates. About 60% of them scored pass mark and above.

SHORT-ANSWER QUESTIONS SOLUTIONS

- 1. Financial statements
- 2. Working capital or net current assets
- 3. Cash or bank balance
- 4. Sales ledger control account
- 5. Carrying amount

6. Useful life is the:
 - i. Period over which an asset is expected to be available for use by an entity; or
 - ii. Number of production or similar units expected to be obtained from the asset by an entity.
7. An impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount.
8. Accounting policies
9. ₦200,000
10. Unlimited
11. Current account
12. Dr. partners capital account; Cr. Realization account
13. Inflows, investing
14. Dividend, taxation, bank overdraft
15. Current
16. Nature
17. Account sales
18. ₦37,500
19. Vendor and hirer
20. Del credere

EXAMINER'S COMMENT

The twenty questions cover all areas of the syllabus and were attempted by all candidates. About 75% of the candidates scored pass mark and above.

INSIGHT

Tutorial: Q9

	Subscription	Account	
	R		R
Bal b/d	25,000	Bal b/d	10,000
Income and Expenditure	200,000	Receipts & Payments	225,000
Balance b/d	<u>15,000</u>	Balance c/d	<u>5,000</u>
	<u>240,000</u>		<u>240,000</u>

SOLUTION 1

DOE TRADING STORES

PROFIT FOR THE YEAR ENDED 31 DECEMBER 2011

	Note	L\$	
Total Net Asset (year 2011) (W2)		2,214,000	
Less:-			
Opening capital.....		1,696,000	
Additional capital (in the year)		<u>500,000</u>	
		2,196,000	
Less: Drawings		<u>40,000</u>	
			<u>2,156,000</u>
Profit for year 2011			<u>58,000</u>

Workings

(W1)	Assets:-	L\$	
	Freehold property	1,500,000	
	Motor van	360,000	
	Stock	74,000	
	Debtors	130,000	
	Prepaid expenses	16,000	
	Bank	200,000	
	Cash	<u>106,000</u>	
	Total Assets	2,386,000	<u>2,236,000</u>
	Less: Liabilities		
	Loan from bank	690,000	
	Trade Creditors	<u>90,000</u>	
			<u>690,000</u>
	Opening capital		<u><u>2,214,000</u></u>

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(W2) CLOSING TOTAL NET ASSETS (YEAR 2011)

Fixed Assets:-	L\$	L\$
Freehold property	1,500,000	
Depreciation	<u>75,000</u>	1,425,000
Motor van	360,000	
Depreciation	<u>36,000</u>	324,000
Investment		500,000
CURRENT ASSETS		
Stock		130,000
Debtors	196,000	
Less provision	<u>3,000</u>	193,000
Cash balance		<u>366,000</u>
		<u>2,938,000</u>
Less: Liabilities		
Loan	600,000	
Creditors	74,000	
Accrued Exp.	10,000	
Bank overdraft	<u>40,000</u>	<u>724,000</u>
TOTAL NET ASSETS		<u>2,214,000</u>

EXAMINER'S COMMENT

The question on incomplete records was attempted by about 80% of the candidates. Good understanding of the question was displayed by about 70% of the candidates and which earned them high marks

SOLUTION 2

- a. Property, plant and equipment are tangible items that:
- i. are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and
 - ii. are expected to be used during more than one period
- b. i. Carrying amount is the amount at which an asset is recognized after deducting any accumulated depreciation and accumulated impairment losses.
- ii. Fair value is the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction.

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- iii. Depreciable value is the cost of an asset, or other amount substituted for cost, less its residual value.
- iv. Residual value of an asset is the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.
- v. Recoverable amount is the higher of an asset's net selling price and its value in use.

EXAMINER'S COMMENT

The question which tests candidates' knowledge of the provisions of IAS 16 was attempted by about 90% of the candidates.

Few candidates performed well at the part(a) of the question, while the performance on the question was generally poor.

SOLUTION 3

Kola, Daisi and Lemo financial position as at 1 January 2011

a. Statement of financial position as at 1 January 2011

	N'000	N'000	N'000
Non-current assets			
Premises	1,200		
Motor Van	700		1,930
Furniture and fittings	<u>30</u>		
Current Assets:			
Inventory	190		
Trade Receivables	210		
Cash at Bank	605	1,005	
Current Liabilities:			
Trade Payables		<u>(375)</u>	<u>630</u>
			<u>2560</u>
		N'000	N'000
Capital Accounts:			
Kola		1,112.6	
Daisi		<u>683.4</u>	1,796
Current Accounts:			
Kola		210	
Daisi		79	289
Loan: Lemo			<u>475</u>
			<u>2,560</u>

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Notes:

i. Increase in the value of assets

	N'000	N'000
Goodwill	400	
Premises	<u>200</u>	600
Less: Motor van	100	
Inventory	16	
Provision for Doubtful Debts	<u>10</u>	<u>126</u>
		<u>474</u>

ii. Increase to Lemo Account after retirement: $\frac{1}{6} \times 474,000$
= N79,000

iii. Increase in Lemo capital account to be shared out to Kola and Daisi in ratio 3:2

Kola: $\frac{3}{5} \times \text{N}79,000 = \text{N}47,400$

Daisi: $\frac{2}{5} \times \text{N}79,000 = \text{N}31,600$

iv. Capital Accounts

Kola: $\text{N}1,160,000 - \text{N}47,400 = \text{N}1,112,600$

Daisi: $\text{N}715,000 - \text{N}31,600 = \text{N}683,400$

v. Amount owed to Lemo and transferred to Loan Account
($\text{N}520,000 + \text{N}79,000$) - $\text{N}124,000 = \text{N}475,000$

EXAMINER'S COMMENT

The question tests the knowledge of the candidates on accounting entries in dissolution of partnership. About 75% of them attempted the question and about 40% scored above pass mark and above.

SOLUTION 4

a. Advantages of preference shares over ordinary shares

i. Preference shares enjoy priority over ordinary share as regards payment of dividend.

ii. Upon liquidation of a company, preference shares shall rank in priority to ordinary shares provided there is provision in the Articles of Association of the company to that effect.

INSIGHT

- iii. They are entitled to fixed annual dividends on profit, ordinary shares holders are entitled to variable dividends.
- b. Where preference shares are cumulative any arrears of preference dividend are carried forward. This means that when the profit earned is less than the dividend due, it would be recouped in future when the company made good profit.
- c. Legal requirements for Redemption of redeemable preference share are:
- i. There must be in issue other shares which are not redeemable.
 - ii. The shares due for redemption must have been fully paid.
 - iii. The shares must be redeemed on such terms and in such manner as may be produced in the articles without violating the provision of the Act.
 - iv. Redemption is made out of proceeds on sale of shares made for the purpose of the redemption and from distributable profit of the company.
 - v. Premium payable on redemption is payable out of company's distributable profit or from share premium account.

EXAMINER'S COMMENT

The question which tests candidates' knowledge about preference shares was attempted by about 60% of the candidates.

About 70% of those who attempted it displayed good understanding of the a & b parts of the question. While the performance at the c part was poor. Generally about 50% scored average marks.

SOLUTION 5

JOAX MANUFACTURING TRADING LIMITED

CONTAINER STOCK ACCOUNT

	Quantity	Rate ₹	Amount ₹		Quantity	Rate ₹	Amount ₹
To stock -				Depreciation (30 - 20) x 50,000			500,000
In hand	40,000	20	800,000				
With customers	60,000	20	1,200,000	Scrap	160		1,000
				Loss on scrap			2,200
Purchases	50,000	30	1,500,000	Retained by customers (W.I.)	73,200	20	1,464,800
				Balance c/d:			
				- Warehouse	71,840	20	1,436,800
				- Customers	4,800	20	96,000
	<u>150,000</u>		<u>3,500,000</u>		<u>150,000</u>		<u>3,500,000</u>

INSIGHT

CONTAINER TRADING ACCOUNT

	Quantity	Rate ₤	Amount ₤		Quantity	Rate ₤	Amount ₤
Customers:							
Cases return	46,000	30	1,380,000	Provision for liability on returnable cases in	60,000	30	1,800,000
Cases stock returned				Customer hand b/d	64,000	35	2,240,000
Customers	73,200	20	1,464,000	Profit and loss account			
Loss on scrap			2,200	Loss on scrap			2,200
Provision for liability on returnable cases is customers' hand	4,800	30	144,000				
Profit and loss account (Hire and sales)			1,052,000				
	<u>124,000</u>		<u>4,042,200</u>		<u>124,000</u>		<u>4,042,200</u>

Workings

1. Container retained by customers

	₤
Opening stock with customers	60,000
Dispatch to customers	64,000
Less returned cases customers	(46,000)
	78,000
Closing stock with customers	4,800
Container/cases retained by customers	<u>73,200</u>

2. Where depreciation is not used to value balance in the warehouse:

Warehouse Stock:	₤
Old Stock	21,840 @ ₤20 = 436,800
New stock	<u>50,000 @ 30 = 1,500,000</u>
	<u>71,840</u> <u>1,936,800</u>

EXAMINER'S COMMENT

About 20% of the candidates attempted the question on containers account. Poor understanding of the question was displayed by them, while about 10% of those who attempted it scored pass mark and above.

INSIGHT

SOLUTION 6

Contractee (Kakanla Local Government) Account

	₦		₦
Value of work cert.	144,000,000	Retention	6,750,00
		Progress payment	120,000,000
		Bal c/d	<u>17,250,000</u>
	<u>144,000,000</u>		<u>144,000,000</u>

Retention Account

	₦		₦
Contractee	6,750,000		

Low Cost housing contract account for the year 31 December 2012

	₦		₦
Plant	32,800,000	Plant c/d (W.1)	24,600,000
Material	16,500,000		
Wages	8,250,000	Material c/d	7,742,500
Accrued wages	105,000		
Direct expenses	4,200,000	Cost of work done c/d	40,402,500
Accrued Direct Expenses	90,000		
Subcontractors	<u>10,800,000</u>		
	<u>72,745,000</u>		<u>72,745,000</u>

Workings

W.1 Plant c/d (2012):

Plant purchased =	32,800,000
Less Depreciation 25% =	(8,200,000)
	<u>24,600,000</u>

Lowcost Housing Contract Account for the year ended December 31, 2013

	₦		₦
Cost of work b/d	40,402,500	Material loss	280,000
Plant b/d	24,600,000	Material transfer	3,000,000
Material b/d	7,742,500	Material returned	862,500
Plant Purchased	3,800,000	Plant c/d	21,300,000
Material purchased	7,650,000	Material c/d	1,650,000
Direct overhead	3,625,000		
Wages	3,855,000	Cost of work to date c/d	72,245,500
Accrued wages	200,000		
Sub contractor	8,954,000		
Sub contractor prepaid	(1,491,000)		
	<u>99,338,000</u>		<u>99,338,000</u>
Cost of wk b/d	72,245,500	Value of work certified	144,000,000
Profit taken	24,794,584		
Profit suspense	<u>55,182,416</u>	Value of work not certified	<u>8,222,500</u>
	<u>152,222,500</u>		<u>152,222,500</u>

INSIGHT

W2 Plant c/d (2013)	
Bal b/d	24,600,000
Plant purchased	<u>3,800,000</u>
	28,400,000
2011 Depreciation 25% (<u>7,100,000</u>)	
	21,300,000

Calculation of profit taken

		₤
Estimated profit:		500,000,000
Contract price		
Less: cost of date	72,245,000	
Future cost	<u>300,000,000</u>	
Total cost		<u>372,245,000</u>
Estimated profit		<u>127,755,000</u>
Profit taken = $\frac{\text{Cost to date}}{\text{Estimated total cost}}$		x <u>Estimated total profit</u>
=	$\frac{₤72,245,000}{₤372,245,000}$	x ₤127,755,000
=		₤24,794,584

EXAMINER'S COMMENT

The question which tests Candidates' knowledge of Contract Accounting was attempted by about 15% of the Candidates. Performance was generally poor. About 5% of those that attempted the question scored pass mark and above.

