

**NATIONAL BUSINESS AND TECHNICAL
EXAMINATIONS BOARD (NABTEB)**

P.M.B. 1747, IKPOBA HILL, BENIN CITY, EDO STATE

**THE CHIEF
EXAMINERS' REPORT**

ON THE

**2017 NOV/DEC NBC/NTC/ANBC/ANTC
EXAMINATIONS**

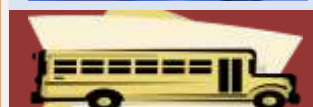


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THE NABTEB MISSION AND VISION STATEMENTS

MISSION STATEMENT

**BECOME A GLOBALLY ACKNOWLEDGED ASSESSMENT BODY
FOR CRAFTSMEN AND TECHNICIANS**

VISION

**BE A GLOBALLY RECOGNIZED ASSESSMENT AND
CERTIFICATION BODY PREPARING CANDIDATES FOR THE
WORLD OF WORKS AND ACADEMIC/PROFESSIONAL
EXCELLENCE**

P R E F A C E

The Chief Examiners' Report is the post examination analysis on the marking exercise, which is an integral part of the certification process of NABTEB examinations. It also provides a feedback on the performance of the candidates and their teachers. Two volumes are produced each year, one for May/June NBC/NTC and the other for November/December NBC/NTC and ANBC/ANTC Examinations.

This report for 2017 November/December is divided into three sections, namely:

Section I: General Education Trades;
Section II: Business Trades and
Section III: Technical Trades.

Each section discusses in details the general performance of the candidates, their strengths and weaknesses as well as suggestions for improvement.

This document is therefore recommended for use by schools and students taking NABTEB examinations as it provides feedback to guide the schools and help correct the lapses identified by the examiners during the marking exercise. It will also be of immense value to individuals wishing to sit for NABTEB examinations.

EXECUTIVE SUMMARY

GENERAL EDUCATION SUBJECTS

Candidates' performance were good in English Language (001), Mathematics (002), Advanced Mathematics (A02), Chemistry (005), Biology (006), Information and Computer Technology (ICT) (008), Civic Education (009), Agricultural Science (195), Geography (196), Christian Religious Studies (197) and Islamic Studies (198) while their performance was fair in Advanced English Language (A01), Economics (003), Advanced Economics (A03), Literature-In-English (007-1), and Literature-In-English (007-2).

Candidates' Strengths

- Candidates showed clear understanding of some questions and adhere strictly to the rubrics.
- In letter writing, there was a remarkable improvement in the area of formal features.
- Good computational skills.
- Many candidates responded correctly to the difference between domestic and foreign trade.
- Candidates gave good definition of trade union.
- Candidates' ability to handle questions that has to do with identification of items.
- Candidates answered questions on passages correctly.
- Good presentation of answers
- Candidates presented clear and neat answers

Candidates' Weaknesses

- Poor grammatical expression.
- Poor mechanical accuracy.
- Poor paragraphing.
- Poor knowledge of simplification.
- Candidates omitted important signs like ₦, 00k.
- Poor knowledge of shares and stocks
- Poor drawing skill.
- Poor handwriting.
- Over reliance on key points.
- Candidates could not explain what is computer virus.
- Candidates used phrases instead of sentences.
- Inability to write Arabic text or the Qu'ran and Hadith.

Suggestions for Improvement

- ❖ Students should be encouraged to read novels, newspapers and magazines to improve on their English Language.
- ❖ Teachers/students should endeavour to cover syllabus.
- ❖ Seminars, workshops and conferences should be organised for teachers handling examination classes.
- ❖ Qualified teachers should be employed to handle each subject.
- ❖ Good analysis and interpretation of the stories should be thought.
- ❖ Candidates should make effort to read all the novels and poems recommended.

BUSINESS TRADES

Candidates' performance was good in Advanced Secretarial Duties (417), Commerce (412), Financial Accounting (423), Office Management (427), Advanced Commerce (428) and Salesmanship (431), while their performance was fair in Office Practice (413), Advanced Financial Accounting (426) and Tourism (441).

Candidates' Strengths

- Good grammatical expression.
- Good presentation of answers.
- Commercial terms given were correctly explained.
- Good computational skills.
- Candidates had knowledge of most of the subject matter.

Candidates' Weaknesses

- Candidates' illegible handwriting.
- Candidates' poor mastery of the subject.
- Candidates' poor expression of some points.
- Candidates' poor reading habit.
- Few candidates do not know how to balance account.

Suggestions for Improvement

- ❖ Answers to past questions should be made available to candidates for preparation for the examination.
- ❖ Efforts should be made by teachers to ensure that the syllabus is covered.
- ❖ Current and new edition of textbooks should be use by teachers.
- ❖ Candidates should adhere to instructions during examinations.
- ❖ More qualified teachers should be employed.

TECHNICAL TRADES

Candidates' performance was good in Electrical Installation and Maintenance Works (041-1), Mechanical Engineering Craft Practice (061-1), Instrument Mechanic Works (111-1), Advanced Animal Husbandry (186-1), General Metal Work (191), Building/Engineering Drawing (193-2), Fisheries (201), Advanced Bicklaying/Blocklaying and Concreting (217-1), Machine Wood Working (246-1), Plumbing and Pipe Fitting (261-1), Advanced Ladies Garment Making (336-1), Advanced Photographic Practice (406-1), while their performance was average in Motor Vehicle Works (021-1), Advanced Fabrication and Welding (056-1), Mechanical Engineering Science (068-1), Marine Engineering Craft (151-1), Advanced Computer Craft Studies (176-1), Animal Husbandry (181-1), Catering Craft Practice (341-1), Painting Craft Practice (361-1), Graphic Design (381-1), Business Construction Management (A00), fair performance in Basic Electricity (194-1), Painting and Decoration (251-1) and poor in Automobile Electrical Works (031-1) and Advanced Building Drawing (A05).

Candidates' Strengths

- Candidates had good knowledge of type of joint used for driving wheel.
- Candidates had the knowledge of Ohms definition.
- Candidates presented good grammatical expressions.
- Candidates demonstrated good drawing skills.
- Candidates had good computational skills.
- Candidates responded correctly to questions on welding.
- Good presentation of answers.

Candidates' Weaknesses

- Candidates' poor drawing and sketching skills.
- Candidates' illegible handwriting.
- Candidates' poor labelling of sketches.
- Candidates' poor spelling of technical terms.
- Candidates could not state the function of a reflector in lamp.
- Candidates' poor computational skills.

Suggestions for Improvement

- ❖ Candidates should be exposed to more practical work.
- ❖ Teachers should endeavour to cover the syllabus.
- ❖ More time should be allocated to subjects with calculations to enhance candidates' computational skills.
- ❖ Students should be encouraged to buy and study relevant textbooks.
- ❖ Candidates should be exposed to useful information and technology to enhance better performance.
- ❖ Candidates should develop good reading habit.

SECTION ONE

GENERAL EDUCATION TRADES

ENGLISH LANGUAGE (001-2)

General comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Section A. Essay Writing

Question 1

Write a letter to your friend who has been away from the country for a good number of years telling him/her about the menace of secret cults and their activities in the secondary schools.

Intended Task

The candidates were expected to write a letter to their friend who has been away from the country for a good number of years telling him/her about the menace of secret cults and the activities in the secondary schools. Many of the candidates concentrated on the ways in which the cult activities affected their secondary schools in particular. Also the use of contractions was minimal in the candidates' answers. Candidates performed well.

Question 2

Describe how you would grow, harvest and store one of the food crops in your locality.

Intended Task

The candidates were required to describe how they would grow, harvest and store one of the food crops in their locality. Many of the candidates concentrated on how to grow the food crop and neglected how to harvest and store the food crop. Candidates performed fairly.

Question 3

Write a letter of complaint to the Editor of a newspaper on the poor services of our telecommunications providers.

Intended Task

Candidates were expected to write a letter of complaint to the Editor of a newspaper on the poor services of telecommunications providers. Many candidates only mentioned the poor services of the telecommunications providers rather than giving a detailed discussion. Candidates performed fairly.

Question 4

Write a story, that illustrates the saying: "Once Bitten, twice shy".

Intended Task

The candidates were expected to write a story, that illustrates the saying” Once Bitten, twice shy”. Many candidates simply repeated the question rather than give the story a proper title: ‘Once Bitten, twice shy’. Candidates performed poorly.

Section B: Comprehension passage

Question 5

The passage was on a fight

Intended Task

The candidates were expected to read the passage and answer the questions that followed. Many candidates did not take their time to insert the words they substituted in the passage; rather, they just used the synonyms of these words which did not fit in perfectly. Candidates performed fairly.

Section C: Summary Writing

Question 6

The passage was on taking care of little children.

Intended Task

Candidates were expected to read, understand the passage and answered the questions that followed. The major weakness of candidates is their inability to use suitable preamble for all the answers given. Candidates performed fairly.

Candidates’ Strengths

- Candidates showed clear understanding of the questions and adhere strictly to the rubrics.
- Many of the candidates wrote the required length of at least 400 words.
- In letter writing, there was a remarkable improvement in the area of formal features.
- There are minimal cases of mindless lifting.

Candidates’ Weaknesses

- ✓ Poor grammatical expressions.
- ✓ Poor mechanical accuracy
- ✓ Poor arrangement of facts

Suggestions for Improvement

- Students need to be exposed to the rudiments of English Language.
- Readers club should be a priority among all the clubs and societies in the school.
- Provision should be made for reading of newspapers and story books in the school programme.
- Students should be taught to read through what they have written during examination before submission.
- In summary writing, students should be encouraged to write independent sentences in their answers rather than using a general preamble for all.

ADVANCED ENGLISH LANGUAGE (A01)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed comments on each question

Section A. Essay Writing

Question 1

While you were on industrial attachment, your supervisor asked you to clean a very delicate and expensive equipment. State how to use this equipment and give a step-by-step account of the cleaning and storage.

Intended Task

The candidates were required to state how to use a very delicate and expensive equipment they were asked to clean by their supervisor during their industrial attachment and to give a step-by-step account of the cleaning and storage. Many candidates used long paragraph to discuss just a point while some of them used one or two paragraphs to give an explanation of about 300 to 400 words. Candidates performed fairly.

Question 2

Write a paper which you will present to your manager on how to install an equipment that your establishment has just acquired.

Intended Task

The question tested candidates' ability in writing a paper to be presented to his manager on how to install equipment that has just been acquired by his establishment. Candidates performed fairly.

Question 3

"Independence alone is a mere symbol. What matters is economic growth and cultural achievement". Write a letter to the president of the Senate on how this can be achieved.

Intended Task

The question tested candidates' ability in writing a letter to the president of the Senate on how economic growth and cultural achievement matters as independence alone is a mere symbol. Candidates performed fairly

Question 4

Your brother who lives overseas is planning to marry a lady from Sri Lanka. Write a letter to her describing an interesting local festival and its significance.

Intended Task

The question tested candidates' ability in writing a letter to a lady from Sri Lanka whom his brother is planning to marry, describing an interesting local festival and its significance to her. Candidates performed fairly.

Section B: Comprehension passage

Question 5

The reading passage was on the desire for good looks.

Intended Task

The question required the candidates to read, understand and answer the questions that followed the passage. Most of the candidates could not identify clause and its functions as used in the passage. Candidates performed fairly.

Section C: Summary Writing

Question 6

The reading passage was on the disposal of refuse.

Intended Task

The question required the candidates to read, understand and answer the questions that followed the passage. Candidates performed fairly.

Candidates' strengths

- Good interpretation of questions
- Candidates answered questions on passages correctly.

Candidates' Weaknesses

- ✓ Poor paragraphing
- ✓ Inability to identify clauses and its functions.
- ✓ Inability to replace words given in the passage.

Suggestions for Improvement

- Teachers should endeavour to teach the students on how to handle questions on both internal and external examinations.
- Students should not limit themselves to only texts in technical subjects alone.
- Students should be encouraged to read novels, newspapers and magazines to improve on their English Language.

MATHEMATICS (002)

General Comments on the Paper

The questions covered the syllabus and candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) Convert 123.24_8 to base 10
- (b) Evaluate $8^{1/3} \times 5^{2/3} \div 10^{2/3}$

Intended Task

The question tested candidates' knowledge of evaluation and Binary Numbers. They were expected to write $10^{2/3}$ as $2^{2/3} \times 5^{2/3}$ but they answered $2^1 \times 5^{2/3}$ or $2^{2/3} \times 5^1$. Candidates performed fairly.

Question 2

- (a) If $y = \frac{1+2x}{x-2}$, express $2x + y$ in terms of x only.
- (b) Solve for x if $\frac{x+1}{2} = x - 3 + \frac{5}{x}$

Intended Task

The question tested candidates' knowledge of simplification in question (2a) they were expected to write $y = \frac{1+2x}{x-2}$ and express $2x + y$ in terms of x only as $2x = \frac{1+2x}{x+2}$ though that is not the

Final answer. Many candidates could not express $2x + y$ in terms of x only. Candidates performed fairly.

Question 3

Two partners Victor and Nasiru invested ₦6 million and ₦ 3.6million respectively in a business. It was agreed that Nasiru takes 30% of the profit for running the business while the remainder is divided according to invested capital. If ₦ x million was the turnover, find

- (a) Nasiru total take home
- (b) Express Victor's collection as a percentage of his investment.

Intended Task

The question tested candidates' knowledge of investment. Many candidates omitted the naira and kobo (₦, 00k) sign. Few candidates attempted the question. Candidates performed poorly.

Question 4

- (a) Make 'a' the subject of the formula if $S = \frac{n}{2} [2a + (n - 1) d]$
(b) Hence find a, when $S = -890$, $d = -5$ and $n=20$

Intended Task

The question tasked the candidates' knowledge of subject of the formula. Candidates were expected in question 4 (a) $S = \frac{n}{2} [2a + (n - 1) d]$ to give their answer as: $a = \frac{1}{2} \left[-\frac{2S}{n} - (n - 1)d \right]$
Candidates performed fairly.

Question 5

The sets $X = \{1, 3, 5, 7, 9, 11\}$, $Y = \{2, 3, 5, 7, 11, 15\}$ and $Z = \{3, 6, 9, 12, 15\}$ are subsets of $U = \{1, 2, 3, \dots, 15\}$

- (a) Draw a venn diagram to illustrate the given information.
(b) Use your diagram to find
(i) $n(A \cap B \cap C)$
(ii) $n(A' \cap B' \cap C)$

Intended Task

The question tested candidates' ability to draw a venn diagram. Many candidates attempted the question but could not represent that data in a venn diagram and find the $(A' \cap B' \cap C)$. Candidates performed poorly.

Question 6

- (a) Copy and complete the table for the relation $y = 5 - 2x - x^2$ for $-4 \leq x \leq 3$.

X	-4	-3	-2	-1	0	1	2	3
Y	-3				5			-10

- (b) using a scale of 2cm to represent 1 unit on the x- axis and 2cm to represent 2 units on the y- axis, draw the graph of $y = 5 - 2x - x^2$ for $-4 \leq x \leq 3$.
(c) Using the same axes, draw the graph of $y = -\frac{4x}{3} - \frac{2}{3}$
(d) From your graphs find the
(i) Equation of the line of symmetry of the curve.
(ii) Roots of the equation $5 - 2x - x^2 = 0$.
(iii) Maximum turning point for $y = 5 - 2x - x^2$.
(iv) Roots of $17 - 2x - 3x^2 = 0$

Intended Task

The question required the candidates knowledge of graph, completing the table, to draw the graph of $y = -\frac{4}{3}x^2 - \frac{2}{3}x$ and calculate the line of symmetry of the curve, roots of equation $5 - 2x - x^2 = 0$ as well as the maximum turning point for $y = 5 - 2x - x^2$. In question 6(iii) candidates answered $y = 6$ as maximum value, the expected answer is $(-1,6)$ as maximum turning point. Many candidates attempt the question. Candidates performed well.

Question 7

- (a) Using a ruler and pair of compass only, construct an isosceles triangle ABC with $|AC| = |AB| = 9\text{cm}$ long and the angle between them is 45° .
- (b) Construct a locus l_1 of equal distance from B and C. Also construct locus l_2 , 3cm from A.
- (c) Mark the points of interception of l_1 and l_2 as P and Q.
- (d) From your construction, measure
 - (i) $|CB|$
 - (ii) $|PQ|$

Intended Task

The question tested candidates' knowledge of construction. Many candidates attempted the question. Candidates performed well.

Question 8

- (a) For what value of x is $\frac{2x-1}{x^2+2x-15}$
 - (i) Zero
 - (ii) Undefined?
- (b) A hemispherical bowl internal diameter 12cm, is 2cm thick.
 - (i) Calculate the volume,
 - (ii) Find the area of the top
(Take $\pi = \frac{22}{7}$)

Intended Task

The question tasked candidates' knowledge of algebraic fraction and to calculate the volume of a given hemispherical bowl. They were expected to give their answer as: Algebraic fraction will be zero if the numerator is zero, undefined if the denominator is equal to zero. Candidates performed well.

Question 9

A swimming pool is 30m long and 12m wide. The depth is graduated in ratio $\frac{1}{2} : 1 : 2$ of equal length of 10cm. the deepest part being 16m.

- (a) Calculate the
 - (i) Volume of water in the pool
 - (ii) Total surface area

- (b) If it costs ₦ 25.00 to paint a meter square in the pool, what is the cost of painting the whole pool?

