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.

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.

CONTENTS **PAGE**

AT/131/PII.5

ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA
PART II EXAMINATIONS - MARCH 2013
PRINCIPLES & 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. The following can be classified as Non-Current Assets **EXCEPT**

   A. Plant and equipment
   B. Inventories
   C. Property
   D. Motor vehicle
   E. Furniture and fittings

2. Which of the following entries can be found on the DEBIT side of Receipts and Payments Account?

   A. Cash paid to Creditors
   B. Drawings by the owner
   C. Loan repaid
   D. New Capital introduced in form of cash
   E. General expenses paid

3. An extended trial balance is made up of the following **EXCEPT**

   A. Opening trial Balance
   B. Adjustment Journal
   C. Final Trial Balance
   D. Profit and loss Accounts
   E. Control Account

4. Errors having no effect on the agreement of Trial Balance are the following **EXCEPT**

   A. Compensating errors
   B. Errors of Commission
   C. Casting errors
   D. Errors of principle
   E. Error of original entry

5. A company with a tenancy agreement which covers 1 July to 30 June every year paid Rent expenses of ₦1,200,000 for one year. If the company's yearend is 31 December, what is the prepaid rent?

A. ₦1,200,000
B. ₦1,000,000
C. ₦800,000
D. ₦600,000
E. ₦400,000

6. A method of depreciation in which a fixed amount is charged to the Income Statement every year is.................method

A. Reducing Balance
B. Straight Line
C. Sum of the yeas digits
D. Sinking Fund
E. Annuity

7. When preparing statement of cash flows, which of the following items cannot be classified as investing activities?

A. Proceeds from the issue of shares, debentures and loan stock
B. Dividends and interest received on investments
C. Purchase of fixed assets
D. Proceeds from sale of fixed assets and investments
E. Purchase of investments

8. Which of the following is **NOT** an accounting convention?

A. Consistency
B. Prudence
C. Materiality
D. Objectivity
E. Realization

9. Items of revenue and expenses, that though normal to the activity of an enterprise, are abnormal as a result of their infrequency of occurrence and size are called

A. Exceptional items
B. Extraordinary items
C. Prior year adjustments
D. Ordinary activities
E. Extraordinary activities

10. Which of the following is **NOT** information to be disclosed in financial statements?

A. Statement of financial position
B. Statement of comprehensive income
C. Statement of accounting policies
D. Directors' Report
E. Notes on the financial statements

11. The basis of valuing inventory at the end of an accounting period in accordance with IAS 2 is

A. Lower of cost and net realizable value
B. Lower of cost or net realizable value
C. Cost or replacement cost
D. First-In-first-Out
E. Last-In-First-Out

12. The means of communicating to interested parties, information on the resources, obligations and performance of the reporting economic entity or enterprise is

A. Statement of comprehensive Income
B. Statement of changes in financial position
C. Statement of financial position
D. Statement of cash flows
E. Financial statements

13. In the books of a company that acquired a partnership business, when the purchase consideration is more than the value of assets acquired the difference is

A. Capital Reserve
B. Surplus Reserve
C. Acquired Goodwill
D. Inherent Goodwill
E. General Reserve

14. The responsibility for the preparation and presentation of Financial Statements to the members of a not-for-profit organization is that of

A. The Chairman
B. Stakeholders
C. Board of Trustees
D. General Secretary
E. The Treasurer

15. In the books of not-for-profit organization, the bank and cash balance are determined in the

A. Bank and cash Statement
B. Bank Reconciliation Statement
C. Income and Expenditure Account
D. Receipts and payments Account
E. Cash Book

16. In the books of not-for-profit organization, which of the following items will **NOT** appear in the Income and Expenditure Account?

A. Fines imposed on members who breach rules and regulations
B. Donations
C. Payments to suppliers of equipment
D. Payments for rent and rates
E. Payments for printing of raffle tickets

17. The ledger accounting entries necessary to record the partners' share of Goodwill at revaluation are

	DEBIT	**CREDIT**
A.	Goodwill Account	Partners Current Account
B.	Goodwill Account	Partners Capital Account
C.	Revaluation Account	Goodwill Account
D.	Partners' Capital Account	Goodwill Account
E.	Partners' Current Account	Goodwill Account

18. The provisions in a Partnership Deed that affect partnership accounts include the following **EXCEPT**

A. The method of treating the insurance premiums on partners
B. The method of determining the amount due to the estate of deceased partners

C. Whether the current and capital accounts are to bear interest
D. Methods by which the value of Goodwill shall be determined
E. Value of partnership expertise for future development

19. The preparation and presentation of financial statements to the shareholders at the Annual General Meeting of a Public Limited Liability company is the responsibility of

A. Managing Director
B. Board of Directors
C. Director of Finance
D. External Auditor
E. Audit Committee

20. The contents of published financial statements of a public limited liability company, according to IAS 1, include the following **EXCEPT**

A. Statement of value added
B. Statement of comprehensive income
C. Statement of financial position
D. Statement of changes in Equity
E. Statement of cash flows

21. Shacoal has in issue 40 million ordinary shares at ₦1.50. The company issued a 1 to 4 bonus shares, using part of Revenue Reserves. The bank balance before the issue was ₦21million. What are the balances in the share capital and bank balance after this transaction?

	Share capital	Bank Balance
	₦'m	₦'m
A.	60	21
B.	75	21
C.	85	26
D.	75	36
E.	90	36

22. Which of these business organizations is liable to company income tax on its profit?

A. Sole trader
B. Partnership
C. Charity organization
D. Cooperative society
E. Limited Liability Companies

23. Kofi issued 12% loan notes of ₦3 million at 97. Interest is payable per annum. Calculate the cost and interest payable per annum on the loan

	Cost	Interest
	₦'m	₦
A.	3.00	360,000
B.	3.00	350,000
C.	2.91	360,000
D.	2.91	350,000
E.	2.91	240,600

24. Which of the following financial instruments may carry forward unearned dividend?

A. Ordinary Shares
B. Participating preference shares
C. Convertible preference shares
D. Cumulative preference shares
E. Redeemable preference shares

25. The annual rent based upon a fair commercial letting value other than that of letting the property on the basis of payment for beneficial occupant is........... rent

A. Surface
B. Minimum
C. Rack
D. Minimal
E. Actual

26. The accounting entry on commission due to venturers in a Joint Venture Account is

A. Debited to Income Statement
B. Credited to memorandum Joint Venture Account
C. Credited to Profit and Loss of the venture
D. Debited to the Asset Account of the Venture
E. Debited to profit and loss of the venture

27. The reward paid to a consignee to guarantee his principal (the consignor) against bad debts in respect of goods sold is

A. Commission
B. Profit
C. Agency fee
D. Del credere Commission
E. Dividend

28. Which of the following formulae correctly states the profit taken or recognized from profit realized in a long term contract?

A. $\frac{\text{Total cost of contract}}{\text{Estimated cost of contract}} \times \frac{\text{Estimated Total Profit}}{1}$

B. $\frac{\text{Cost of work certified}}{\text{Total cost of contract}} \times \frac{\text{Estimated Total Profit}}{1}$

C. $\frac{\text{Cost to date}}{\text{Estimated cost of contract}} \times \frac{\text{Estimated Total Profit}}{1}$

D. $\frac{\text{Cost to date}}{\text{Estimated cost of contract}} \times \frac{\text{Value of work certified}}{1}$

E. $\frac{\text{Cost to date}}{\text{Cost of work certified}} \times \text{Value of work certified}$

29. What is the profit to be taken for the year where the estimated Total cost of a contract over a 3 year period is ₦15,750,000 and the cost of work certified for the year is ₦6,850,000 and the Architect's certificate on work done for the year is ₦8,580,000?

A. ₦1,700,000
B. ₦1,600,000
C. ₦1,730,000

D. ₦2,390,000
E. ₦2,966,667

30. The necessary accounting entries to record scrapped container in accounting for containers, using container Trading Accounting method is

	DEBIT	CREDIT
A.	Container Stock Account	Container Trading Account
B.	Container Trading Account	Container Stock Account
C.	Container Profit Suspense Account	Container Control Account
D.	Container Control Account	Container Trading Account
E.	Container Trading Account	Container Control Account

SECTION A: PART II ATTEMPT ALL QUESTIONS (20 Marks)

SHORT-ANSWER QUESTIONS

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

1. Give **TWO** methods that should be used in valuing livestock.

2. Why should goods on consignment be included in the closing inventories?

3. State **TWO** distinct operational stages of arable inventories.

4. When preparing the Statement of Cash Flows, how would you treat decrease in provision for doubtful debts?

5. What is the double entry required to correct a debit balance in Jide's account in the sales ledger which was wrongly recorded as ₦695 instead of ₦659?

6. When a Non-Current Asset is sold, the amount that is debited to Cash Account and credited to disposal account is called………………….

Use the information below to answer questions 7 and 8

The following data relate to a firm which does not keep proper accounting records for the year ended 31 December 2012

	₦
Loss for the year	60,000
Capital at 1 January 2012	1,800,000

Capital at 31 December 2012	1,860,000
Drawings for the year	180,000
Fixed Assets	970,000

7. What is the additional Capital introduced by the owner during the year?

8. What is the 'Net current assets'?

9. In the books of the partnership, what are ledger account entries for dissolution expenses borne by the company that acquired such partnership business?

10. The specific amount paid by a newly admitted partner in respect of his share in the partnership goodwill is………………………………

11. Who prepares the Receipts and Payments Account and the Final Accounts of a not-for-profit organization?

12. State the major source of income to a social club organization

13. When shares are forfeited, the forfeited shares/share Deal account is debited, while the………………………..account is credited

Use the following information from the 31 December 2011 and 2012 balances of a company to answer questions 14 and 15

	2012	2011
	₦	₦
Cash in hand	1800	1640
Balance at bank	18,640	(14,700)

14. Calculate the balance of cash and cash equivalent as at 1/1/2012

15. What was the increase in cash and cash equivalent between 1/1/2012 and 31/12/2012?

16. Given a selling price of ₦700,000 and a gross profit mark-up of 40%, the cost price is………………………..

17. State **TWO** sections out of three available in farmers' account records.

18. According to IAS 2, at what value should inventories be stated?

Use the following to answer questions 19 and 20

Talktok Limited could not conduct its annual stock taking at the financial year ended 30 November 2012. Therefore, the stock taking was shifted to 6 December 2012 when the value of inventories was ascertained at ₦1,710,000 at cost. During the period from 1 December to 5 December 2012, the following transactions took place.

i. Goods purchased and delivered on 1 December was ₦200,000
ii. Goods worth ₦600,000 were sold to Customers on 4 December at a gross margin at 20%
iii. Goods returned to suppliers on 3 December is ₦60,000

19. Calculate the gross profit on sales to customers.

20. Calculate the value of inventories at 30 November 2012.

SECTION B ATTEMPT ANY FOUR QUESTIONS (50 Marks)

QUESTION 1

Grace Enterprises did not maintain complete records of accounts but has prepared the following details in respect of transactions which took place during the accounting year ended 31 May 2012.

i. **SUMMARY OF BANK TRANSACTIONS FOR THE YEAR**

<u>RECEIPT</u>	₦
Debtors	3,375,000
<u>PAYMENTS</u>	
Creditors	1,125,000
Rents	142,500
Equipment	375,000
Insurance	87,500
General Expenses	350,000
Drawings	37,000
Wages and Salaries	150,000

The bank balance at the beginning of the accounting year was ₦39,250

ii. Apart from the transactions that were carried out through the bank, the following cash transactions also took place

	₦
Sales	1,037,500
Purchases	290,000
Drawings	17,500
Wages	26,250
Consumables	350,000

iii. Details of assets and liabilities of Grace Enterprises are as follows:

		1 June 2011	31 May 2012
		₦	₦
Inventory:	Goods	337,500	425,000
	Consumables	37,500	17,500
Trade Payable		425,000	400,000
Trade Receivable		300,000	462,500
Rent Accrued		28,750	30,000
Insurance Prepaid		-	4,250
Motor Vehicle		500,000	450,000
Furniture & Fittings		162,500	154,375

You are required to:

a. Prepare the Income Statement for the year ended 31 May 2012
b. Statement of Financial Position as at 31 May 2012

($12^1/_2$ Marks)

QUESTION 2

a. What are the essential characteristics of a non-current asset? (5 Marks)

b. One of the functions of a Statement of Financial Position is to disclose the financial position of a business. List **FOUR** limitations to its effectiveness in achieving this function (4 Marks)

c. What principles should be applied in the valuation of inventories ($3^1/_2$ Marks)

(Total $12^1/_2$ Marks)

QUESTION 3

Kamari Social Club
Receipts and Payments Account for the year ended 31 December 2012

	₦		₦
Dance takings	65,550	Office expenses	24,450
Subscriptions	298,050	Rent	210,750
Donations from members	26,550	Honorarium	191,250
Refund of rent	75,000	Donation to charity	5,250
		Dance tickets	40,500
		Stationery & Postages	26,850

The following balances are available as at 31 December

	2011 ₦	2012 ₦
Bank Balance	31,500	
Equipment (cost ₦213,000)	146,250	117,000
Subscriptions in arrears	9,750	12,750
Subscription in advance	1,500	5,550
Owing to Suppliers of dance tickets	8,700	10,200
Inventory of dance tickets	5,700	6,900

You are required to prepare the

a. Subscriptions and Dance Accounts

b. Income and Expenditure Account in vertical format for the year ended 31 December 2012. Show all workings. **($12^1/_2$ Marks)**

QUESTION 4

The following information has been extracted from the books of Kofineh Plc as at 31/12/2012

	GHC '000
Dividend paid to shareholders	14,750
Depreciation	4,550
Employees' remuneration	18,870

Contribution to Employees Pension Fund	1,580
Exceptional item, Net loss	25
Company Income Tax	3,000
Interest on borrowings	2,100
Investment Income	1,025
Sales Revenue	54,475
Retained profit	5,275
Bonus to employees	525

You are required to prepare the Value-added statement **($12^1/_2$ Marks)**

QUESTION 5

Dug-Dip Engineering Limited took a lease of a quarry at a royalty of L$1,250 per ton of granite. The minimum rent being L$750,000 per annum with the right to re-coup short workings out of subsequent surplus royalties with a period of five years.