INSIGHT

AT/132/PII.6

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA (ATSWA)
PART II EXAMINATIONS - SEPTEMBER 2013
PUBLIC SECTOR ACCOUNTING**

Time Allowed: 3 Hours

SECTION A: PART I ATTEMPT ALL QUESTIONS (30 Marks)

MULTIPLE CHOICE 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. A monthly payment made to a retired officer who has served for a statutory period is called:
 - A. Salary
 - B. Gratuity
 - C. Pension
 - D. Remuneration
 - E. Allowances

2. Standardization of Accounting Procedures is achieved through the following, **EXCEPT:**
 - A. Ministry of Finance Directive
 - B. Accountant-General directive
 - C. Approval of Accounting Code or variation
 - D. Approval of flow chart of Internal Control
 - E. Ensure that there is uniform Management System

3. Authority for imprest is made by the

 - A. Attorney General
 - B. Auditor-General
 - C. Surveyor-General
 - D. Accountant-General
 - E. Tutor-General

INSIGHT

4. Request for supplementary allocation during the year may be granted by the National or State Assembly under the following conditions, **EXCEPT**:
 - A. The supplementary request must manifestly be in the public interest
 - B. The need is so urgent that the additional provisional request cannot be deferred till the following year
 - C. The need could not be foreseen when the current estimates were being approved
 - D. There is still sufficient fund currently approved under the Head which could cover the request but not yet utilized
 - E. The money required cannot be sourced through virement

5. The organization licensed to open retirement savings accounts, invest and manage pension funds, and assets for all employees registered with it is known as:
 - A. National Pension Commission
 - B. Pension Fund Custodian
 - C. National Pension Fund
 - D. Pension Fund Administrator
 - E. National Social Insurance Trust Fund

6. Under the Pension Reform Acts, 2004, an employee is **NOT** allowed to withdraw or have access to his contributions until he is years of age
 - A. 35
 - B. 40
 - C. 50
 - D. 55
 - E. 60

7. **ONE** of the following is **NOT** a function of the National Pension Commission as stated in S.20 of the Pension Reform Act 2004:
 - A. Receive the total contributions remitted by employers on behalf of the pension fund administrator
 - B. Regulate and supervise the Scheme established under the Act
 - C. Issue guidelines for the investment of pension funds
 - D. Approve, license, regulate and supervise all the institutions relating to pension matters
 - E. Establish standards, rules and guidelines for the management of the Pension Funds under the Act

INSIGHT

8. Following the approval of an initial Appropriation Bill by the National or State Assembly, the authority to approve Supplementary Appropriation Bill in that year rests with
- A. The President or Governor only
 - B. The Minister or Commissioner of Finance only
 - C. The Federal or State Accountant-General only
 - D. The Federal or State Auditor-General
 - E. The Federal or State Assembly only
9. Which of the following is **NOT** a method of preparing a Public Sector Organisation's annual budget:
- A. Line item method
 - B. Planning, Programming and Budgetary System
 - C. Traditional Method
 - D. Incremental Method
 - E. Rolling Plan Method
10. Treasury and finance circulars as well as Financial Regulations often have their origins and authorities extended from basic Legal instruments like the following, **EXCEPT**:
- A. Appropriation Acts
 - B. Public Administration Laws
 - C. Finance Acts
 - D. Adjustment Vouchers
 - E. Constitutional Provisions
11. According to section 103 (a, b, c and d) of the Financial Regulations as amended, which of the following is **NOT** included in the Auditor-General's Report:
- A. All funds are fully accounted for
 - B. The Accounts are properly kept
 - C. Rules and procedures properly followed to safeguard loss of public funds and property
 - D. Formulation of Accounting policy of the Federal Government
 - E. Monies have been expended for the purpose for which they were appropriated and expenditure have been made as authorized
12. With reference to IPSAS2 - cash flow statements, which of the following is **NOT** a cash flow from operating activities:
- A. Statutory Allocation
 - B. Internally Generated Revenue
 - C. Personal Emoluments
 - D. Purchase of Financial Market Instruments
 - E. Transport Services

INSIGHT

13. The source of Revenue into the Consolidated Revenue Fund Accounts (Statement No. 3) includes the following **EXCEPT**:
- A. Statutory allocation from the Federation Account
 - B. Reimbursement
 - C. Interest and Repayment General
 - D. Tenement Rates
 - E. Rent on Government Property
14. Charges from Development Funds (Statement No.4) include the following **EXCEPT**:
- A. General administration
 - B. Summary of capital expenditure
 - C. External Financial Receipts
 - D. Loans lent to States
 - E. Emoluments of Statutory Officers
15. Which of the following is **NOT** among the components of monthly transcripts of a Self-Accounting Ministry or Department?
- A. Opening cash book balance (Bank column only)
 - B. Recurrent Expenditure Receipts
 - C. Capital Expenditure Receipts
 - D. Outstanding Liabilities
 - E. Closing cash book balance (Bank column only)
16. Statement No.2 (Statement of assets and liabilities) is among the newly adopted financial statements being prepared by Federal, State and Local Governments Which of the following is **NOT** classified under assets?
- A. Cash and Bank Balance
 - B. Advances
 - C. Investment
 - D. Capital Development Fund
 - E. Treasury Clearance Accounts
17. Which of the following is **NOT** a step in the preparation of Transcripts
- A. Pre-listing of Payment Vouchers
 - B. Making posting into the Analysis Book
 - C. Retirement of Advance Payment Vouchers (for below the line)
 - D. Balancing the Analysis Book
 - E. Vouching the Cash Book

18. The Statement of Consolidated Revenue Fund is
- A. Statement No.7
 - B. Statement No.2
 - C. Statement No.1
 - D. Statement No.3
 - E. Statement No.5
19. An audit which checks the relevance and adequacy of documents that support a transaction is called:
- A. Final Audit
 - B. Verification Audit
 - C. Vouching Audit
 - D. Management Audit
 - E. Interim Audit
20. Which of the following is responsible for carrying out “Prepayment Audit” in the Ministry?
- A. The External Auditor
 - B. The Accounts-General
 - C. The Accounting Officer
 - D. The Internal Auditor
 - E. The Auditor-General
21. In Public Procurement, all bidders must possess the following requirements **EXCEPT**:
- A. Professional and Technical qualification to carry out particular procurement
 - B. Financial capability
 - C. Equipment and other relevant infrastructure
 - D. Adequate Personnel to perform obligation
 - E. Political Sponsorship and Patronage
22. Which **ONE** of the following is **NOT** a step in Procurement Planning?
- A. Preparing the need assessment and evaluation
 - B. Identifying the goods and services required
 - C. Carrying out appropriate Market Survey
 - D. Consulting political sponsor for patronage
 - E. Prescribing any method for effecting the procurement subject to necessary approval

INSIGHT

23. Which of the following is **NOT** required to be included in the pre-qualification document for public procurement?
- A. Instruction to prepare and submit application
 - B. A summary of the main term and condition required for the procurement
 - C. Any documentary evidence to demonstrate qualification
 - D. The manner and place for submission of application to pre-qualify within time frame
 - E. Evidence of political membership of the ruling party
24. Public Procurement bid could be first examined for determination if the following conditions are met **EXCEPT**
- A. Minimum eligibility requirement stipulated in the bidding document of bid
 - B. Duly signed by the bidder
 - C. Substantially responsive to the bidding document
 - D. General
 - E. Endorsed by the Minister
25. The following processes are undertaken for Public Procurement in order to determine the lowest evaluated responsive bid **EXCEPT:**
- A. Checking of deviation
 - B. Checking of omission
 - C. Clarification in monetary terms
 - D. Application of discount as applicable
 - E. Checking of the sponsors of the bidder
26. Emergency Procurement may be carried out under the following conditions **EXCEPT:**
- A. Contingency or force majeure
 - B. Condition of important equipment may deteriorate unless emergency provision of item of minor value is incurred
 - C. A public project of important value may be delayed on damaged for want of an item whose value is not much
 - D. For political exigency, procurement may be necessary
 - E. National Security is threatened by non-provision of the material
27. Which of the following is **NOT** a Criteria for evaluation of proposal for important Public Procurement?
- A. Qualification, experience and management competence
 - B. Effectiveness of the proposals
 - C. Proposed price
 - D. Effect of Payment Acceptance on foreign exchange
 - E. Readiness of supplier to bribe the Procuring Institution

INSIGHT

28. Which **ONE** of the following is **NOT** a condition for recognizing a Public Property for disposal?
- A. Created through Public Expedition
 - B. Acquired as a gift or through deed
 - C. Acquired in respect of intellectual or Proprietary Right
 - D. Seized from heritage of a Public Officer who died intestate
 - E. Acquired on financial instrument i.e. shares, stock, bond etc
29. Accountability, fairness, equity, honesty and transparency are code of conduct for all parties to Public Procurement **EXCEPT**
- A. Procuring Entity
 - B. Suppliers
 - C. Contractors/service provider
 - D. Official of the Bureau
 - E. Consuming Public
30. A conflict of interest does **NOT** exist where a person in Public Procurement:
- A. Possesses an interest outside his official duties that materially encroaches on the time or attention which should otherwise be devoted to the Affairs of Government
 - B. Possesses a direct or indirect interest in or relationship with a bidder or supplier
 - C. Entertains relationship which is unethical rendering his attitude tilted towards the outsider for personal reasons
 - D. Entertains relationship compromising the reputation or integrity of the Procuring entity he represents
 - E. Deals at Arm's length and objectively on Public Procurement with no special interest

SECTION A: PART II:

ATTEMPT ALL QUESTIONS

(20 Marks)

SHORT ANSWER QUESTIONS

Write the answers that best completes the following questions/statements

1. What Committee is set up in compliance with Section 162(6) of the 1999 Constitution of Nigeria to administer at the State level the Federation Account?
2. For how long may the President withdraw money from the Consolidated Revenue Fund to run the affairs of the Nation if the Appropriation Bill has not been passed into law?
3. In compliance with Section 86(1) of the 1999 Constitution of Nigeria the Auditor-General for the Federation is appointed by the President based on the recommendation of the Federal Civil Service Commission, subject to confirmation by the
4. What is the time lag for the Auditor-General for the Federation to submit his reports to each House of the National Assembly, on the Accountant-General's financial statements?
5. What is the major law on which the foundation of government accounting rests?
6. What is IPPIS?
7. Who gives approval for increase in price of Parastatal's services or products?
8. Accounting unit that has no control on its accounting records is known as.....
9. Entities owned and financed by the government is called.....
10. Which Section is responsible for the preparation of Transcript?
11. The budgeting system which focuses on the marginal difference between last year's budget and this year's budget is called.....
12. The type of budget that can be used to reflect an ailing economy is a..... budget.

INSIGHT

13. The transfer of funds between governments either directly or indirectly is referred to as
14. Where goals and objectives are broken down and ranked in decision packages, an organisation is said to be applying budgeting method
15. The funds which accrue to the Local Government Councils from the Federation Account and other constitutional releases are from sources
16. With reference to FR 2005, the head of Internal Audit in all Ministries/Extra-ministerial offices and other Arms of Government shall ensure that percentage (%) prepayment audit of all checked and passed vouchers is carried out.
17. The whole system of control, financial and otherwise by management to ensure adherence to management policies, carry out its functions in orderly and efficient manner to secure as far as possible the completeness of its assets is known as
18. The check on the day to day transactions whereby the work of one officer is proved to be complemented by another officer with a view to prevent or detect errors or fraud promptly is known as
19. Earnings and Sales, Rent of Garment, Properties and Reimbursement are examples of..... Revenues of Government.
20. With reference to Financial Statement no I. (Cashflow Statement), Personal Emoluments is classified under activities.

INSIGHT

SECTION B:

ATTEMPT ANY FOUR QUESTIONS

(50 Marks)

QUESTION 1

MAI KERIYA Secondary School was established by the communities in Gamborg States to provide qualitative education for girls. The gesture was commended by the government. For this reason, government gives them annual subvention to reduce fees and encourage female education in the state. Hence, all of the students are in the boarding house. The following information was derived from the Bursary Department and Administration.