Intended Task

The question tasked the candidates' knowledge of measurement involving 3- dimensional objects. Candidates omitted the relationship between internal radius and external radius. Candidates performed fairly.

Question 10

In a Data processing examination, the percentage marks of 50 students are:

35	51	83	60	61	73	44	90	70	93
56	34	52	61	43	57	40	58	88	64
52	71	25	86	79	35	73	44	71	95
63	63	48	78	65	98	28	72	67	82
46	54	62	35	70	41	63	73	50	68

Taking class intervals 21 – 30, 31 – 40,... construct a frequency table. Calculate the

- (a) Mean deviation
- (b) Standard deviation.

Intended Task

The question tested candidates' knowledge of preparing frequency distribution table using it to calculate mean deviation and standard deviation. Candidates performed well.

Question 11

- (a) The number of students admitted into different faculties of a university in a particular year is as follows:

Education 350, Medicine 150, Engineering 200, Law, 100, Art 100.

- (i) Draw a pie chart to represent the data
 - (ii) What percentage of students was admitted into faculty of Education?
- (b) A bag contains three black balls, four white balls and five red balls. Three balls are picked at random without replacement, what is the probability of obtaining,
- (i) one of each colour
 - (ii) at least two red balls?

Intended Task

The question tested candidates' knowledge of pie chart and probability. They were able to calculate the sectorial angle, the probability with replacement and without replacement. Also they knew the difference between 'at least, almost and both'. Candidates performed well.

Question 12

- (a) The monthly mean rainfall, in centimetres, in Ibadan in the last 8 months of a year is

Month	M	J	J	A	S	O	N	D
Rainfall	15.0	18.8	16.0	8.4	17.8	15.5	4.6	1.0

Calculate the five point moving averages.

- (b) A man borrows ₦ 600,000.00 from Hope MPCS at 3% per annum compound interest. He repays ₦200,000.00 at the end of each year. How much does he still owe after the third repayment

Intended Task

The question tested candidates' knowledge of moving average and compound interest. Many candidates were not able to subtract ₦200, 000.00k at the end of each year for 3 years but instead they subtracted once. Candidates performed fairly.

Question 13

A government worker is entitled to the following allowances before tax.

- (i) Personal allowance of ₦150,000.00
- (ii) Child allowance ₦20,000.00 for each child up to four children.
- (iii) Any amount paid for insurance, NHIS, NHF, Pension scheme and Union Due.

A married man with three children earns ₦2,500,000.00 gross per annum. He pays 2% of gross for NHIS, NHF and Union due each and 8% for pension contribution.

Calculate his monthly:

- (a) Gross pay
- (b) Tax pay
- (c) Net pay

Intended Task

The question tasked candidates' knowledge of taxation. Few candidates attempted this question. Candidates performed fairly.

Question 14

- (a) At pen Consult Plc, 50k shares are quoted at ₦ 1.10. a man invested ₦55,000.00.
- (i) How many shares did he buy?
 - (ii) After some time a bonus share was given for every 12 shares. Calculate his take home if a dividend of $8\frac{1}{2}\%$ is declared.
- (b) VAT of 5% is collected from all goods and services rendered. If a company charged ₦612,000.00 for goods and ₦318,000.00 for services in a day, how much
- (i) Should the company collect for VAT
 - (ii) Will customers pay.

Intended Task

The question tasked candidates' knowledge of investment and their ability to calculate VAT of a given customers. Candidates performed fairly.

Question 15

- (a) A sum of money invested at 4% per annum simple interest amounts after 5 years to ₦142,000.00. find the sum invested.
- (b) The cash price of a 45 inches flat television is ₦82,000.00. but a buyer can pay a deposit of ₦40,000.00 and 24 monthly instalments of ₦2,500.00. find the difference between the cash price and hire purchase price.
- (c) A motor bike was bought for ₦55,000.00. it depreciates at the rate of 3.5 every 3 months. Find the value after two years.

Intended Task

The candidates were expected to calculate the simple interest on a given investment, find the difference between the cash price and hire purchase price as well as their ability to calculate depreciation on a given commodity. Few candidates attempted the question. Candidates performed fairly.

Candidates' Strengths

- ✓ Good computational skill.
- ✓ Good knowledge of linear graph
- ✓ Good knowledge of algebraic expression
- ✓ Good knowledge of calculation.
- ✓ Good knowledge of probability

Candidates' Weaknesses

- Candidates omitted important signs like ₦, 00k.
- Poor knowledge of simplification.

Suggestions for Improvement

- Students should endeavour to put necessary signs when answering questions.
- Assignment involving simplification should be given to students.

ADVANCED MATHEMATICS (AO2)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) If $\frac{x}{y} = \frac{5}{7}$, find the value of $\frac{x+y}{x-y}$
(b) Solve $a^{m+n} \div a^{m-n}$
(c) Using the laws of indices simplify $\sqrt{x^{16}}$

Intended task

The question tasked candidates' knowledge of direct substitution and indices. Expected answer in question (1a)

$$\frac{x}{y} = \frac{5}{7} \Rightarrow x = \frac{5y}{7} = k$$

Therefore: $\frac{x}{5} = k$
 $\frac{5y}{7} = k \Rightarrow y = \frac{7k}{5}$

Few candidates attempted the question. Candidates performed fairly.

Question 2

- (a) Solve the following equations:

$$\frac{6}{x} + \frac{3}{x+2}$$

- (b) $\frac{3x}{5} + \frac{x}{2} = \frac{5x}{4} - 3$

Intended task

The question tasked candidates' knowledge of linear equation involving rational fraction. They were able to eliminate first fraction by multiplying throughout by the L.C.M of denominators. Candidates performed well.

Question 3

- (a) Simplify
(b) How many terms of the series 3, 6, 9... must be taken so that their sum is 135?

Intended task

The question tested candidates' knowledge of rationalization of surds and arithmetic series. Many candidates attempted this question. Candidates performed well.

Question 4

- (a) Solve the equation

$$2x + 3y = 42$$

$$5x - y = 20$$

- (b) There are two numbers such that the sum of the first and three times the second is 53, while the difference between 4 times the first and twice the second is 2. Find the numbers.

Intended task

The question tasked candidates' knowledge of simple linear simultaneous equation in two variables. They were expected to use methods of elimination and substitution. Candidates performed well.

Question 5

- (a) Expand $(x + a)^4$ by Binominal expansion.

- (b) Find the length of the vectors $x = i + 3j - 4k$.

- (c) Evaluation $2i(4 + 5i)$.

Intended task

The question tested candidates' knowledge of Binomial expansion and vector. Candidates were able to calculate the length of vectors using the formula: $\sqrt{d^2 + b^2 + c^2}$ for length of vector $r + a^i + bj + ck$. They were able to multiply two complex numbers correctly. Candidates performed well.

Question 6

- (a) Differentiate with respect to x

$$y = x \sin \frac{1}{x}$$

- (b) Express $\frac{4 + 3i}{5 + 4i}$ in the form $a + ib$

- (c) Find the gradient of the line joining (6,-7) and (8,-12).

Intended task

The question tested candidates' knowledge of gradient. They were able to simplify fractional complex numbers of the form $\frac{a + bi}{c + di}$ by multiplying numerator and denominator by the conjugate $C - di$ of the denominator. Candidates performed well.

Question 7

- (a) Convert the following to degrees

(i) 2π (ii) $\frac{4\pi}{5}$

- (b) Find the radius of the centre of the circle $x^2 + y^2 - 5x = 0$

Intended task

The question tested candidates' knowledge of radians and to find the radius of the centre of circle. Many candidates attempted the question and were able to state that $1 \text{ rad} = \frac{180^0}{11}$

They applied it correctly by converting the angles 2π radians and $\frac{4\pi}{5}$ radians to degrees.

Candidates performed well.

Question 8

Sketch the ellipse and show the major, minor axes and foci of $4x^2 + y^2 - 16x - 4y = 4$.

Intended task

The question tested the candidates' ability to sketch the ellipse. Few candidates attempted the question. Candidates performed fairly.

Question 9

(a) Integrate with respect to x

- (i) $y = x^{1/3}$
- (ii) $y = x^3 e^x$

(b) Write down the equation of the straight line passing through the origin and having gradient 5.

Intended task

The question tested candidates' knowledge of integration and gradient. Many demonstrated knowledge of integration of the form $\int x^n dx = \frac{x^{n+1}}{n+1} + c$

They were able to evaluate the integral: $\int x^{1/3} dx$. Candidates performed well.

Question 10

(a) (i) What is statistics?

(iii) State four importance of statistics.

(b) Mention two demerits of each of the following methods of data collection:

- (i) Interview
- (ii) Observation.
- (iii) Questionnaire.

Intended task

The question required the candidates' ability to recall what they understand by statistics and its importance. They were to state two demerits of interview, observation and questionnaire. Candidates were able to define statistics and mention important terms like collection of data, organizing of such data and making correct deduction from data analysis. Candidates performed well.

Question 11

The cost of fuel per week for engines of different brake powers is given in the following table:

Brake power	10	30	50	80	100
Cost of fuel(₦)	4,800	13,400	21,800	31,700	39,500

- (i) Plot the graph of fuel cost, (C) against engine power, (P)
- (ii) From your graph, estimate the cost of fuel for engines of brake powers 40 and 75kw
- (iii) From the same graph, find the probable power of an engine for which the cost of fuel is ₦2,000.00

Intended task

The question tested candidates' knowledge of graph. They were expected to plot and draw graphs that are combinations of segments of straight line. Few candidates were able to plot the graph to extra polate. Candidates performed fairly.

Question 12

- (a) With respect to stock and shares, explain briefly each of the following:
 - (i) Nominal value
 - (ii) Market value
 - (iii) Brokerage
- (b) Mr. Raheem invested ₦117, 600.00 in stock at ₦112.00 and sells when the price falls to ₦106.00. How much stock at ₦95 can he now buy?

Intended task

The question tested candidates' knowledge of stock and shares. Few candidates attempted the question. Candidates performed poorly.

Question 13

- (a) A bank sells its shares at 50k each in multiple of 1000. Find the cost of 20,000 shares.
- (b) A cement company is able to sell its 70k shares at ₦1.00 each.
 - (i) What is the nominal value of each share?
 - (ii) What is the marked price of each share?
- (c) What is the selling price of 750 shares?

Intended task

The question tested candidates' knowledge on shares. Few candidates attempted the question. Candidates performed poorly.

Question 13

- (a) A man buys a fairly used fan for ₦3, 500.00. Repairs cost him another ₦200.00. He then sells it for ₦3, 000.00. Find the percentage profit or loss.
- (b) A dealer bought radio for ₦2,500.00. He made a profit of 15% from the sale of the radio. What was the selling price of the radio?

Intended task

The question tested candidates' knowledge of profit and loss. Candidates were able to apply the formula:
$$\% \text{ loss} = \frac{[\text{cost price} - \text{selling price}]}{\text{Cost price}} \times 100.$$
 Candidates performed well.

Candidates' Strengths

- ✓ Good computational skills
- ✓ Good presentation of answers
- ✓ Clear and neat work.

Candidates' Weaknesses

- Poor knowledge of shares and stocks
- Poor knowledge of graph and ellipse

Suggestions for Improvement

- Assignment involving shares and stocks should be given to students
- Teachers/ students should endeavor to cover syllabus.
- Teaching of graph should be intensify.

ECONOMICS (003)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

The income and demand relation of a teacher for a given commodity is in the table below:

Year	Monthly Income (₦)	Quantity (Kg)
2012	25,000	250
2013	30,000	210

- (a) Calculate the coefficient of income elasticity of demand for the commodity
- (b) Interpret your result in (1a)
- (c) What are such goods called in economics?

Intended Task

The question tested the candidates' ability to recall the income and demand relation of a teacher for a given commodity of a year, monthly and quantity. Calculate the co-efficient of income, interpret the demands relation and what is it called in economics. Candidates performed fairly.

Question 2

The capital allocation of Banana State in 2011 to some sectors is given below:

Sector	Allocation ₦b
Education	210
Health	180
Industry	400
Communication	150
Tourism	60

- i. Calculate the percentage allocation to each sector
- ii. Calculate what is allocated to each sector in degree (for a pie chart)
- iii. Draw the pie-chart
- iv. Explain the meaning of capital expenditure
- v. Give two examples of 2(iv).

Intended Task

The candidates were expected to calculate the percentage allocation to each sector given the capital allocation of Banana state in 2011. They were also expected to draw the pie-chart, explain the meaning of capital expenditure and give two examples of capital expenditure. Candidates performed well.

Question 3

- a. Describe two factors influencing rapidly population growth
- b. Explain briefly four economic effects of a rapidly increasing population.

Intended Task

The candidates were expected to outline two factors influencing rapidly population growth and explain briefly four economic effects of a rapidly increasing population. Candidates performed well.

Question 4

- a. Define co-operative society
- b. Explain four features of a co-operative society to its members
- c. Give two benefits of a co-operative society to its members.

Intended Task

The candidates were expected to explain co-operative society and list two benefits of a co-operative society to its members. Candidates performed well.

Question 5

- a. Define labour force
- b. Explain four factors that affect the size of the labour force in Nigeria.

Intended Task

Candidates were expected to explain and list four factors that affect the size of labour force in Nigeria. Candidates performed well.

Question 6

- a. Outline four benefits Nigeria will derive from its membership of ECOWAS
- b. Explain four challenges facing ECOWAS
- c. Suggest four possible solutions to the problems of ECOWAS

Intended Task

The candidates were expected to list four benefits Nigeria will derive from its membership of ECOWAS and suggests possible solutions to the problems of ECOWAS. Candidates performed fairly,

Question 7

- a. What is balance of payments disequilibrium?
- b. Explain four ways a balance of payments deficit can be corrected

Intended Task

The question tested the candidates' ability to define balance of payment disequilibrium and to explain four ways a balance of payments deficit can be corrected. Candidates performed fairly.

Question 8

- a. What is protection in trade?
- b. Give five differences between domestic and foreign trade
- c. Highlight five advantages of domestic trade

Intended Task

The question tested the candidates' knowledge of protection in trade, list five differences between domestic and foreign trade as well as list five advantages of domestic trade. Candidates performed poorly.

Candidates' Strengths

- ✓ Many candidates responded correctly to question on elastic demand.
- ✓ Many candidates responded correctly to question on capital expenditure.
- ✓ Many candidates responded correctly to question on co-operative society.
- ✓ Many candidates responded correctly to question on labour force.
- ✓ Many candidates responded correctly to question on the benefits Nigeria can derive from membership of ECOWAS.
- ✓ Many candidates responded correctly to question on balance of payment.
- ✓ Many candidates responded correctly to question on the difference between domestic and foreign trade.

Candidates' Weaknesses

- Misinterpretations of questions.
- Poor grammatical expression.
- Poor computational skills.

Suggestions for Improvement

- NABTEB should conduct seminars or workshop for the teachers in schools where their examinations is taking place so as to understand more on how to guide their students in preparing for the exams.
- Schools are encouraged to go on excursion.

ADVANCED ECONOMICS (A03)

General Comments on the paper

The question covered the syllabus and candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

- (a) Define the term "Data"
- (b) Explain two types of Data used by a researcher.

Intended Task

The candidates were required to define data and explain two types of data used by a researcher. Candidates performed fairly.

Question 2

- (a) Distinguish between an outcome and an event?
- (b) Give two examples of an event?

Intended Task

The candidates were expected to distinguish between an outcome and an event as well as to give two examples of an event. Candidates performed fairly.

Question 3

Differentiate between nominal Gross Domestic Product and real Gross Domestic Product.

Intended Task

The question examined candidates' ability to differentiate between nominal Gross Domestic Product and real Gross Domestic Product. Candidates performed fairly.

Question 4

Using a diagram, explain price consumption curve.

Intended Task

The question tested the candidates' knowledge of price consumption curve. Candidates performed poorly.

Question 5

Briefly explain:

- (a) Returns to scale
- (b) Economies of scale

Intended Task

The candidates were expected to explain returns to scale and economies of scale. Candidates performed fairly.

Question 6

If the Market demand for agricultural commodities is price-inelastic, how could a bad harvest affect the incomes of farmers as a group?

Intended Task

The question required the candidates to explain how a bad harvest can affect the income of farmers as a group if the market demand for agricultural commodities is price-inelastic. Candidates performed well.

Question 7

State any four conditions that might give rise to monopoly?

Intended Task

The question required the candidates to state any four conditions that might give rise to monopoly. Candidates performed fairly.

Question 8

What does a balance of payment statement measure?

Intended Task

The question tested candidates' ability to explain what does a balance of payment statement measure. Candidates performed well.

Question 9

Explain the components of the equation ($= \text{N} 20 + 0.009Y_d$)

Intended Task

The candidates were expected to explain the components of the equation ($= \text{N} 20 + 0.009Y_d$). Candidates performed well.

Question 10

What is an Economic plan?

Intended Task

The question tested the candidates 'ability to define economic plan. Candidates performed well.

Question 11

Given that $C = 50 + 0.8Y_d$; where $Y_d = Y - T$, $I = 100$; $G = 50$; $T = 50$

Find:

- (a) Equilibrium level of National Income.
- (b) Government expenditure multiplier.
- (c) Change in Income (ΔY) resulting from change in government (ΔG) = 25

Intended Task

The candidates were expected to find the Equilibrium level of National Income, Government expenditure multiplier and Change in Income (ΔY) resulting from change in Government (ΔG).