The following information shows the amount of granite raised in the first five years of operation:

Year 1	300	Tons
Year 2	500	Tons
Year 3	700	Tons
Year 4	800	Tons
Year 5	850	Tons

You are required to prepare in the tenant's books

a. Royalty Account (2 ½ Marks)
b. Landlord/Owner's Account (2½ Marks)
c. Minimum Rent Account (5½ Marks)
d. Short Workings Account (2 Marks)

(Total $12^1/_2$ Marks)

QUESTION 6

Agwei and Danladi are wholesalers dealing in manufactured products. They entered into joint venture with agreement to share profits and losses in proportion of 4:3 respectively. It was agreed that Agwei should receive a commission of 2 percent on all credit sales for bearing all losses from bad debts. The following transactions took place in December 2012.
Agwei effected the following:

		₦
i.	Purchased goods in cash	678,000
Ii	Paid general expenses	20,000
Iii	Paid warehousing charge	40,500
Iv	Sent goods to Danladi	285,000
V	Received cash from Danladi	360,000
Vi	Sold goods on credit to Abedi	336,000
vii	Abedi paid off his debt	306,000
Viii	Paid Transportation cost	15,000
ix	Paid Insurance	13,000

Danladi effected the following:

		₦
i.	Sold goods in cash	308,000
Ii	A customer rejected goods invoiced at ₦9,800 and these goods were taken over by Agwei who sold them to another customer for cash	12,200
Iii	Carriage expenses	12,000

The financial year of Agwei ended 31 December 2012 and at that date 25% of the goods remained unsold. On 15 January, Agwei took over the remaining goods in his possession at actual stock value. The venture was terminated on 31 January 2013 and Danladi took over the remaining goods in his possession at stock value of ₦20,000. Abedi paid ₦25,000 out of his debt on 20 January 2013, the balance was adjudged irrecoverable.

You are required to prepare:

a. Joint Venture with Danladi Account in the ledger of Agwei
b. Joint venture with Agwei Account in the ledger of Danladi
c. Memorandum Joint Venture Account
(Show all workings) **(12½ Marks)**

SUGGESTED SOLUTIONS

SECTION A

PART I MULTIPLE-CHOICE SOLUTIONS

1. B

2. D

3. E

4. C

5. D

6. B

7. A

8. E

9. A

10. D

11. A

12. E

13. C

14. C

15. D

16. C

17. B

18. E

19. B

20. A

21. B

22. E

23. C

24. D

25. C

26. E

27. D

28. C

29. C

30. B

EXAMINER'S COMMENT

The thirty questions that cover the syllabus were attempted by all the candidates. About 50% of them scored above average.

Candidates did not fully prepare for the examination. It is recommended that candidates put in more effort against subsequent examinations.

PART II SHORT-ANSWER SOLUTION

1. (i) Cost Method

   (ii) Net realizable value

   (iii) Appraisal value

2. The consignor has the ownership interest in the goods (i.e. the ownership of the goods has not passed to third party)

3. Tillage, growth

4. Increase in net profit

5. Dr. Suspense Account ₦36

   Cr. Jide Account ₦36

6. Sales proceeds

7. ₦60,000 + ₦180, 000 + (₦1,860,000 – ₦1,800,000) = ₦300,000

8. ₦ 1,860,000 – ₦970,000 = ₦ 890,000

9. No entries in the books of Partnership

10. Premium

11. Treasurer

12. Members subscriptions

13. Calls in arrears Account

14. ₦1,640 – ₦14,700 =₦13,060 i.e. Bank overdraft

			₦
15.	Cash and cash equivalent	31/12/2011	20,440
	Less: Cash and Cash equivalent 1/1/2011		(12,060)
	Increase in Cash and cash equivalent	33,500	

16. $\frac{100}{140}$ x ₦700,000 = ₦500,000

17. (i) Arable farming products

    (ii) Plantation products

    (iii) Livestock (any 2 points)

18. Lower of actual cost and net realizable value.

19. Gross margin = 20% x ₦600,000 = ₦120,000

20. ₦2,170,000

TUTORIAL:

20.	₦	₦
Value of stock at 6 December, 2008		1,710,000
Goods purchased on 1/12/2008	(200,000)	
Goods returned on 3/12/2008	60,000	
		(140,000)
		1,570,000
Goods sold (Add)	600,000	
Value of stock at 30/11/2008		2,170,000

EXAMINER'S COMMENT

The twenty questions that cover the syllabus were attempted by all candidates. The performance was poor as about 70% of them scored less than 20% of the mark.

A major pitfall is inadequate preparation. Candidates are requested to intensify efforts against future examinations.

SOLUTION 1

(a) **GRACE ENTERPRISES**

INCOME STATEMENT FOR THE YEAR ENDED 31 MAY 2012

	₦	₦
Sales (WK 1)		4,575,000
Cost of Sales:		
Opening inventories – goods	337,500	
Purchases (WK 2)	1,390,000	
	1,727,500	
Closing inventories – goods	(425,000)	
Cost of goods sold	1,302,500	
Wages	26,250	(1,328,750)
Gross profit		3,246,250
EXPENSES:		
Rent (142,500 – 28,750 + 30,000)	143,750	
Depreciation – Motor Vehicle (500,000 – 450,000)	50,000	
- Furniture and fittings (162,500 – 154,375)	8,125	
Insurance (87,500 – 4,250)	83,250	
General expenses	350,000	
Wages and salaries	150,000	
Consumables (37,500 + 350,000 – 17,500)	370,000	(1,155,125)
Net profit		2,091,125

(b) **GRACE ENTERPRISES**

STATEMENT OF FINANCIAL POSITION AS AT 31 MAY 2012

	₦	₦	₦
NON-CURRENT ASSETS			
Equipment	375,000	-	375,000
Motor vehicles	500,000	50,000	450,000
Furniture and fittings	162,000	8,125	154,375
	1,037,500	58,125	979,375
CURRENT ASSETS			
Inventories – goods		425,000	
Trade Account s Receivables		462,500	
Consumables		17,500	
Insurance prepaid		4,250	
Bank Balance		1,147,250	

Cash Balance		353,750	2,410,250
Total Assets			3,289,625
CAPITAL/LIABILITIES			
Capital (WK 3)			923,000
Net profit			2,091,125
			3,014,125
Drawings (37,000 + 17,500)			(54,500)
CURRENT LIABILITIES			2,959,625
Trade Accounts Payables	400,000		
Rent Accrued	30,000		
			430,000
			3,389,625

WORKINGS

1. Trade Receivable Control Account

	₦		₦
Balance b/fwd	300,000	Bank	3,375,000
Sales (Credit)	3,537,500	Balance c/d	462,500
	3,837,500		3,837,500
Balance b/d	462,500		

Hence, total Sales = Credit Sales + Cash Sales

= ₦(3,537,500 +1,037,500)

= ₦4,575,000

2. Trade Payable Control Account

	₦		₦
Bank	1,125,000	Balance b/fwd	425,000
Balance c/d	400,000	Purchases (Credit)	1,100,000
	1,525,000		1,525,000
		Balance b/d	400,000

Hence, total Purchases = Credit Purchases + Cash Purchases

= ₦[1,100,000 + 290,000]

= ₦1,390,000

3. Determination of Opening Capital Balance

	₦	₦
Bank Balance		39,250
Inventories - goods		337,500
- Consumables		37,500
Trade Receivables		300,000
Motor vehicles		500,000
Furniture and fittings		162,500
		1,376,750
Less:		
Trade payables	425,000	
Rent Accrued	28,750	453,750

Opening Capital	923,000

Examiner's Comment

The question that tests the candidates' knowledge of the preparation of accounts from incomplete records was attempted by 70% of the candidates. Poor understanding of the principles involved was displayed and about 50% scored less than average marks. It is therefore advisable to continue in examining this area of the syllabus.

SOLUTION 2

(a) Non-current asset may be defined as a future economic benefit, the right to which must have been ascertained by current or past transaction. The essential characteristics of non-current assets are:

The asset must have more than one year life span.

(i) The business must own the asset
(ii) Non-current asset could be pledged for long term and short-term loans such as bank overdraft and debenture.
(iii) There must be expectation of future earnings attached to the assets.
(iv) The rights to own the assets must have been ascertained, an agreement to acquire such rights in the future is not sufficient.

(b) Limitations to the effectiveness of a statement of financial position are:

(i) Assets are recorded at historical cost (or a figure derived from that cost) and not at their current value to the business.
(ii) Ages of assets in use are not disclosed in the statement of financial position.
(iii) Non-financial resources like human resources and quality of management, which are major assets of a business, are not disclosed.
(iv) Most conventional statements of financial position assume a stability of monetary value. It does not take into consideration price level changes.

C. IAS 2 on Inventories requires that inventories should be valued at lower of cost and net realizable value.

Cost in accounting means all costs incurred to get the goods into a selling condition. This in a retail business, cost is taken as purchase price.

The net realizable value is the amount at which is expected that an item of inventories and work-in-progress to a saleable condition

The accounting convention and the choice of the lower value is dictated by the doctrine of prudence concept and the attachment to historical cost by a desire to remain objective.

Examiner's Comment

The question tests candidates understanding of characteristics, limitations and valuation of non-current assets was attempted by 50% of the candidates. Their performance was generally poor. Their answers portray lack of understanding of the requirements of the question. This area of the syllabus could be consistently examined in future, in order to broaden the knowledge of the candidates

SOLUTION 3

Kamari Social Club

Subscriptions Account

	₦		₦
Balance b/d	9,750	Balance b/d	1,500
Income & Expenditure	297,000	Receipts & Payment	298,050
Balance c/d	5,550	Balance c/d	12,750
	312,300		312,300

Dance Account

	₦	₦
Takings		65,550
Opening inventory of dance tickets	5,700	
Dance tickets printed	42,000	
	47,700	
Less: Closing inventory of dance tickets	6,900	
		40,800
Net		24,750

Income and Expenditure for the year ended

31 December, 2012

	₦	₦
Income		
Subscriptions	297,000	
Donations from members	26,550	
Net Dance	24,750	
		348,300
Expenditure		
Office Expenses	24.450	
Rent(210,750-75,000)	135,750	
Honorarium	191,250	
Donation to charity	5,250	
Stationery & Postages	26,850	

Depreciation of Equipment	29,250	
		412,800
Deficit		(64,500)

Notes

(i) Accumulated Fund

	₦	₦
Bank balance	31,500	
Equipment	1,462,50	
Subscription in arrears	9,750	
Inventory of dance tickets	5,700	
		193,200
Less:		
Subscriptions in advance	1,500	
Owing to Supplier of dance tickets	8,700	
		10,200
		183,000

(ii) Dance Ticket Suppliers Account

	₦		₦
Receipts and Payments	40,500	Balance b/d	8,700
Balance c/d	10,200	Dance Account	42,000
	50,700		50,700

(iii) Depreciation of Equipment

Net equipment	31 December 2011	146,250
Net equipment	31 December 2012	117,000
		29,250

Examiner's Comment

The question on presentation of Income and Expenditure account in vertical format was attempted by 90% of the candidates. They put up good performance. Commonest pitfall was candidates' posting of credit entries to debit and vice versa.

Candidates should read over their answers to ensure that errors in postings can be corrected.

SOLUTION 4

Mensah PLC
Value Added Statement
For the Year Ended 31 December, 2012

	¢'000	¢'000	%
SALES REVENUE:		54,475	

Bought-in goods and services		4,825	
Value added from operation		49,650	
Add investment Income	1,025		
Loss on exceptional item	(25)	1000	
		50,650	100
APPLIED AS FOLLOWS:			
TO PAY EMPLOYEE			
- Remuneration	18,870		
- Contribution to pension fund	1,580		
- Bonus to Employees	525	20975	41.40
To pay Providers of capital:			
- Dividend paid	14,750		
- Interest paid	2,100	16,850	33.3
To pay Government:			
- Company tax		3,000	5.9
Retained for Expansion:			
- Depreciation	4,550		
- Profit retained	5,275	9,825	19.4
		50,650	100

Examiner's Comment

The question tests Value Added Statement and was attempted by 25% of the candidates. Candidates displayed poor understanding of the statements format and in effect scored below average mark. Candidates should get to understand the basic principles of the statement and apply as appropriate in future examinations.

SOLUTION 5

DUG-DIP ENGINEERING LTD

ROYALTY ACCOUNT

		L$			L$
Year 1	To Minimum Rent	375,000	Year 1	By Production Account	375,000
Year 2	To Minimum Rent	625,000	Year 2	By Production Account	625,000
Year 3	To Minimum Rent	875,000	Year 3	By Production Account	875,000
Year 4	To Minimum Rent	1,000,000	Year 4	By Production Account	1,000,000
Year 5	To Minimum Rent	1,062,000	Year 5	By Production Account	1,062,000

OWNER ACCOUNT

Dr.

		L$			L$
Year 1	To Cash	750,000	Year 1	By Minimum Rent	750,000
Year 2	To Cash	750,000	Year 2	By Minimum Rent	750,000
Year 3	To Cash	750,000	Year 3	By Minimum Rent	750,000
Year 4	To Cash	750,000	Year 4	By Minimum Rent	750,000
Year 5	To Cash	1,062,500	Year 5	By Minimum Rent	1,062,500

MINIMUM RENT ACCOUNT

		L$			L$
Year 1	To owner	750,000	Year 1	By Royalty	375,000
				By Shortworking	375,000
Year 2	To owner	750,000	Year 2	By Royalty	625,000
				By Shortworking	125,000
Year 3	To owner	750,000	Year 3	By Royalty	875,000
	To Short workings	125,000			
Year 4	To owner	750,000	Year 4	By Royalty	1,000,000
	To Shortworkings	250,000			
Year 5	To owner	1,062,500	Year 5	By Royalty	1,062,500

SHORTWORKINGS ACCOUNT

		L$		L$
Year 1	Minimum Rent	375,000	Balance c/d	375,000
Year 2	Balance b/d	375,000	Balance c/d	500,000
	Minimum rent	125,000		
		500,000		500,000
Year 3	Balance b/d	500,000	Owner a/c	125,000
			Balance c/d	375,000
		500,000		500,000
Year 4	Balance b/d	375,000	Owner a/c	250,000
			Balance c/d	125,000
		375,000		375,000
Year 5	Balance b/d	125,000		

Examiner's Comment

The question tests the candidates' knowledge of Royalty Accounts was attempted by about 80% of the candidates. 40% of them scored above average marks. About 20% of the candidates could not post the ledger entries correctly.