Government Subvention: 103,000 Leon on each student

CLASS/YEAR	STUDENT	POPULATION
	JUNIOR	SENIOR
1	300	200
2	250	180
3	200	150

	SCHOOL FEES	
	JUNIOR	SENIOR
	Leon	Leon
1	2,300	3,000
2	2,500	3,500
3	3,000	4,000

Included in the school fees were the following:

Boarding:	Junior	-	1,200 Leon per student
	Senior	-	1,500 Leon per student
Medical	Junior	-	200 Leon per student
	Senior	-	300 Leon per student
Extra moral class		-	All student 100 Leon each

The feeding of students cost the school 3,500,000 Leon per year:

Actual cost of medical	-	100,000 Leon per year
Electricity	-	185,000 Leon
Security	-	60,000 Leon

You are required to prepare:

- Cash book Abstract (5 Marks)
 - Boarding Account (7½ Marks)
- Show all working (Total 12½ Marks)

QUESTION 2

- a. State **TWO** functions of the Fiscal Responsibility Commission . (2 Marks)
- b. Enumerate the powers of the Fiscal Responsibility Commission (10½ Marks)
(Total 12½ Marks)

QUESTION 3

Incomes from all sources have been received for the month of December 31, 2012 by the Treasury Department of the Accountant-General of the Federation who has forwarded same to you as an Account-Staff-In-Training.

INFLOWS:	₦'000
i. Import duties	20,000
ii. Export duties	15,000
iii. Excise duties	10,000
iv. Petroleum Income Tax	4,000,000
v. Companies Income Tax	305,000
vi. Value Added Tax	100,000

OUTFLOWS:

i. Remuneration of Statutory Officers	69,000
ii. Recurrent Expenditure	750,000
iii. Transfer to Development Fund	1,250,000
iv. Transfer to Contingencies Fund	10,000

The Revenue Mobilization and Fiscal Commission have decided that the allocation formula should be taken as:

Federal Government	52.68%
State Government	26.72%
Local Government	20.60%

Required:

- a. Prepare the Federation Account for the month ended December 31, 2012 (7½ Marks)
- b. Federal Consolidated Revenue Fund Account for the month ended December 31, 2012 (4 Marks)

INSIGHT

- c. State **FOUR** other sources of Local Government Revenue besides Federal and State Statutory Allocation (1 Mark)
(Total 12½ Marks)

QUESTION 4

- a. Briefly define “Planning, Programming and Budgeting System (PPBS)” (2 Marks)
- b. List out **THREE** advantages and **FOUR** disadvantages of “Planning, Programming and Budgeting System (PPBS)” (10½ Marks)
(Total 12½ Marks)

QUESTION 5

The Pension Reform Act, 2004 is to regulate, supervise and ensure the effective administration of Pension Matters:

- a. State the rates applicable under the **THREE** categories of employees (3 Marks)
- b. List **FIVE** of the members of the National Pension Commission (PenCom) (7½ Marks)
- c. State the condition under which an employee can be exempted from the contributory Pension Scheme under the Pension Reform Act of 2004 (2 Marks)
(Total 12½ Marks)

QUESTION 6

- a. In government establishments, instances of losses are very prevalent. You are required to state **TWO** types of losses that may occur. (4 Marks)
- b. Losses can occur in government establishment due to over-invoicing or wrong payment to contractors or payment to staff:

The following transactions relate to the losses that occur in the Federal Ministry of Works.

- i. On August 2, 2012, a double payment of ₦70,000 was made to a contractor for services rendered for the up-keep of Government Buildings.
- ii. On August 10, 2012, the amount of the overpayment was recovered.
- iii. On September 18, 2012, ₦95,000 fraudulently withdrawn from the Ministry’s overhead account by the Director of Finance was discovered.

INSIGHT

- iv. On September 30, 2012, the amount fraudulently withdrawn by the Director of Finance was recovered.

Required:

Make necessary accounting entries to record the discovery and recovering of the overpayment.

(8½ Marks)
(Total 12½ Marks)

SUGGESTED SOLUTIONS

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

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

- 23. E
- 24. E
- 25. E
- 26. D
- 27. E
- 28. D
- 29. E
- 30. E

EXAMINER'S COMMENT

Majority of the Candidates attempted the question that tested the general knowledge of the candidates on the syllabus. The performance of majority of the Candidates was about 80% of the marks obtainable

PART II SHORT-ANSWER QUESTIONS

- 1. The state Joint Account Allocation Committee
- 2. Six (6) months
- 3. Senate
- 4. Ninety (90) days
- 5. Finance (control and management) Act of 1958, Cap, 144, 1990
- 6. Integrated Personnel and Payroll Information System
- 7. Supervising Ministry
- 8. Non-Self Accounting Unit.
- 9. Parastatals
- 10. Final Account Section
- 11. Incremental Budgeting/traditional budgeting/Line Budgeting
- 12. Deficit Budget

13. Inter-government transfer
14. Zero-based
15. Statutory
16. 100%
17. Internal Control
18. Internal check
19. Independent
20. Operating activities

EXAMINER'S COMMENT

The questions are well selected and covered major parts of the syllabus. The performance of the Candidates was fair as about 50% of them scoring 50% of total mark obtainable.

INSIGHT

SOLUTION 1

(a)

MAI KERIYA SECONDARY SCHOOL CASH BOOK EXTRACTS

	Leon		
Junior 1	690,000	Boarding (feeding)	1,695,000
Junior 2	625,000	Boarding Extra Murrall	128,000
Junior 3	600,000	Boarding Medical	300,000
Senior 1	600,000		
Senior 2	630,000		
Senior 3	600,000		
Subvention	131,840,000		

(b) **MAI KERIYA SECONDARY SCHOOL BOARDING ACCOUNT**

	Leon		Leon
Cash Book (feeding)	1,695,000	Feeding	3,500,000
Cash Book Medical	309,000	Medical	100,000
Cash Book Extra Moral	128,000	Electricity	188,000
Subvention feeding	1,713,000	Security	60,000
Subvention capital	<u>130,127,000</u>	Balance	<u>130,127,000</u>
	<u>133,972,000</u>		<u>133,972,000</u>

WORKINGS

CLASS/YEAR	JUNIOR	LEON	LEON	SENIOR	FEES	TOTAL
1	300	2300	690,000	200	3,000	600,000
2	250	2500	625,000	180	3500	630,000
3	200	3000	<u>600,000</u>	150	4,000	<u>600,000</u>
			<u>1,915,000</u>			<u>1,830,000</u>

BOARDING FEES (PORTION)

Junior $750 \times 1200 = \text{leon} 1,960,000$

Senior $\frac{530}{1280} \times 1500 = \text{leon} \frac{795,000}{1,695,000}$

Extra Moral Class

$100 \times 1280 = 128,000$

Medical

Junior 750 x 200	=	150,000
Senior 530 x 300	=	<u>159,000</u>
		<u>309,000</u>

Subvention

103,000 x 1280 = leon131,840,000

EXAMINER'S COMMENT

The question is on preparation of extracts of Cashbook from a simple data of information in a School System. About 90% of the Candidates attempted the question. The performance is poor as less than 20% scoring above 50% of marks obtainable.

SOLUTION 2

ETHICAL CONSIDERATION IN PUBLIC SECTOR ACCOUNTING

- (a) **Functions of the Fiscal Responsibility Commission**
- (i) Compelling any person or government agency to make disclosure of information which relate to public revenue and expenditure.
 - (ii) Causing an investigation into whether any individual has violated any provisions of the enabling Act.
 - (iii) Forwarding a report of any investigation against any person to the Attorney-General of the Federation for the possibility of prosecution.
 - (iv) Monitoring and enforcing the provisions of the enabling Act.
 - (v) Undertaking fiscal and financial studies, doing analysis and dissemination of the results to the members of the public.
 - (vi) Disseminating standard practices which will result in the effective allocation and management of public expenditure, revenue distribution and transparency as they relate to fiscal matters.

(b) **Powers of the Fiscal Responsibility Commission**

- (i) Provision of general policy guidelines for the implementation of the functions of the Commission.
- (ii) Supervision of the implementation of the policies of the Commission.
- (iii) Power to appoint employees for the Commission.
- (iv) Determination and approval of the conditions of service which include the sanctions to be imposed on erring employees of the Commission.
- (v) Determination of the remuneration, allowances and career progression of various categories of staff of the Commission, as sanctioned by the salaries and Wages Commission.
- (vi) Performing any other functions as may be informed by expediency, for the good and order of the Commission.
- (vii) Regulation of its proceedings by making rules to enable the Commission to diligently perform, particularly in regard to the conduct of meetings.

EXAMINER'S COMMENT

The question tested the Candidates' knowledge on functions and Powers of Fiscal Responsibility Commission. About 60% of the Candidates attempted the question with about 40% scoring 50% of allocated marks. The question should be re-examined in future exams as candidates did not fully understand the necessary requirements of the examiners.

INSIGHT

SOLUTION 3

(a)

FEDERATION ACCOUNT

FOR THE MONTH ENDED 31ST DECEMBER 2012

	N'000	N'000
Import duties		20,000
Export duties		15,000
Excise duties		10,000
Petroleum Income Tax		4,000,000
Companies Income Tax		305,000
Value Added Tax		100,000
TOTAL INCOME		4,450,000
DISTRIBUTION		
Federal Govt. 52.68% x N4,450,000 =	2,344,260	
State Govt. 26.72% x N4,450,000 =	1,189,040	
Local Govt. 20.60% x N4,450,000 =	<u>916,700</u>	<u>4,450,000</u>
BALANCE c/f		<u>NIL</u>

(b) **FEDERAL CONSOLIDATED REVENUE FUND ACCOUNT FOR THE MONTH ENDED 31ST DECEMBER 2012**

	N'000	N'000
<u>INFLOW</u>		
Share from Federation Account		2,344,260
<u>LESS: OUTFLOWS</u>		
Remuneration of Statutory Officers	69,000	
Recurrent Expenditure	750,000	
Transfer to Development Fund	1,000,000	
Transfer to Contingencies Fund	<u>10,000</u>	<u>2,079,000</u>
		<u>265,260</u>

(c) Other sources of Local Government Revenue besides Federal and States Statutory Allocations are:-

- (i) Rent from shops and Local Government Council Properties
- (ii) Income from Car Parking and Public Convenient
- (iii) Gifts (Donation)
- (iv) Fines
- (v) Loans
- (vi) Tenement Rates
- (vii) Investment Income e.g. Dividends, interest received

EXAMINER'S COMMENT

This question was tested in three phases of a, b and c, "a" was tested on Preparation of Federation Account "b" was on Preparation of Consolidated Revenue Fund and "C" was on other sources of Revenue of Local Government. About 90% of the Candidates attempted the question and above 80% of them scoring above 60% of marks obtainable.

SOLUTION 4

(a) Planning, Programming and Budgeting System (PPBS)

It is a concept which is connected with corporate management which identifies alternative courses of actions. The technique presents the effects of the various alternatives and caters for the efficient monitoring of the policies chosen. The principal characteristics of Planning, Programming and Budgeting System are that it deals with objectives and output levels, as it lays emphasis on the choice. Since resources are limited, relative to the demand keenly competing for them, the choices made should achieve maximum benefits.

(b)

(i) Advantages of Planning, Programming and Budgeting System (PPBS)

1. The technique makes available information on the various alternatives available to highlight the most economical and rewarding.
2. It measures the total programme cost for several years ahead.
3. The technique ensures rational decision-making and motivates managers, researchers and Government that are seeking budgetary allocations to weigh alternatives.
4. The choice of the scientifically considered alternative leads to rapid economic advancement.

(ii) Disadvantages of Planning, Programming and Budgeting System (PPBS)

1. The future is very uncertain. Consequently, long-time planning is difficult.
2. There is the twin problem of data gathering and monitoring.
3. There is a lot of difficulty in installing the system.
4. A lot of resources – men and materials – which are scarce, are required.

5. Change, as a concept, is difficult to manage. There is the call for re-orientation of the old accounting system to fit into the approach.
6. There is the scarcity of data.
7. Availability of adequate staff is a problem.
8. There are transitional challenges at the initial stage.