Given that: $C = 50 + 0.8Y_d$ where $Y_d = Y - T$

$$I = 100$$

$$T = 50$$

Candidates performed well.

Question 12

The table given below shows the information about the output of commodity X, as successive workers are added to a fixed amount of land and capital equipment.

Number of workers	Total output (units of X)
10	100
11	121
12	144
13	169
14	189
15	195
16	200

- (a) Determine the level of employment when marginal physical product (MPP) is at the maximum.
- (b) Determine the level of employment when average physical product. (APP) is at the maximum.
- (c) At what level of employment will diminishing returns set in?
- (d) From the information given, how many workers can the firm employ profitably?

Intended Task

The candidates were expected to determine the level of employment when marginal physical product (MPP) is at the maximum and the level of employment of the average physical product. They were asked to state what level of employment when diminishing returns will set in and how many workers the firm can employ profitably from the information given. Candidates performed fairly.

Question 13

The table below shows a summary of the financial transactions of country 'A' with the rest of the world for the year 2015.

Use the information to compute the balance of payments for country 'A' for 2015.

ITEMS	VALUE ₦ m
Exports	1,529
Imports	1,813
Invisible receipts	72
Invisible payment	158
Loans to foreign governments	96
Investment overseas	131
Investment by foreigners in 'A'	146
Addition to short-term balance	97
Aid given abroad	40

Intended Task

The candidates were expected to use the information given in the question to compute the balance of payment for country "A" for 2015. Candidates performed fairly.

Question 14

- (a) What is meant by the "Invisible hand" of the market?
- (b) How effective is it in:
 - (i) A developed Economy?
 - (ii) An underdeveloped Economy?

Intended Task

The question required candidates' ability to explain the invisible hand of the market, state how effective it is in a developed and an underdeveloped economy. Candidates performed well.

Question 15

- (a) What is a Trade Union?
- (b) Discuss four main problems facing Trade Unions in Nigeria?

Intended Task

The question tested candidates' knowledge of trade union and to discuss the main problems facing trade unions in Nigeria. Candidates performed well.

Question 16

Explain five major difficulties involved in trying to measure the general level of prices.

Intended Task

The candidates were expected to explain the major difficulties involved in trying to measure the general level of prices. Candidates performed poorly.

Question 17

Elaborate vividly five main obstacles to economic development of Nigeria?

Intended Task

The question required candidates to elaborate vividly five main obstacles to economic development of Nigeria. Candidates performed fairly.

Question 18

- (a) What is devaluation of currency?
- (b) Discuss the view that currency devaluation is not a suitable remedy for balance of payments problems in Nigeria?

Intended Task

The question examined candidates' ability to define devaluation of currency and to discuss the view that currency devaluation is not a suitable remedy for balance of payments problem in Nigeria. Candidates performed fairly.

Question 19

What is incidence of taxation?
Give details on how it works in:

- (i) Direct Tax
- (ii) Indirect Tax

Intended Task

The question tested candidates' ability to define incidence of taxation, state how it works in direct and indirect tax. Candidates performed fairly.

Question 20

Critically examine five roles of the petroleum industry to the development of Nigeria Economy.

Intended Task

The candidates were expected to critically examine five roles of the petroleum industry to the development of Nigeria Economy. Candidates performed poorly.

Candidates' Strengths

- ✓ Ability to define the term data correctly
- ✓ Good definition of trade union.
- ✓ Ability to identify equilibrium aggregate demand, aggregate supply and substitution of the formular correctly.

Candidates Weaknesses

- Poor grammatical expression
- Poor computational skills
- Poor drawing skills
- Poor presentation of answers.

Suggestions for Improvement

- Economics syllabus should be made available to all the candidates.
- Assignment involving drawing should always be given to candidates.
- Candidates should try to listen to news, read journals, magazine and newspapers.

PHYSICS (004)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

- (a) (i) state Pascal's principle of transmission of pressure
(ii) With the aid of a diagram, describe the working principle of a bicycle pump.
- (b) (i) Explain why water at the bottom of a floating boat cannot be siphoned over its sides.
(ii) What is the average of a force pump over a lift pump?
- (c) A bicycle tyre contains 1200cm^3 of air at 2 atm. A pump of volume 60cm^3 was used to add more air inside the tyre. What is the pressure of the tyre after two strokes of pump?

Intended Task

The candidates were expected to state Pascal's principle of transmission of pressure, draw a diagram to describe the working principle of a bicycle pump. They were also to explain why water at the bottom of a floating boat cannot be siphoned over its sides and what is the average of a force pump over a lift pump. Also what is the pressure of the type after two strokes of pump, if bicycletyre contains 1200cm^3 of air at 2atm when a pump of volume 60cm^3 was used to add more air inside the tyre. Candidates performed well.

Question 2

- (a) Describe a simple experiment to show the dull black surfaces are better absorbers of heat than polish surfaces.
- (b) With the aid of a labelled diagram, describe the operation of the cooling system of a domestic refrigerator.
- (c) A thermos bottle contains 150g of water at 4°C . Into this is placed 90g of mental at 100°C . After equilibrium is obtained, the temperature of the mixture is 21°C . what is the specific heat capacity of the metal. (S.h.c of water = 4.2j/gk).

Intended task

The question tested the candidates' ability to recall a simple experiment to show that dull black surfaces are better absorbers of heat than polish surfaces. They were also expected to draw a well labeled diagram to describe the operation of the cooling system of a domestic refrigerator and to calculate the specific heat capacity of metal of a given equation. Candidates performed fairly.

Question 3

- (a) Explain rectilinear propagation of light
- (b) Explain with the aid of ray diagrams, how image of an object is formed by:
 - (i) A plane mirror
 - (ii) Two mirrors inclined at 90° to each other.
 - (iii) State the characteristic of each of these images.

- (c) State and explain one advantage and one disadvantage of a pinhole.

Intended task

The candidates were expected to explain rectilinear propagation of light, and with the aid of ray diagrams explain how image of an object is formed by (i) a plane mirror (ii) two mirrors inclined at 90° to each other (iii) state the characteristics of each of these images. They were also to state and explain one advantage and one disadvantage of pinhole. Many candidates avoided this question. Candidates performed poorly.

Question 4

- (a) Define the following:
 - (i) Magnetic field
 - (ii) Magnetic line of force.
- (b) Explain the magnetic field pattern of a bar magnet placed in the earth magnetic field with the north pole pointing north.
- (c) Draw a labelled diagram showing the pattern and direction of the magnetic field produced around a current carrying conductor.
- (d) A galvanometer having a resistance of 20Ω gives a full scale deflection (f.s.d) by a current of 5mA . Convert to ammeter of a range $0-5\text{A}$.

Intended task

The candidates were required to explain magnetic field, magnetic line of force, the magnetic field pattern of a bar magnet placed in the earth magnetic field with the north pole pointing north. They were to draw a labelled diagram showing the pattern and direction of the magnetic field produced around a current carrying conductor. Also to convert to ammeter of a range $0-5\text{A}$, when a galvanometer having resistance of 20Ω gives a full scale deflection (f.s.d) by a current of 5mA . Candidates performed fairly.

Question 5

- (a) Explain the following:
 - (i) Nuclear fusion
 - (ii) Nuclear fission
 - (iii) Chain reaction.
- (b) Distinguish between practical and wave as mode of energy transmission.
- (c) An alpha particle $q=2e$, $m = 6.7 \times 10^{-27}\text{kg}$ falls through a potential drop of $3 \times 10^6\text{V}$. what is its
 - (i) Kinetic energy in eV
 - (ii) Speed:
 - (iii) What is the binding energy of ^{12}C ?
($I_u = 931. \text{MeV}$, $i_{ev} = 1.602 \times 10^{-19}\text{J}$)

Intended task

The candidates were expected to explain nuclear fusion, nuclear fission and chain reaction. They were also required to distinguish between practical and wave as mode of energy transmission as well as calculate the kinetic energy in eV, speed and what is the binding energy of ^{12}C ($I_u = 931. \text{MeV}$, $i_{ev} =$

$1.602 \times 10^{-19} \text{J}$). When an Alpha particle $q=2e$, $m = 6.7 \times 10^{-27} \text{kg}$ falls through a potential drop of $3 \times 10^6 \text{V}$. Candidate's performed fairly.

Candidates' Strength

- ✓ Good grammatical expression.

Candidates' Weaknesses

- Poor computational skills
- Poor drawing skills.

Suggestions for Improvement

- Students should be encouraged to buy and study relevant text books.
- Students should be encouraged to improve on their computational skills.
- Assignment involving drawings should always be given to students.

CHEMISTRY (005)

General comments on the Papers

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on each Question

Question 1

- (a) (i) What do you understand by the aufbau's principle?
(ii) List the conditions that cause two atoms to form
- An ionic bond
 - A covalent bond
 - A dative bond
- (b) (i) state the periodic law
(ii) The letters J to O represent the symbols of elements whose atomic numbers are indicated after each letter. J₃ K₁₀ L₁₃ M₁₄ N₁₇ O₁₉
Using the letters J to O which of the elements
- Do/does not form common compounds
 - Liberate(s) hydrogen from cold water
 - Is/are halogen
 - Are in the same group
 - Form(s) an ion by loss of three electrons
- (c) State the shape of the following molecules
- (i) Water
 - (ii) Ammonia
 - (iii) Methane
 - (iv) Sulphur(IV)oxide.

Intended task

The question tested the candidates' knowledge of aufbau's principle, and their ability to list the conditions that cause two atoms to form an ionic bond, a covalent bond and a dative bond. They were also expected to state the periodic law, explain J to O which elements do/does not form common compounds, liberate(s) hydrogen from cold water, is/are halogen, are in the same group, form(s) an ion by loss of three electrons. The candidates were also expected to state the shape of the following molecules, water, ammonia, methane, sulphur and oxide. Many of the candidates attempted the question and were not able to use the appropriate terms/words where necessary in each question. Candidates performed fairly.

Question 2

- (a) (i) State the law of constant composition.
(ii) The results obtained for two different samples C and D for a metal oxide after reduction by hydrogen are given in the table below.

	Mass of sample	Mass of metal residue
Sample C	5.00g	4.06g
Sample D	6.60g	5.35g

Table 1

Show that the figure in table 1 agree with the law of constant composition

- (b) (i) what is an amphoteric oxide?
 (i) Give example of an amphoteric oxide and write two equations to show its amphoteric.
 (ii) Name two other types of oxide and give an example of each.
- (i) What is an ideal gas?
 (ii) Give two conditions under which gas deviate from ideal behavior.

What process is involve when a

- (iii) Gas forms a liquid
 (iv) Liquid forms gas
 (v) Gas forms a solid.

Intended task

The candidates were expected to state the law of constant composition, show their figure in table provided agree with the law of constant composition, explain the meaning of amphoteric oxide. The candidates were also expected to give an example of an amphoteric oxide and write two equations to show its amphoteric nature. They were also required to name two other types of oxide and give an example of each, the question also tested the candidates' ability to recall the meaning of ideal gas. They were to mention two conditions under which gas deviate from ideal behaviour and state the process involved when a gas forms a liquid, and when liquid forms gas as well as gas forms a solid. Candidates performed well.

Question 3

- (a) (i) Define allotropy
 (ii) Give three differences between diamond and graphite.
 (ii) Give two use of each of diamond and graphite.
- (b) (i) what is an electrolytic cell?
 (ii) in an experiment, 289, 500C of electricity is passed through a solution of copper(II) calculate:
 (i) The number of moles of copper liberated
 (Cu = 63.5, 1F = 96, 500C)
- (c) (i) What is reducing agent?
 (ii) State a chemical test for a reducing agent
 (iii) List two chemical industries and their location in Nigeria.

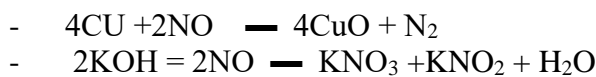
Intended task

The question tested candidates' ability to define allotropy, give three differences between diamond and graphite. They were expected to give two use each of the diamond and graphite, state the meaning of an electrolytic cell in a given experiment and calculate the numbers of moles of copper liberated using [Cu =

63.5, 1F =96, 500C]. They were also expected to state the chemical test for a reducing agent as well as two chemical industries and their location in Nigeria. Candidates performed well.

Question 4

- (a) Define the terms:
- (i) A saturated solution.
 - (ii) Dilute solution
 - (iii) A supersaturated solution
- (b) State the function of the following in the purification of water
- (i) Iodine
 - (ii) Chlorine
 - (iii) Alum
- (c) (i) Give three chemical properties of nitrogen (iv) oxide NO_2
(ii) What property is exhibited by NO_2 in the following reactions?
Give reasons for your answers



- (d) (i) State the name and write the formula of acid in which sulphur exhibits an oxidation state of +3
(ii) Write an equation to show H_2SO_4 acting as
- (i) An oxidizing agent
 - (ii) A dehydrating agent.

Intended task

The candidates were expected to define saturated solution, dilute solution and a supersaturated solution. They were also expected to mention functions of iodine, chlorine and alum in the purification of water. The candidates were to mention three chemical properties of nitrogen (iv) oxide NO_2 . Candidates were also required to state the name and write the formula of acid in which sulphur exhibits an oxidation state of +3. They were also asked to write an equation to show H_2SO_4 acting as an oxidizing agent and a dehydrating agent. Candidates performed well.

Question 5

- (a) (i) What is the fractionating tower?
(ii) Name three gaseous fractions of fractional distillation of crude oil.
(iii) Draw the structure of the simplest branched alkyne and give its name.
- (b) (i) Write a two-step equation for the preparation of ethanol from ethane.
(ii) Explain why the boiling of ethanol is higher than expected.
(iii) Explain why wine turn sour when exposed to air for a long time
(iv) State two use of ethanoic acid.
- (c) (i) Differentiate between fats and oil.
- (d) Briefly explain how oils are converted to margarine

Intended task

The question tested the candidates' ability to explain fractionating tower and to name three gaseous fractions of fractional distillation of crude oil. The candidates were also expected to draw the structure of the simplest branched alkyne and give its name. They were also to write a two-step equation for the preparation of ethanol from ethane and to explain why the boiling of ethanol is higher than expected. The question also tested the candidates' ability to explain why wine turn sour when exposed to air for a long time and to State two use of ethanoic acid as well as differentiate between fats and oil and to briefly explain how oils are converted to margarine. Candidates performed well.

Candidates' strengths

- ✓ Good presentation of answers
- ✓ Good computational skills
- ✓ Good expression in English language.

Candidates' weaknesses

- Poor knowledge of practical work.
- Poor knowledge of balancing of equation in the questions
- Poor drawing skills.
- Poor mathematical skills.

Suggestions for Improvement

- Qualified teachers should be employed to teach chemistry in schools.
- Candidates should cultivate the habit of reading chemistry textbooks to improve in their calculations.
- More mathematical works should be encouraged to improve their computational skills.
- Syllabus should be made available for teachers and candidates.
- Assignment involving drawings should be given to candidates.

BIOLOGY ESSAY (006-1)

General Comments on the Paper

The paper covered the syllabus and the candidates' performance was generally good.

Detailed Comment on Each Question

Question 1

- (a) (i) State four forms in which living cells exist giving one example of each form
- (ii) State two advantages and two disadvantages a multicellular organism has over a unicellular organism
- (b) (i) Is a virus a living or non-living thing? Give two reasons in each case to support your answer
- (ii) Draw and label (8-10) cm long of an euglena

Intended Task

Candidates were expected to state four forms in which living cells exist with example of each and to state two advantages as well as two disadvantages a multicellular organism has over a unicellular organism. They were also expected to give two reasons in each case to support their views on whether a virus is a living or non-living thing and further to draw a label (8-10cm) long of an euglena. Candidates performed fairly.

Question 2

- (a) (i) List five conditions necessary for photosynthesis
- (ii) Describe an experiment to show that light is necessary for photosynthesis.
- (b) State four micro and macro nutrients necessary for plant growth.

Intended Task

The candidates were expected to list five conditions necessary for photosynthesis, describe an experiment to show that light is necessary for photosynthesis and state four micro and macro nutrients necessary for plant growth. Candidates performed well.

Question 3

- (a) (i) What is balanced diet?
- (ii) State three importance of balanced diet to man.
- (b) Describe how to test for fat in groundnut seed
- (c) (i) State six pests of crops
- (ii) Name three diseases of plant caused by bacteria and virus

Intended Task

The question required the candidates' ability to define balanced diet and state three importance of balanced diet to man. They were also to describe how to test for fat in groundnut seed, and state six pests

of crops as well as three diseases of plant caused by bacteria and virus. Many candidates could not describe how to test for fat in groundnut seed. Candidates performed fairly.

Question 4

- (a) Make a large labelled diagram of (10-12) cm long of the dorsal view of a mammalian brain
- (b) Briefly describe the mechanism of transmission of impulses by neurons

Intended Task

The question tasked candidates' ability to make a large labeled diagram of (10-12cm) long of the dorsal view of a mammalian brain and briefly describe the mechanism of transmission of impulses by neurons. Many candidates avoided the question as they could not describe the transmission of impulses by neurons. Candidates performed poorly.

Question 5

- (a) Explain the need for efficient blood transport system in complex multicellular organism
- (b) Make a large labelled diagram of (12-15) cm long of the outline of the blood circulatory system in a dog.