SOLUTION 6

Joint Venture Accounts in the books of each venture

a. In the books of Agwei

Joint Venture with Danladi Account

	₦		₦
Bank - Purchases	678,000	Goods to Danladi	285,000
Bank – General expenses	20,000	JV debtors (credit sales)	336,000
Bank – Warehouse charge	40,500	Cash from Danladi	360,000
Bank – Transportation	15,000	Cash sales	12,200
Bank – Insurance	13,000	Stocks taken over	169,500
Commission	6,720		
Share of profit	28,960		
Cash to Danladi	360,520		
	1,162,700		1,162,700

b. In the books of Danladi

Joint Venture with Agwei Account

	₦		₦
Goods from Agwei	285,000	Cash sales	308,000
Bank – cash sent to Agwei	360,000	Stock taken over	20,000
Sales return	9,800	Bank – cash from Agwei	360,520
Bank – carriage expenses	12,000		
Share of profit	21,720		
	688,520		688,520

c. Memorandum Joint Venture Account

	₦		₦
Bank - Purchases	678,000	Credit sales	336,000
Bank– General expenses	20,000	Cash sales less returns	310,400
Bank – Warehouse charge	40,500	(308,000 + 12,200-9,800	
Bank – Transportation	15,000	Stocks taken over (Agwei)	169,500
Bank – Insurance	13,000	($^{25}/_{100}$ x 678,000)	
Commission	6,720	Stock taken over (Danladi)	20,000
Bank – Carriage expenses	12,000		
Share of profit:			
- Agwei ($^{4}/_{7}$ x 50,680)	28,960		
- Danladi ($^{3}/_{7}$ x 50,680)	21,720		
-	835,900		835,900

Examiner's Comment

The question on Joint Venture Account was attempted by 80% of candidates. About 85% of them scored above 50% of the mark. 15% of those who attempted the question could not match the account headings with their ledger posting.

Candidates are advised to prepare very well and study this part of the syllabus properly against future examinations.

ATS/131/PII.6

ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA
PART II EXAMINATIONS- MARCH 2013
PUBLIC SECTOR ACCOUNTING

Time Allowed: 3 hours

SECTION A: PART I ATTEMPT ALL QUESTIONS NIGERIA VERSION

MULTIPLE-CHOICE QUESTIONS (30 Marks)

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

1. Which of the following is **NOT** a limitation of Financial Regulations?

   A. Being rigid
   B. Not encouraging user initiative
   C. Making jobs monotonous
   D. Being a point of vengeance
   E. Serving as guide

2. The remuneration, salaries and allowances of some public officers are a charge on the Consolidated Revenue Fund under the Constitution of Nigeria. Which of the following is an exemption?

   A. The President and Judge of the Customary Court of Appeal
   B. The Accountant-General of the Federation
   C. The Auditor-General for the Federation
   D. The Chairman, Revenue Mobilisation Allocation and Fiscal Commission
   E. The Chief Justice of the Federation

3. Under the Constitution of your country, the Auditor-General for the Federation is appointed by

   i. The President
   ii. On the recommendation of the Federal Civil Service Commission
   iii. With the sanction of the Senate

   A. (i), (ii) and (iii)
   B. (i) and (ii)
   C. (ii) and (iii)

D. (i) and (iii)
E. (i) only

4. Section 16A (i) of the 1999 Constitution of Nigeria states that the Federation may make grants to a State on such terms and conditions as may be prescribed by the

A. Presidency
B. President of the Senate
C. National Assembly
D. House of Representatives
E. Speaker of the House of Representatives

5. Which section of the 1999 Constitution of Nigeria provides for the creation of the Contingencies Fund?

A. Section 80 (i)
B. Section 81 (i) to (4)
C. Section 82
D. Section 83
E. Section 84

6. Any Money Bill when passed into law becomes a/an

A. Appropriation Act
B. Financial Administration Act
C. Public Procurement Act
D. Fiscal Responsibility Act
E. Audit Act

7. What is the timelag within which the Auditor-General is required to submit his reports, on the Accountant-General's Financial Statements, to each House of the National Assembly?

A. 50 days
B. 60 days
C. 70 days
D. 80 days
E. 90 days

8. The Auditor-General shall, under Section 85 (3) of the Nigerian Constitution, 1999

i. Provide parastatals with a list of qualified auditors from which they shall appoint their auditors
ii. Offer guidelines on the level of fees to be paid to the external auditors
iii. Comment on their annual accounts and auditors' reports thereon.

A. (i) only

B. (ii) only
C. (i), (ii) and (iii)
D. (i) and (ii)
E. (ii) and (iii)

9. Who has power to undertake periodic checks on all government companies, parastatals, persons, etc established by the law of the Federation?

A. Minister of Finance
B. Office of the Head of Service
C. Senate
D. House of Representatives
E. Auditor-General

10. Which International Public Sector Accounting Standards (IPSAS) deals with the preparation of cash flow statements?

A. IPSAS 4
B. IPSAS 3
C. IPSAS 1
D. IPSAS 2
E. IPSAS 5

11. The following are functions of Local Government **EXCEPT**

A. Licensing of bicycles, trucks, motor-vehicles etc
B. Naming of roads and Numbering of houses
C. Registration of Deaths and Marriages
D. Provision of a standing army and police for the Local Government
E. Provision of security for the entire Local Government Council

12. The following documents must be kept permanently, **EXCEPT**

A. All cash books
B. Payment Register
C. Paper Money Register
D. Pension Register
E. Subsidiary Ledger

13. The following are E-payment procedures **EXCEPT**

A. Signing for one’s cheques in the Accounts Departments
B. Submission of Payees Bank Accounts details in the Accounts Departments
C. Collecting of all Payees Bank Accounts details by the Accounts Departments
D. Sending the emoluments and dues of all payees to individuals’ bank
E. Receiving alerts on all payees telephones/handsets

14. Which of the following is **NOT** an advantage of Zero-Base Budgeting (ZBB)?

A. Low priority programmes can be eliminated
B. The definition of decision units is not uniform
C. Programme effectiveness can be dramatically improved
D. Efficient allocation of resources is facilitated
E. A review of activity performance is provided

15. Which of the following is **NOT** a function of a Local Government Treasurer?

A. Rendering financial advice to the Council
B. Serving as the Secretary to the Budget Committee
C. Receiving and disbursing money for the authorised ends
D. He is a recognised second signatory to all disbursements of the Council
E. Offering expert advice on short, medium and long term transactions of the Council

16. The Joint State Revenue Committee comprises the following members **EXCEPT**

A. Chairman of the State Internal Revenue Service
B. Chairman of the Local Government Revenue Committee
C. Legal Adviser of the State Internal Revenue Service
D. Representative of the Revenue Mobilisation Allocation and Fiscal Commission as an observer
E. The Accountant-General of the State.

17. Which of the following is **NOT** a division of the three arms of the government?

A. The Legislature and Judiciary
B. The Judiciary
C. The Executive
D. The Management
E. The Executive and Legislature

18. An Adjustment Voucher is used to

i. Settle inter-ministerial transactions
ii. Allocate unallocated stores
iii. Correct wrong postings

A. (i) and (ii)
B. (i), (ii) and (iii)
C. (iii) only
D. (ii) only
E. (i) only

19. In the event of loss of a payment voucher, which of the following is **NOT** a necessary immediate action to be taken by the officer in charge?

A. Inviting the Auditor-General to take over the office
B. Prompt investigation is made
C. Establishing if payment has been made on it or not
D. Ascertaining whether or not the cash drawn is still on hand
E. Report made by the Accounting Officer to the Accountant-General, stating the circumstance of the loss

20. The following are members of the Funds Management Committee of a Local Government **EXCEPT**

A. Chairman of the Local Government
B. Vice-Chairman of the Local Government
C. All Supervisors of the Local Government
D. Secretary to the Local Government
E. Electorates of the Local Government

21. The Unit that renders periodic returns to the Accountant-General and exercise control on its records is called

A. Non-Self Accounting Unit
B. Self Accounting Unit
C. Internal Audit Unit
D. Sub-Self Accounting Unit
E. Treasury Office

22. The following documents are prepared and taken along with the transcript **EXCEPT**

A. The cash and bank balances certificate
B. Breakdown of expenditure
C. Salary variation cards
D. Original copies of cash book
E. List of outstanding vouchers

23. Cash Transcript is also called...................Transcript.

A. Bank
B. Accrual
C. Main
D. Variation
E. Money

24. The form that confirms that an officer is still in service as at the beginning of the year is............................. Form.

A. Treasury
B. Personal Advance
C. Variation
D. Salary Control
E. Personal Emolument

25. Which of the options listed below is **NOT** a step in preparing Transcripts?

A. Balancing of the analysis book
B. Ticking of vouchers to the cash book
C. Posting into Analysis Book
D. Retirement of Payment Voucher
E. Pre-listing of vouchers

26. Personal Emolument Section prepares and maintains

    i. Other charges cash book
    ii. Cheques control register
    iii. Cheque or cash order form

    A. (i) and (iii)
    B. (ii) only
    C. (ii) and (iii)
    D. (iii) only
    E. (i) only

27. Categories of Public Sector include

    i. Parastatals
    ii. State Government
    iii. Commercial Bank.

    A. (i) and (ii)
    B. (ii) and (iii)
    C. (iii) only
    D. (i), (ii) and (iii)
    E. (i) and (iii)

28. Approval for a Ministry/Extra Ministerial Department to become Self Accounting Unit is given by

    A. The Auditor-General
    B. The Accountant-General
    C. Minister of Finance
    D. Permanent Secretary
    E. Head of Service

29. Which of the following is **NOT** a necessary condition for granting Self Accounting Status?

    A. A fully constituted Internal Audit Unit
    B. An Accounting Code and Internal Audit Guide
    C. A well-equipped central pay office
    D. Adequate manpower for Account office
    E. Adequate legal and disciplinary department

30. State owned enterprises are funded from other sources of revenue different from Internally generated Revenue such as

A. Loans
B. Value Added Tax
C. Sales Tax
D. Parking Fee
E. License and Fine

SECTION A: PART II ATTEMPT ALL QUESTIONS (20 MARKS)

SHORT ANSWER QUESTIONS

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

1. The appointment of the Auditor-General for the Federation must be ratified by the.......................

2. For how long can the President spend from the Consolidated Revenue Fund to run the affairs of the Nation before the Appropriation Act is in place?

3. What Committee of the National Assembly exposes waste, corruption or inefficiency in the handling of public funds?

4. What Warrant authorises the Accountant-General and the Officer controlling expenditure to release money for the payment of personal emolument and other services received, as budgeted and approved?

5. Another name for the Consolidated Revenue Fund is...................

6. What is the objective of Personal Emolument form?

7. What gives self-Accounting Unit superiority over sub-self Accounting Unit?

8. A Ministry or Department which does **NOT** maintain the record of the above-the-line receipts and payments is called.............................

9. What is the name of an organisation for which the “profit motive” is **NOT** inherent in its operations?

10. Ministry of Finance operates a Sub-Ministerial Accounting System. **Yes or No?**

11. Forfeiture of Foreign Asset, a proceed of Economic Crime, is transferred effectively to the Federal Government through……………………………..

12. In Public Procurement Act, the responsibilities for the disposal of Public Property is shared between………………………….. and……………………..information supplied by the contractors in a bid proposal is treated as ……………………….

13. In Public Procurement Act, any object of armaments, ammunitions, mechanical, chemical or electrical equipment or other things as may be determined by the government as needed by the Armed Forces, Police Force as well as other Paramilitary service incidental to the supply of the object is called ………………………..

14. The response to bid solicitation which virtually answers to all the needs of a procuring entity as stipulated in the bid solicitation documents is ………………………

15. A fund created to accommodate the resources meant for the acquisition or provision of Capital Assets or facilities of the Government is called...

16. All recurrent expenditure heads in the approved estimates are charges from ....

17. A licensed Financial Institution set up to hold pension funds and assets in trust with reference to the Pension Reform Act of 2004 is known as ……………………

18. Pay-As-You-Earn tax deductions of Armed Forces and Police Force is paid into …………………………….. Account.

19. Import duties, Excise duties and Petroleum Income Tax are paid into …………………………. Account

20. Information supplied by the contractors in a bid proposal is treated as.................

SECTION B: ATTEMPT ANY FOUR QUESTIONS (50 MARKS)

QUESTION 1

Describe **FIVE** legal rules that regulate the collection of Government revenue and disbursement of Public Funds. **(12½ Marks)**

QUESTION 2

The amount of internally generated revenue of a Local Government depends on the transparency and accountability of the officers collecting the revenue.