EXAMINER'S COMMENT

The question tested the Candidates understanding of Planning, Programming and Budgeting System (PPBS). About 80% of the candidates attempted the question and less than 5% scoring above 50% of marks obtainable. The Candidates had shown poor understanding of the questions as they confused PPBS with Zero-based Budgeting

SOLUTION 5

Contributory Pension Scheme

(a) The application rates are:-

- i. For Federal Government Employees: Minimum of 7½% Federal Government will add minimum of 7½%.
- ii. For Military Employees:
Employees:- Minimum of 2½% Federal Government will add minimum of 12½%.
- iii. Other Employees:-
Employees – Minimum of 7½%
Employers – Minimum of 7½%

However, the total contributions on each employee should not be less than 15% and the deductions should always be at source i.e. from the employees' salaries.

(b) Composition of National Pension Commission (Pension)

- i. A part-time Chairman in possession of University Degree or its equivalent and 20 years experience in service.
- ii. A Director-General who shall be the Chief Executive officer of the Commission in possession of appropriate professional skills with not less than 20years cognate experience.

Representative of:

- iii. Head of Civil Service of the Federation
- iv. The Federal Ministry of Finance
- v. The Nigeria Union of Pensioners
- vi. The Nigeria Employers Consultative Association
- vii. The Central Bank of Nigeria
- viii. The Nigeria Labour Congress
- ix. The Securities and Exchange Commission

(c) S(8) EXEMPTION FROM NEW PENSION REFORM ACT 2004

- 1. Employees with 3 or less years to retire
- 2. All judicial officers – S.291 of 1999 constitution
- 3. Fully Funded Pension Scheme

EXAMINER'S COMMENT

The question has three parts a – c, tested the candidates understanding on the contributions of different categories of employees to Pension Fund and that of employers to the Fund and the composition of National Pension Commission. About 55% of the Candidates attempted the question with about 65% of them scoring below 40%.

SOLUTION 6

(a) **TWO TYPES OF LOSSES**

- (i) Loss of Funds
- (ii) Loss of Stores

(b) **IN THE BOOK OF FEDERAL MINISTRY OF WORKS**

DATE	PARTICULARS	DR ₦	CR ₦
02/08/2012	<u>ON DISCOVERY OF OVERPAYMENT:</u> Advances – Non personal Up keeping of Government Building Being overpayment made on up keeping of Government Building	70,000	70,000
10/08/2012	<u>ON RECOVERY OF THE AMOUNT</u> Cash Advances-Non personal Being Recovery of over payment for up keeping of Government Building	70,000	70,000
18/09/2012	<u>ON DISCOVERY OF THE FRAUD AMOUNT</u> Cash Advances-Non Personal Being recovery of amount fraudulently withdrawn from overhead account.	95,000	95,000
30/09/2012	<u>ON RECOVERY THE FRAUD AMOUNT</u> Cash Advances-Non Personal Being recovery of amount fraudulently withdrawn from overhead Account	95,000	95,000

EXAMINER'S COMMENT

The knowledge of the students on the types of LOSSES and the Preparation of Journals was tested. About 96% of the Candidates attempted the question, but majority of them displayed high level of ignorance of the requirements as they performed woefully. Less than 10% performed above 50% of marks obtainable.

AT/132/PII.7

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA (ATSWA)
PART II EXAMINATIONS - SEPTEMBER 2013
QUANTITATIVE ANALYSIS****Time Allowed: 3 Hours****SECTION A: PART I ATTEMPT ALL QUESTIONS (30 Marks)****MULTIPLE CHOICE 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. A frequency polygon is a
 - A. Rectangle whose sides correspond to frequency
 - B. Line chart
 - C. Histogram
 - D. Bar chart
 - E. Series of straight lines joining the midpoints in histogram

2. Harmonic mean is defined as
 - A. The arithmetic mean of the reciprocals of the data values
 - B. The reciprocal of the arithmetic mean of the reciprocals of the data values
 - C. The arithmetic mean of the squares of the values
 - D. The reciprocal of the arithmetic mean of the data values
 - E. The mean of measure of central tendency

3. The grouped frequency distribution shown below is the weekly profit recorded by an accounting firm:

Profit	10 – 14	15 - 19	20 - 25	25 – 29	30 – 34
No. of weeks	4	8	16	8	4

INSIGHT

The relative cumulative frequency of the median class is

- A. 0.2
 - B. 0.7
 - C. 0.4
 - D. 0.3
 - E. 0.5
4. The data whose mean is greater than the median can be said to be
- A. Symmetrical
 - B. Skewed to the right
 - C. Skewed to the left
 - D. Normal
 - E. Mesokurtic
5. The probability of a manager getting late to work is 0.08 while that of a messenger getting late to work is 0.25. The probability that both will come late to work is 0.02. What is the probability that at least one of them will come late?
- A. 0.02
 - B. 0.08
 - C. 0.31
 - D. 0.25
 - E. 0.33
6. Which of the following is used in finding the power of a test?
- A. Sampling error
 - B. Type II error
 - C. Random error
 - D. Standard error
 - E. Type I error
7. In a sample of five measurements, the diameter of a sphere was recorded by a researcher as 5.22, 5.23, 5.24, 5.25 and 5.23. The unbiased estimate of the true mean is
- A. 5.230
 - B. 5.234
 - C. 5.324
 - D. 4.234
 - E. 5.250

INSIGHT

8. Which one of the following indices is increased by the weighted aggregate price index?
- A. Laspeyre
 - B. Fisher
 - C. Paasche
 - D. Simple aggregate
 - E. Marshall and Edgeworth
9. The population of participants in a World Accountants' Conference was 12,847 and it was approximated to 13,000 by one of the organizers. Calculate the relative error corrected to three significant figures.
- A. 0.099
 - B. 0.012
 - C. 0.0117
 - D. 0.0119
 - E. 0.0988
10. Given the numbers 2,6,1,5,3,7 and 2. Then the moving average of order 3 is given as sequence
- A. 3, 5, 3, 4, 4
 - B. 4, 5, 3, 3, 4
 - C. 3, 4, 3, 5, 4
 - D. 5, 3, 3, 4, 4
 - E. 4, 4, 3, 5, 3
11. Another name for the percentage trend method is
- A. The percentage moving average method
 - B. Ratio to moving average method
 - C. Ratio to trend method
 - D. The average percentage method
 - E. Cyclic variation method
12. There is a perfect relationship between variables X and Y if their product moment correlation is
- A. Equal to Zero
 - B. Zero
 - C. Less than ± 1
 - D. Less or equal to ± 1
 - E. Equal to ± 1

INSIGHT

13. A businessman deposited a sum of ₦150,000 in a fixed deposit account with a constant annual increment of ₦1,200. How much will he have in his account at the end of 12 years?
- A. ₦1,789,200
B. ₦1,798,200
C. ₦1,879,200
D. ₦1,897,200
E. ₦1,978,200
14. An investor is interested in a business venture which is expected to grow at the rate of 10 percent per annum. He found out that the venture is worth 7,000 Cedis now. Find the worth of the venture in the 4th year
- A. 11,273.57 Cedis
B. 9,317.0 Cedis
C. 10,000.0 Cedis
D. 10,248.7 Cedis
E. 8,470.0 Cedis
15. Determine the amount of an annuity of ₦1,000 per year at $2\frac{1}{2}\%$ interest rate per annum for 5 years
- A. ₦5,356.33
B. ₦5,256.33
C. ₦5,156.33
D. ₦5,056.32
E. ₦5,056.33
16. If $y = x^2(x + 4)$, what is y' ?
- A. $x^2 + x + 4$
B. $3x^2 + 8x$
C. $6x + 8$
D. $2x(x + 4)$
E. $x^3 + 4x^2$
17. If the total revenue function of a commodity is given by $100Q - Q^2$, then the expression for the marginal revenue function is
- A. $100Q - Q^2$
B. $2Q - 100$
C. $100 - 2Q$
D. $100 + 2Q$
E. $2Q$

INSIGHT

18. The marginal cost function of a firm is $4x^3 - 3x^2 - x + 2$, then the total cost function is
- A. $4x^4 - 3x^3 - 2x^2 + 2x + c$
 - B. $x^4 - x^3 - \frac{x^2}{2} + 2x + c$
 - C. $2x^2 - 6x - 1 + c$
 - D. $2x^2 - 6x - x + c$
 - E. $\frac{x^4}{4} - \frac{x^3}{3} - \frac{x^2}{2} + 2x + c$
19. The weekly cost of x customized handsets is given as $C(x) = 100 + 12x$ and revenue function is expressed as $R(x) = 30x$, where x is in thousands. Calculate the profit (in L\$) when $x = 8$
- A. L\$140,000
 - B. L\$144,000
 - C. L\$143,900
 - D. L\$244,600
 - E. L\$260,400
20. If the total cost of setting up a business is ~~N~~5,000 and it costs ~~N~~50 to produce an item for sale, determine the break-even quantity for the item given that the sale price of the item is ~~N~~250
- A. 250
 - B. 1000
 - C. 20
 - D. 25
 - E. 50
21. The level of stock at which a further replacement order should be placed is known as
- A. Economic order level
 - B. Stockout level
 - C. Re-order level
 - D. Replenishment of stock
 - E. Stock level

INSIGHT

22. The main reasons for establishing inventory control is to know when to
- A. Carry out stock taking
 - B. Order and what quantity to order
 - C. Order and when to keep in store
 - D. Close the store for general maintenance
 - E. Employ new staff into the store
23. For a solution to exist for a linear programming problem, the number of constraints must be
- A. Less than the number of decision variables
 - B. Greater than the number of decision variables
 - C. Equal to the number of the decision variables and the objective function
 - D. Equal to the number of the decision variables
 - E. Greater than the number of the decision variables and the objective function
24. The objective function for a linear programming problem formulated from the contributions to profit by the decision variables is given by $980x + 650y$. If the corner points of the feasible region are (0,900), (200,500), (0,400), (300,400) then the optimal solution is
- A. 585,000
 - B. 260,000
 - C. (300,400)
 - D. (0,900)
 - E. 554,000
25. Which of the following is **NOT** a method of obtaining initial basic feasible solution of a transportation problem?
- A. Stepping stone method
 - B. Least cost method
 - C. Vogel's Approximation method
 - D. North west corner method
 - E. Simplex method
26. A list of all activities in a project is referred to as
- A. Project list
 - B. Activity list
 - C. Event list
 - D. Dummy list
 - E. Work list

27. Free float is computed as

- A. EHT - ETT- Activity duration
- B. ETT - EHT- Activity duration
- C. Activity duration - EHT
- D. Activity duration – ETT
- E. EHT+ ETT-Activity

Where EHT = Earliest Head Time, and
 ETT = Earliest Tail Time.

28. The average life of a machine tool is 2.4 weeks. What is the cost of the individual replacement if 960 tools are replaced at 25 Cedis per tool?