Intended Task

The candidates were expected to explain the need for efficient blood transport system in complex multicellular organism and make a large labeled diagram of (12-15cm) long of the outline of the blood circulatory system in a dog. Many candidates omitted the arrow in the diagram of double blood circulatory system. Also candidates could not describe correctly the need for efficient transport system in a complex multicellular organism. Candidates performed poorly.

Question 6

- (a) In a monohybrid cross between a pure line plant that produces white flower and a pure line that produces red flowers, the F₁ generation produces only red flowers. By means of diagrams, state the type of flowers you would expect if the F₁ generation is
 - (i) self-pollinated
 - (ii) cross pollinated with a pure line that produce red flowers

Give reasons for your answer in (i) and (ii)

- (b) List and give one function each of any three ecological instruments

Intended Task

Candidates were requested to state by means of diagram the type of flowers expected if the F₁ generation is self-pollinated, cross pollinated with pure line that produce red flowers in a monohybrid cross between a pure line plant that produces white flower and a pure line that produces red flowers if the F₁ generation produces only red flowers. They were further asked to give reasons for answers provided in (i) and (ii), list

and give one function each of any three ecological instruments. Many candidates could not interpret the genetic cross between a pure line white flower and a pure line red flower. Candidates performed poorly.

Candidates' Strength

- ✓ Good presentation of answers.

Candidates' weaknesses

- Poor drawing skills, labeling and wrong titles.
- Poor grammatical expression and wrong spelling.
- Poor handwriting.

Suggestions for improvement

- Candidates should acquire and study all the recommended textbooks.
- Candidates / teachers should endeavour to cover the syllabus.
- Candidates should be given better exposure to practicals and excursions
- Candidates should devote enough time to practicing drawing of relevant diagrams.
- Experienced teachers should handle examination classes.
- Seminars, workshops and conferences should be organized for teachers handling examination classes.

LITERATURE-IN-ENGLISH (007-1)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

AMMA DARKO: Faceless

Question 1

Examine the parents' loss of moral authority and its significance to the plot of Darko's Faceless.

Intended Task

The candidates were required to examine the parent's loss of moral authority and its significance to the plot of Darko's faceless. Candidates performed fairly.

Question 2

Critically examine Darko's presentation of the gloomy social reality of street children in Faceless.

BAYO ADEBOWALE: Lonely Days

Intended Task

Candidates were expected to critically examine Darko's presentation of the gloomy social reality of street children in faceless. Candidates performed fairly.

Question 3

"A widow's life is that of self-sacrifice". Comment on this statement with reference to Yaremi and the three widows.

Intended Task

The candidates were required to comment on the statement "A widow's life is that of self-sacrifice" with reference to Yaremi and the three widows. Candidates performed well.

Question 4

Discuss the role of Waye in Yaremi's household.

Intended Task

The candidates were expected to discuss the role of Waye in Yaremi's household. Candidates performed well.

HORACE WALPOLE: The Castle of Otranto

Question 5

Discuss the theme of the influence of the supernatural over humans.

Intended Task

The question required candidates to discuss the theme of the influence of the supernatural over humans. Candidates performed poorly.

Question 6

Write in details on any three of the following characters:

- (i) Manfred
- (ii) Hippolits
- (iii) Matilda
- (iv) Isabella

Intended Task

The candidates were expected to write in details on any three of the following characters; Manfred, Hippolits, Matilda and Isabella. Candidates performed fairly.

Question 7

RICHARD WRIGHT: Native Son

Give a detailed account of events leading to the death of Bessie in Wright's Native Son.

Intended Task

The question tested candidates' ability to give a detailed account of the events that led to the death of Bessie in Wright's Native Son. Candidates performed poorly.

Question 8

Examine the influence of racism on Bigger Thomas' conduct in Wright's Native Son.

Intended Task

The candidates were expected to examine the influence of racism on Bigger Thomas' conduct in Wright's Native Son. Candidates performed poorly.

Candidates' Strengths

- ✓ Candidates answered question on the role of Way in Yaremi's household correctly.
- ✓ Candidates answered question on a Widows' life is that of self-sacrifice correctly.

Candidates' weaknesses

- Candidates lack good mastery of the major points in each of the prescribed texts.
- Poor language usage.

Suggestions for Improvement

- Qualified teachers should be employed to handle each subject.
- Candidates should be encouraged to buy prescribed textbook.

LITERATURE-IN-ENGLISH (007-2)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

DELE-CHARLEY: *The Blood of a stranger*

Question 1

1. Write short notes on any three of the following characters:

- (i) Maligu
- (ii) Soko
- (iii) Kindo
- (iv) Mr Whitehead

Intended Task

The candidates were expected to write short notes on any of the following characters in Dele- charley: **The Blood of a Stranger**. Maligu, Soko, Kindo and Mr Whitehead. Candidates performed fairly.

Question 2

“justice always wins out against oppression” Justify this assertion in line with Dele-Charley’s **The Blood of a Stranger**

Intended Task

The candidates were expected to affirm the saying that justice always wins out against oppression, in line with Dele-Charley’s **The Blood of a Stranger**. Candidates performed fairly.

FRANK OGODO OGBECHE: *Harvest of Corruption*

Question 3

“Dreams are not realities”. Justify this statement with reference to Aloho’s dream.

Intended Task

The question tested the candidates’ ability to affirm the saying that Dreams are not realities with reference to Aloho’s dream. Candidates performed fairly.

Question 4

Give a vivid account of how Ohuole wooed Aholo for chief Haladu in Ogbecche’s **Harvest of Corruption**

Intended Task

The candidates were expected to give a vivid account of how Ohuole wooed Aholo for chief Haladu in Ogeechee's **Harvest of Corruption**. Candidates performed fairly.

LORRAINE HANSBERRY: A Raisin in The Sun

Question 5

Examine the significance of Assegai's visit to the Younger Household

Intended Task

The question required candidates to examine the significance of Assegai's visit to the Younger household. Candidates performed fairly.

Question 6

Examine the theme of racism as portrayed in Hansberry's **A Raisin in The Sun**

Intended Task

The candidates were expected to examine the theme of racism as portrayed in Hansberry's **A Raisin in The Sun**. candidates performed fairly.

OLIVER GOLDSMITH: She Stoops To Conquer

Question 7

How and why does Kate "stoop to conquer"?

Intended Task

The question required candidates to state how and why does Kate stoop to conquer. Candidates performed fairly.

Question 8

"Stoop to conquer" is a comedy of manners. Discuss.

Intended Task

The question tested candidates' ability to prove that the novel is a comedy. Candidates performed fairly.

Question 9

Identify a theme in Awoonor's "The Anvil and The Hammer" and comment on it.

Intended Task

The candidates were expected to identify a theme in Awoonor's "The Anvil and Hammer" and then make comment on it. Candidates performed fairly.

Question 10

With close reference to the poem, "The dining Table", examine Hollowell's use of symbolism.

Intended Task

The candidates were expected to examine Hollowell's use of symbolism with close reference to the poem "The dining Table". Candidates performed well.

Question 11

Discuss "The proud King" as a narrative poem highlighting the poet's use of poetic devices.

Intended Task

The candidates were required to discuss the proud king as a narrative poem, highlighting the poet's use of poetic devices. Candidates performed well.

Question 12

Comment on the theme of beauty in Shakespeare's "shall I compare thee to a Summer Day"

Intended Task

The candidates were required to comment on the statement "shall I compare thee to a Summer's Day" with reference to the theme of beauty in Shakespeare's. Candidates performed fairly.

Candidates' Strengths

- ✓ Candidates answered question on the Dining Table correctly.
- ✓ Candidates answered questions on the proud King correctly.

Candidates' Weaknesses

- Misinterpretation of questions.
- Lack of sequence.
- Over reliance on key points.

Suggestions for Improvement

- Candidates should make effort to read all the novels and poems recommended.
- Good analysis and the interpretation of the stories should be taught.
- Candidates should be educated on the dangers on relying on key points.

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally good.

Detailed Comment on Each Question

Question 1

- (a) What is computer virus?
- (b) What is the difference between LAN and WAN
- (c) Mention five computers hardware examples.

Intended Task

The candidates were expected to explain a computer virus and state the difference between LAN and WAN. They were also expected to mention five computers hardware examples. Candidates omitted the fact that computer virus is a program written with the intention of harming the system. Candidates performed poorly.

Question 2

- (a) i. what is your email address?
ii. State how to retrieve messages from the inbox
- (b) mention three features of an e-mail address
- (c) Define the following acronyms
 - i. TCP/IP
 - ii. ATM
 - iii. FTP
 - iv. TIL
 - v. URL

Intended Task

The candidates were expected to write out their e-mail address is and state how to retrieve message from the box. They were also required to mention three features of an e-mail address and define the following acronyms: TCO/IP, ATM, FTP, TTL, and URL. Candidates performed fairly.

Question 3

- (a) State two methods of formatting a text within a document on Ms-word.
- (b) Identify four features of a work book in Ms- Excel
- (c) Write short note on the following features found in a worksheet environment.
 - i. Cell
 - ii. Standard tool bart
 - iii. Formula bar

Intended Task

The candidates were required to state two methods of formatting a text within a document on Ms-word, identify four features of a work book in Ms- Excel and write short note on the following features found in a worksheet environment: cell, standard tool bar and formula bar. Candidates performed well in question 3c but were deficient in getting two method of formatting in ms-word. Candidates were also deficient in question 3b because they mixed up the point. Candidates performed fairly.

Question 4

- (a) What is word processor?
- (b) Mention four types of chart in Ms-excel
- (c) State two mode of sorting data in Ms-excel
- (d) State two ways of finding average of five figures in MS-excel.

Intended Task

Candidates were required to explain word processor and mention four types of chart in Ms-excel. They were also expected to state two mode of sorting data in Ms-excel and to state two ways of finding average of five figure in MS-excel. Candidate performed well in question 4c and 4d. Some candidates failed the question while some mixed up the point and place the formula wrongly many candidates responded well to the question n. Candidate performed fairly.

Question 5

- (a) State two roles of data base administrator
- (b) Mention three function of a DBMS
- (c) Describe two techniques of securing a data base from computer hackers.

Intended Task

Candidates were requested to state two roles of data base administrator and mention three function of a DBMS. They were also expected to describe two techniques of securing a data base from computer hackers. Candidates performed better in this question compared with other questions. Candidates performed well.

Question 6

- (a) How do you load line type in an AutoCAD environment?
- (b) Write out the function of the following keys in an AutoCAD environment
 - i. F2
 - ii. F8
 - iii. F3
 - iv. F9

Intended Task

Candidates were required to explain how to load line type in an AutoCAD environment and write out the function of the following keys in an AutoCAD environment.F2, F8, F3, F9. Question 6a was a big

challenge to many candidates. They failed the step of loading line type. However, candidates were able to perform better on question 6b as a good number of them got the answer correct. Candidates performed well.

Question 7

- (a) Mention four advantage of AutoCAD drawing over manual drawing
- (b) Give the step of modifying an object in AutoCAD using the following commands:
 - i. Offset
 - ii. Move
 - iii. Erase
 - iv. Mirror

Intended Task

Candidates were required to mention four advantage of AutoCAD drawing over manual drawing and give the step of modifying an object in AutoCAD using the following commands: offset, move, erase, and mirror. Candidates have problem in an answering question 7a and 7b. They mixed up the points while trying to state the steps. Candidates performed poorly.

Candidate's Strengths

- ✓ Candidates have good grammatical expression
- ✓ Candidates answered Ms-excel question correctly.

Candidate's Weaknesses

- Candidates could not explain what computer virus is.
- Candidates did not know the acronyms, ATM, TTL.
- Candidates could not answer question on AutoCAD

Suggestions for improvement

- Candidates should be introducing to modern internet terminology.
- There should be more intensive teaching on AutoCAD
- NABTEB syllabus should be reviewed to accommodate topics on modern application, soft work and other ICT areas.

CIVIC EDUCATION (009)

General Comments the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed comments on each question

Question 1

- (a) Explain the term "Nationalism".
- (b) Describe six Nationalistic roles of individuals and groups.

Intended Task

The candidates were expected to explain the term "Nationalism" and describe six Nationalistic roles of individuals and groups. Candidates answered the (b) part of the question out of context; many listed the nationalist leaders instead of their roles. Candidates performed poorly.

Question 2

- (a) Who is a citizen?
- (b) Explain four types of citizenship.
- (c) State five goals of citizenship education.

Intended Task

The question tested candidates' knowledge of the term citizen. They were also required to explain four types of citizenship and state five goals of citizenship education. Many candidates confused citizenship by birth with citizenship by descent; citizenship by registration was also confused with that of naturalization. Candidates performed fairly.

Question 3

- (a) Enumerate five types of drugs that can be abused.
- (b) Highlight five ways drugs can be abused.

Intended Task

The candidates were expected to enumerate five types of drugs that can be abused and highlight five ways drugs can be abused. Candidates performed well.

Question 4

- (a) Mention six symptoms of drug abuse.
- (b) Describe six ways drug abuse can be control in the society.

Intended Task

The candidates were expected to mention six symptoms of drug abuse and describe six ways drug abuse can be control in the society. Candidates confused symptoms of drug abuse with the ways of controlling drug abuse. Candidates performed fairly.

Question 5

Write short notes on the following:

- (i) Administrative class
- (ii) Executive class.
- (iii) Professional class
- (iv) Clerical class
- (v) Auxiliary class

Intended Task

The candidates were expected to write short notes on administrative class, executive class, professional class, clerical class and auxiliary class. Candidates performed well.

Question 6

- (a) Define constitutional democracy.
- (b) Outline six importance of constitutional democracy.

Intended Task

Candidates were expected to define constitutional democracy and outline six importance of constitutional democracy. Candidates performed fairly.

Candidates' strengths

- ✓ Good presentation of answers
- ✓ Fair grammatical expression

Candidates' weaknesses

- Poor handwriting
- Inability to express themselves correctly.

Suggestions for improvement

- Emphasis should be laid on English Language mostly in the area of grammar and spelling.
- Teachers should teach their students on how to answer questions and how marks are awarded in civic education paper.
- Workshops should be organized for civic education teachers and other stakeholders on how best to handle the subject and its special roles to the society.

AGRICULTURAL SCIENCE (195)

General Comments on the Paper

The question covered all areas of the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) List eight contributions of science and technology to the development of agriculture in West Africa
- (b) State six effects of communal and tenure system on agriculture.
- (c) Suggest two ways of improving upon the communal land tenure system

Intended Task

Candidates were expected to list eight contributions of science and technology to the development of agriculture in West Africa and to state six effects of communal land tenure system on agriculture and suggest two ways of improving upon the communal land tenure system. Many candidates wrote about importance of agriculture instead of contribution of science and technical to agriculture. Candidates performed poorly.

Question 2

- (a) State one major function of each of the following parts of the tractor
 - i. Power-take-off shaft
 - ii. draw bar
 - iii. three point linkage
 - iv. hydraulic system
 - v. check chains
 - vi. wheels
- (b) State six maintenance practices to be carried out on a tractor to ensure maximum efficiency.
- (c) Give six uses of tractor

Intended Task

The candidates were expected to state one major function of each of the following parts of the tractor (i) power-take-off shaft (ii) draw bar (iii) three point linkage (iv) hydraulic system (v) check chains (vi) wheels. Candidates were also to state six maintenance practice to be carried out on a tractor to ensure maximum efficiency and give six uses of tractor. Candidates performed fairly.

Question 3

- (a) Discuss four effects of each of the following climatic factors on agricultural production
 - i. Sunlight
 - ii. Precipitation
 - iii. Relative humidity
 - iv. Temperature

- (b) What is weathering?

Intended Task

Candidates were expected to discuss four effects of each of the following climatic factors on agricultural production (i) sunlight (ii) precipitation (iii) relative humidity (iv) temperature and what is weathering? Candidates gave elaborate explanation on the effects of climate factors on agricultural production. Candidates performed well.

Question 4

- (a) Define liming
- (b) List six advantages of using lime in agriculture
- (c) Describe the nature of damage caused by each of the following insects-pests on crops:
 - i. Bean beetle
 - ii. Grasshopper
 - iii. Yam beetle
- (d) State two effects of the damage caused by each of the insect- pests in 4c.

Intended Task

The question required candidates' knowledge of liming and six advantages of using lime in agriculture. They were requested to describe the nature of damage caused by each of the following insect-pests on crops. (i) bean beetle (ii) grasshopper (iii) yam beetle and two effects of the damage caused by each of the insect-pests. Candidates performed well.

Question 5

- (a) In a tabular form, distinguish between the following terms as used in animal nutrition.
 - i. Roughages and concentrates
 - ii. Basal feed and supplements
- (b) With the aid of a labeled diagram, describe the process of egg formation in poultry

Intended Task

The candidates were required to distinguish between the following terms as used in animal nutrition in a tabular form (i) roughages and concentrate (ii) Basal feed and supplements. They were also asked to describe with the aid of a labeled diagram, the process of egg formation in poultry. Many candidates could not differentiate between roughages and concentrates. Those who attempted the question performed poorly.