Required:

a. Who is a Revenue Collector? (2 Marks)

b. Name **THREE** documents that should always be with a Revenue Collector

(3 Marks)

c. State **FIVE** functions of the Revenue Collector (7½ Marks)

(Total 12½Marks)

QUESTION 3

You are the Accounting Technician for the Ministry of Agriculture. The following information are available in the records of the Ministry for the month of December 2012:

Balances brought forward, 1/12/2012:	₦
Bank (Debit)	3,000,000
Cash (Debit)	4,800

Revenue items collected during the month of December 2012 were:

ABOVE THE LINE

Classification	**Description**	**₦**
06/1	Other Internal Revenue (Bank)	120,000
06/2	License Fees (Bank)	200,000
07/1	Royalty on Agric Inputs (Bank)	8,000
07/2	Water Rate (Cash)	12,000
10/8	Tender Fees (Cash)	28,000
11/13	Registration Fees from contractors (Cash)	20,000
12/11	Rent on Junior Staff Quarters (Cash)	7,200
12/12	Rent on Senior Staff Quarters	10,000

BELOW THE LINE

2011	Repayment of Salary Advance (Cash)	12,000
3011	Repayment of Spectacle Advance	4,000

Payments effected during the month were:

ABOVE THE LINE

Classification	**Description**	**₦**
24/1	Personnel Cost (Bank)	1,200,000
24/2	Transport	200,000
24/3	Stationery (Bank)	400,000
24/4	Utilities (Cash)	16,000
24/5	Vehicle Maintenance (Cash)	12,000

BELOW THE LINE

2011	Salary Advance (Bank)	16,000
3011	Spectacle Advance	6,000

You are required to prepare the Transcript of the Ministry for the month of December 2012 **(12½ Marks)**

QUESTION 4

Ododoh Metallurgical Training Institute was established with the objective of training local manpower in the field of Metallurgy.

The following information were provided:

	2012 DR	2012 CR	2011 DR	2011 CR
	₦	₦	₦	₦
Fixed Asset	371,845,057		237,103,739	
Stocks	3,435,261		3,866,928	
Debtors and Payment	11,292,106		7,621,220	
Cash and Bank	57,889,451		84,591,193	
Creditors		8,704,771		9,987,791
Government Subvention		87,659,273		60,067,130
Training Expenses	20,316,310		19,174,456	
Income from Consultancy		1,657,069		231,454
Administration Expenses	47,670,155		35,295,896	
Finance and others	5,279,384		1,712,734	

You are required to prepare as at 31 December 2012

a. Statement of Income and Expenditure (5½ Marks)

b. Balance Sheet (7 Marks)

(Total 12½ Marks)

QUESTION 5

From the Treasury of Holo Habali Government of Arewa, the following information were derived from their Final Account Department: The Revenue Head Card Balances.

	₦
Consolidated Account Balance Year 2011	11,189,587
Treasury Bill 1/1/12 to 31/12/12:	

Ordinary Issue	8,476,000
Repaid	7,801,000
Revenue for the year	11,813,918
Expenditure for the year	12,997,391

In the year, the Araba Road, a 31 kilometre road that links the capital to the hinterland was damaged by flood, there was no provision in the year for this, total cost was ₦150,000 out of which ₦110,000 was paid from Contingencies Fund while the outstanding balance due to the contractors is ₦40,000. The Legislature later approved the sum of ₦150,000 for this project in the Supplementary Development Appropriation Bills.

You are required to prepare the Consolidated Revenue Fund. (12½ Marks)

QUESTION 6

To meet the requirement of any budget preparation, inflation factors has to be put into consideration and hence this assertion has got a lot of impact on the budget estimate of the Ministry of Agriculture of Dogondaji State.

The Ministry has however provided the following information about its budgeted actual overhead and Personnel Cost for 2012.

Budgeted Actual, Overhead and Personnel Cost for 2012

Sub-Head	**Head Items (35)**	**Actual ₦'000**	**Provision ₦'000**
01	Personnel Costs	2,490	2,600
02	Travel and Tours	1,030	875
03	Utility Services	317.5	355
04	Telephone Services	2,625	210
05	Stationery	986	116
06	Office Furniture	364	400
07	Maintenance of vehicles	635	605
08	Maintenance of Capital Assets	1,182.5	1,575
09	Contribution, Sub-venture Grants	600	600
10	Staff Training & Devt.	1,725	202.5
11	Miscellaneous Expenses	552.5	605
12	Contribution to Foreign Bodies	430	430

The following information are also relevant:

a. Increase in 2013 activities will attract 15% overhead cost

b. 10% of total salaries in 2012 is required to meet the additional personnel cost in 2013. The personnel costs of the year 2012 include ₦945,000 spent on staff allowances

c. The staff allowances will attract 25% of 2013 staff salaries

d. However, an inflation of 10% on overhead cost is recognized in the computation of 2013 budget.

You are therefore required to prepare, on the incremental basis, the budget for 2013. (Show all workings)

(Note: ALL your computation should be to 4 decimal places). (12½ Marks)

SUGGESTED SOLUTIONS

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

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

25. D

26. D

27. A

28. C

29. E

30. A

EXAMINER'S COMMENT

This part of the paper which is compulsory and was well attempted by most of the Candidates. Their performance was generally fair as over 60% of them scored above 50% of total Marks allocated. It was observed that those who did not do well was because they did not cover the whole syllabus of the subject. Candidates should read wide to cover the syllabus.

PART II SHORT-ANSWER QUESTIONS

1. Senate

2. Six (6) months

3. Public Accounts Committee

4. Annual General Warrant

5. General Fund

6. To eradicate the problem of ghost workers in the public sector/ To confirm that an officer is still in service as at the beginning of the year.

7. They have full autonomy or control over their financial transactions.

8. Non-Self Accounting Unit.

9. Parastatal/Non-profit making organization.

10. No

11. Consolidated Revenue Fund

12. Procuring Unit and Tender Board

13. Special Purpose Goods

14. Substantially Responsive

15. Capital Development Funds

16. Consolidated Revenue Funds

17. Pension Fund Custodian

18. Consolidate Revenue Funds

19. Federation Accounts

20. Confidential information

EXAMINER'S COMMENT

This part of the paper was poorly attempted. Less than 45% of the candidates scored above 50% of total marks obtainable. The poor attempt was due to the inability of the students to cover the whole syllabus. In future candidates should attempt to cover the whole syllabus to be able to do well in this.

SECTION B

SOLUTION 1

(a) **THE CONSTITUTION**

This is the main legal framework within which the financial resources management as well as accounting and financial reporting system in government are entrenched. Specifically, the Nigerian 1999 Constitution (as amended) and in Ghana, the 1992 constitution. They stipulate the procedures for keeping the Consolidated Revenue Fund and the authorization of expenditure from the fund.

(b) **THE FINANCE (CONTROL AND MANAGEMENT) ACT, 1958 – NIGERIA AND THE FINANCIAL ADMINISTRATION ACT, 2003** – GHANA, give the legal bases for the management and operation of the various funds of government in line with the provisions of the constitution; they established the Consolidated Revenue Fund,

Development Fund and Contingency Fund and state the responsibilities of the Accountant General as regards these funds.

(c) **APPROPRIATION ACT**

Appropriation Act comes into being as a result of the Appropriation Bill passed by the legislature. It is the approved budget/estimates of the revenue and expenditure of the

Federation or State for the following financial year. Government spending must be in line with the approved budget.

(d) **FINANCIAL REGULATIONS, 2008**

This is the documentation of the accounting procedures to be followed in Government Accounts Department. It also stipulates the financial responsibilities of Government officers.

(e) **AUDIT ACT, 1956**

This legalisation provides for audit and accountability on the part of the Federal Government. The main provisions of the Act include the duties of the Auditor-General of the Federation. It also directs the Accountant-General of the Federation to prepare, sign and present the annual accounts to the Auditor-General within seven months after the end of each financial year.

(f) **TREASURY CIRCULARS AND LETTERS**

These are administrative instruments issued to guide the day to day operation of government departments. They are issued to amend or replace the existing provisions of Financial Regulations and to introduce new policies and guidelines.

(g) **GAZETTE**

This is government's official publication. It is published periodically and numbered yearly. It contains all government policy statements.

EXAMINER'S COMMENT

The question tests candidates' understanding of the Legal rules governing collections of Government revenue and disbursement of Public Funds. About 40% of the Candidates attempted the question out of which only about 25% scored above 50%. The commonest pitfall is that candidates confused the requirement of this question with the avenues for generating government revenue and how they are disbursed. It is therefore advised candidate should read and understand the question before providing answer.

SOLUTION 2

a. **A REVENUE COLLECTOR:**

Is the officer or any other person other than an employee, appointed to collect specified revenue on behalf of the Government? He is issued with official treasury receipt 6A for the regular collection of particular items of revenue as specified in the estimates.

b. The documents that should always be with a Revenue Collector include the following:

i. Revenue collector's Cash Book (LGT 15B)
ii. Revenue collector's summary Cash Book (Form LGT 16)
iii. Treasury Receipt Booklet 6A
iv. Revenue Classification Slip (Form LGT 19)
v. Cash Transfer Register

c. Functions of the Revenue Collector

i. He is required to exercise total authority over the receipt of all revenue accruable to the government and ensure prompt, accurate and up-to-date collection.

ii. He is to classify all revenue collected under proper heads and sub-heads.
iii. He is to safeguard all public funds, securities and paper money entrusted in his care.

iv. As a routine function, he should check all cash in his care and reconcile same with the balance in the cash register.

v. Promptly report any anomaly discovered by way of fraud or mis-appropriation of government money to a superior officer.

vi. He must ensure that adequate, up-to-date, accurate and reliable accounting records are kept.

vii. He must ensure that the cash limit balance that should be in his possession is not exceeded.

viii. He is responsible for the disclosure of all cash, stamps, paper money, securities etc balances in his custody when Board of Survey is raised by the Accountant General.

EXAMINER'S COMMENT

The question tests the candidates' knowledge of the revenue collector and his functions. 95% of the candidates attempted the question but 40% of them scored above 50% of total marks allocated. This is because the candidates do not quite understand the question. Attention should be placed on this part of the syllabus for subsequent examinations.

SOLUTION 3

MINISTRY OF AGRICULTURE, GHANA

TRANSCRIPT FOR THE MONTH OF DECEMBER 2011

HEAD	SUB-HEAD	DESCRIPTION	AMOUNT ¢	SUB-TOTAL ¢	TOTAL ¢	HEAD	SUB-HEAD	DESCRIPTION	TOTAL ¢	SUB-TOTAL ¢	TOTAL ¢
		Balance b/f	3,000,000 4,800	3,004,800	3,004,800			Balance b/f	Nil	Nil	Nil
06	01	Other Internal Revenue	120,000			24	01 02 03 04 05	Personnel Cost Transport Stationery Utilities Vehicle Maint.	1,200,000 200,000 400,000 16,000 12,000		
06	02	License fees	200,000					Total for head 24		1,828,000	
		Total for head 06		320,000				BELOW THE LINE			
07	01	Royalty	8,000								
	02	Water Rate	12,000				2011	Salary Adv	16,000		
		Total for head 07		20,000			3011	Spectacle Advance	6,000		
10	08	Tender fees	28,000	28,000				Total for below the line		22,000	
11	13	Registration on fees	20,000	20,000				Total Payments			1,850,000
12	11	Rent on Junior Quarters	7,200					Balance c/f			1,576,000
	12	Rent on Senior Quarters	10,000								
	12	Total for head		17,200							

		12									
		BELOW THE LINE									
		Salary advance	12,000								
		Spectable advance	4,000								
		Total for below the line		16,000	421,200						
					3,426,000						3,426,000

EXAMINER'S COMMENT

The question tests the candidates' ability to prepare Transcripts. 70% of the candidates attempted the question but 40% of them scored above 50% of marks allocated. Many candidates confused the requirement of the question to mean cashbook instead of transcript. It is important that candidates get the difference between a cash book and a transcript.

SOLUTION 4

ODODOH METALLURGICAL TRAINING INSTITUTE

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED

31 DECEMBER 2012

(a)

INCOME	₦
Government Subvention	87,659,273
Other Income (Consultancy)	1,657,069
	89,316,342
Less: Training Expenses	(20,316,310)
	69,000,032
OPERATING EXPENSES	
Administration	(47,670,155)
Finance and others	(5,279,384)
SURPLUS	16,050,493

(b) ODODOH METALLURGICAL TRAINING INSTITUTE
BALANCE SHEET
AS AT 31 DECEMBER 2012

	₦	₦	₦
Fixed Asset			371,845,057
Current Asset			
Stock	3,435,261		
Debtors & Prepayment	11,292,106		
Cash and Bank	57,889,451		
		72,616,818	
Less: Current Liabilities			
Creditors		8,704,771	63,912,047
NET ASSETS			435,757,104
Financed By:			
Accumulated Funds			419,706,611
Excess of Income over Expenditure			16,050,493
			435,757,104

EXAMINER'S COMMENT

The question tests the ability of candidates to prepare Income and Expenditure Accounts and Balance sheet. 85% of the candidates attempted this question, the performance was generally poor as candidates did not quite understand the requirements. Less than 40% of them scored above 40% of total marks obtainable. Greater attention should be put in this part of the syllabus by candidates.

SOLUTION 5

BOKO HALALI GOVERNMENT OF AREWA

CONSOLIDATED REVENUE FUND STATEMENT N03
STATEMENT OF ACCOUNT AS AT 31 DECEMBER 2012

		₦	₦
Balance as at January 1, 2012			11,189,587
Add: Issue from Contingency fund		110,000	
Less: Transfer to Contingency fund		150,000	(40,000)
Add:			
Treasury Bills			
Ordinary Issue	Jan - December 2012	8,476,000	
Less: Repaid	Jan – December 2012	7,801,000	675,000
			11,824,587
Less:Deficit being excess of expenditure over revenue			
Revenue	January 1 – 31 December 2012	12,997,391	
Expenditure	January 1 – 31 December 2012	11,813,918	(1,183,473)
		(12,997391)	10,641,114

EXAMINER'S COMMENT

The question test candidates on the preparation of Consolidated Revenue Fund Statement. 90% of the candidates attempted the question, 70% scored above 50% of total marks obtainable. Although the performance was encouraging, candidates still need to put in more efforts in this area.