- A. 10,000 Cedis
- B. 15,000 Cedis
- C. 12,000 Cedis
- D. 13,000 Cedis
- E. 14,000 Cedis

29. The following are the essential features of the Operations Research approach **EXCEPT**

- A. Application of a model-based scientific approach
- B. Systems approach to organizations
- C. The recognition of risk and uncertainty
- D. A model-based on art approach
- E. Assistance to management decision making and control

30. Use the Least Cost Method to find the value of f in the table below

Consumer Depot	L	M	O	Available supplies
A	2	1	3	80
B	1	4	2	50
C	3	2	f	40
Demand	70	90	10	A

INSIGHT

- A. 10
- B. 20
- C. 50
- D. 80
- E. 90

SECTION A: PART II:

ATTEMPT ALL QUESTIONS

(20 Marks)

SHORT-ANSWER QUESTIONS

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

1. A procedure in the form of report involving a combination of text and figures is known as
2. Data presentation in form of graphs and charts is known as
3. The probability of any event lies between and
4. As a measure of central tendency, second quartile is the same as
5. The coefficient of variation for a data with variance 25 and mean 20 is
6. A study of relationship existing between a population and samples drawn from the population is called
7. The Laspeyre's price index uses the quantities of the as weights while Paasche's price index uses the quantities of the as weights
8. Regression and correlation are concerned with relationships betweenvariables
9. The manufacturer's profit is revenue less
10. Integration enables one to recover an expression for the total revenue function from any given function
11. If the production function of a firm is $Q = 300\sqrt{L} - 4L$, where Q denotes output and L denotes the size of the workforce, then the expression for the marginal value of one workforce is

INSIGHT

12. In arithmetic progression, consecutive terms decrease or increase by a
13. Rent and labour costs are typical examples of cost and cost respectively.
14. By using the North West corner method on the data given in the table below, the total transportation cost is

ORIGIN	DESTINATION			SUPPLY
	A	B	C	
I	2	1	3	60
II	3	4	2	40
DEMAND	20	30	50	100

15. The initial tableau of a Simplex method assumes that each of all the decision variables has a value and each of all the slack variables has a value.
16. The term used to describe the time at which an activity can begin is called
17. A firm demands 160 units of an input per period, has an order cost of ₦10 per order and it costs ₦2 to hold a unit of stock for one period. The order quantity which minimizes the total cost is
18. A policy where an item is replaced immediately it fails is known as
19. A transportation problem is said to be if the sum of all the supplies equals to the sum of all the demands otherwise it is
20. With the supply capacities of A=50, B=60, C=70 and demand capacities of L=20, M=90, N=40, the amount of dummy capacity to be added to the destination is

SECTION B: Attempt Any Four Questions out of which at least ONE Must Come From Each SUB-SECTION (50 Marks)

STATISTICS

QUESTION 1

An Accounting Consulting Firm has business to bid in a season. The firm has 30 percent chance of winning the first business and if he wins the first, he then has 75 percent chance of winning the second business. But if he loses the first, he has only 10 percent chance of winning the second business. Determine the probability that he

- a. Loses the two businesses (2½ Marks)
- b. Fails to win the second business (3 Marks)
- c. Wins the first business (3 Marks)
- d. Wins the second business given that he won the first business
- e.
- f. (4 Marks)

(Total 12½ Marks)

QUESTION 2

The table below shows the records of eight companies and it also indicates the sales and their corresponding profits in the year 2012.

Company	Sales(₤ millions)	Profits(₤ millions)
A	25	12
B	30	16
C	27	9
D	18	8
E	55	25
F	12	7
G	16	10
H	23	11

You are required to:

- a. Find the least square regression line of the profits on the sales by solving the normal equations. (11 Marks)
- b. Use your equation in (a) above to predict the profit for a similar company for sales of ₦21 million. (1½ Marks)
- (Total 12½ Marks)**

BUSINESS MATHEMATICS

QUESTION 3

- a. Mr. Abyaseji wants to save some money in order to start a project estimated to cost ₦2.5 million in five years' time. If the simple interest rate is 12%, how much should he save now? (3½ Marks)
- b. At what compound interest rate will a given sum of money double itself in 10 years' time? (4 Marks)
- c. In how many years will ₦450,000.00 amount to ₦1.2m at 16% compound interest? (5 Marks)
- (Total 12½ Marks)**

QUESTION 4

- a. The demand function of a particular commodity is given by $p = 40 - 3q$ and at a price of ₦5. If the total number of units demanded is 10, find the consumer's surplus. (6 Marks)
- b. The data below shows the distribution of monthly revenue (₦' m) generated by an accounting firm in two years:

Revenue(₦' m)	10	18	22	25	30	35	40
Numbers of months	2	3	5	6	3	2	1

Determine

- i. The mean monthly revenue (3 Marks)
- ii. The median monthly revenue (2½ Marks)
- iii. Based on your results in (i) and (ii) above, comment on the nature of the distribution of monthly revenue (1 Mark)

(Total 12½ Marks)

QUESTION 5

OPERATIONS RESEARCH

The following activities with their respective durations necessary to complete a particular project are shown in the table below:

Activity	Immediate preceding Activity	Duration per week
I	-	5
II	I	8
III	I	6
IV	II, III	9
V	I, II	12
VI	IV	7
VII	IV	11
VIII	V	14

- Draw the activity-on-arrow Network diagram to represent the above project data. (4 Marks)
 - Identify all the paths and calculate the duration for each of all the identified paths. (4 ½ Marks)
 - Identify the critical path together with its duration. (4 Marks)
- (Total 12½ Marks)**

QUESTION 6

A textile industry has 3 warehouses from where orders are placed. The industry received a demand order of 2000 bundles of textile clothing from 3 major shops. The total number of bundles available is 2300 in all the warehouses and the management wishes to minimize transport cost by dispatching textile clothing required from the appropriate warehouses. Unit costs of transportation and other data are given in the table below.

INSIGHT

Warehouse	A	B	C	Quantity Available
I	3	5	7	750
II	6	7	10	600
III	7	6	5	950
Quantity Demanded	900	640	460	

- a. Use the Vogel's Approximation Method to determine the quantity that can be supplied from each warehouse to various shops. (9 Marks)
- b. Find the total cost of transportation. (3½ Marks)
- (Total 12½ Marks)**

SUGGESTED SOLUTIONS

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

1. E

2. B

3. B

4. B

5. C

6. B

7. B

8. D

9. D

10. C

11. C

12. E

13. C

14. D

15. B

16. B

17. C

18. B

19. C

20. D

INSIGHT

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

(WORKINGS)

3.

Profit	10-14	15-19	20-24	25-29	30-34
No of Weeks	4	8	16	8	4
Cummulative frequency	4	12	28	36	40

Since $\sum f = 40$, then median frequency = $\frac{1}{2} \sum f = 20$

\therefore Median Class is 20 – 24

\therefore Relative Cummulative frequency of the median

$$= \frac{28}{40} = \frac{7}{10} = 0.7$$

$$\begin{aligned}
 5. \quad P(A \cup B) &= P(A) + P(B) - P(A \cap B) \\
 &= 0.08 + 0.25 - 0.02 \\
 &= 0.31
 \end{aligned}$$

$$\begin{aligned}
 7. \quad \bar{X} &= \frac{\sum X}{n} = \frac{5.22 + 5.23 + 5.24 + 5.25 + 5.23}{5} \\
 &= \frac{26.17}{5} = 5.234
 \end{aligned}$$

$$\begin{aligned}
 9. \quad \text{Relative Error} &= \frac{13000 - 12847}{12847} \\
 &= 0.011909 \\
 &= 0.0119 \text{ (3.Sig. fig.)}
 \end{aligned}$$

$$\begin{aligned}
 10. \quad &\frac{2+6+1}{3}, \frac{6+1+5}{3}, \frac{1+5+3}{3}, \frac{5+3+7}{3}, \frac{3+7+3}{3} \\
 &= 3, 4, 3, 5, 4.
 \end{aligned}$$

$$\begin{aligned}
 13. \quad a &= 150,000 \\
 d &= 1,200 \\
 n &= 12
 \end{aligned}$$

Amount in his account at the end of 12th year

$$\begin{aligned}
 &= \frac{n}{2} \{2a + d(n-1)\} \\
 &= \frac{12}{2} \{2(150,000) + 1200(12-1)\} \\
 &= 6\{300,000 + 1200(11)\} \\
 &= \text{₱}1,879,200
 \end{aligned}$$

14. Worth of the venture in the 4th year = $7000(1.10)^4$
= **₦10,248.70**

15.
$$S = A \frac{[(1+r)^n - 1]}{r}$$
$$= 1000 \frac{[(1+0.025)^5 - 1]}{0.025}$$
$$= 5256.33$$

16.
$$y = x^2(x+4)$$
$$= x^3 + 4x^2$$
$$\therefore \frac{dy}{dx} = 3x^2 + 8x$$

18.
$$\int (4x^3 - 3x^2 - x - 2) dx$$
$$= \frac{4}{4}x^4 - \frac{3}{3}x^3 - \frac{x^2}{2} + 2x + c$$
$$= x^4 - x^3 - \frac{x^2}{2} + 2x + c$$

19. Profit = Revenue - cost
Profit = $30x - (100 - 12x)$
Profit = $18x - 100$
When $x = 8,000$
Profit = $18(8000) - 100 = 144,000 - 100$
Profit = **L\$143,900**

20. At Breakeven,

$$C = R$$

$$\text{i.e } 5000 + 50x = 250x$$

$$\Rightarrow 200x = 5000$$

$$x = 25$$

24. $Z = 980x + 650y$

$$(0,900) \Rightarrow 980(0) + 650(900) = 585,000$$

$$(200,500) \Rightarrow 980(200) + 650(500) = 521,000$$

$$(0,400) \Rightarrow 980(0) + 650(400) = 260,000$$

$$(300,400) \Rightarrow 980(300) + 650(400) = 554,000$$

\therefore The maximum profit is attained at (0,900)

28. Average life = 2.4

Since 960 tools are in use,

then the average replacement

$$\text{per week} = \frac{960}{2.4} = 400$$

\therefore Individual replacement cost

$$= \text{R} 25 \times 400$$

$$= \text{R} 10,000$$

INSIGHT

30.

Consumer Depot	L	M	O	Available Supplies
A	2	1	3	80 0
B	1	4	2	50 0
C	3	2	1	40 30
Demand	70 20	90 10	10 0	20 0
	0	0		

$$\therefore f = 10.$$

EXAMINER'S COMMENT

The performance here was fairly good. About 60% of the candidates obtained marks in excess of 15 out of 30.

SHORT-ANSWER QUESTIONS - SOLUTIONS

1. Text Presentation
2. Diagramatic presentation
3. 0.0 and 1.0
4. Median
5. 25%
6. Sampling theory
7. Base Period, Current Period (in that order)

8. Two or more
9. Total Cost or Cost
10. Marginal revenue
11. 146
12. Common difference
13. Fixed or Capital, Variable (in that order)
14. 180
15. Zero, non-negative or positive (in that order)
16. Earliest Start Time i.e EST
17. 40
18. Individual Policy
19. Balanced, Unbalanced (in that order)
20. 30

Workings

$$11. \quad Q = 300\sqrt{L} - 4L$$

$$= 300L^{\frac{1}{2}} - 4L$$

$$\therefore \frac{dQ}{dL} = 300\left(\frac{1}{2}L^{-\frac{1}{2}}\right) - 4$$

$$= \frac{150}{\sqrt{L}} - 4$$

$$\text{When } L = 1, \frac{dQ}{dL} = \frac{150}{\sqrt{1}} - 4 = 146$$

$$17. \quad Q = \sqrt{\frac{2cd}{n}} = \sqrt{\frac{2 \times 10 \times 160}{2}}$$

$$= 40$$

$$20. \quad \text{Supply capacity: } A + B + C = 50 + 60 + 70$$

$$= 180$$

$$\text{Demand capacity} = L + M + N = 20 + 90 + 40$$

$$= 150$$

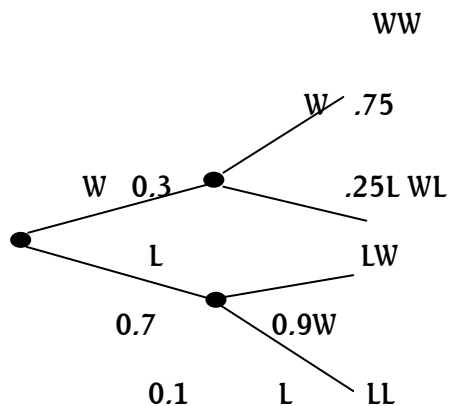
$$\therefore \text{Dummy} = 180 - 150$$

$$= 30$$

EXAMINER'S COMMENT

Similar performance was recorded here, with about 60% of the candidates obtaining a score in excess of 10 out of 20.