Question 6

(a) List five sources of agricultural loans

(b) The following is an extract from Omare Farm limited for the year ending December 2014

	N	K	N	K
i. Cost of used generating set			153,750	:00
ii. Cost of broiler birds			30,250	:00
iii. Sales of egg			50,000	:00
iv. Cost of layer birds	15,000	: 00		
v. Sales of broiler birds			55,000	:00
vi. Sales of old layer			24,400	:00
vii. Purchase of yam seeds	533,970	: 00		
viii. Cost of carriage on purchased yam seeds			11,220	:00
ix. Eggs consumed	10,000	: 00		
x. Broiler birds consumed			5,400	:00
xi. Layers consumed			4,800	:00
xii. Depreciation on buildings			15,000	:00
xiii. Depreciation on machinery			5,100	:00
xiv. Depreciation on economic trees			575	:00
xv. Sales yam			28,960	:00
xvi. Sales of 120 bags of maize	546,000	: 00		
xvii. Cost of used battery			5,000	:00
xviii. Appreciation on livestock			1,500	:00

Prepare a profit and loss account for the farm.

Intended Task

Candidates were expected to list five sources of agricultural loans and prepare a profit and loss acct for Omare Farm limited for the year ending December 2014. Many candidates were able to list the sources of agric loan while few were unable to prepare the profit and loss account for the farm. Candidates performed fairly.

Question 7

(a) What is agricultural insurance?

(b) List six equipment used in bee-keeping.

(c) Explain the following terms:

- i. Ovulation
- ii. Oestrus cycle
- iii. Gestation period
- iv. Parturition

Intended Task

The question tested candidates' knowledge of agricultural insurance. Candidates were also expected to list six equipment used in bee-keeping and to explain the following terms: (i) ovulation (ii) oestrus cycle (iii)

gestation period (iv) parturition. Many candidates were not able to give explanation on agricultural insurance/equipment used in bee-keeping hence, their performance was poor.

Candidates' strength

- Candidates performed well in questions number 3 and 4.

Candidates' Weaknesses

- ✓ Some students give wrong answers for the contribution of science and technology in agricultural development. They outline that of the importance of agriculture to Nigeria economy.
- ✓ Many students couldn't give the function of the draw bar in a tractor.
- ✓ Most definition given on weathering by students did not mention the agents of weathering like water, ice, wind and temperature so this did not make them score their full marks allotted.
- ✓ Most students couldn't explain the primary reasons for liming i.e to reduce acidity of the soil.
- ✓ Most students did not give descriptive analysis of egg formation process in poultry.
- ✓ Very few students were not able to determine the profit and loss.
- ✓ Many students were not able to give an explanation on agricultural insurance.

Suggestions for Improvement

- Students should read and understand what is required of them before embarking on the choice of any question.
- Diagram should be well labelled and followed by detailed explanation as required.
- If a student is required to prepare a table they should rule a line to indicate the centre of the page.
- Great care should be taken in posting of information on profit and loss account.

GEOGRAPHY (196)

General Comments on the Paper

The paper covered the syllabus and the candidates' performance was generally good.

Detailed Comment on Each Question

Question 1

- (a) What is transportation?
- (b) Identify five roles of transportation in the development of a country.
- (c) Outline four problems of air transportation.

Intended Task

Candidates were expected to define transportation, identify five roles of transportation in the development of a country and outline four problems of air transportation. Many candidates were able to define transportation correctly mentioning the modes of transportation. Candidates performed well.

Question 2

- (a) Define migration.
- (b) i. Describe briefly the four types of migration.
ii. Explain briefly, the four types of migration mentioned in b(i)
- (c) State two reasons why people migrate.

Intended Task

The candidates were expected to define migration, describe briefly four types of migration and explain four types of migration mentioned in b(i) as well as state two reasons why people migrate. Candidates performed fairly.

Question 3

- (a) What is manufacturing industry?
- (b) With specific examples, outline five factors affecting the location of industry.
- (c) Identify three basic differences between light and heavy industries.

Intended Task

Candidates were required to define manufacturing industry, with specific examples and outline five factors affecting the location of industry. They were equally requested to identify three basic differences between light and heavy industries. Many candidates could not give specific examples on factors affecting location of industries. Candidates performed fairly.

Question 4

- (a) Highlight three physical and three human factors favourable to rapid population growth in Nigeria.
- (b) State four problems of rapid population growth in Nigeria.
- (c) Suggest three possible ways of solving the rapid population growth mentioned in 4(b).

Intended Task

The candidates were expected to highlight three physical and three human factors favourable to rapid population in Nigeria. They were also expected to state four problems of rapid population growth in Nigeria and to suggest three possible ways of solving the rapid population growth. Many candidates mentioned all human factors favourable to rapid population growth in Nigeria. Candidates performed well.

Question 5

- (a) Draw an outline map of Nigeria, locate and name any one area where each of the following mineral is found:
 - (i) Crude oil
 - (ii) Tin ore
 - (iii) Coal
 - (iv) Limestone
- (b) Mark and name one town in each of the mining area in 5(a).
- (c) Outline six importance of minerals to the economy of Nigeria.

Intended Task

Candidates were expected to draw an outline map of Nigeria, locate the name of any one area these mineral; crude oil, tin ore, coal, and limestone is found. They were also expected to mark, name one town in each of the mining area in 5(a) and to outline six importance of minerals to the economy of Nigeria. Many candidates were able to show correctly areas where these minerals are found. Candidates performed well.

Question 6

- (a) On a sketch map of Nigeria, show and name two forest and two savanah vegetation.
- (b) Outline three major characteristics of any one of the vegetation type shown on your map.
- (c) State five economic activities within the vegetation zone in 6(b).

Intended Task

The question tested candidates' ability to sketch a map of Nigeria, to show and name two forest, two savannah vegetation and outline three major characteristics of any one of the vegetation as shown on the map. They were further requested to state five economic activities within the vegetation zone in 6(b). many candidates could not mention the name of the vegetation, they were describing the characteristics. Candidates performed poorly.

Candidates' Strengths

- ✓ Good grammatical expression.
- ✓ Good presentation of answers.

Candidates' Weaknesses

- Poor drawing skill and locational problems regarding sources of mineral resources in Nigeria.
- Inability to discuss or explain answers.
- Inability to insert features in map correctly.
- Candidates could not bring out specific examples
- Inability to carryout comparison.
- Candidates used phrases instead of sentences.

Suggestions for Improvement

- Geography teachers should be encouraged to attend workshops and adapt to new methodology in teaching.
- Teachers should lay emphasis on map drawing and location of features in map.
- Candidates should be taught on the techniques of comparing items.
- Candidates should be encouraged to read widely.
- Marking scheme should march the question(s) set.
- Teachers /candidates should allocate time for map drawings and revision of past examination questions.
- Teachers/ Candidates should endeavour to cover syllabus.
- Teachers should be provided with teaching aids in schools.

CHRISTIAN RELIGIOUS STUDIES (197)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) Explain briefly how Debora was chosen as a leader in Israel.
- (b) Identify three leadership qualities in Debora.
- (c) Describe how Debora used these qualities in 1 (b) to bring victory to Israel.

Intended task

The question tested candidates' ability to explain how Debora was chosen as a leader in Israel and also identify three leadership qualities in her. They are to describe how Debora used these qualities in 1(b) to bring victory to Israel. Candidates responded well.

Question 2

- (a) Give two circumstances that led to the rejection of King Saul in Israel.
- (b) Mention three lessons that can be learnt from this rejection.

Intended task

The question tested candidates' ability to recall two circumstances that led to the rejection of King Saul in Israel and to mention three lessons that can be learnt from this rejection. Candidates performed well.

Question 3

- (a) What is love
- (b) List three types of love you have studied
- (c) Explain three qualities of love

Intended task

The question tested candidates' ability to recall what love is and list three types of love they know as well as explain three qualities of love. Candidates performed well.

Question 4

- (a) (i) Define the terms "family".
- (ii) State two types of family.
- (b) Outline five rights and duties of family members.

Intended task

Candidates were expected to define the term family and state two types of family. They were also to outline five rights and duties of family members. Candidates performed well.

Question 5

- (a) Relate the second and the third temptations of Jesus, according to Matthew's account.
- (b) What three significant lessons can Christians learn from Jesus' reaction?

Intended task

The question tested candidates' ability to recall the second and the third temptations of Jesus according to Matthew's account as well as to state three significant lessons Christians can learn from Jesus' reaction. Candidates performed fairly.

Question 6

- (a) Describe the appearance of the risen Christ to the two men on their way to Emmaus.
- (b) What three benefits do Christians derive from the resurrection of Jesus Christ?

Intended task

The question tested candidates' knowledge of the appearance of the risen Christ to the two men on their way to Emmaus and also to mention three benefits Christians derive from the resurrection of Jesus Christ. Candidates performed well.

Candidates' strengths

- ✓ Good grammatical expression
- ✓ Good presentation of answer

Candidates' weaknesses

- Poor computational skills
- Misinterpretation of question (s)

Suggestions for improvement

- Teachers should cover the syllabus
- Students should be encouraged to buy and study relevant books.

ISLAMIC STUDIES (198)

General Comments on the paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) Write the Arabic text of suratulAsr.
- (b) Translate it into English language.
- (c) State three lessons contained in it.

Intended task

Candidates were expected to write the arabic text of suratulAsr and translate it into English language. They were also required to state three lessons contained in it. Candidates performed well.

Question 2

- (a) Define Tafsir
- (b) State the importance of Tafsir

Intended task

The candidates were expected to define Tafsir and state the importance of Tafsir. Candidates performed well.

Question 3

Ad-dinun-nasihah

- (a) Complete the hadith in either Arabic or transliteration.
- (b) State the teachings.

Intended task

The question tested the candidates' knowledge on Ad-dinun-nasihah and to complete the hadith in either Arabic or transliteration and also to state the teachings. Candidates performed fairly.

Question 4

- (a) What is hadith?
- (b) Explain three categories of hadith.

Intended task

The candidates were expected to explain the meaning of hadith and mention the three categories of hadith. Many candidates attempted the question but failed to answer correctly. Candidates performed fairly.

Question 5

- (a) What is fasting?
- (b) List five persons exempted from fasting
- (c) Name two persons that are permanently exempted from fasting.

Intended task

The question tested candidates' ability to explain the meaning of fasting, they were also required to list five persons exempted from fasting as well as name two persons that are permanently exempted from fasting. Candidates performed well.

Question 6

- (a) Name five angels and state their functions.
- (b) State five differences between Angels and human beings.

Intended task

The candidates were expected to name five angels and state their functions. They were also required to state five differences between Angels and human beings. Candidates performed well.

Candidates' Strengths

- ✓ Many candidates performed well in some of the questions.
- ✓ Candidates did well in the translations.

Candidates' weaknesses

- Inability to write Arabic text or the Qu'ran and Hadith.
- The candidates were weak in answering question 2
- The Arabic language was not eligible.
- Spellings errors.

Suggestions for improvement

- Emphasis should be laid on Arabic language teaching.
- Government should employ professional Arabic teachers specifically on Arabic text.
- Teachers should endeavour to cover the syllabus before examination.
- Candidates should read text books that are relevant to the subject during examinations.
- Islamic terminologies should be imparted on learners by teachers of Islamic studies.

SECTION TWO

BUSINESS TRADES

OFFICE PRACTICE (413)

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally fair.

Detailed Comment on Each Question

Question 1

- (a) What is the Manual Procedure (MOP)
- (b) State three purposes and three content of MOP

Intended Task

The candidates were expected to explain Manual Procedure (MOP), three purposes and three content of MOP. Candidates performed poorly.

Question 2

- (a) List seven sources of recruitment of office staff.
- (b) Enumerate five ways the personnel department will adopt to maintain an effective labour force in the office.
- (c) State three effects of labour turnover.

Intended Task

Candidates were expected to list seven sources of recruitment of office staff, enumerate five ways the personnel department will adopt to maintain an effective labour force in the office and state three effects of labour turnover. Candidates performed poorly.

Question 3

List five department of a business organization and state two function each.

Intended Task

The question tested candidates' ability to list five department of a business organization and state two function each. Candidates performed well.

Question 4

- (a) Define registry
- (b) Distinguish between centralized and decentralize registry
- (c) State three merits and two demerits of decentralize registry.

Intended Task

Candidates were expected to define registry, distinguish between centralized and decentralize registry and state three merits and two demerits of decentralize registry. Candidate performed well.

Question 5

- (a) What is 'communication'?
- (b) Explain four processes involved in communication.

Intended Task

The question tested candidates' knowledge of communication and four processes involved in communication. Candidates performed fairly.

Question 6

Write short notes on the following:

- (i) Committee meeting
- (ii) Formal meeting
- (iii) Agenda
- (iv) Quorum
- (v) Resolution.

Intended Task

The question tested candidate's ability to write short note on: committee meeting, formal meeting, agenda, quorum, resolution. Candidates performed well.

Question 7

- (a) State five means of payment through the bank.
- (b) Explain the means of payment mentioned in 7(a)

Intended Task

The candidates were expected to state five means of payment through the bank and explain each of the means of payment mentioned. Candidates performed well.

Question 8

- (a) What is the promissory note?
- (b) Discuss five characteristics of negotiable instrument.

Intended Task

Candidates were expected to explain the promissory note and discuss five characteristics of negotiable instrument. Candidates performed fairly.

Question 9

- (a) List five departments commonly found in an organization.
- (b) Explain the departments mentioned in 9(a)

Intended Task

Candidates were expected to list five departments commonly found in an organization and explain the departments mentioned. Candidates performed well.

Question 10

- (a) Enumerate five reasons for dishonouring a cheque.
- (b) State five advantages of making payments by cheques.

Intended Task

Candidates were expected to enumerate five reasons for dishonouring a cheque and state five advantages of making payments by cheques. Candidates performed well.

Candidate's Strengths

- ✓ Good grammatical expression
- ✓ Good presentation of answers

Candidate's Weaknesses

- Poor explanations for question 1,2,8.
- Lack access to recommended textbooks.
- Poor reading culture or habit.

Suggestions for Improvement

- Teachers should recommend recent textbook for students.
- Teachers should make effort to cover the syllabus before examinations.

ADVANCED SECRETARIAL DUTIES (417)

General Comments on the Paper

The questions covered the syllabus and candidates' performance was generally good.

Detailed Comments on each Question

Question 1

Write four functions of a Secretary during the Meeting.

Intended Task

Candidates were expected to explain the functions of a Secretary during the Meeting. Candidates performed well.

Question 2

Outline four functions of Receptionist in Organization

Intended Task

Candidates were expected to explain the four functions of a Receptionist in an Organization. Candidates performed well.

Question 3

- (a) What is Communication in an organization?
- (b) List four communications Equipment in an Office.

Intended Task

Candidates were expected to explain communication in an organization and also list four communication Equipment in an Office. Candidates performed well.

Question 4

- (a) What is Report Writing?
- (b) Outline two types of a Valid Report..

Intended Task

The question tested candidate's knowledge of Report Writing and outline two types of a Valid Report. Candidates performed well.

Question 5

- (a) What is Office Procedures?
- (b) Write three major importance of Job Description in the Office.

Intended Task

The question tasked candidates knowledge of Office procedures and write three major importance of Job Description in the Office. Candidates performed well.

Question 6

List four modern sources of information available to the Secretary in the 21st Century Office.

Intended Task

Candidates were expected to list four modern sources of information available to the Secretary in the 21st Century Office.. Candidates performed well.

Question 7

Define the following Meeting terms.

- i. Ad-hoc.
- ii. Addendum.
- iii. Adjournment.
- iv. Ultra-vires.

Intended Task

The candidates were tasked to define the above terms: Ad-hoc, Addendum, Adjournment and Ultra-vires. Candidates performed well.

Question 8

Name four essential parts of a Valid Meeting

Intended Task

Candidates were expected to name four essential parts of a Valid Meeting. They performed well.

Question 9

- (a) Define Security System.
- (b) List five basic Security Control Measures in the office.

Intended Task

Candidates were expected to define Security System and list five basic Security Control Measures in the Office. Candidates performed well.

Question 10

- (a) What is Petty Cash Book?
- (b) Define Imprest System.

Intended Task

Candidates were asked to explain Petty Cash Book and define Imprest System. They performed well.

Question 11

- (a) Who is a Secretary?
- (b) Discuss succinctly two personal attributes of a Secretary.

Intended Task

The question tasked candidates' knowledge on who is a Secretary and discuss succinctly two personal attributes of a Secretary. Candidates performed well.

Question 12

- (a) What is Communication?
- (b) Discuss the three major forms of communication.

Intended Task

The question tasked candidates knowledge on communication and discuss the three major forms of communication. Candidates performed well.

Question 13

Explain five working environments n necessary for discharging office assignments.

Intended Task

Candidates were expected to explain five working environments necessary for discharging office assignment. Candidates performed poorly.

Question 14

Write short notes on the following:

- (a) Personal Secretary.
- (b) Legal Secretary.
- (c) Medical Secretary.
- (d) Bilingual Secretary.

Intended Task

Candidates were expected to write short notes on the following: Personal Secretary, Legal Secretary, and Medical Secretary. The candidates performed well.

Question 15

- (a) Explain the term ‘Effective Communication’
- (b) Highlight three barriers to effective communication.

Intended Task

Candidates were expected to explain the term “effective Communication” and highlight three barriers to effective communication. Candidates performed well.

Question 16

List and explain three types of Report Writing.

Intended Task

Candidates were expected to list and explain three types of Report Writing. Candidates performance in this regard was good.

Question 17

- (a) What is a Computer?
- (b) List and explain four parts of a Computer.

Intended Task

The question tasked candidates knowledge of computer and list, explain four parts of a computer. Candidates performed well in this aspect.

Candidate’s Strength

- ✓ Good expression of answers.