SOLUTION 6

MINISTRY OF AGRICULTURE

DOGONDAJI STATE

INCREMENTAL BUDGET FOR 2013

SUB-HEAD	PARTICULARS	NOTES	₦'000
01	Personnel Costs	1	2124.3750
02	Travel and Tours	2a	1302.9500
03	Utility Services	2b	401.6375
04	Telephone Services	2c	3320.6250
05	Stationery	2d	1247.2900
06	Office Furniture	2e	460.4600
07	Maintenance of Vehicles	2f	803.2750
08	Maintenance of Capital Assets	2g	1495.8625
09	Constitution, Subvention & Grants	2h	759.0000
10	Staff Training and Development	2i	2182.1250
11	Miscellaneous Expenses	2j	698.9125
12	Contribution to Foreign Bodies	2k	543.9500
			15,340.4625

	Working Notes:	₦'000	₦'000
1.	Personal Costs		
	Salaries (2490-945) x 1.1	1699.5000	
	Staff (1,699.5 x 0.25)	424.8750	2124.3750
2(a)	Travel and Tours (1,030 x 1.1 x 1.15)		1302.9500
2(b)	Utility Services (317.5 x 1.10 x 1.15)		401.6375

2(c)	Telephone Services (2,625 x 1.1 x 1.15)	3320.6250
2(d)	Stationery (986 x 1.1 x 1.15)	1247.2900
2(e)	Office Furniture (364 x 1.1 x 1.15)	460.4600
2(f)	Maintenance of vehicles (635 x 1.1 x 1.15)	803.2750
2(g)	Maintenance of Capital Assets (1.182.5 x 1.1 x 1.15)	1495.8625
2(h)	Contribution, Subvention, & Grants (600 x 1.1 x 1.15)	759.000
2(i)	Staff Training and Development (1,725 x 1.1 x 1.15)	2182.125
2(j)	Miscellaneous Expenses (5,525 x 1.1 x 1.15)	698.9125
2(k)	Contribution to Foreign Bodies (430 x 1.1 x 1.15)	543.9560

EXAMINER'S COMMENT

The question tests the ability of candidates to prepare Incremental Budget. 45% of the candidates attempted the question. Less than 20% of these candidates scored above 50% of the marks obtainable. Many of the candidates showed poor understanding of this topic and are therefore advised to put more efforts in understanding incremental budgeting system.

AT/131/PII.7

ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA
ACCOUNTING TECHNICIANS SCHEME WEST AFRICA
PART II EXAMINATIONS - MARCH 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. Which of the following is **NOT** a graphical representation of data?

   A. Histogram
   B. Cumulative frequency curve
   C. Frequency polygon
   D. Frequency distribution
   E. Z- chart

2. A firm hires a set of 50 casual workers paying each ₦800 per day and another set of 30 labourers paying each ₦600 per day. Find the daily mean wage (in ₦) of all the 80 workers.

   A. 725
   B. 700
   C. 650
   D. 750
   E. 675

3. The coefficient of variation of a data set whose mean is 25 and variance 36 is

   A. 24.00%
   B. 30.56%
   C. 144.00%
   D. 4.17%
   E. 44.00%

4. A bag contains 7 blue and 8 red balls. If a ball is selected at random from the bag, the probability that it is a red ball or a blue ball is

   A. $\frac{7}{15}$
   B. 1.0
   C. $\frac{1}{15}$
   D. $\frac{8}{15}$

E. $\frac{7}{8}$

5. A contractor has three jobs to bid for. Find the probability that he will win any two of the jobs if they are all equally likely.

A. $\frac{1}{8}$
B. $\frac{2}{9}$
C. $\frac{3}{8}$
D. $\frac{5}{9}$
E. $\frac{2}{3}$

6. Which of the following tests is applicable in hypothesis testing in which the sample size is less than 30?

A. Z- test
B. χ^2 - test
C. t- test
D. F-test
E. Normal test

7. A sample poll of 200 voters in the 2012 elections taken at random from all voters indicated that 20 percent of them were in favour of a particular candidate. The 95% confidence limits for the proportion of all the voters in favour of this candidate are

A. 0.2 ± 1.96
B. 0.8 ± 1.96
C. 0.2 ± 0.055
D. 0.055 ± 0.2
E. 0.2 ± 0.95

8. The price of an item rose by 30% in the period 2009 to 2012. What is the price of the item in 2012 (in L$) if it was L$180 in 2009?

A. 210
B. 130
C. 230
D. 234
E. 150

9. Which of the following is **NOT** a type of error in statistics?

A. Absolute
B. Biased
C. Relative

D. Simple
E. Unbiased

10. Which of the following is **NOT** true of Moving Average Method?

A. It is not good for non-linear trend
B. It is simple if compared with the least squares method
C. It is suitable for forecasting
D. The extreme values are always lost
E. The effect of cyclical fluctuations is completely removed

11. Which of the following is **NOT** a merit of personal interview method?

A. Instant answers can be received or collected
B. Non- response rate is very low
C. Personal bias is likely to enter the results because of interviewer's presence
D. It yields high percentage responses
E. If properly used, it is convenient for some intensive surveys

12. A simple linear regression model for y on x is $y = a + bx$ where $'a'$ and $'b'$ are constants. Then y and x represent which of the following?

A. Dependent variable and gradient respectively
B. Independent and dependent variables respectively
C. Control and independent variables respectively
D. Independent and control variables respectively
E. Dependent and independent variables respectively

13. A merchant has a certain amount of money reserved for his children to last for 15 years. If the children's spending patterns were ₦800,000 for the first year, ₦1,200,000 for the second year, ₦1,800,000 for the third year and so on, calculate the amount of money that was deposited for the children.

A. ₦349,515,112.30
B. ₦699,030,224.60
C. ₦233,543,408.20
D. ₦18,000,000.00
E. ₦36,000,000.00

14. The monthly salary of a worker in the first year of his service is ₦25,000. If he receives an annual increment of ₦6,000, what will be his monthly salary in the eighth year in service?

A. ₦42,000
B. ₦31,000
C. ₦67,000

D. ₦73,000
E. ₦48,000

15. Find the present value of an annuity with periodic payments of ₦4,000 semi- annually over a period of 4 years at an interest rate of 4 percent compounded semi-annually.

A. ₦10,259.29
B. ₦14,259.26
C. ₦15,259.26
D. ₦16,259.26
E. ₦17,259.26

16. Given that the demand function $D = 12 - 0.2P$ where D is the quantity demanded and P is the price, what is the price elasticity at $P = 20$?

A. 0.55
B. 0.50
C. 0.41
D. 0.65
E. 1.00

17. Which of these statements is **NOT** true of elasticity?

A. Elasticity is dimensionless
B. If elasticity is greater than 1, then an increase in price will cause a decrease in revenue
C. If elasticity is less than 1, then an increase in price will cause an increase in revenue
D. If elasticity is equal to 1, then demand curve is elastic
E. Elasticity has no unit

18. If the supply function for a commodity is $S = 3x + 5$, then the producers' surplus when $S_0 = 15$ is

A. 20.7
B. 18.7
C. 16.7
D. 14.7
E. 10.7

19. The revenue function of a Cement Manufacturing Company is $r(x) = x^2 - 4x - 48$, where x is the number of bags of cement produced and sold (in thousands). How many bags must be produced to realise a revenue of ₦12million?

A. 5,000
B. 6,000
C. 10,000
D. 8,000
E. 9,000

20. The cost (in thousands of Cedis) of producing a unit of item x by a company is given by $C(x) = 100 - 2x^2$. Determine the capital cost (in thousands of Cedis).

A. 100
B. 120
C. 80
D. 10
E. 15

21. The size of the quantity to be ordered in order to minimize total cost is called economic ....quantity.

A. Length
B. Opportunity
C. Optimum
D. Order
E. Order control

22. The demand for an item is 100,000 units per annum. The ordering cost is L$600 while the carrying cost per item for a year is L$10. Then the number of orders per annum is

A. 28
B. 27
C. 29
D. 26
E. 30

23. In the graphical method of solving a Linear Programming problem, the feasible region is the region containing

A. The optimal solution only
B. All the constraints
C. The objective function
D. The corner points for solutions
E. All possible solutions

24. Generally, the main aim of Linear Programming model is to allocate

A. All resources

B. Resources to competing activities
C. Resources reasonably
D. Resources optimally
E. Resources generously

25. The transportation model is used to allocate goods from sources to destinations in order to

A. Sell all available goods.
B. Satisfy the customers.
C. Take care of shortage of vehicles.
D. Minimize the transportation cost.
E. Ensure that the goods arrive safely at destination.

26. The time at which an activity can be finished without affecting the normal project duration is called …………………..time.

A. Earliest start
B. Normal
C. Earliest finish
D. Latest finish
E. Latest start

27. PERT written fully is

A. Project Estimator Review Technique
B. Project Estimator and Review Technique
C. Project Evaluation and Review Technique
D. Project Estimation and Review Technique
E. Project Estimation Review Technique

28. Apart from cost of replacement, the other two main costs involved in sudden failure of items are.......................cost and ....cost.

A. Maintenance, repair
B. Item, repair
C. Consequential, installation
D. Maintenance, installation
E. Replacement, individual

29. The primary aim of Operation Research is to

A. Solve problem
B. Identify the best way of conducting the affairs of the organisation
C. Analyse the problem
D. Compile the problem together and take decision
E. Solve complex problem

30. Given the table below, apply North West Corner Method to calculate the total transportation cost (in ₦)

Consumer depot	L	N	O	Available supplies
A	2	1	3	80
B	1	4	2	50
C	3	2	1	40
Demand	70	90		

A. ₦ 310
B. ₦ 320
C. ₦ 420
D. ₦ 410
E. ₦ 240

SECTION A: PART II ATTEMPT ALL QUESTIONS (20 Marks)

SHORT-ANSWER QUESTIONS

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

1. Primary data obtained directly from the respondents are referred to as ……………………… data.

2. Time series analysis involves decomposing the series into its various …………………………….

3. The number of times a particular value occurs in a given data set is known as its…………………………..

4. The presence of extreme values in a data set does **NOT** seriously affect …………………………mean.

5. The process of taking sample from population is called………………………

6. In hypothesis testing, if test statistic value is greater than critical value, then the null hypothesis is ………………….

7. The square root of the product of the Laspeyre's index and Paasche's Index is known as ……………………….

8. The correlation coefficient is based on the ……………………. of the vertical deviations from the best line of fit.

9. A manufacturer is usually interested in the level of production which will ………………….. profit.

10. The term used to designate the principal that must be invested now to accumulate an amount at a specified period of time in the future is called………………………

11. In differentiation, the function of function rule is also known as ……………

12. The difference between two consecutive terms in an arithmetic progression is called a/an …………………..

13. Greater sales will induce a/an ………………while lesser sales will result to a/an ………………….

14. If the contributions of product X and product Y to the profit made by a company are 400 and 350 respectively, then the objective function is given by …………………………

15. The shadow cost of a binding constraint is the amount by which the objective function ………………. for one unit ………………… in the scarce resource.

16. The difference between the latest start time and the earliest start time is known as …………………….

17. The re-order level is the product of ……………..usage and maximum …………………..

18. The policy where an enmasse replacement of items is made is known as …………………

19. The major difference between LCM and VAM is that VAM uses …………... cost

20. The main disadvantage of Least Cost Method over the North West Corner Method is that the Least Cost Method is ………………………

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

SECTION I

QUESTION I

1. The data below shows the monthly contributions (in ₦'000) made by members of a small cooperative society in Anambra state:

20	40	5	15	22	21	18	11	8	10
15	7	15	35	28	29	34	54	60	40
43	26	20	19	14	11	12	13	24	27
33	38	41	37	35	40	20	21	9	13
14	15	17	18	21	31	25	28	18	30
40	45	48	70	51	49	27	13	18	29
21	23	16	14	18	14	28	37	38	30
40	37	34	35	18	34	37	39	38	40
52	51	52	57	14	23	29	36	39	42
65	70	62	41	50	32	27	29	11	7

You are required to:

a. Use the classes 0-9, 10-19, etc to prepare the frequency distribution table. (5 Marks)

b. Determine the median class (2 Marks)

c. Calculate the minimum amount a rich member is expected to contribute, if two-fifths of the entire members are rich. (5½ Marks)

(Total 12½Marks)

QUESTION 2

a. A study of a sample of 120 supermarkets reveals that 25 offer trolleys suitable for shoppers with limited mobility.

Construct a 95% interval estimate of the proportion of all supermarkets that have these trolleys. (6½ Marks)

b. The training manager of a Bank found out in a banking appreciation course for 25 supervisors that the average score was 55% with a standard deviation of 15%. Determine a 95% confidence interval for the average score. (6 Marks)

(**Total 12½ Marks)**

SECTION II

QUESTION 3

A project is at present estimated to cost L$1,200,000. The net cash flows of the project for the first six years are given as follows:

Year	Net Cash Flow (L$)
0	1,200,000
1	250,000
2	500,000
3	550,000
4	400,000
5	160,000
6	240,000

Required:

a. If the discount rate is 15%,

i. Calculate the NPV for the project.

ii. Is the project desirable? (6½ Marks)

b. Assuming the sum of L$150,000, L$250,000 and L$300,000 were spent on the project during the 2nd year, 3rd year and 4th year respectively, investigate if the project will be desirable. (6 Marks)

(Total 12½ Marks)

QUESTION 4

a. For $U = x^2 + xy + y^2$. Find the partial derivative of U with respect to

i. x (2 Marks)

ii. y and hence find $\frac{\partial U}{\partial x} - \frac{\partial U}{\partial y}$ (4 Marks)

b. The weekly demand for recharge cards is normally distributed with mean and variance of 200 and 25 respectively. Find the probability that, in a given week

i. less than 198 cards will be sold (3 marks)

ii. between 195 and 201 cards will be sold (3½ Marks)

(Total 12½ Marks)

SUB-SECTION III

QUESTION 5

Applex Limited produces two items X and Y. Product X has a contribution of 1,200 Cedis and product Y's contribution is 920Cedis.

Each unit of item X requires 1 hour of labour and 2½ units of material while each unit of item Y requires 3 hours of labour and 1 unit of materials.
1,750 hours of labour and 1,500 units of materials are available in a week.

You are required to:

a. Formulate and solve the linear programming problem graphically (9½ Marks)

b. Calculate the shadow cost of a unit of material. (3 Marks)

(Total 12½ Marks)

QUESTION 6

The component of a machine tool of Lobin Company Plc has limited life and the following data have been collected on failures:

	Month after replacement			
	1	2	3	4
Cumulative percentage of failure at the end of the month	20	50	80	100

500 components are in use at any time and they are placed on a group replacement basis for ₦3 per component while on individual replacement basis, the cost is ₦12 per component.