SOLUTION 1



From the above tree diagram, we have

(a) P (Losing the two businesses)

$$= P(L L) = 0.7 \times 0.9 = \underline{0.63}$$

(b) P (Losing the second business)

$$= P(WL \text{ or } LL)$$

$$= P(WL) + P(LL)$$

$$= (0.3)(0.25) + (0.7)(0.9)$$

$$= .075 + 0.63 = 0.705$$

INSIGHT

(c) $P(WW \text{ or } WL)$
 $= P(WW) + P(WL)$
 $= (0.3)(0.75) + (0.3)(0.25)$
 $= 0.225 + 0.075 = \underline{0.3}$

(d) $P(WW \text{ or } LW/WW \text{ or } WL)$
But $P(A/B) = \frac{P(A \cap B)}{P(B)}$
 $\therefore P(WW \text{ or } LW/WW \text{ or } WL) = \frac{P(WW)}{P(WW \text{ or } WL)}$
 $= \frac{(0.3)(0.75)}{(0.3)(0.75) + (0.3)(0.25)}$
 $= \frac{0.225}{0.30}$
 $= \underline{0.75}$

EXAMINER'S COMMENT

- The Question is on Probability. It tests candidates' knowledge of drawing tree diagram to solve Conditional Probability problems.
- About 20% of the Candidates attempted the question. Less than 10% of the above number scored marks in excess of 5 out 12½. The highest recorded score was 8½. Candidates' main pitfall was their inability to draw the appropriate tree diagram. Candidates should do more work on Probability basics

SOLUTION 2

Note that profit depends on sales, hence sales = x and profit = y

Sales (X)	Profit (y)	Xy	X ²
25	12	300	625
30	16	480	900
27	9	243	729
18	8	144	324
55	25	1375	3025
12	7	84	144
16	10	160	256
23	11	253	529
206	98	3039	6532

The required equation is $y = a + bx$

Normal equations are

$$na + b \sum X = \sum Y \dots\dots\dots(1)$$

$$a \sum X + b \sum X^2 = \sum XY \dots\dots\dots(2)$$

where

$$n = 8, \sum X = 206, \sum y = 98, \sum x^2 = 6532$$

$$\text{and } \sum Xy = 3039$$

By substituting these values into equations (1) and (2) above, we have

$$8a + 206b = 98 \dots\dots\dots(3)$$

$$206a + 6532b = 3039 \dots\dots\dots(4)$$

Mutiplied eqn (3) by 206 and eqn (4) by 8 gives

$$\therefore 1648a + 42436b = 20188$$

$$\frac{1648a + 52256b = 24312}{9820b = 4124}$$

$$\Rightarrow b = \frac{4124}{9820} = 0.42$$

From eqn (3), we have

$$a = \frac{98 - 206b}{8}$$

$$= \frac{98 - 206 \times 0.420}{8}$$

$$\text{i.e } a = 1.436$$

The regression line of profits on the sales is therefore given as

$$y = 1.436 + 0.420x$$

or profit = $1.436 + 0.420(\text{sales})$ in million naira

- (b) If sales = ₦21m, i.e. $x = 21$ million Naira
 then profit = $1.436 + 0.420 \times 21$
 $= 1.436 + 8.82 = 10.256$
 \therefore profit = ₦10.256 million for Company sales of ₦21 million.

EXAMINER'S COMMENT

- The question is on Regression Analysis using Normal Equations.
- About 98% of the candidates attempted the Question with an average performance of about 6 marks out of $12\frac{1}{2}$ marks allocated to the question.
- The major pitfall of the candidates was in their inability to recall Normal Equations.

SOLUTION 3

- (a) $A = P(1 + rt)$
 i.e. $2.5m = P[1 + (0.12)(5)] = 1.6P$
 $\therefore P = \frac{2.5m}{1.6}$
 $= ₦1.56m.$
 \therefore Mr. Abyaseji should save ₦1.56 million now.

- (b) $A = P(1 + r)^n$
 $2P = P(1 + r)^{10}$
 $2 = (1 + r)^{10}$
 $1 + r = 2^{\frac{1}{10}} = 1.07$
 $r = 0.07$
 i.e. $r = 7\%$
 \therefore A given sum of money will double itself in 10 years at a compound interest rate of 7%.

- (c) $A = P(1 + r)^n$
 $1.2 = 0.45(1 + 0.16)^n$
 $\Rightarrow \frac{1.2}{0.45} = (1.16)^n$
 $\Rightarrow \log 2.67 = n \log 1.16$
 $\therefore n = \frac{\log 2.67}{\log 1.16}$
 $= 6.62\text{yrs}$
 \therefore ₦450,000 will amount to ₦1.2 million in 6.62 years.

EXAMINER'S COMMENT

- This question tests candidates' knowledge of the Net Present Value (NPV) as it exists in the Business world.
- About 70% of the candidates attempted the question with about 50% of them scoring an average of 6 marks or above out of 12½ marks allocated to the question.
- The Candidates' major pitfall was their inability in quoting the relevant formulae correctly.

SOLUTION 4

(a) Consumer's surplus (CS) = $\int_0^{q_0} (\text{demand function}) - P_0 q_0$

$$P_0 = 5 \text{ and } q_0 = 10$$

$$\therefore CS = \int_0^{10} (40 - 3q) dq - p_0 q_0$$

$$= \left[40q - \frac{3}{2}q^2 \right]_0^{10} - (5)(10)$$

$$= 400 - \frac{3(100)}{2} - 50$$

$$= 400 - 150 - 50$$

$$\therefore \text{Consumer's surplus} = 200$$

(b)

Revenue (X)	Number of Months (f)	fx	Cf
10	2	20	2
18	3	54	5
22	5	110	10
25	6	150	16
30	3	90	19
35	2	70	21
40	1	40	22
	22	534	

INSIGHT

- (i) Mean Monthly Revenue $= \bar{X} = \frac{\sum fX}{\sum f}$
 $= \frac{534}{22} = 24.27272727$
 $= \text{R}24,272,727.27$ or $\text{R}24.27\text{m}$
- (ii) Median Monthly Revenue can be obtained by determining $\frac{1}{2}(\sum f + 1)$ and find where it first falls into. Hence, $\frac{1}{2}(\sum f + 1) = \frac{1}{2} \times \frac{23}{1} = 11.5$ (i.e. between 11th and 12th) position which falls in 16.
 \therefore Median revenue = $\text{R}25,000,000$ or $\text{R}25\text{m}$
- (b) Comparing the mean and median, one can conclude that distribution of monthly revenue is skewed to the left since the median is greater than the mean.

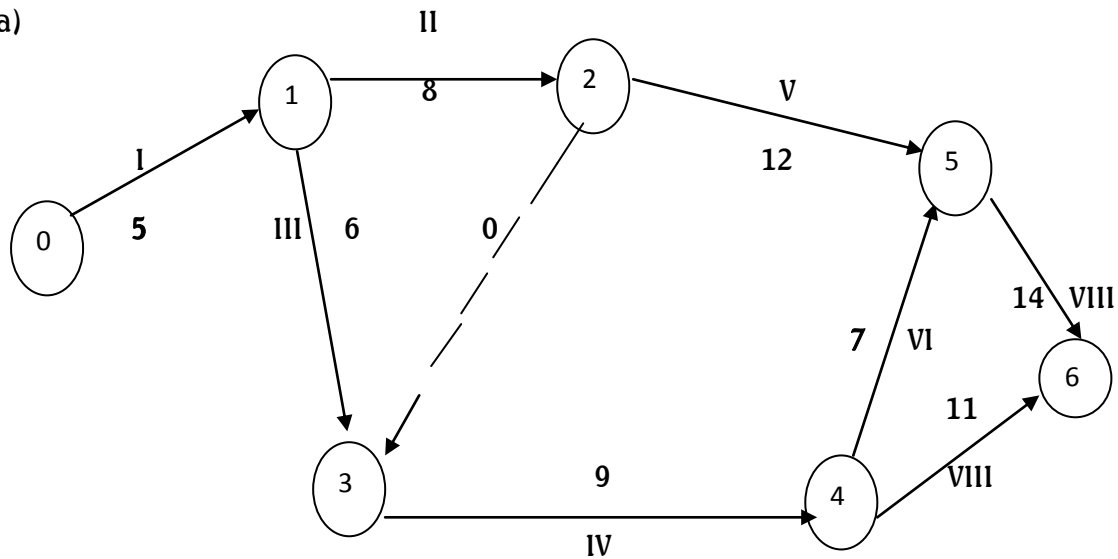
EXAMINER'S COMMENT

- The first part tests the candidates' knowledge of the Consumer's Surplus using the Integration concept.
- Inability of the candidates to quote the correct Integration formula for the consumer's surplus was the main pitfall.

Concept of Central Tendency is the second part of this question. The Candidates are expected to calculate the Mean and to use cumulative frequency to deduce the Median of the given Revenue Distribution. Some candidates had difficulty in deducing the Median using cumulative frequency concept. 90% of the candidates attempted the question with about 40% scoring marks in excess of 6 marks out of 12½ marks allocated to the question.

SOLUTION 5

(a)



(b)

Path	Duration	
$I \rightarrow II \rightarrow V \rightarrow VIII$	$5 + 8 + 12 + 14$	= 39 Wks
$I \rightarrow III \rightarrow IV \rightarrow VII$	$5 + 6 + 9 + 11$	= 31 Wks
$I \rightarrow III \rightarrow IV \rightarrow VI \rightarrow VIII$	$5 + 6 + 9 + 7 + 14$	= 41 Wks
$I \rightarrow II \rightarrow Dummy \rightarrow IV \rightarrow VIII$	$5 + 8 + 0 + 9 + 11$	= 33 Wks
$I \rightarrow II \rightarrow Dummy \rightarrow IV \rightarrow VI \rightarrow VIII$	$5 + 8 + 0 + 9 + 7 + 14$	= 43 Wks

(c) The critical Path is $I \rightarrow II \rightarrow Dummy \rightarrow IV \rightarrow VI \rightarrow VIII$ and the Duration is 43 weeks.

EXAMINER'S COMMENT

Activity-on-Arrow method of analyzing Network Diagram is tested in this Question.

About 75% of the candidates attempted this question. About 65% of this number scored below 50% of the total marks allocated.

The Candidates' major pitfall was their inability to interpret the question correctly.

SOLUTION 6

Table showing Unit costs of transportation

Warehouse	A	B	C	Quantity Available
I	3	5	7	750
II	6	7	10	600
III	7	6	5	950
Quantity Demanded	900	640	460	

1st Iteration

Penalty factors (pf) are obtained as follows:

row I	Pf : $5 - 3 = 2$	Col A pf : $6 - 3 = 3^*$
row II	Pf : $7 - 6 = 1$	Col B pf : $6 - 5 = 1$
row III	Pf : $7 - 6 = 1$	Col C pf : $7 - 5 = 2$

Pf 3^* is the highest, then the pivot column is A. Unit cost 3 is the least in this column, hence 750 is so allocated.

2nd iteration

row II	pf : $7 - 6 = 1$	Col A pf : $7 - 6 = 1$
row III	pf : $7 - 6 = 1$	Col B pf : $7 - 6 = 1$
		Col C pf : $10 - 5 = 5^*$

Pf 5^* is the highest, then pivot column is C. Unit cost 5 is the least in this column, hence 460 is allocated.

3rd iteration

row II	pf : $7 - 6 = 1$	Col A pf : $7 - 6 = 1$
row III	pf : $7 - 6 = 1^*$	Col B pf : $7 - 6 = 1$

Pf 1^* of row III is chosen making it the pivot row. Unit cost 6 is the least, hence $950 - 460 = 490$ is allocated.

This leaves $900 - 750 = 150$ to be allocated for unit cost of 6 in col A of row II and $640 - 490$ to be allocated to unit cost of 7 in col B of row II.

INSIGHT

Corresponding tableax are as follows:

1st iteration

Warehouse	A	B	C	Dummy	Available	Penalties	
I	750	3	5	7	750 0	2	
II		6	7	10	0	600	1
III		7	6	5	0	950	1
Demand	900 150	640	460	300	2300		
Penalties	3*	1	2				

At this point, row I is de-energized, no more quantity is available

2nd iteration

Warehouse	A	B	C	Dummy	Available	Penalties	
I	750	3	5	7	750 0	-	
II		6	7	10	0	600	1
III		7	6	460 5	0	950 490	1
Demand	900 150	640	460 0	300	2300		
Penalties	1	1	5*				

At this point, Col C is de-energised, no more quantity is demanded.