Candidates' weakness

- Mis-interpretation of question 13.

Suggestions for Improvement

- Stakeholders should review the syllabus and send to colleges.
- Model answers to past questions should be made available to candidate and teach the candidates the method of answering questions to avoid

COMMERCE (421)

General comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

Explain each of the following:

- (i) General agent
- (ii) Special agent
- (iii) Factors
- (iv) Brokers
- (v) Delcrede agent

Intended Task

The candidates were expected to explain each of the following: general agent, special agent, factors, brokers and delcrede agent. Candidates performed well.

Question 2

- (a) Explain five objectives of customer services.
- (b) State five after sales services that can be rendered to a person buying a computer.

Intended Task

The candidates were expected to explain five objectives of customer services as well as state five after sales services that can be rendered to a person buying a computer. Candidates performed poorly.

Question 3

- (a) What is advertising?
- (b) Explain the following types of advertising:
 - (i) Informative advertising
 - (ii) Persuasive advertising
 - (iii) Competitive advertising
 - (iv) Direct advertising

Intended Task

The question tasked candidates' knowledge of advertising and to explain the following types of advertising: informative advertising, persuasive advertising, competitive advertising, direct advertising. Candidates performed well.

Question 4

Explain five ways by which Commercial Banks facilitate foreign trade?

Intended Task

The candidates were expected to explain five ways by which commercial banks facilitate foreign trade. Candidates performed well.

Question 5

- (a) Differentiate between import trade and export trade.
- (b) Explain five ways by which governments promote exports.

Intended Task

The candidates were expected to differentiate between import trade and export trade. They were also required to explain five ways by which governments promote exports. Many candidates did not answer this question and those that did failed to explain correctly, ways by which governments promote exports. Candidates performed fairly.

Question 6

- (a) Explain five advantages of air transport.
- (b) State five reasons why transportation is important in commerce.

Intended Task

The candidates were expected to explain five advantages of air transport as well as state five reasons why transportation is important in commerce. Candidates were able to enumerate many reasons why transportation is important in commerce. Candidates performed well.

Question 7

- (a) Explain five steps to be followed in taking an insurance policy
- (b) List five types of marine insurance.

Intended Task

The candidates were expected to explain five steps to be followed in taking an insurance policy. They were also expected to list five types of marine insurance. Few candidates that attempted this question omitted the step by step sequence of taking an insurance policy. Candidates performed fairly.

Question 8

The following information relates to a vegetable seller	₦
Purchases	15,500
Stock at 1 st Jan. 2011	2,500
Insurance	3,000
Sales	44,000
Electricity	2,500
Stock at 30/12/2011	3,000
Rent	3,000
Transport	1,000

From the above information, you are required to calculate:

- (i) Rate of stock turnover
- (ii) Gross profit
- (iii) Net profit
- (iv) Net profit percentage
- (v) Cost of goods sold.

Intended Task

The question tested candidates' ability to calculate the rate of stock turnover, gross profit, net profit, net profit percentage and cost of goods sold of a vegetable seller. Candidates performed well

Question 9

- (a) State three factors of production.
- (b) Explain with two examples each of the factors mentioned in 9(a)

Intended Task

The candidates were expected to state three factors of production. They were also required to explain each of the factors mentioned with two examples. Many candidates failed to give examples of factors of production. Candidates performed fairly.

Question 10

- (a) List five problems of trade by barter.
- (b) Explain the problems mentioned in 10(a)

Intended Task

The candidates were expected to list five problems of trade by barter as well as explain the problems of trade by barter. Many candidates omitted the explanation to problems of trade by barter. Candidates performed fairly.

Candidates' strengths

- ✓ Commercial terms given were correctly explained by many candidates.
- ✓ Advertising terms were correctly explained.
- ✓ Many candidates explained correctly reasons why transportation is important to commerce
- ✓ Steps to be followed in taking an insurance policy were accurately stated by many candidates.
- ✓ Many candidates exhibited good computational skill.
- ✓ Many candidates responded correctly to questions 1, 3,6,8,9, and 10 respectively.

Candidates' weaknesses

- Illegible handwriting
- Poor mastery of the subject
- Poor presentation of answers.

Suggestions for improvement

- Teachers with holders of Business Administration or Business Education with tips in commerce etc should be employed to teach commerce in schools.
- Efforts should be made by teachers to ensure that the syllabus is covered.

FINANCIAL ACCOUNTING (423)

General comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed comments of Each Question

Question 1

Briefly explain the following terms:

- (i) Account sales
- (ii) Consignor
- (iii) Consignment
- (iv) Consignee
- (v) Del-credere agent

Intended Task

The candidates were expected to explain the following terms: account sales, consignor, consignment, consignee and del-credere agent. Candidates performed well.

Question 2

a. State one objective each of preparing the following accounts:

- (i) Departmental account
- (ii) Trading account
- (iii) Profit and loss account
- (iv) Balance sheet
- (v) Trial balance

b. State five users of accounting information.

Intended Task

The candidates were expected to state one objective each of preparing the following accounts: departmental account, trading account, profit and loss account, balance sheet and trial balance. They were also required to state five users of accounting information. Candidates performed well.

Question 3

You are required to prepare a trading, profit and loss account for the year ended 31st December, 2009 and a balance sheet as at that date from the following Trial Balance of Danladi Yakubu Enterprises. Trial Balance as at 31st December, 2009.

	DR ₦	CR ₦
Cash at bank	540	
Fixture and fittings		1,020
Purchases and sales returns	190	125
Travelling expenses	110	
Rent and rates	170	
Purchases	18,120	
Buildings		6,000
Debtors and creditors	5,350	4,160
Delivery vehicle	2,425	
Cash on hand	75	
Salaries of Salesmen	5,120	
Stock- January 1st	6,110	
Sales		43,910
Discount	535	570
Lighting	280	
Bad debt provision 1st January		290
Delivery van expenses	1,000	
Insurance	210	
Capital account		1,200
Drawing	2,000	
Office salaries	<u>1,000</u>	
	50,255_	<u>50,255</u>
Additional information:	=====	=====

- (a) Stock on hand 30th December, 2009 ₦ 2,140
- (b) The following items are accrued expenses salary of salesman ₦135, Travelling expenses ₦10
- (c) Insurance prepaid ₦15
- (d) Bad debt ₦60
- (e) The provision for bad debt should be adjusted to 5% of debtors and make provision for discount allowed to customer 2½ % of debtors. Calculate to the nearest Naira.

Intended Task

The question tasked candidates' ability to prepare trading, profit and loss account for the year ended 31st December, 2009 and a balance sheet as at that date. Candidates performed well.

Question 4

Record the following transactions in two column cash book of Jude Enterprises.

- Jan. 1 2009 Capital introduced in cash by Jude is ₦50,000
- Jan. 2 2009 Jude opened a bank account and lodged ₦20,000 out of the cash introduced as capital.
- Jan. 3 2009 Cash purchases ₦5,000
- Jan. 7 2009 Cash sales ₦6,000
- Jan. 12 2009 Paid for purchases by cheque ₦7,500
- Jan. 18 2009 Cash sales paid into bank ₦3,500
- Jan. 25 2009 Sundry expenses paid in cash ₦1,000
- Jan. 30 2009 Paid wages by cheque ₦4,000

Jan. 31 2009 Paid electricity by cheque ~~N~~1,500

Intended Task

The candidates were expected to record the transactions in the two column cash book of Jude Enterprises. Candidates performed well.

Question 5

The following errors are located in the trial balance of Truoters I.K:

- (i) Purchases of goods from EMO for ~~N~~1,500 has been credited in error to Eme Limited.
- (ii) Credits sales of ~~N~~300 to Ugo have been wrongly credited to his account.
- (iii) Purchases day book was undercast by ~~N~~1,000
- (iv) Sales day book was undercast by ~~N~~40
- (v) Machinery purchased for ~~N~~1,500 has been debited to purchases account

You are required to prepare

- (i) Journal entries to correct the errors
- (ii) Suspense account

Intended Task

The question tasked candidates' ability to prepare a journal entries to correct the errors located in TrialBalance of Trousers I.K and to prepare a suspense account. Candidates performed well.

Question 6

The following balances were extracted from the books of ABC Manufacturing Company as at 31st

December 2006.	N
Raw materials used	16,140
Factory wages- Direct	10,400
Factory expenses	4,000
Work in progress at start	2,500
Work in progress at close	3,400
Depreciation of factory	
Machine	450
Carriage outwards	225
General expenses	2,250
Discount allowed	255
Selling expenses	4,500
Office expenses	2,650
Opening stock – finished goods	3,000
Closing stock – finished goods	4,000
Sales of finished goods	49,000

You are required to prepare ABC Manufacturing, Trading, Profit and Loss Accounts for the year ended 31st December, 2006.

Intended Task

The question tasked candidates' ability to prepare ABC manufacturing, trading, profit and loss accounts for the year ended 31st December, 2006. Many candidates attempted the question but however, did not know the entries that made-up the prime cost of production figures. Candidates performed well.

Question 7

Kabiru and Steve are iron merchants, each carrying on business on his own; They share profits and Losses equally. The following transactions took place during the year 2009.

January, Kabiru bought scrap for ₦12,400 and paid ₦300 for storage.

February, Steve sold part of this scrap for ₦14,200. Kabiru disposing off rest for ₦1,500.

March, Steve bought steel for ₦33,800 and paid ₦600, for sorting and delivery. Kabiru sold half of this steel for ₦52,500 and paid commission and advertising ₦650, the remainder being taken into Steve's own stock at the value ₦18,590. It was agreed that Kabiru and Steve should be allowed ₦2,400 and ₦1,600 respectively for general expenses.

Prepare the memorandum Joint Venture Account and the entries in each party's book.

Intended Task

The candidates were expected to prepare the memorandum joint venture account and the entries in each party's book. Many candidates did not attempt this question. They made mistake in relation to correct heading of various account they were asked to prepare. Candidates performed poorly.

Candidates' Strengths

- ✓ Many candidates were able to prepare various account correctly, most especially in question numbers 3,4,5,6 and 7
- ✓ Candidates used accounting terms in writing the essay questions.
- ✓ Candidates expressed themselves clearly.
- ✓ Answers were presented in the correct order and terms.
- ✓ Candidates used the "T" system to prepare the account.

Candidates' weaknesses

- The candidates could not write correct headings in their answers.
- Many candidates did not write names and dates on their prepaid accounts.
- Many candidates' used vertical systems in preparing Trading, Profit and Loss Account and balance sheet.
- Many candidates use old system to prepare a
- ccounts
- Many candidates use old account textbooks.
- Few of the candidates did not know how to balance account.

Suggestions for improvement

- Teachers should lay emphasis on correct heading in account.
- Students should be taught the importance of names in any account.
- Students should be advised to adhere to instructions given in the questions in the presentation of their answers.
- Modern system of preparing account should be emphasized when teaching.
- Current and new editions of textbooks should be used by teachers and students.
- Students should be taught how to balance accounts.

ADVANCED FINANCIAL ACCOUNTING (426)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

State two similarities and differences each between Receipts and Payments Account and Income and Expenditure Accounts.

Intended Task

Candidates were asked to state two similarities and differences each between Receipts and Payment Account and Income and Expenditure Accounts. Candidates performed fairly.

Question 2

Explain the term 'Indirect Cost of Production'.

Intended Task

Candidates were expected to explain the term indirect cost of production'. Candidates performed well.

Question 3

State four reasons for preparing the End of Year Adjustments.

Intended Task

The candidates were expected to state four reasons for preparing the end of year adjustments. Candidates performed poorly.

Question 4

Mention any four causes of Single Entry.

Intended Task

The question tasked the candidates' ability to mention any four causes of single entry. Candidates performed poorly.

Question 5

Mention four main uses of Marginal Costing Techniques.

Intended Task

The candidates were expected to mention four main uses of marginal costing techniques. Candidates performed well.

Question 6

- (a) Define a Bill of Exchange.
- (b) State two types of Bill of Exchange.

Intended Task

The question tasked the candidates' ability to define and state two types of bill of exchange. Candidates performed fairly.

Question 7

List four basis of allocating expenses incurred on behalf of all departments.

Intended Task

The candidates were expected to list four basis of allocating expenses incurred on behalf of all departments. Candidates performed well.

Question 8

Explain the following in relation to Container Account:

- i. Purchase Price
- ii. Charged Out Price
- iii. Credit Back Price

Intended Task

The question tasked the candidates' ability to explain purchase price, charged out price and credit back price in relation to container account. Candidates performed fairly.

Question 9

Enumerate four differences between consignment and sales.

Intended Task

The candidates were expected to enumerate four differences between consignment and sales. Candidates performed fairly.

Question 10

Explain the meaning of Value Added Tax (VAT).

Intended Task

The candidates were expected to explain the meaning of Value Added Tax (VAT). Candidates performed well.

Question 11

Below is the trial balance of AIBUKI as at 31st December, 1990:

	Dr	Cr
	₦	₦
Capital		16,000
Purchases	7,805	
Drawings	2,000	
Rates and Taxes	194	
Salaries	806	
Lighting and Heating	82	
Electric Power	192	
Travelers Commission	207	
Insurance	103	
Advertising	107	
Sales		17,040
Bad debt	31	
Discounts		48
General Expenses	302	
Postages	111	
Carriage inwards	377	
Stock	3,080	
Wages	3,981	
Land and Building	7,920	
Plant & Machinery	2,017	
Furniture and fittings	189	
Debtors	3,040	
Creditors		2,091
Cash in Bank	<u>2,635</u>	<u>35,179</u>
	<u>35,179</u>	

Additional information:-

- Provide $2\frac{1}{2}$ % for discount on debtors and creditors, a bad debt provision of 10%.
- Depreciation of 10% is to be written off on plant and machinery, furniture 5%.
- Stock at close N4,380
- Wages owing N250
- Insurance paid in advance amounted to N10
- Include in debtors is N300 owing by Joy and included in the creditors is N100 owing to Joy.
- Plant which stood at N500 in the books on 1st January was disposed off for N190 in part exchange for a new machine costing N420. A net invoice of N230 was passed through Purchases Day Book.
- Purchases Invoice amounting to N120 had been omitted from the books.
- Private purchases amounting to N120 had been included in the purchases day book.

You are required to prepare the Trading, Profit and Loss Account and Balance Sheet as at 31st December, 1990.

Intended Task

Candidates were expected to prepare the trading, profit and loss account and balance sheet as at 31st December 1990. Candidates performed well.

Question 12

Alhaji Zakari operates a small trading business. He does not keep proper accounting records. The following information relates to the business on 1st January, 2005

	N
Equipment	150,000
Trade Receivables	17,500
Inventory	64,500
Prepaid Rent	3,000
Trade Payables	12,600
Accrued Electricity Bill	1,200

Enquiries provided the following about the business for the year ended 31st December, 2005.

- He received N258, 400 from his customers while N9, 600 was still owed to him.
- He draw cheques for:

	N
Suppliers	83,200
Rent and Rates	1,800
New equipment	60,000
Sundry business expenses	1,700
Electricity	2,400

- He owed N5,600 to his trade payable for supplies and N200 for electricity.
- His equipment was valued at N180,000 and Inventory at N58,500 on 31st December, 2005.

You are required to prepare for Alhaji Zakari Trading Business:

- Income statement for the year ended 31st December, 2005.
- Statement of Financial position as at 31st December, 2005.

Intended Task

The candidates were expected to prepare income statement for the year ended 31st December, 2005. Candidates performed fairly.

Question 13

Two businesses A B Ltd and C D Ltd sell the same type of products in the same type of Market. The budgeted profit and Loss account for the year ended 1999 are as follows:

A B Ltd		C D Ltd	
NNNN			
Sales		150,000	150,000
Less: Variable Costs	120,000		100,000
Fixed Cost	<u>15,000</u>	<u>135,000</u>	<u>35,000</u>
Net profit budget		<u>15,000</u>	<u>15,000</u>

Required to:

- Calculate the break-even point of sales of each business.
- Calculate the sales volume at which each of the business will earn N5, 000 profits.

Intended Task

The question tested the candidates' ability to calculate the breakdown point of sales of each business and the sales volume at which each of the business will earn N5,000 profit. Candidates performed poorly.

Question 14

The following Trial Balance was extracted from the books of Bassey Ltd as at 30th September, 2001.

NN		
Share Capital, Authorized and Issued 250,000 ordinary N1 shares		250,000
Directors' current accounts:		
Eddy		6,800
Gilson		3,900
Profit and Loss Account 30/9/2000		73,600
Purchases and Sales	913,750	1,184,000
Loan Interest accrued (30/9/2000)	107,500	
Loan from Zeby Ltd @ 5% Interest per annum		50,000
Goodwill	30,000	
Bad debts	4,700	
Provision for bad debts 30/9/2000		1,400
Rent Receivables		2,500
Trade Debtors and Creditors	135,600	93,100
Motor and Delivery Expenses	17,720	
General Expenses	63,300	
Bank Balance	120,080	
Directors' Salaries	146,300	
Wages and Salaries	124,250	
Rates and Insurance	<u>4,600</u>	
	<u>1,667,800</u>	<u>1,667,800</u>

Additional Information:

- a. Stock in trade as at 30th Sep 2001 N115,500
- b. Provision for bad debts is to be increased to N30,000
- c. Wages and Salaries accrued at 30/9/2001 N2,000
- d. Rates and Insurance paid in advance at 30/9/2001 N620
- e. The item “rent receivable N2, 500” including N500 in respect of the period from 1st October, 2001 to 31st December, 2001.
- f. Provision is to be made for depreciation of motor vehicles at the rate of 20% per annum on cost.
- g. During the year to 30th September, 2001, Eddy, one of the directors, took goods costing N1, 750 out of the business stock for his own use. No entry for such matter has been made in the books.