You are required to establish the least cost replacement policy.

SUGGESTED SOLUTION

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

1. D

2. A

3. A

4. B

5. B

6. C

7. C

8. D

9. D

10. A

11. C

12. E

13. B

14. C

15. C

16. B

17. D

18. C

19. C

20. A

21. D

22. C

23. E

24. D

25. D

26. D

27. C

28. C

29. B

30. C

WORKINGS (i.e. Tutorials)

2. Daily mean = $\frac{(50 \times 800) + (30 \times 600)}{50 + 30}$ Naira

= $\frac{58000}{80}$ Naira

= ₦725

3. Coefficient of Variation, CV = $\frac{\sigma}{\bar{\times}} \times 100 = \frac{6}{25} \times 100 = 24.00\%$

4. $P(R) = 8/15,\ P(B) = 7/15$

$\therefore P(R or B) = P(R) + P(B)$

$= \frac{8}{15} + \frac{7}{15} = \frac{15}{15} = 1.0$

5.

WWL, WLW, LWW

$\therefore P(WWL, WLW, LWW) = \frac{1}{3} \times \frac{1}{3} \times \frac{2}{3} + \frac{1}{3} \times \frac{2}{3} \times \frac{1}{3} + \frac{2}{3} \times \frac{1}{3} \times \frac{1}{3}$

$= \frac{6}{27} = \frac{2}{9}$

7. Confidence Interval, $CI = p \pm z_{\alpha} \times \sqrt{\frac{pq}{n}}$

$= 0.2 \pm Z_{\bar{\alpha}} \sqrt{\frac{0.2(0.8)}{200}}$

$= 0.2 \pm 1.96(0.0283)$

$= 0.2 \pm 0.055.$

8. $2009 \rightarrow 100\% \rightarrow 180 \quad cedis$

$$2012 \rightarrow (100+30)\% \rightarrow \frac{180 \times 130}{100} \quad cedis$$

$$= \not{c}\,234$$

$800{,}000;\ 1{,}200{,}000;\ 1{,}800{,}000 - - - - -$

This is Geometric series, then its common ratio is

$$r = \frac{1{,}200{,}000}{800{,}000} = \frac{1{,}800{,}000}{1{,}200{,}000} = 1.5$$

$$\therefore S_n = a\frac{(r^n - 1)}{r-1} \frac{800{,}000(1.5^{15} - 1)}{1.5 - 1}$$

$= ₦699{,}030{,}244.60$

14. This is an Arithmetic Progression, its n^{th} term is

$$T_n = a + (n-1)d$$

$= 25{,}000 + 7(600)$

$= ₦67{,}000$

15. $P = R\left[\frac{(1+i)^n - 1}{l(1+i)^n}\right]$

$R = 4000 \quad , \quad i = \frac{0.04}{2} = 0.02$

n = 4

$$\therefore P = 4000\left[\frac{(1.02)^4 - 1}{0.02(1.02)^4}\right] \quad Naira$$

$$= 4000\left(\frac{0.0824}{0.0216}\right) \quad Naira$$

$= ₦15259.26$

16. $e = -\frac{\%\ change\ in\ demand}{\%\ change\ in\ price}$

$$= -\frac{\frac{dD}{D} \times 100}{\frac{dP}{p} \times 100}$$

$\therefore\ for\ D = 12 - 0.2p$

$$\frac{dD}{dp} = -0.2$$

$$\therefore e = \frac{-p}{D}(-0.2)$$

$$= \frac{-p}{12 - 0.2P} \times (-0.2)$$

WORKINGS

$\therefore The\ elasticity\ at\ P = 20\ is\ given\ by$

$$e = \frac{-20}{12 - (0.2 \times 20)}(-0.2)$$

$$= \frac{-20}{8}(-0.2)$$

$$= 4/8$$

$$= 0.5$$

18. $S = 3x + 5 \Rightarrow x = \frac{S - 5}{3}$

$when\ x = o, s = 5$

$\Pr oducer's\ surplus$

$$= \int_{S_1}^{S_0} g(s)ds = \int_5^{15} \frac{1}{3}(s - 5)ds$$

$$= \frac{1}{3}\left[\frac{S^2}{2} - 5S\right]_5^{15}$$

$$= \frac{1}{3}\left[\left(\frac{15\times15}{2} - 5(15)\right) - \left(\frac{5\times5}{2} - 5(5)\right)\right]$$

$$= \frac{1}{3}(112.5 - 75 - 12.5 + 25) = \frac{50}{3} = 16.7$$

19. $r(x) = x^2 - 4x - 48$

$\Rightarrow x^2 - 4x - 48 = 12$

$x^2 - 4x - 60 = 0$

$\Rightarrow x^2 - 10x + 6x - 60 = 0.$

$\Rightarrow (x^2 - 10x) + (6x - 60) = 0.$

$\Rightarrow x(x - 10) + 6(x - 10) = 0$

$\therefore (x - 10)(x + 6) = 0$

$x = 10 \quad or - 6$

$x \quad cannot\ be\ negative$

$\therefore x = 10{,}000\ bags$

20. $C(x) = 100 - 2x^2$

$The\ Capital\ Cost\ when\ x = 0$

$= 100 \quad (because\ it\ is\ the\ fixed\ \cos t)$

22. $Q = \sqrt{\frac{2cd}{Cc}} = \sqrt{\frac{2\times600\times100{,}000}{10}}$

$= 3465$

$\therefore No\ of\ orders = \frac{d}{Q} = \frac{100{,}000}{3465}$

$= 28.96$

$= 29$

30.

Dept \ Consumers	L	M	O	Available suppliers
A	$\boxed{2}$ 70	$\boxed{1}$ 10	$\boxed{3}$	~~80~~ ~~10~~ 0
B	$\boxed{1}$	$\boxed{4}$ 50	$\boxed{2}$	~~50~~ 0
C	$\boxed{3}$	$\boxed{2}$ 30	$\boxed{1}$ 10	~~40~~ ~~10~~

Demand	~~70~~ 0	~~90~~ ~~80~~ ~~30~~ 0		

Using North-West Corner Method, NWCM, we have

Total Transportation Cost

$= 2(70) + 1(10) + 4(50) + 2(30) + 1(10)$

$= 140 + 10 + 200 + 60 + 10$

=₦420

Examiner's Comment

The Multiple Choice Questions (MCQ) tests the Candidates on the syllabus in the three areas of Statistics, Business Mathematics and operations Research.

The performance of the candidates is fair with about 60% scoring above average marks.

Candidates are advised to cover the entire syllabus in preparation for future examinations.

SHORT-ANSWER QUESTIONS - SOLUTIONS

1. Raw
2. Components
3. Frequency
4. Harmonic
5. Sampling

6. Rejected
7. Fisher's index
8. Sum of squares
9. Maximize
10. Present Value
11. Chain rule
12. Common difference
13. Profit, Loss (in that order)
14. $400x + 350y$ (Note:- 400X + 350Y is wrong)
15. Decreases, decreases (in that order)
    OR increases, increases
16. Float
17. Maximum, Lead time
18. Group replacement
19. Penalty or opportunity
20. Cumbersome or complex

Examiner's Comment

The Short-Answer Questions (SAQ) test candidates' knowledge of definitions and basic understanding of principles in the three areas of Statistics, Business Mathematics and Operations Research.

More than 40% scored above the average mark.

Candidates are advised to study the syllabus.

SOLUTION 1

(a) Title: Monthly contributions made by member of Co-operative Society

Contribution (₦'00)	Number of members(f)	c.f
0-9	5	5
10-19	26	31
20-29	23	54
30-39	21	75
40-49	13	88
50-59	7	95
60-69	3	98
70-79	2	100
	100	

(b) The median class is obtained by locating the class that first contains ½$\sum f$

Hence, ½$\sum f$ $= \frac{1}{2}\times\frac{100}{1} = 50$ (1)

$\Rightarrow Median\ class = 19.5 - 29.5$

(c) Two-fifth fractile $= F_{\frac{2}{5}}$

$$F_{\frac{2}{5}} = X_L + \left(\frac{\frac{2}{5}\sum f - f_o}{f_{\frac{2}{5}}}\right) \text{C}$$

$$\frac{2}{5}\sum f = \frac{2}{5}\times\frac{100}{1} = 40$$

$X_L = 19.5$

$f_0 = 31$

C = 10

$$\therefore F_{\frac{2}{5}} = 19.5 + \left(\frac{40-31}{23}\right)10$$

=23.41

=₦23,410.00

Examiner's Comment

The question tests the candidates' knowledge of the understanding and application of measures of Central Tendency to business environment.

About 99.5% of the candidates attempted the question, but the success ratio was 40%. The average score of the candidates in the question is about 5 marks out of the 12½ marks allocated to the question.

The greatest pitfall is in part (b) where the candidates are required to demonstrate the knowledge of fractile (4^{th} decile)

Candidates are advised to master basic principles in Operation research of future examinations.

SOLUTION 2

(a) n = 120,

Proportion of supermarkets that have trolleys $(P) = \frac{25}{120} = 0.21$

$\therefore$ proportion of supermarkets without trolleys q $= 1 - p = 1 - 0.21 = 0.79$

$$(100 - \alpha)\% = 95\%, \textit{ so that} \quad Z_{\alpha/2} = 1.96$$

$\therefore 95\%$ interval estimate of the proportion

$$\prod = P \pm Z_{\alpha/2}\sqrt{\frac{P(1-P)}{n}}$$

$$= 0.21 \pm 1.96\sqrt{\frac{0.21(0.79)}{120}}$$

$$= 0.21 \pm 1.96(0.0372)$$
$$= 0.21 \pm 0.0729$$
$$= 0.1371 \textit{ to } 0.2829.$$

This means that, we can be 95% confident that the proportion of supermarkets with suitable trolleys for shoppers with limited mobility will be between 13.7% and 28.3%

(b) Here, $n = 25, \bar{x} = 55, S = 15$ *and* $\alpha = 5\% = 0.05$

Since $n \leq 30$, we use student's t – distribution to construct the C. I.

$\therefore$ CI for average score = $\bar{x} \pm t_{\alpha,(n-1)} S/\sqrt{n}$

$$= 55 \pm t_{0.05,24}\, S/\sqrt{n} = 55 \pm 1.711(15)/5$$

$$= 55 \pm 5.133$$
$$= 49.87 \textit{ to } 60.13$$

This means that there is a 5 percent confidence that the average score will be within the interval (49.87 to 60.13) i.e. $49.87 \leq \bar{X} \leq 60.13$

Examiner's Comment

The question tests the candidate's knowledge of the interval estimation based on proportion. About 15% of the candidates attempted the question but 80% of the candidates that attempted the question scored below average. Their major pitfall was incorrect interpretation of the question. Most of the candidates could not understand the question.

Candidates are advised to study and understand the content of the syllabus in future examinations.

SOLUTION 3

(a)

Year	Net Cash Flow (A_i)	Discounting factor $(1+r)^{-n} = \frac{1}{(1+r)^n}$	$PV = \frac{A_i}{(1+r)^n}$
0	-1,200,000	1.0	-1,200,000
1	250,000	0.8696	217,400
2	500,000	0.7561	378,050
3	550,000	0.6575	361,625
4	400,000	0.5718	228,720
5	160,000	0.4972	79,552
6	240,000	0.4323	103,752
		~~N~~PV	169,099

Here r = 15% =0.15

$\therefore NPV =$ -1,200,000+217,400+378,050+

361,625 +228,720+ 79,552+

103,75 = -1,200,000 + 1,369,099

= L$169,099

Since the NPV IS positive, the project is desirable.

(b) The new net cash flow;

For 2nd year = L$500,000 - L$150,000= L$350,000

For 3rd year = L$550,000 – L$250,000 = L$300,000

For 4th year = L$400,000 - L$300,000 = L$100,000

We then have the following table:

Year	Net Cash flow	Discounting factor	PV
0	-1200,000	1.0	-1,200,000
1	250,000	0.8696	217,400
2	350,000	0.7561	264,635
3	300,000	0.6575	197,250
4	100,000	0.5718	57,180
5	160,000	0.4972	79,552
6	240,000	0.4323	103,750
			-280,231

Here, since the NPV is negative, the project is not desirable.

Examiner's Comment

The question tests the candidates' knowledge of business Mathematics i.e. the concept of the Net Present Value (NPV). About 95 percent of the candidates attempted the question and 65% of the candidates scored above the average mark. Their major pitfall was that they did not understand the concept involved.

Candidates are advised to study and understand the concept of Business Mathematic.

SOLUTION 4

(a)

(i) For $u = x^2 + xy + y^2$

$$\frac{\partial u}{\partial \times} = 2x + y$$

(ii) For $u = x^2 + xy + y^2$

$$\frac{\partial u}{\partial y} = x + 2y$$

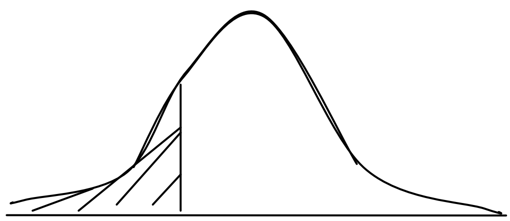
$$\therefore \frac{\partial u}{\partial x} - \frac{\partial u}{\partial y}$$

$$= (2x + y) - (x + 2y)$$
$$== 2x + y - x - 2y$$
$$= x - y$$

(b) $\mu = 200, \delta^2 = 25 \Rightarrow \delta = 5$

(i) $P(X < 198)$

$$\Rightarrow P\left(\frac{X-\mu}{\delta} < \frac{198-200}{5}\right)$$



-0.4

$$\Rightarrow P\left(Z < \frac{-2}{5}\right)$$

$$\Rightarrow P(Z < -0.4)$$

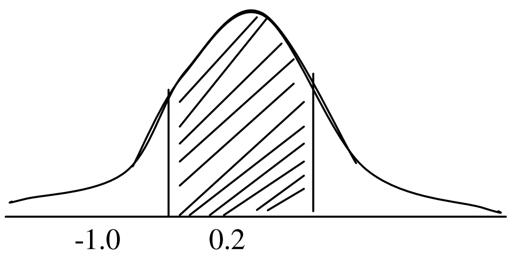
=0.3446

(ii) $P(195 < \times < 201)$

$$\Rightarrow P\left(\frac{195-200}{5} < Z < \frac{201-200}{5}\right)$$

$$\Rightarrow (-1.0 < Z < 0.2)$$

$$= \begin{array}{l} 0.3413+0.0793 \\ = 0.4206 \end{array}$$



Examiner's Comment

The question tests candidates' knowledge of partial derivatives and normal distribution.