3rd iteration

Warehouse	A	B	C	Dummy	Available	Penalties	
I	750	3	5	7	750 0	-	
II		6	7	10	0	600	1
III		7	490 6	460 5	0	950 490 0	1*
Demand	900 150	640 150	460 0	300	2300		
Penalties	1	1					

INSIGHT

At this point it is only row III of 600 availability that remains. Since dummy takes 300, 150 each will be allocated to Col A with unit cost 6, and Col B, cost unit 7. This concludes the iterations giving the final tableau as follows:

Warehouse	A	B	C	Dummy	Qty Available	Penalties
I	750 3	5	7	0	750 0	2 - -
II	150 6	150 7	10	300 0	450 600 300 0	1 1 1
III	7	490 6	460 5	0	950 490 0	1 1 1*
Qty Demand	900 150 0	640 150 0	460 0	300 0	2300	
	3*	1	2			
	1	1	5*			
	1	1	-			

(b) Total cost = $750 \times 3 + 150 \times 6 + 150 \times 7 + 490 \times 6 + 460 \times 5$
 $= 2250 + 900 + 1050 + 2940 + 2300$
 $= \text{R}9440$

EXAMINER'S COMMENT

- This Question tests the candidates' ability to apply Vogel's Approximation Method to obtain an initial solution to the given transportation problem.
- About 80% of the candidates attempted the question with about 65% of them scoring marks in excess of $6\frac{1}{2}$ out of $12\frac{1}{2}$ marks allocated to the question.
- Their major pitfall was their inability to introduce the relevant column Dummy.

AT/132/PII.8

**ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA (ATSWA)
PART II EXAMINATIONS - SEPTEMBER 2013**

INFORMATION TECHNOLOGY

Time Allowed: 3 Hours

SECTION A: PART I

ATTEMPT ALL QUESTIONS

(30 Marks)

MULTIPLE CHOICE 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. The following are reasons why an accountant finds microcomputer invaluable.
 - i. User-friendliness
 - ii. Low recurrent cost
 - iii. Availability of microcomputer software that accountants can use for their job.
 - A. i only
 - B. iii only
 - C. i, ii, & iii
 - D. i & iii
 - E. i & ii

2. The typical business applications facilitated by the micro computer include
 - i. Payroll
 - ii. Stock control
 - iii. Invoicing
 - iv. Sales ledger
 - A. iii only
 - B. i & ii
 - C. i, ii, & iii
 - D. i, ii, iii & iv
 - E. iii & iv

INSIGHT

3. A department or an office that is manned by technically skilled staff that assists the information system department staff with regards to user requests and complaints is known as
 - A. Information centre
 - B. Computer centre
 - C. Complaints centre
 - D. Request centre
 - E. Help desk

4. An office with Staff using a number of telephones and hot lines to receive various user staff complaints and requests is known as
 - A. Telephone centre
 - B. Communication centre
 - C. Computer centre
 - D. Complaints centre
 - E. Help desk

5. An out-sourced facility that provides commonly required computing services to customers is known as
 - A. Computer firm
 - B. Information centre
 - C. Help centre
 - D. Computer Service bureau
 - E. Communication centre

6. The use of several Central Processing Units (CPUs) linked together to perform coordinated work at the same time is known as
 - A. Multiprogramming
 - B. Multiprocessing
 - C. Multiprocessor
 - D. Multiuser
 - E. Multicomputer

7. The process of allotting a predetermined small-time to each computer user while in multiprogramming environment is called
 - A. Multiprogramming
 - B. Time-sharing
 - C. Time-slice
 - D. Multi-User
 - E. Single-User

8. Which of the following is **NOT** a component of an Operating System?
- A. Supervisor
 - B. Command language Translator
 - C. Input/Output Control System
 - D. Resources
 - E. Librarian
9. The program that converts a high level language into a machine code object program is referred to as
- A. Compiler
 - B. Editor
 - C. Utility
 - D. Assembler
 - E. Loader
10. A generic term used for all computer programs that run on the hardware system is
- A. System
 - B. Software
 - C. Application
 - D. Utility
 - E. Documentation
11. The Open System Interconnection model (OSI) consists of how many layers?
- A. 10
 - B. 9
 - C. 8
 - D. 7
 - E. 6
12. The layer that ensures that packets find their way across network is referred to as layer
- A. Transport
 - B. Physical
 - C. Network
 - D. Application
 - E. Link

INSIGHT

13. Which of the following is **TRUE** of Intranet?
- A. It is designed to be a closed, but secure, internal network.
 - B. It is designed to be an open, but secure, internal network.
 - C. It is a network that links some of the intranet resources of a company with other organisations and individuals.
 - D. Enables customers, suppliers, administrators, etc to access selected intranet websites and other company's databases.
 - E. May not use a Virtual Private Network (VPN).
14. TCP/IP is an example of a/an
- A. Encoder
 - B. Decoder
 - C. Switch
 - D. Protocol
 - E. Multiplexor
15. Which of the following statements is **FALSE**?
- A. Telecommunications networks covering a large geographical area are called wide area network.
 - B. Most LANs use a more powerful microcomputer having a large hard disk called a file server.
 - C. In LAN environment, common data files and software packages are normally distributed among the computers
 - D. Extranets are networks that link some of the intranet resources of a company.
 - E. A shared printer is a component of a local area network.
16. A feature of First Generation computers is any of the following **EXCEPT** that:
- A. They generate a lot of heat
 - B. Their memories use mercury delay line
 - C. They use machine programming language
 - D. They are very bulky in size
 - E. They are internet compliant
17. The Central Processing Unit (CPU) of a 4th generation Computer which was manufactured and developed between late 1970 and 1980 has the following features **EXCEPT: That**
- A. It uses solid logic technology or microchips
 - B. It uses Semi-conductor in Application
 - C. It is versatile in Application
 - D. It uses query language
 - E. It allows the use of Internet

18. The smallest unit of data which is addressable on the computer memory is known as
- A. Bit
 - B. Byte
 - C. Hertz
 - D. Word
 - E. Record
19. Which of the following is **NOT** done with a mouse?
- A. Pointing
 - B. Double clicking
 - C. Dragging
 - D. Clicking
 - E. Dividing
20. An internal communication network that uses the infrastructure and standards of the internet and the World Wide Web is called
- A. Protocol
 - B. Gateway
 - C. Electronic mail
 - D. Intranet
 - E. Electronic Data Interchange
21. Which of the following is **NOT** a criteria for selecting application packages?
- A. To enhance task quality at hand
 - B. Makes task cumbersome
 - C. Makes task fast to accomplish
 - D. Accuracy of task to be performed
 - E. To make task easy to accomplish
22. Which of the following is **NOT** performed on Windows menu?
- A. Launch Breaker
 - B. Launch Browser
 - C. Shut down windows
 - D. Launch Program Icon
 - E. Switch users
23. Control Panel is used to manage the following **EXCEPT**:
- A. Hard disk
 - B. External disk
 - C. External fuse

INSIGHT

- D. CD/DVD drive
 - E. Flash drive
24. Windows Explorer is used to open contents of the hard disk and then
- A. Copy
 - B. Move
 - C. Delete
 - D. Paste
 - E. Vent
25. Which of the following can be personalised in Windows?
- A. Desktop
 - B. Explorer
 - C. Control panel
 - D. Menu bar
 - E. Title bar
26. The science of designing equipment for comfortable, safe and healthy working environment is known as
- A. Computer safety
 - B. Repetitive Stress Injury
 - C. Ergonomics
 - D. Total Quality Management
 - E. Safety measure
27. The code of conduct governing the practice of Information Technology is known as
- A. Computer Conduct
 - B. Computer Ethics
 - C. Computer Reporting
 - D. Safe Computing
 - E. Computer Seal
28. Which of the following is a Presentation Package?
- A. Quanttro
 - B. WordPerfect
 - C. Outlook
 - D. Power Point
 - E. Word Star

INSIGHT

29. Computer crimes are committed at the following operational levels **EXCEPT**:
- A. Input level
 - B. Output level
 - C. Software level
 - D. Information transmission level
 - E. Control level
30. Logical Security involves the following **EXCEPT**:
- A. Solid Construction of the computer centre with secured windows
 - B. Provision of passwords for authorised users
 - C. Provision of Data Encryption method
 - D. Provision of regular audit of all the computing resources
 - E. Provision of a system to monitor the activities of all login users.

SECTION A: PART II:

ATTEMPT ALL QUESTIONS

(20 Marks)

SHORT-ANSWER QUESTIONS

Write the answer that best completes the following questions/statements

1. The technology that characterised the fifth generation Computers is known as.....
2. A Computer that counts in a discrete or numerical variable describes
3. A computer that solves a wide range of problems such as in science, technology, education business, government is known as
4. A form of electronic mail which involves transmission by data link of exact duplicate copies of documents including copies of Signature, Pictures and diagrams is known as.....
5. An OSI layer which provides access to the telecommunication medium and ensures transmission of the bit stream over it is known as layer.
6. A program used to connect to websites is known as
7. A system incorporating many different Media, often including texts, Pictures, Sounds and video animations is known as

INSIGHT

8. A method that calculates the profits that will be earned by a project and expresses this as a percentage of the capital invested in the project is known as.....
9. A technique of evaluating capital investment projects using discounting arithmetic to determine whether or not they will provide a satisfactory return is known as
10. Cost associated with producing a new system is known as.....
11. Outputs produced by printers are called
12. Microsoft Word is an example of package.
13. Microsoft windows is and..... driven.
14. A communications processor interconnecting networks of different communications architecture is called a
15. A situation where transmission is possible in one direction only, such as outputting data to a printer is known as communication.
16. A network that may be privately owned and within a single building or campus of up to a few kilometres in size is referred to as
17. The process of exchanging predetermined signal and characters to establish a telecommunication session between terminals and computers is called.....
18. GUI is an acronym for
19. MS-DOS utility commands used to prepare a disk for use is known as
20. Another name for user's code in programming is code.

INSIGHT

SECTION B:

ATTEMPT ANY FOUR QUESTIONS

(50 Marks)

QUESTION 1

- a. What is Prototyping? (2½ Marks)
- b. State **THREE** advantages and **THREE** disadvantages of prototyping. (6 Marks)
- c. Enumerate **FOUR** benefits of Joint Applications Development (JAD). (4 Marks)
(Total 12½ Marks)

QUESTION 2

- a. What is a Network Topology? (2½ Marks)
- b. With the aid of diagrams, explain the following types of network topologies, highlighting one advantage and one disadvantage inherent in each one of them.
- i. Bus Topology
- ii. Star Topology (10 Marks)
(Total 12½ Marks)

QUESTION 3

- a. What is an Integrated Software Package? (1½ Marks)
- b. List **SIX** different examples of Application Software packages (6 Marks)
- c. List **FOUR** application areas of Application Software Packages (2 Marks)
- d. Name **SIX** of the Softwares used in the application areas (3 Marks)
(Total 12½ Marks)

QUESTION 4

- a. Identify the major technology that characterised the **FIVE** generations of computers. (5 Marks)
- b. Identify **FIVE** types of microcomputers. (5 Marks)
- c. Define the term Computer Hardware. (2½ Marks)
(Total 12½ Marks)

QUESTION 5

- a. Write short notes on these terms:
- i. Batch Processing (2 Marks)
 - ii. On-line Processing (2 Marks)
- b. Identify **FOUR** benefits derived from On-line Systems. (4 Marks)
- c. List **THREE** factors considered in Batch Processing System. (3 Marks)
- d. Indicate **THREE** Application Areas where Batch Processing is well suitable. (1½ Marks)
- (Total 12½ Marks)**

QUESTION 6

Explain the following terms:

- a. Computer Forensics (2½ Marks)
 - b. Data Encryption (2 Marks)
 - c. Computer Worm (2 Marks)
 - d. Jerusalem Virus (2 Marks)
 - e. Privacy and Security (2 Marks)
 - f. Theft of Hardware (2 Marks)
- (Total 12½ Marks)**

SUGGESTED SOLUTIONS

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

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

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

EXAMINER'S COMMENT

This section consists of thirty questions and it tests various aspects of the syllabus. The candidates show greater understanding of the contents of the syllabus and this was reflected in the marks scored. The performance was good.