Required:

To prepare a Trading and Profit & Loss Account for the Year ended 30th September 2001 and a Balance Sheet as at that date (ignore taxation).

Intended Task

The candidates were expected to prepare a trading and profit & loss account for the year ended 30th September 2001 and a balance sheet as at that date. Candidates performed well.

Question 15

Chika & Co. Ltd had 3,000 containers at the beginning of the year. The value of each container was N3.50. It purchased 90,000 containers @ N3.50 each during the year ended 31/12/2002. Containers at the end of the year were valued at N2.50 to allow for depreciation. It used 300,000 containers and 200,000 were returned. 1,000 containers were damaged beyond repair during the year.

You are required to prepare the Container Stock Account.

Intended Task

The question tasked the candidates’ ability to prepare the Container Stock Account. Candidates performed fairly.

Question 16

On March 15th 2003, Adeyemi consigned to his agent, Benson, 1,000 Flower Pots which cost N1 each and Insurance and freight amounted to N50. Benson is entitled to a commission OF 10% of Gross Sales. Benson immediately returned 100 flower pots which were slightly chipped and paid return freight and insurance of N10.

Adeyemi whose financial year ended on 31st Dec 2003 received from Benson an account sales made up to that date, this shows that Benson had sold 600 flower pots for N1,200 and has paid warehouse charges of N25 on the whole of the consignment and carriage on the flower pot sold at N15. Benson sent a sight draft in settlement of the balance money on which Adeyemi incurred bank charges of N5.

Benson sold the remaining flower pot for N400, incurring expenses of N10. He sent Adeyemi a second account sales made up to 31st October, 2003, accompanied by a sight draft for the balance due on which Adeyemi paid bank charges of N3 in Adeyemi’s books. All purchases are debited to Trading Account.

You are required to prepare the following accounts:

- a. Consignment Account
- b. Goods on Consignment Account
- c. Benson's personal Account

Intended Task

The candidates were expected to prepare consignment account, goods on consignment account and Benson's personal account. Candidates performed well.

Question 17

A and B entered into a Joint Venture to acquire surplus and reject Crockery from the manufacturers and to sell them at a series of one-day market. They agreed to share Joint Venture Profits and Losses in ratio 3:2 respectively.

At the on-set Asent B a cheque for N2,000 to provide him with funds for his participation in the venture. They managed to sell all the goods they had bought by 31st January 2004, by which date their cash transactions had been.

	A	B
	₦	₦
Sales	3,200	2,100
Travelling Expenses	327	463
Advertising	103	91
Stall rent/market tolls	85	70
Wages of casual helpers	48	-
Sundry Expenses	59	29
Purchases	1,600	1,100

Settlement between the co-venturers took place by cheque

Required:

- a. Joint Venture with B Account in the Ledger of A
- b. Joint with A account in the Ledger of B.
- c. Memorandum Joint Venture Account.

Intended Task

The question tested the candidates' ability to recall Joint Venture with B Account in the Ledger of A; Joint Venture with A Account in the Ledger of B and Memorandum Joint Venture Account. Candidates performed fairly.

Candidates' Strengths

- ✓ Good computational skills.
- ✓ Good presentation of answers

Candidates Weakness

- Poor grammatical expression

Suggestions for Improvement

- Students should be encouraged to consult many textbooks to cover the scheme of work.
- Students should be encouraged to improve on their grammatical skills
- Students should be taught to improve on their computational skills.
- Teachers should teach the students on the indepth knowledge of single entry, container A/C, etc.
- The teachers/students should be encouraged to cover the syllabus.

OFFICE MANAGEMENT (427)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

Mention four reasons for staff training.

Intended Task

The candidates were expected to mention four reasons for staff training. Candidates performed well.

Question 2

State four economic systems.

Intended Task

The candidates were expected to list four economic systems. Candidates performed well.

Question 3

State four advantages of data presentation in a pie chart.

Intended Task

The candidates were expected to mention four advantages of data presentation in a pie chart. Candidates performed well.

Question 4

State two factors which determine the demand for products.

Intended Task

The questions tested candidates' knowledge of two factors which determine the demand for products. Candidates performed well.

Question 5

List four characteristics of a formal organization.

Intended Task

The candidates were expected to list four characteristics of a formal organization. Candidates performed well.

Question 6

List four basic mailroom equipment.

Intended Task

The candidates were expected to list four basic mailroom equipment. Candidates performed well.

Question 7

State four advantages of localization of business concerns.

Intended Task

The question tested candidates' knowledge of four advantages of localization of business. Candidates performed well.

Question 8

State four qualities of a good leader.

Intended Task

The candidates were expected to mention four qualities of a good leader. Candidates performed well.

Question 9

State two basic advantages of duplicating process.

Intended Task

The question tested candidates' knowledge of two basic advantages of duplicating process. Candidates performed well.

Question 10

State two importance of closed office.

Intended Task

The question tested candidates' ability to state two importance of closed office. Candidates performed well.

Question 11

- a. Define the term “Office Administration”.
- b. Explain four importance of Office Administration in an organization.

Intended Task

The question tested candidates knowledge of office administration and four importance of office administration in an organization. Candidates performed well.

Question 12

- a. Name five steps to be taken for the appointment of applicants by the personnel department.
- b. Explain each of the steps Mentioned in 12(a)

Intended Task

The candidates were expected to mention five steps to be taken for appointment by applicants in personnel department and also explain each of the steps to be taken. Candidates performed fairly.

Question 13

- a. What is filing?
- b. Explain four methods of filing.

Intended Task

The question tested candidates’ knowledge of filing and four methods of filing. Candidates performed well.

Question 14

As an office Manager, explain four strategies to be adopted to improve the productivity of the employees.

Intended Task

The candidates were expected to explain four strategies to be adopted to improve the productivity of the employees as an office manager. Candidates performed well.

Question 15

- a. Define Division of Labour and specialization.
- b. Explain the contributions of Division of Labour to effective office organization.

Intended Task

The question tested the candidates' knowledge of division of labour and specialization. They were also asked to explain the contributions of division of labour to effective office organization. Candidates performed well.

Question 16

Explain economic functions of the federal Government in the development of industries in Nigeria.

Intended Task

The candidates were expected to explain the economic function of the federal government in the development of industries in Nigeria. Candidates performed well.

Question 17

Write short notes on the following:

- i. Capitalism
- ii. Mixed Economic System
- iii. Free Enterprise
- iv. Economic Integration

Intended Task

The candidates were expected to explain capitalism, mixed economic integration. Candidates performed well.

Question 18

- a. List four methods of data collection.
- b. Explain the methods mentioned in 18(a)

Intended Task

The candidates were expected to list and explain four methods of data collection. Candidates performed well.

Question 19

Explain briefly the following statistical terms: Means, Mode, Median, Range the Histogram.

Intended Task

The candidates were expected to explain these statistical terms: mean, mode, median, range and histogram. Candidates performed well.

Question 20

32 candidates scored the following marks in a test marked over 10.

No. of candidates	2	3	4	4	4	4	5	3	2	1
Marks Scored	1	2	3	4	5	6	7	8	9	10

Find the:Mean, Mode and Median.

Intended Task

The candidates were expected to calculate the mean, median and mode. Candidates performed well.

Candidates' Strengths

- ✓ Many candidates responded correctly on localization on business concern.
- ✓ Many candidates responded correctly on statistical items of mean, median and mode.
- ✓ Many candidates responded correctly on the reasons for staff training.
- ✓ Many candidates responded correctly on economic system.
- ✓ Many candidates responded correctly on basic mailroom equipment.

Candidates Weaknesses

- Misinterpretation of questions
- Poor grammatical expression.

Suggestion for Improvement

- Students should read instructions on how they are to answer questions before attempting them.
- Pre examinations seminars should be organize for the candidates to prepare them for the final examinations.
- Candidates should be advice to adhere to instructions during examinations.

ADVANCED COMMERCE (428)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed comments of Each Question

Question 1

Define legal environment of marketing.

Intended Task

The candidates were expected to define legal environment of marketing. Candidates performed well.

Question 2

State four media of public relations.

Intended Task

Candidates were expected to state four media of public relations. Candidates performed fairly.

Question 3

List four major modes of transport.

Intended Task

The candidates were expected to list four major modes of transport. Candidates performed well.

Question 4

Enumerate four factors that would determine choice of transport by a businessman.

Intended Task

The candidates were expected to enumerate four factors that would determine choice of transport by a businessman. Candidates performed well.

Question 5

State two functions of a wholesaler to the manufacturer.

Intended Task

The candidates were expected to state two functions of a wholesaler to the manufacturer. Candidates performed well.

Question 6

List four short term finance available to a business organization.

Intended Task

The candidates were expected to list four short term finance available to a business organization. Many candidates misinterpreted the question. Candidates performed poorly.

Question 7

Define the term bad debts and give examples.

Intended Task

The candidates were expected to define the term bad debts and give examples. Candidates performed well.

Question 8

Enumerate two parties to a hire purchase agreement.

Intended Task

The candidates were expected to enumerate two parties to a hire purchase agreement. Candidates performed well.

Question 9

Define market aggregation

Intended Task

The question tested candidates' ability to define market aggregation. Candidates performed well.

Question 10

State four objectives of a rent tribunal

Intended Task

The candidates were expected to state four objectives of a rent tribunal. Candidates performed fairly.

Question 11

- (a) State four advantages West African Countries derive from the International Monetary Fund (IMF).
- (b) Explain two weaknesses of the International Monetary Fund (IMF) .

Intended Task

The candidates were expected to state four advantage West African Countries derive from the International Monetary Fund (IMF). Few candidates responded to this question. Candidates performed fairly.

Question 12

- (a) State four element of valid contract.
- (b) Explain the four elements mentioned in 12(a).

Intended Task

The candidates were expected to state and explain four elements of valid contract. Candidates performed well.

Question 13

Write short notes on the following terms as it relates to contract:

- (a) Registration of business
- (b) Patent right
- (c) Trade mark
- (d) Copyright.

Intended Task

The candidates were expected to write short notes on the following terms as it relates to contract: registration of business patent right, trade mark and copyright. Candidates performed poorly.

Question 14

State four duties and liabilities of an employer to the employee

Intended Task

The candidates were expected to state four duties and liabilities of an employer to the employee. Many candidates avoided the question. Candidates performed fairly.

Question 15

Write short notes on the following financial institutions:

- (a) Mortgage Bank.
- (b) Merchant Bank
- (c) Development Bank
- (d) Commercial Bank

Intended Task

The candidates were expected to write short notes on the following financial institutions: mortgage bank, merchant bank, development bank and commercial bank. Candidates performed well.

Question 16

- (a) Explain five functions of a Commercial Bank.
- (b) List two methods of settling debts internationally.

Intended Task

The candidates were expected to explain five functions of a commercial bank. They were also required to list two methods of settling debts internationally. Candidates performed poorly.

Question 17

Write short notes on any four of the following:

- (a) Profitable ratio.
- (b) Liquidity ratio.
- (c) Debt management ratio (leverage).
- (d) Liabilities
- (e) Assets.
- (f) Creditors.

Intended Task

The candidates were expected to write short notes on any four of the following: profitability ratio, liquidity ratio, debt management ratio (leverage), liabilities, assets and creditors. Candidates performed well.

Question 18

List and explain four tools used in protecting infant industries.

Intended Task

The candidates were expected to list and explain four tools used in protecting infant industries. Many candidates answered the question wrongly. Candidates performed poorly.

Question 19

State four reasons why countries import goods they can produce locally

Intended Task

The candidates were expected to state four reasons why countries import goods they can produce locally. Candidates performed poorly.

Question 20

Explain four benefits of comparative cost advantage.

Intended Task

The candidates were expected to explain four benefits of comparative cost advantage. Candidates performed fairly.

Candidates' Strength

- ✓ Candidates had good knowledge of the subject matter.

Candidates' Weaknesses

- Poor grammatical expression.
- Poor expression of points
- Poor ordering of questions i.e. writing question one while answering question three.

Suggestions for Improvement

- Qualified teachers should be employed
- Teachers should endeavour to teach candidates how to answer examination questions.

SALESMANSHIP (431)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- a. State two differences between consumer and consumers.
- b. Explain any four factors that influence consumers in buying goods.
- c. State three classes of social group.

Intended Task

The questions tasked the candidates' ability to state two differences between consumer and customers, explain four factors that influence consumers in buying goods and state three classes of social group. Candidates performed well.

Question 2

- a. Name three kinds of personality.
- b. Explain three ways personality influence consumer behavior.
- c. Define the term "culture"

Intended Task

The question tasked the candidates' ability to list three kinds of personality, explain three ways personality influences consumer behavior as well as defining the term culture. Few candidates attempted the question and they performed fairly.

Question 3

- a. What is a contract?
- b. State four reasons that can lead to the termination of a contract.
- c. State four importance of motivation.

Intended Task

The question tested the candidates' ability to recall the meaning of contract, state four reasons that can lead to the termination of a contract and also state four importance of motivation. Candidates performed well.

Question 4

- a. Explain sales of goods.
- b. State four advantages of hire purchases to the buyers/hirers.
- c. State two differences between hire purchase and auction sale.

Intended Task

The candidates were expected to explain sales of goods, state four advantages of hire purchase to the buyers/hires, state two differences between hire purchase and auction sale. Candidates performed well.

Question 5

- a. What is an agency?
- b. Explain the features of the following agents:
 - i. Factor.
 - ii. Broker.
 - iii. Del credere agent.
 - iv. Auctioneer.

Intended Task

The question tasked the candidates' knowledge of an agency and to also explain the features of these agents: factor, broker, delcredere agent and auctioneer. Candidates performed well.

Question 6

- a. What is labour relation?
- b. Explain labour code.
- c. State three limitations of trade unionism in Nigeria.

Intended Task

The question tasked the candidates' knowledge of labour relation, explain labour code and state three limitations of trade unionism in Nigeria. Candidates performed well.

Question 7

- a. State four importance of product knowledge in selling.
- b. Mention two things to avoid in selling.
- c. What is a discount?

Intended Task

The question tasked the candidates' ability to state four importance of product knowledge in selling, mention two things to avoid in selling and what is a discount. Candidates performed fairly.

Question 8

- a. Define prospectus.
- b. Explain three problems of prospecting.

Intended Task

The candidates were expected to define prospectus and explain three problems of prospecting. Candidates performed well.

Question 9

- a. State three methods of approach in selling.
- b. Explain three essentials of a good approach in selling.
- c. What is pre-approach in planning?

Intended Task

The question tasked candidates' ability to state three methods of approach in selling, explain three essentials of a good approach in selling and what is pre-approach in planning. Candidates performed fairly.

Question 10

- a. Mention three methods of handling objection in selling.
- b. State two problems of objection.
- c. Name any three ways of overcoming problems of objection.

Intended Task

The candidates were expected to mention three methods of handling objection in selling and state two problems of objection. Candidates performed fairly.

Candidates' Strengths

- ✓ Good grammatical expressions.
- ✓ Fair presentation of answers.

Candidates Weakness

- Candidates avoided vital questions.

Suggestions for Improvement

- More teachers should be employed and encouraged to write more books on the subject so as to help candidates' knowledge on the subject.
- Candidates should take note of vital questions during examination.

TOURISM (441)

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally fairly.

Detailed Comment on Each Question

Question 1

- (a) Explain three importance of natural resources in Nigeria.
- (b) State three tourism product and their state in Nigeria

Intended Task

The question tasked candidate's ability to explain three importance of natural resources in Nigeria and also to state three tourism product and their state in Nigeria. Candidates performed poorly.

Question 2

- (a) Draw a map of Nigeria, locate any four state and their capitals.
- (b) State two factors that influence the population growth.
- (c) List two factors considered when setting an industry.

Intended Task

The candidates were expected to draw a map of Nigeria, locate any four state and their capitals. They were required to state two factors that influence the population growth and list two factors considered when setting an industry. Candidates performed fairly.

Question 3

- (a) Define an insurance
- (b) Differentiate between indemnity and subrogation
- (c) Explain four benefits of insurance company to a traveller.

Intended Task

The question tested candidate's ability to define insurance and differentiate between indemnity and subrogation. They were also required to explain four benefits of insurance company to a traveller. Candidates performed fairly.

Question 4

- (a) Distinguish between tourist and excursionist.
- (b) Explain four economic important of tourism to our economy.

Intended Task

The candidates were expected to distinguish between tourist and excursionist and explain four economic important of tourism to our economy. Candidates performed poorly.

Question 5

- (a) What s tour booking condition?
- (b) Highlight four key aspect of a tour brochure.

Intended task

The question tested candidate's knowledge of tour booking condition and four key aspect of a tour brochure. Candidates performed fairly.

Question 6

- (a) Define a travel agent
- (b) Explain four functions of a travel agency business to tourism

Intended Task

The question tested the candidate's knowledge of travel agent and functions of a travel agency business to tourism. Candidates performed well.

Candidate's Strength

- ✓ Candidates responded well to question on international tourism.