Part (a) of the question is on Partial Derivatives and part (b) is on Normal distribution. About 70% of the candidates attempted the question but only 40% scored above average mark.

Their major pitfall is that the candidates did not understand the principle in Partial Derivatives and Normal Distribution.

Candidates are advised to pay more attention to the principle in partial Distribution for future examinations.

SOLUTION 5

(a) The LP problem is to

Maximise $1200x + 920y$

Subject to

$x + 3y \leq 1750$

$2.5x + y \leq 1500$

$x \geq 0$

$y \geq 0$

See graph $\rightarrow$ the solution is at the corner point given by $(420,450)$

With contribution of $1200(420) + 920(450) = \not\subset 918{,}000$

(b) With an increase of a unit of material, the binding constraints become

$$2.5x + y = 1501$$
$$x + 3y + 1750$$

Solving, we obtain

$$x = 423.55,\ y = 442.15$$

Which gives a contribution of

$$1200(423.55) + 920(442.15) = \not\subset 915038$$

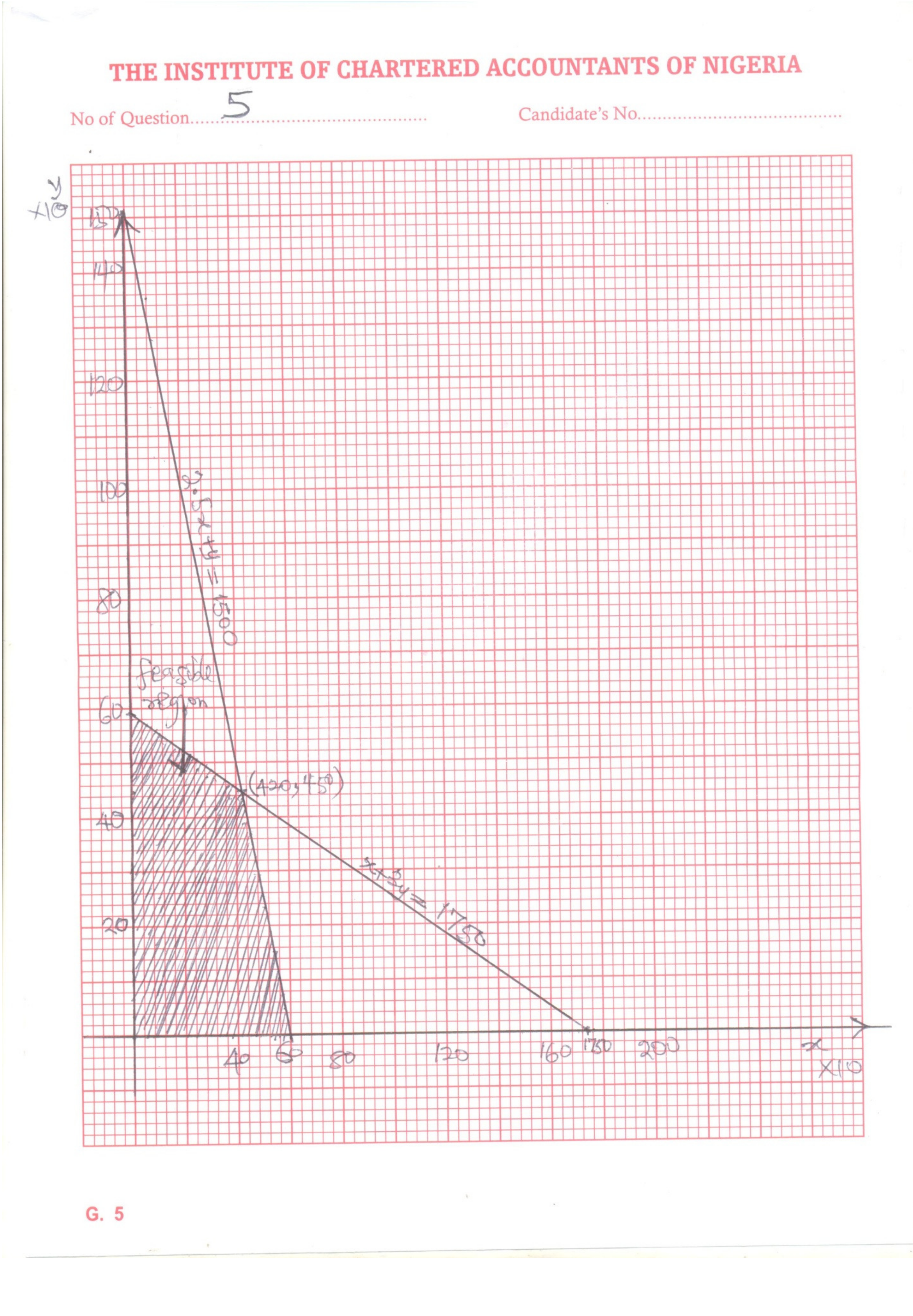
$\therefore$ Shadow cost= $\not\subset$ 918,000 $-$ $\not\subset$ 915,038

$$= \not\subset 2962$$

Examiner's Comment

The question tests the candidates' knowledge on Linear Programming (LP) using graphical method and the calculation of shadow cost. About 85% of the candidates attempted the question but only 40% of the candidates scored above average.

Majority of the candidates had difficulty in the LP problem formulation. They also had difficulty in reading their graph correctly.


THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA
No of Question 5
Candidate's No
y x10
140
120
100
80
60
40
20
40
60
80
120
160
180
200
x x10
feasible region
(420, 450)
x + 3y = 1750
G. 5

SOLUTION 6

Month	Percentage of failure
1	20% =0.20
2	50-20 = 30% = 0.30
3	80 – 50 = 30% =0.30
4	100 – 80 =20% = 0.20

Average life of a component $= (1 \times 0.20) + (2 \times 0.30)$

$$+ (3 \times 0.30) + (4 \times 0.20)$$

$$= 2.5 \textit{ months}$$

Average number of replacement per month

$$= \frac{500}{2.5} = 200$$

Cost of individual replacement on failure

$$= 200 \times \not\subset 12 = \not\subset 2400$$

Group replacement:

Failures month 1 $\Rightarrow 0.20 \times 500 = 100$

Failures month 2 $\Rightarrow (0.20 \times 100) + (0.30 \times 500) = 170$

Failures month 3 $\Rightarrow (0.20 \times 170) + (0.30 \times 100) + (0.30 \times 500) = 214$

Failures month 4 $\Rightarrow (0.20 \times 214) + (0.30 \times 170) + (0.30 \times 100) + (0.2 \times 500)$

=224.

Month	Total cost	Average monthly Cost
1	$100 \times \not\subset 12 + \not\subset 1500 = 2700$	2700
2	$270 \times \not\subset 12 + \not\subset 1500 = 4740$	2370
3	$484 \times \not\subset 12 + \not\subset 1500 = 7308$	2436
4	$708 \times \not\subset 12 + \not\subset 1500 = 9996$	2499

$\therefore$ The best strategy is to carry out the group replacement in month 2

Examiner's Comment

INSIGHT

The question tests the candidates' knowledge on REPLACEMENT- comparison between individual and group replacements.

About 40% of the over 1,000 candidates attempted the question with only about 15% of them scoring ABOVE average (over 6).

The commonest pitfall is that majority of the candidates that attempted the question could not interpret the question correctly.

Candidates are advised to read and understand question before attempts in future examination.

AT/131/PII.8

ACCOUNTING TECHNICIANS SCHEME WEST AFRICA
PART II EXAMINATIONS - MARCH 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. One of the greatest benefits of using computer is the ability to store vast amount of data and information. The device used is known as

   A. Storage device
   B. Input device
   C. Computer device
   D. Flash drive
   E. CD-ROM drive

2. In the 1970's, managers realised that they could use computer-based information system for planning, control, decision-making, and problem-solving rather than just for reporting transactions. This process is known as

   A. Management Information System
   B. Transaction Processing System
   C. Credit Card process
   D. Recording Transaction
   E. Electronic Information

3. Middle and senior managers often need to select one course of action from many alternatives from the report of data and information gathered. This process is enhanced by

   A. Decision Support System
   B. Experiment
   C. Ad hoc report
   D. Equipment report
   E. Group decision support systems

4. A collection of shared, interrelated records usually in more than one file that facilitates data entry, update, and manipulation is called

   A. Data range
   B. Database
   C. Data conversation
   D. Dialogue
   E. Digital

5. An electronic chip that contains the circuitry of either CPU or a processor with a dedicated and limited purpose, to a communication processor is known as

A. Communication Processor
B. Electronic Processor
C. Microprocessor
D. Purpose processor
E. Dedicated processor

6. Software application packages **EXCLUDES**

A. Power Point
B. Excel
C. Ms-Word
D. Accounting packages
E. Norton Utilities.

7. Which of the following Softwaredo Accountants use predominantly for auditing?

A. Linux
B. Server 2000
C. Excel
D. Ms-Word
E. Windows XP

8. Which of the following is a disadvantage of integrated application packages?

A. Cheap compared to in-house packages
B. Well tested
C. Well documented
D. The end-user will be dependent on manufacturer
E. They are continually updated

9. Which of the following is **NOT** an example of word processing packages?

A. Word Perfect
B. Word Star
C. Multimate
D. Ms Word
E. Multiplan

10. Which of the following is an example of a presentation packages?

A. Word Star
B. Quanttro
C. Power Point

D. Word Perfect
E. Outlook

11. An Internet-based development which uses computer technology in which typically real-time scalable resources are provided as a service over the Internet to users is known as

A. Cloud computing
B. Emerging issues in IT
C. Forensic computing
D. Google with Google ADDs
E. Amazon with Amazon Elastic computing

12. The process of doing business electronically which involves the automation of business-to-business and business-to-consumer transactions through reliable and secure connections, especially the Internet, describes

A. E-business
B. E-commerce
C. E-government
D. E-computing
E. E-transactions

13. A Website that your browser automatically loads everytime you connect to the Internet is known as

A. Web page
B. Uniform Resource Locator (URL)
C. Multimedia
D. Portal
E. Browser

14. The front door of a website showing you what the site contains and providing links to the other contents on the site is known as

A. Google Page
B. Home page
C. Webpage
D. Webcam
E. Mozilla page

15. A software which enables a user display and interact with information on the Internet is known as

A. Web pages
B. Browser
C. Web server
D. Hypertext Markup Language (HTML)
E. Yahoo

16. The full meaning of the acronym SDLC is

A. Software Development Life Cycle
B. System Development Life Cycle
C. System Development Long Cycle
D. Software Development Long Cycle
E. Self Development Life Cycle

17. Development stage of any system that identifies as quickly as possible whether or not the benefits of a proposed project appears to outweigh the expected cost is known as

A. Problem definition
B. System investigation
C. Feasibility study
D. System analysis
E. System design

18. The System in which video messages can be sent, stored and retrieved just like email is called

A. Video conferencing
B. VDO game
C. Video mail
D. V-email
E. Tele-conferencing

19. The signing of a document with a piece of data that cannot be forged is called

A. Password
B. Expert System
C. Digital signature
D. Encryption
E. Salami Technique

20. Which of the following is **NOT** a criterion for selecting Computer Service Bureaux?

A. Integrity of the bureau
B. Reputation of the bureau in the market
C. Closeness to Internet Service Provider
D. Calibre of staff employed
E. Ability to render quick services to clients

21. A program in execution is called

A. Process
B. Concurrent
C. Filing
D. Execution
E. System

22. Language processors include

    i. Assembler
    ii. Compiler
    iii. Interpreter

    A. ionly
    B. iionly
    C. iiionly
    D. i and ii
    E. i, ii, and iii

23. Translation of user's program written in low-level language into machine code object program is done by

    A. Compiler
    B. Interpreter
    C. Assembler
    D. Utility
    E. Editor

24. The ability of a microcomputer operating system to execute user's tasks concurrently is referred to as

    A. Multitasking
    B. Multiprocessing
    C. Multi-concurrently
    D. Multi-user
    E. Multi-computer

25. In timesharing, the time slice for each task is determined by

    A. Loader
    B. Editor
    C. Input/Output Interrupt
    D. Computer-based Management Information System
    E. Control Unit

26. In telecommunication network, which of the following may **NOT**be regarded as a terminal?

    A. Modem
    B. Telephone
    C. Networked Personal Computers
    D. Networked Computers
    E. File Server

27. Which of the following is **NOT** true of Client-Server architecture?

    A. The clients/hosts can be either sometimes on or always on
    B. Clients directly communicate with each other

C. It is applicable when the client and server are both in the same building, but also when they are far apart.
D. Two processors are involved, one on a client machine, the other on the server machine.
E. The client and server machines are connected by a network

28. Twisted pair, Bluetooth and fibre optics are examples of

A. Telecommunication processors
B. Transmission links
C. Bandwidth
D. Transmission media
E. Terrestrial microwave links

29. Which of the following is TRUE of synchronous transmission?

A. Characters are transmitted singly at will at irregular rate
B. Prepared sets of characters are transmitted together as a block at fixed rates.
C. Prepared sets of characters are transmitted at irregular rates
D. Characters are transmitted singly at regular intervals
E. Prepared sets of characters are transmitted singly

30. An internal communication network that uses the infrastructure and standards of the Internet and the World Wide Web is called

A. Electronic mail
B. Electronic Data Interchange
C. Intranet
D. Protocol
E. Gateway

SECTION A: PART II ATTEMPT ALL QUESTIONS (20 Marks)

SHORT-ANSWER QUESTIONS

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

1. A high volume serial access storage device describes a/an.............................

2. A form of changeover where the old and the new systems run simultaneously for a period of time is known as...........................