SHORT-ANSWER QUESTIONS

- 1. Artificial Intelligence/Arsenide chips/Robotics/Voice Synthesis
- 2. Digital Computer
- 3. General Purpose Computer
- 4. Facsimile (i.e Fax)
- 5. Physical
- 6. Browser
- 7. Multimedia
- 8. Accounting Rate of Return (ARR)/Return on Investment (ROI)/Return on Capital
- 9. Net Present Value (NPV)/Discounted cashflow (DCF)
- 10. System Cost
- 11. Hardcopy

12. Word processing Package/Application Package
13. Graphical and Menu
14. Gateway
15. Simplex
16. Local Area Network (LAN)
17. Handshaking
18. Graphical User Interface
19. Format
20. Source

EXAMINER'S COMMENT

This section consists of twenty questions and it covered various aspects of the syllabus.

The performance was poor because most candidates could not give the precise one word answers requested by the questions.

Candidates are advised to pay more attention to the definitions of technical terms in Information Technology, for examples, question demands for the technology used in the 5th generation of computers but most students gave the applications of the technology.

SOLUTION 1

- (a) Prototyping is a fourth generation language (4GL) development tool that is used to allow users to quickly produce a simulation of the output required from a completed system.

It is employed by system designers to build an Internal system that is intuitive and easy to manipulate by end-users.

It allows users to quickly produce a simulation of the output required from a completed system.

(b) **Advantages of Prototyping**

- The user is able to judge the prototype before things get too far to be changed.
- It makes it more economical for users to get custom built application software.
- A prototype does not necessarily have to be written in the language of what it is prototyping.
- It helps reduce system development time.
- It facilitates system implementation since users know what to expect

Disadvantages of Prototyping

- Many prototyping software tools assume the user is only about to computerize an application for the first time. This might not be the case.
- Programs produced may be tied to a particular hardware platform or database system
- Prototyping tools may be inefficient in the programs they produce
- Not all prototyping tools allow programmers to insert hand-written codes into a program when this becomes necessary
- Users' expect the performance of the ultimate system to be the same as the prototype.

(c) **Benefit JOINT APPLICATION DEVELOPMENT (JAD)**

- It creates a pool of expertise made up of interested parties from all relevant functions.
- Reduces risk of systems being imposed on users
- Increase developers ownership and responsibility for systems solution
- Emphasizes the information needs of users and their relationships to business needs and decision-making.
- It expedites development and improves the quality of the system.

EXAMINER'S COMMENT

This question tests candidates' knowledge on prototyping and joint Applications Development. It demands for the definition, advantages and disadvantages of prototyping.

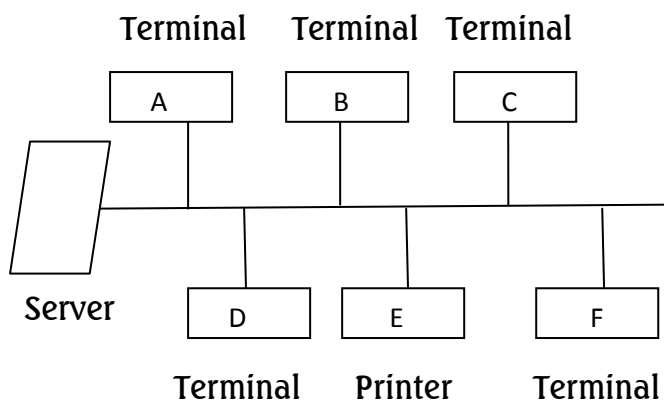
80% of the candidates attempted this question and about 60% of those who attempted it scored over 40% of the allocated mark, hence the performance was just fair.

The major pitfall was that many candidates could not give satisfactory benefits of the joint Applications Development.

SOLUTION 2

(a) A network topology is a physical layout of nodes (such as computers, terminals, file servers etc) in a network, which often dictates the type of communications protocol used by the network and deals with how best various computers can be interconnected

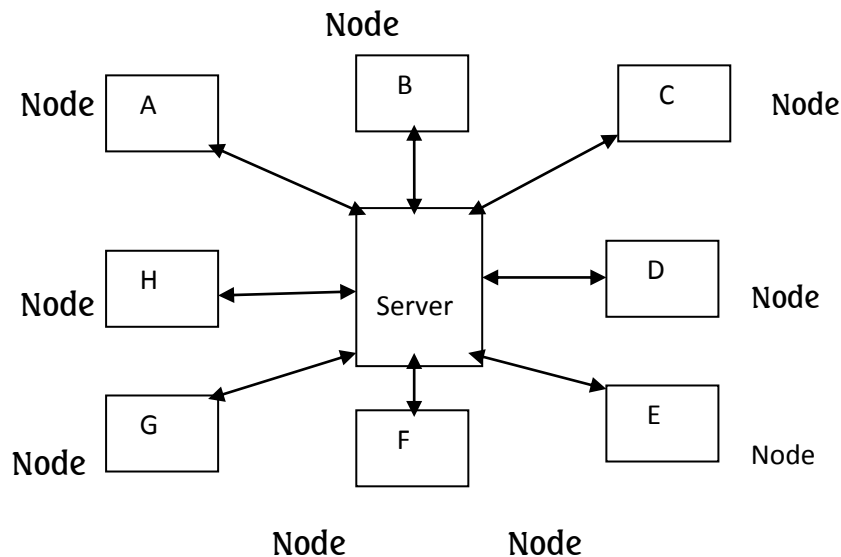
(b) i. Bus Topology



A bus topology or network is a network in which local processors or nodes share the same bus or telecommunications channel. Thus all devices (i.e peripherals) or terminals are connected to an open-ended line. When a signal is transmitted, it is broadcasted to every node or terminal or processor. A receiving node filters the signal address to it from other signals.

An advantage of a bus network is that, failure of a single node or terminal does not affect the network. On the other hand a disadvantage is that the failure of the cable or the telecommunications channel does affect the entire network.

ii. Star topology or network



In a star topology, all nodes (i.e PCs, Workstations, communication lines, peripheral devices) are connected to one central device called server. It may be a file server, a private branch exchange or a network hub.

When a user at a particular node wants to transmit to another node, the communication is managed by and transmitted through the central device which contains the communication software.

Advantage: Is that it is easy to determine the source of network problem such as cable failure.

Disadvantage: If the central device fails, the entire network fails.

EXAMINER'S COMMENT

The question tests candidates' knowledge on Network typologies. It demands for the definition of network topology and the explanations of the star and Bus topologies.

This question, was very popular among the students as over 90% of the students attempted it

The performance was very good as over 60% of the candidates scored over 70% of the allocated mark.

SOLUTION 3

- (a) An Integrated software package combines some of the functions of several programs. It is the interconnection of several application packages that share a common database and user interface into one application.

Examples include Adobe in Design, Microsoft Office or star office. In an Integrated package, the output of one program (such as a spreadsheet or graphics program) can be manually imported into or embedded in another program (such as a word processor or page setting program).

- (b) Examples of Application Software Packages include:

- (i) Accounting Packages
- (ii) Business Graphics Package
- (iii) Database Management System Package
- (iv) Word Processing Package
- (v) Spreadsheet Packages
- (vi) Antivirus Package
- (vii) Statistical Packages
- (viii) Mathematical Packages

- (c) Application Areas include:

- (i) Business
- (ii) Accounting
- (iii) Statistics
- (iv) Mathematics
- (v) Science
- (vi) Transport
- (vii) Entertainment Industry
- (viii) International Hotel Reservation
- (ix) Graphics
- (x) Project Management
- (xi) Database Management

- (d) Software used in each application are:

- (i) Power point used for Presentation
- (ii) Ms word used for word processing
- (iii) Ms Excel used for number manipulations
- (iv) Access used for database management
- (v) Publisher used for desktop publishing
- (vi) Scheduler used for project planning
- (vii) Project pro for project Management

EXAMINER'S COMMENT

The pitfalls were the inability of the candidates to interpret (b) and (c) parts of the question correctly. Part (b) demands for examples of Application packages and not trade names of a specific package. Also part (c) demands for application areas. Fortunately this is an open ended demand.

Students are advised to note the differences between categories and examples of application packages.

SOLUTION 4

(a) Major technologies that characterized the generations of computers.

Generations	Technology used
First generation	Vacuum tubes/valves
Second generation	Transistors
Third generation	Integrated circuits (IC)
Fourth generation	Large-Scale Integrated circuits (LSI)
Fifth generation	Very large Integrated Circuit (VLSI)/Silicon Microchip Artificial Intelligence/Robotics/voice synthesis/Arsenide chip

(b) Types of Microcomputers include:

- i. Palmtop Computer
- ii. Laptop Computer
- iii. Desktop Computer
- iii. Notebook

(c) Hardware may be defined as the physical component of the computer system. It includes the printer, the telecommunications links, the I/O devices, the external storage and the central processing units

EXAMINER'S COMMENT

This question tests candidates' understanding on the computer generations and types of microcomputers. It demands for the technologies used for the five generations.

INSIGHT

This question was very popular among the candidates as over 70% of the candidates attempted it. The performance was good as over 70% of the candidates that attempted the question scored over 60% of the allocated marks

All the same, candidates must distinguish between the technology adopted in the 5th generation and the applications derived from the technology.

SOLUTION 5

(a)

- i. Batch processing is a technique whereby large volume of data are gathered over a period of time and processed periodically or at intervals. Simply put, it is a processing technique where related transactions are grouped together and transmitted for processing at a predetermined time
- ii. Online processing is a system whereby computer terminals are directly connected and controlled by the central processing unit, (CPU). The terminal may be intelligent or unintelligent. Alternatively, it is a processing technique whereby the computer system captures data electronically, edit it for accuracy and competences and immediately process it.

(b) Benefits derived from online systems

- i. Provides information as transaction occurs
- ii. Efficient/effective method of processing data
- iii. Enhances processing operations
- iv. Increases the productivity of the organization
- v. Eliminates excessive waiting time when transactions are being processed

(c) Factors considered in batch processing system include:

- i. Time it takes to process the data
- ii. Processing periodicity – how often the transactions processing will take place.
- ii. The volume of data to process

(d) Application areas where batch processing is well suitable include.

- i. Result processing for schools, WAEC, JAMB etc.
- ii. Company final account includes balance sheet, trading, profit & loss account etc.

- iii. Payroll system where pay slip are issued monthly
- iv. Billing system where bills are sent to consumers e.g Electricity, water
- v. Ledger processing.

EXAMINER'S COMMENT

This question tests candidates' understanding on processing techniques. It demands for the definitions of batch and on-line processing techniques. It also demands for the benefits of on-line systems and the factors to be considered in Batch processing systems.

Few candidates attempted this question and the performance was poor.

The pitfalls were the inabilities of the candidates to define the systems and the conditions under which they operate.

Candidates are advised to read good texts on processing techniques.

SOLUTION 6

- (a) Computer Forensic is the analysis of information contained within and created with computer systems and computing devices, in the interest of figuring out what happen, when it happened, how it happened and who was involved.
- (b) Data Encryption is the transformation of data into a form that is unreadable to anyone without an appropriate decryption key.
- (c) Computer Worm: This is a malicious stand alone computer program that replicates itself in order to spread to other computers. Often it use's a computer network to spread during data transmission relying on security framework lapses.

Unlike a computer virus, the computer worm does not need to attach itself to a computer program, whereas a virus will always corrupt files on the host program.

- (d) Jerusalem Virus: Jerusalem Virus is peculiar to DOS and was first discovered in Jerusalem. It is a malicious computer program that is resident in the computer internal memory and infects all executable files that are run on the system.
- (e) Privacy and Security: Privacy refers to confidentiality of information or data file of an organization or individual. Security on the other hand refers to the measures put in place to safeguard computer resources from unauthorized access, being stolen, modified or vandalized.

- (f) **Theft of hardware:** This may be associated with the smaller PCs and is usually rampant at airports and hotels as well as on campuses. With the desk-tops, thieves may often decide to steal the system unit and leave the peripheral devices.

In the organization, these hardware devices must be properly documented in the stock registers and labeled with specific codes that indicate their sites and other identification marks to discourage people from taking them out.

EXAMINER'S COMMENT

This question tests candidates' knowledge on six I.T terms.

Many candidates attempted this question but the performance was poor as only 50% of the candidates that attempted the question scored over 40% of the allocated marks.

Many candidates could not give satisfactory definitions of the terms, in particular computer forensics and computer worms.

Candidates are advised to master these definitions for future examinations