3. The results of processing from the processor are sent to..................................

4. Compilers and interpreters convert high level language into machine code object program. Which of the two converts programs a line at a time?

5. The part of a CPU which performs computational functions such as addition, subtraction, multiplication, division and exponentiation is known as................

6. A method used to calculates the length of time a project will take to recoup the initial investment is known as...........................

7. What name is given to an intelligent communication processor that interconnects networks based on different protocols?

8. A computer crime that involves transferring funds in small quantities from large accounts to the criminals account is known as...............................

9. The Central Processing Unit (CPU) of a microcomputer is also called................

10. An office that is manned by technically skilled staff that assists the information system department staff with regard to users' requests and complaints is known as......................

11. All data, documents and images are saved on the computers'.................devices.

12. What is a unit of measurement to specify data transmission speed?

13. The smallest unit of information representation which is addressable on the computer memory is known as...........................

14. A computer based technology that stores documents on microfilm for easy retrieval and economy of space is known as...............................

15. The technique of transferring data into temporary storage prior to processing is known as.....................

16. A network that uses direct communication lines to connect all computers in a ring to each other is a ....network.

17. A storage area where data is stored temporarily is known as...........................

18. A terminal which has no processing power of its own is known as................. terminal.

19. The Information from a computer printer is known as................................

20. The cable used on Wide Area Network connections is known as....................

SECTION B ATTEMPT ANY FOUR QUESTIONS (50 Marks)

QUESTION 1

a. Define "System Investigation". (2½ Marks)

b. Fact finding exercise investigates the existing system to assess its problem and requirement and to obtain details of data volumes, response times and other key indicators.

You are required to explain three methods of fact finding. (6 Marks)

c. Differentiate between system cost and system benefit. (4 Marks)

(Total 12½ Marks)

QUESTION 2

a. Differentiate between a General-Purpose Computer and a Special Purpose Computer. (4 Marks)

b. Identify **FIVE** uses of special purpose computers. (5 Marks)

c. Differentiate between analog and digital computers. (3½ Marks)

(Total 12½ Marks)

QUESTION 3

The Open Systems Interconnection (OSI) model views exchange of information between two devices operating across a network from a number of levels of abstraction known as layers. State the layers and explain the function of each layer.

(12½ Marks)

QUESTION 4

a. What are repetitive stress injuries? (2½ Marks)

b. List **FIVE** factors that contribute to repetitive stress injuries. (5 Marks)

c. Identify **FIVE** preventive methods of repetitive stress injuries. (5 Marks)

(Total 12½ Marks)

QUESTION 5

a. What is System software? (1½ Marks)

b. Enumerate **FIVE** types of System software. (5 Marks)

c. Explain any **THREE** of the types listed in (b) above (6 Marks)

(Total 12½ Marks)

QUESTION 6

a. Name **TWO** Application software. (1½ Marks)

b. Identify any **SEVEN** steps an organisation can take when acquiring application packages to be used for a given application. (7 Marks)

c. Give **FOUR** sources of Application packages. (4 Marks)

(Total 12½ Marks)

SUGGESTED SOLUTION

SECTION A

PART I MULTIPLE-CHOICE QUESTIONS

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

26. A

27. B

28. D

29. B

30. C

Examiner's Comment

The thirty questions set in this section cover all the major sections of the syllabus. The standard of the questions is good for the candidates. The performance was encouraging as over 70% of the candidates scored over 60% of the allocated marks.

SHORT-ANSWER SOLUTIONS

1. Magnetic tape

2. Parallel change over

3. Output devices

4. Interpreter

5. Arithmetic and logic Unit (ALU)

6. Pay back period

7. Gateway

8. Salami technique

9. Micro processor/Micro-chip

10. Information Centre/Information Technology Centre

11. External Memory /storage/Secondary storage

12. Baud/Bit per second (BPS)

13. Byte

14. Micrographics/Microfiche/Computer-output on Microfiche/Microfilm (COM)

15. Buffering

16. Mesh/Fully connected

17. Buffer/RAM/ primary Memory/Internal Storage/Main Storage

18. Dumb/Unintelligent

19. Hard copy

20. Fibre optics.

Examiner's Comment

The twenty questions set in this section cover all the sections of the syllabus. The performance was not encouraging as over 60% of the candidates scored below 40% of the allocated marks.

Candidates are advised to study to cover the entire syllabus in future examination

SOLUTION 1

(a) System Investigation is a technique of assessing an existing (or current) system by collecting or gathering data with the view of identifying likely problems, requirement or other details that will enable one to have a better understanding of the working of the system.

(b) **Methods of fact finding**

- Interview
- Questionnaire
- Observation
- Documentation
- Experimentation

i. **Interview:** This is probably the most widely used technique and very productive. During interviews; facts about what is happening come to light. The personal contacts are important in getting the cooperation of the people involved, and in giving them the feeling of having made a substantial contribution towards the design of the new procedure. It is vital to gain the confidence of the individuals concerned at this stage in order for all the facts to be gathered.

Ii **Questionnaire:** it saves the time of the interviews but is difficult to design and are generally considered irksome to complete. It is particularly useful when a little information is required from a great number of people moreover, when the study involves many different geographical locations it may be the only practicable method of gathering facts.

iii **Experimentation:** This is best employed in conjunction with other techniques and carried out after the observer has an understanding of the procedures involved. Only then will he or she be able to spot irregularities and generally apply a seeing eye to the job. Very reliable results will be obtained if the maximum cooperation is sought from those being observed, since staff may act differently from normal if they know they are being observed.

iv **Documentation:** Most business organizations, particularly large ones have documentation that is of help to the analyst in understanding the way they work. Instruction manuals and procedures manuals provide a statement of the way tasks are to be performed. Statement of company policy provide information on overall objectives and likely changes. Publicity and information booklets for external bodies provide a useful overview of the way a company works.

The problem with using documentation is that there is often a great deal of it, the analyst has to read extensively in order to gather a small amount of useful information. Documents cannot be so easily probed. Documentation may be out of date and the analyst has little way of knowing this.

v **Observation:** This is a method of data collection where the researcher observes the computer operators or users when performing assigned task. The observer should have an understanding of the procedures involved in order to be able to spot irregularities.

(c) **System cost:** System costs are costs associated with the introduction and implementation of the new system. These costs include:

Cost of personnel: The analysts, programmers, operating staff.

(i) Equipment cost: It includes computer and its peripherals
(ii) Installation cost: It relates to the infrastructure, new building computer room.
(iii) Development cost: It includes cost of measuring and analyzing the existing system and costs of looking at the new system. They include software/consistency work, system analysis and changeover costs.
(iv) Operating costs are the on going running costs.

System benefits: System benefit is the gain or saving derived from the implementation of a new system. It includes:

(i) Saving in staff costs and operating costs

(ii) Better stock control

(iii) Improved staff morale from working with a better system

(iv) Increased accuracy

(v) Improved cash flow

(vi) Better customer service

(vii) Improved communication

Examiner's Comment

This question tests candidates' understanding on the concept of system investigation and the instruments used for data collection. It also seeks for the differences between system costs and system benefits. 95% of the candidates attempted this question and the performance is encouraging as over 60% of those who attempted the question scored over 60% of the allocated marks.

Candidates are advised to read standard texts like the ICAN Study Pack - **INSIGHT** for better performance in future examinations.

SOLUTION 2

(a) A general purpose computer is a computer designed to solve a wide range of problems.

Special purpose computer is a computer system designed to solve a specific problem or job.

(b) Uses of special purpose computers include:

(i) Monitoring war situation
(ii) Sending ballistic missiles to distance places.
(iii) Controlling Robotics
(iv) launching space programs
(v) Controlling processes (e.g Thermostat)
(vi) Weather forecasting
(vii) Laboratory analysis

(c) An Analog Computer is a Computer that measures in physical or continuous variable quantities e.g. Thermometer

(d) A digital computer is a computer that counts in a discrete or numerical variable e.g. General purpose computers used in business and commercial data processing application.

Examiner's Comment

This question tests candidates' understanding of the two major types of computer systems, which are the General Purpose Computers and the Special Purpose Computers. It also demands for the difference between Analog and Digital computers. Over 95% of the candidates attempted this question.

The performance was encouraging as over 60% of the candidates who attempted the question scored above 50% of the allocated marks.

Candidates are advised to keep up the performance in future examinations.

SOLUTION 3

The OSI model has seven layers as listed below sequentially:

Application layer

Presentation layer

Session layer

Transport layer

Network layer

Data Link layer

Physical layer

Explanations of the layers:

(i) **Application layer:** This layer ensures that the information is in the right format for recognition and processing by the receiving application.

(ii) **Presentation layer:** This is the level that handles the standard forms for presenting data. It deals with the way data is encrypted and the way data is formatted for processing or display by receiving devices.

(iii) **Session layer:** This layer ensures that the two-way communication, once established, is coordinated between the communicating devices, and that protocols for information exchange are agreed.

(iv) **Transport layer:** The specification of the way the multiplexing occurs and one of the ways the packets are assembled and disassembled is handled at this level. The layer is responsible for ensuring that reliable two-way communication is established.

(v) **Network layer**: This layer ensures that packets find their way across the network. Specifications for ways of handling address identification and routeing are made here.

(vi) **DataLink layer:** This ensures that bits carried across the physical network have an agreed structure. Specification of packet structure and error detection and correction occur in this layer.

(vii) **Physical layer:** The standards for this layer govern the transmission of electrical signals between devices. Specifications would include the physical media, the shape and size of plugs and sockets etc.

Examiner's Comment

This question tests candidates' knowledge on the 7-layer Open Systems Interconnection model for data interchange. It demands for the names and functions of the different layers. The performance was poor as over 70% of the candidates who attempted the question scored less than 40% of the allocated mark.

The major pitfall is that candidates could not give the functions of the various levels.

Candidates are advised to read widely on data transmission and the associated protocols.

SOLUTION 4

(a) Repetitive stress injuries are health problems that are responsible to a group of illnesses affecting muscles, tendons, vision and ligaments by jobs or tasks that are of a repetitive nature.

(b) **Factors that may contribute to repetitive stress injuries include:**

i. Wrong sitting posture at work

ii. Long periods of work

iii. Stress at work

iv. Exposure to cold

v. Exposure to excessive harsh weather or excessive heat

vi. Eye strain at the Monitor

vii Using tools/equipment that do not possess an economic design.

(c) **Preventive measures for repetitive stress injuries:**

i. Always use a monitor shield or antiglare cover

ii. Avoid the use of the key board for a long period

iii. Always alternate the sitting position

iv. Use an ergonomic chair

v. Alternate body posture at work

vi Always sit in a straight position with the back to the chair

vii Taking frequent breaks while using computer devices at work

viii Sit at a recommended distance from the monitor.

Examiner's Comment

This question tests candidates' understanding on the concept of repetitive stress injuries. It demands for the factors responsible for the illness and the preventive measures. Only few candidates attempted this question and the performance was good as over 60% of the candidates that attempted the question scored above 50% of the allocated marks.

Candidates are advised to keep up the performance in future examinations.

SOLUTION 5

(a) A system software refers to computer programs that control and manage the computer systems and resources.

(b) **Types of system software include:**

i. Operating system

ii. Language processor/Translator

iii. Utility Routines

iv Loaders

v. Editors

(c) **Explanation of the types of System Software**

i. **Operating System:** is a computer program that must be resident in the main memory prior to the commencement of any processing operation. It manages the computer resources, application programs and the computer networks in the best possible way.

ii. **Language processor/ Translator:** is a program that converts the user's code into the machine code. The user's code is called the source code while the machine code is called the object code. The most popular language processors are Assemblers, Compilers and Interpreters.

iii. Utility programs also called general-purpose programs are used for applications in general regardless of the nature of specific application programs. They perform operations such as COPY, sorting, maintenance of file among others.

iv. Loaders place the program segments into appropriate locations in the memory ready for execution

v. Editors convert output into a particular format, based on the editing commands which accompany the input.

Examiner's Comment

This question tests candidates' understanding on computer systems software. It demands for examples and functions of system software. Most of the candidates attempted this question and the performance was encouraging as over 70% of the candidates who attempted the question scored over 50% of the allocated marks.

Candidates are advised to keep up the performance in future examinations.

SOLUTION 6

(a) **Types of application software include:**

(i) Word processing package
(ii) Spreadsheet package
(iii) Database package
(iv) Graphic package
(v) Antivirus package
(vi) Entertainment package
(vii) Presentation package

(b) In order to acquire an application package we need to consider the following:

(i) A feasibility report indicating the choice between off-the-shelf and in-house packages
(ii) Purchase price of the off-the-self packages
(iii) Type of hardware and operating system designed for the environment e.g single user or multi-user.

(iv) Is the package integrable with other standard packages i.e will the new package accept download data from other packages?
(v) Will the RAM Capacity of the hardware on which it will be installed be adequate?
(vi) After sales maintenance agreement
(vii) History of usage elsewhere i.e the performance of the package and the vendor with previous users
(viii) Availability of Documentation

(ix) Type of business to process
(x) Installed Security measure.
(xi) The technology version of the package i.e whether the package is the most recent model
(xii) Is it dependable?
(xiii) Is it user friendly?

(c) **Sources of Application packages include:**

(i) It can be bought over the counter from retail shops or stores
(ii) Dealer i.e (vendor) in micro computers
(iii) Specialist organization, known as software house, which develop software
(iv) Manufacturer of micro computers who also develop software
(v) Computer Bureaux and information centre with expanded activities
(vi) In-house programmers, who are specialist staff of an organization who develop software as part of their official routine.
(vii) Downloading over the internet.

Examiner's Comment

This question tests candidates' knowledge on Application Software. It demands for the sources and the steps taken in acquiring Application packages. Many candidates attempted this question and the performance was very good as over 60% of the candidates that attempted the question scored over 50% of the allocated marks.

Candidates are advised to keep up the performance in future examinations.