Candidate's Weaknesses

- Poor grammatical expression
- Poor reading habit
- Misinterpretation of question

Suggestions for Improvement

- Government should employ tourism teachers
- Teachers should write our textbooks on our local tourism and history of tourism.

SECTION THREE

TECHNICAL TRADES

MOTOR VEHICLE MECHANIC WORKS (021-1)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

- (a) (i) State the three basic value arrangement.
- (ii) Sketch three different engines layouts.
- (b) Briefly explain the direction of water flow through the radiator of a thermo-syphon cooling system.

Intended Task

The candidates were required to state the three basic value arrangement, sketch three different engine layouts and also explain the direction of water flow through the radiator of a thermo-syphon cooling system. Candidates performed well.

Question 2

- (a) With the aid of a neat sketch describe a simple single jet carburetor, indicate the flow of air and petrol and label the main parts.
- (b) With the aid of a sketch, outline a three speed gearbox and name its components parts.

Intended Task

The candidates were expected to make a neat sketch describing single jet carburetor, indicating the flow of air and petrol and label the main parts. They were also asked to outline a three speed gear box and name its components parts with the aid of a diagram. Candidates performed fairly.

Question 3

- (a) Electrical components can for simplicity, be represented by signs or symbols. How do you demonstrate the following symbols?
 - (i) Bulb.
 - (ii) Switch.
 - (iii) Armeter.
 - (iv) Earth connection
 - (v) Fuse.
 - (vi) Battery.
- (b) Make a circuit diagram to show how the starter circuit is arranged.

Intended Task

The candidates were expected to give signs or symbols in demonstrating the following symbols: bulb, switch, armeter, earth connection, fuse and battery. They were also asked to make a circuit diagram to show how the starter circuit is arranged. Candidates performed well.

Question 4

- (a) State two alternative firing order for:
 - (i) a four cylinder inline engine.
 - (ii) a six cylinder inline engine.
- (b) (i) What materials are commonly used in the making of valves?
 - (ii) With the aid of sketch, illustrate a typical valve timing diagram for a medium speed petrol engine

Intended Task

The question required candidates to state two alternative firing order for a four cylinder inline engine and a six cylinder inline engine. They were also asked to state the materials that are commonly used in making of valves and illustrate a typical valve timing diagram for a medium speed petrol engine. Candidates performed fairly.

Question 5

- a.
 - (i) What type of joint is used for driving wheels which are steered or those fitted to independent suspension system that allows a large deflection?
 - (ii) Show a section diagram of a tube and tubeless tyre. Explain, briefly, how the valve is located in each case.
- b.
 - (i) What is (1) the track rod (2) the drop arm.
 - (ii) With the aid of a diagram, explain wheel camber and show the position of the camber angle. What is the object of cambering the front wheel?

Intended Task

The question examined candidates' ability to state the type of joint used for driving wheels which are steered or those fitted to independent suspension system that allows a large deflection. They were also to show a section diagram of a tube and tubeless tyre and explain how the valve is located in each case. Candidates performed fairly.

Question 6

- (a) (i) With the aid of a sketch, outline the three basic gasturbine components.
 - (ii) State any five advantages of gasturbine.
- (b) (i) Volatility
 - (ii) Flash point
 - (iii) Octane number or performance number

Intended Task

The question tested the candidates' ability to recall some concepts in gasturbine as well as explain the following terms in regards to fuel oil, volatility, flash point and octane number or performance number. Candidates performed well.

Question 7

- (a) Sketch a typical combustion chamber:
 - (i) Indirect injection
 - (ii) Direct injection
- (b) State three merits each of direct and indirect injection.

Intended Task

The question tested candidates' ability to sketch a typical combustion chamber of indirect injection and direct injection as well as the merits of each injection. Candidates performed fairly.

Candidates' Strength

- ✓ Good knowledge of type of joint used for driving wheel.

Candidates' Weakness

- Poor drawing skills.

Suggestions for improvement

- Assignment involving drawing/sketching should always be given to students.
- Teaching of practical should be intensify.

AUTOMOBILE ELECTRICAL WORKS (031-1)

General Comment on the Paper

The question covered the syllabus and the candidate's performance was generally poor.

Detailed Comment on Each Question

Question 1

- (a) State the function of the following:
 - (i) Coil
 - (ii) Rotor
 - (iii) Alternator
 - (iv) Contact breaker
- (b) State the difference between nickel alkaline battery and lead acid battery.

Intended Task

Candidates were required to state the function of the following of: coil, rotor, Alternator, Contact breaker and state the difference between nickel alkaline battery and lead acid battery. Candidates were able to answer the question on functions of the charging circuit (coil, rotor, Alternator, Contact breaker correctly. Candidates performed well.

Question 2

- (a) Define Ohms law
- (b) Calculate the current following in a circuit of 12 volts with a resistance of 4.2 Ohms.
- (c) Three lamp of 1.3 and 4. Ohms resistance are connected in series across 12 volt battery.
Calculate:
 - (i) Total resistance.
 - (ii) The current flowing in each resistance.
 - (iii) The voltage across each resistance.

Intended Task

Candidates were required to define Ohms law, calculate the current flowing in a circuit of 12 volts with a resistance of 4.2 Ohms. Three lamp of 1.3 and 4. Ohms resistance are connected in series across 12 volt battery, the candidates were also required to calculate the (i) total resistance (ii) the current flowing in each resistance and the voltage across each resistance. In the definition of Ohms law, many of the candidates were able to answer correctly while question 2ci, 2ciii, was poorly attempted. Candidates performed poorly.

Question 3

- (a) List two basic charging system problems and explain the possible causes of each.
- (b) State the purpose of charging system.

Intended Task

Candidates were expected to list two basic charging system problem and explain the possible causes of each and state the purpose of charging system. Many of the candidates could not answer this question correctly. Candidates performed poorly.

Question 4

- (a) Explain the terms dwell angle relative to ignition system
- (b) Two safety precaution when recharging battery.

Intended Task

Candidates were required to explain the terms dwell angle relative to ignition system and to explain two safety precautions when recharging battery. Many candidates were able to answer this question correctly. Candidates performed well.

Question 5

- (a) Describe briefly the procedure for carrying out headlamp alignment.
- (b) State two precautions to be observed to ensure accurate result.

Intended Task

Candidates are expected to describe briefly the procedure for carrying out headlamp alignment and state two precautions to be observed to ensure accurate result. Candidates performed well.

Question 6

Sketch a starter circuit to show the starter Moto control box, solenoid switch, ignition warning lamp and ignition switch.

Intended Task

The question tested candidate's ability to sketch a starter circuit to show the starter moto control box, solenoid switch, ignition warning lamp and ignition switch. Candidates were deficient in drawing a neat diagram. Candidates performed poorly.

Question 7

- (a) (i) Sketch a diagram of electrical fuse and label its parts.
(ii) State two types of electrical devices.
- (b) State the function of the reflector.

Intended Task

Candidates were required to sketch a diagram of electrical fuse and label its parts and state two types of electrical devices. They are also to state the function of the reflector. Many candidates failed to give functions of reflector. Candidates performed poorly.

Candidate's Strengths

- ✓ Candidates have the knowledge of Ohms definition.
- ✓ Candidates have the knowledge of safety.

Candidate's Weaknesses

- Candidates lack drawing skills.
- Candidates could not state the function of a reflector in lamp.

Suggestions for Improvement

- School should involve student more in practical.
- Teachers should lay more emphasis.

ELECTRICAL INSTALLATION AND MAINTENANCE WORKS (041-1)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comment on Each Question

Question 1

- (a) With the aid of a neat and well labelled diagram, explain how to terminate heavy gauge steel conduit entry.
- (b) List five materials to be used.

Intended Task

Candidates were expected to use a neat well labelled diagram to explain how to terminate heavy gauge steel conduit entry and list five materials to be use. Some candidates could not sketch a neat and well labeled diagram of heavy guage steel conduct for termination at clearance entry. But most candidates list the materials needed for use. Candidates performed well.

Question 2

- (a) List three types of A.C. motor starters.
- (b) State where each is most suitably used.

Intended Task

Candidates were expected to list three types of A.C. motor starters and state where each is most suitably used. Some candidates listed the types of A.C. motor starters, while some candidates did not explain. Candidates performed well.

Question 3

With the neat diagram, draw the M.I.C.C. cable ready for termination and label the parts.

Intended Task

Candidates where required to draw a diagram, draw the M.I.C.C. cable ready for termination and label the parts. Candidates could not draw M.I.C.C cable ready for termination. Candidates performed poorly.

Question 4

- (a) List five precautions necessary for the maintenance of battery.
- (b) Explain the term ampere-hour efficiency and watt – hour efficiency.

Intended Task

Candidates were required to list five precautions necessary for the maintenance of battery and also to explain the term ampere-hour efficiency and watt – hour efficiency. Candidates explain ampere-hour efficiency and watt – hour efficiency properly but could not state precaution for battery maintenance. Candidates performed fairly.

Question 5

With the aid of a clearly labelled diagram, show the construction of paper insulated lead-covered steel wire armoured cable for termination.

Intended Task

The candidates were expected to show with a labeled diagram the construction of paper insulated lead-covered steel wire armoured cable for termination. Candidates performed fairly.

Question 6

- (a) Explain the term data transmission.
- (b) State two methods of joining electrical cable.

Intended Task

The candidates were expected to explain the term data transmission and state two methods of joining electrical cable. Candidates stated well the methods of joining electrical cable. Candidates performed well.

Question 7

State five I.E.E. regulation covering conductors used in winding machine

Intended Task

Candidates were required to state five I.E.E. regulation covering conductors used in winding machine. Many candidates were not able to state I.E.E. regulation covering conductors used in winding machine. Candidates performed fairly.

Question 8

Explain five steps to be carried out when dismantling a burnt a.c. motor for rewinding.

Intended Task

Candidates were expected to explain five steps to be carried out when dismantling a burnt a.c. motor for rewinding. Candidates stated five various steps to be followed in dismantling a machine. Candidates performed well.

Question 9

- (a) List five tests to be conducted in a newly completed motor winding.
- (b) Explain briefly one purpose for each step.

Intended Task

Candidates were required to list five tests to be conducted in a newly completed motor winding and explain briefly one purpose for each step. Candidates could not List five tests to be conducted in a newly completed motor winding. Candidates performed fairly.

Candidate's Strengths

- ✓ Candidates presented good grammatical expressions.
- ✓ Candidates presented good computational skills
- ✓ Candidates demonstrated good drawing skills.

Candidate's Weaknesses

- Candidates inability to state I.I.E. regulation
- Candidate could not explain or state where A.C. motor starters can be suitable for use.
- Candidates could not draw M.I.C.C. cable that was ready for termination.
- Candidates could not state precautions for battery maintenance.

Suggestions for Improvement

- Teachers should be encourage to cover the syllabus
- Seminars/workshops should be organized to educate the student on effective reading method.
- Teachers student relationship should be encourage.

ADVANCE FABRICATION AND WELDING (056-1)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

Explain the function of a Diaphragm in gas Welding regulator.

Intended Task

Candidates were expected to explain the functions of a diaphragm in gas welding regulations. Candidates performed fairly.

Question 2

Describe the overhead welding position using the arc Welding process.

Intended Task

Candidates were expected to explain the overhead welding position using the arc welding process. Candidates performed fairly.

Question 3

Explain the term "Creep" in gas welding.

Intended Task

Candidates were expected to explain the term "Creep" in gas welding. Candidates performed well.

Question 4

State the differences between:

- i. Gas Welding.
- ii. Arc Welding.
- iii. TIG Welding.

Intended Task

The candidates were expected to differentiate between gas welding, arc welding and TIG welding. Candidates performed fairly.

Question 5

A welding machine when operating at full capacity supplies a current of 200A with a voltage drop of 30V, find the resistance (R) in the circuit.

Intended Task

The question tested the candidates' ability to recall a welding machine operating at full capacity supplies and to find the resistance (R) in the circuit. Candidates performed well.

Question 6

State two methods of removing metals mechanically of which employ a firm of shearing action.

Intended Task

Candidates were expected to explain two methods of removing metals mechanically all of which employ a firm of shearing action. Candidates performed fairly.

Question 7

A casting has a mass of 1570kg, what is the weight of the casting?

Intended Task

The question required candidates' knowledge of casting. Candidates performed fairly.

Question 8

Draw a circle of 5cm diameter and find the area by using mid-ordinate rule.

Intended Task

The candidates were expected to draw a circle of 5cm diameter and find the area by using mid-ordinate rule. Candidates performed fairly.

Question 9

Why should the template shop be provided with adequate artificial light?

Intended Task

The question tested the candidates' ability to recall why a template shop should be provided with artificial light. Candidates performed fairly.

Question 10

- a. Sketch three types of washers.
- b. List four defects that may occur during riveting process.

Intended Task

The candidates were expected to draw three types of washers and list four defects that may occur during riveting process. Candidates performed well.

Question 11

A short metal tray of 40cm long by 25cm wide and 3cm deep is to be made with open top and wired round the edges. If the wiring allowance is 1.5cm. Calculate:

- i. The area of metal to be used.
- ii. The length of wire required.
- iii. Sketch the pattern for the tray.

Intended Task

The question required the candidates' ability to calculate the area of metal to be used, the length of wire required and to sketch the pattern for the tray given a short metal of 40cm long by 25cm wide and 3cm deep, which is to be made with open top and wired round the edges. Also if the wiring allowance is 1.5cm. Candidates performed fairly.

Question 12

Explain briefly the following surface finishing processes.

- i. Picking.
- ii. Sound blasting.
- iii. Galvanishing.
- iv. Painting.
- v. Lacquering.

Intended Task

Candidates were expected to explain the following surface finishing process picking, sound blasting, galvanishing, painting and lacquering. Candidates performed fairly.

Question 13

With the aid of sketches, show the following weld defects:

- i. Undercut.
- ii. Lack of penetration.
- iii. Slag inclusion.
- iv. Overfilled groove.

Intended Task

The candidates were expected to show the following with sketches: weld defects, undercut, lack of penetration, slag inclusion and overfilled groove. Candidates performed fairly.

Question 14

Explain the following welding processes:

- a. Argon arc welding.
- b. Submerged arc.
- c. Plasma arc.
- d. Manual metal arc.

Intended Task

Candidates were expected to explain argon arc welding, submerged arc, plasma arc and manual metal arc in welding process. Candidates performed fairly.

Question 15

- a. Sketch and describe the following welding methods of testing metals:
 - i. X-ray.
 - ii. Ultrasonic test.
 - iii. Band test.
 - iv. Fillet test.
- b. Indicate which of the tests are either destructive or non destructive.

Intended Task

The candidates were expected to draw and explain the following welding methods of testing metals: x-ray, ultrasonic test, brand test, fillest test and indicate which of the test are either destructive or non destructive. Candidates performed fairly.

Question 16

- a. Calculate the weight of a rectangular object of 3cm by 2cm with a density of 8g/cm^3 .
- b. Calculate the mass of 1000 litres of undiluted tetra-oxo-sulphate (vi) acid (H_2S_04) whose specific gravity is 2.0.

Intended Task

The question tested candidates' knowledge of the weight of a rectangular object of 3cm by 2cm with a density of 8g/cm^3 , as well as calculate the mass 1000 litres of undiluted tetra-oxo-sulphate (IV) acid (H_2S_04) whose specific gravity is 2.0. Candidates performed fairly.

Question 17

- a. With the aid of sketches, show the applications of the following in structural steel work:
 - i. Tensile forces and stresses.
 - ii. Compressive forces and stresses.
 - iii. Shear forces and stresses.
- b. Calculate the value of the shear stress in a gudgeon-pin having an internal diameter of 0.3m when the load on the pin is 3800kgf.

Intended Task

The candidates were expected to draw the applications of the following structural steel work tensile forces and stresses, comprehensive forces and stresses, shear forces and stresses. They were also to calculate the value of the shear stress in a gudgeon-pin having an internal diameter of 0.3m when the load on the pin is 3800kgf. Candidates performed well.

Candidates' Strengths

- ✓ Many candidates responded correctly on welding processes.
- ✓ Many candidates responded correctly on the sketches in structural steel work.
- ✓ Many candidates responded correctly on welding methods of testing metals.
- ✓ Many candidates responded correctly on finding the resistance (R) in the circuit.
- ✓ Many candidates responded correctly on the methods of removing metals.
- ✓ Many candidates responded correctly on the term creep in gas welding.
- ✓ Many candidates responded correctly on used of removing metals.

Candidates' Weaknesses

- Poor computational skill.
- Poor grammatical expression.
- Misinterpretations of question.
- Poor drawing/sketching skills.

Suggestion for Improvement

- More time should be allocated to subjects with calculations in order to improve the computational skills of the candidates.

MECHANICAL ENGINEERING CRAFT PRACTICAL (061-1)

General Comments on the Paper

The questions covered the syllabus and candidates' performance was generally good.

Detailed comments on each Question

Question 1

Show with good illustrations the following fitting tools or hand tools

- (i) Square file
- (ii) Triangular file
- (iii) Half round file
- (iv) Round file
- (v) Hand file
- (vi) Star screw driver

Intended task

The question tested the candidates' ability to recall with good illustrations the following fitting tools or hand tools: square files, triangular file, half round file, round file, hand file and star screw driver. Candidates performed well.

Question 2

- (a) What is eccentric turning?
- (b) With sketches, describe eccentric operation in the lathe.

Intended task

The candidates were expected to define eccentric turning, their ability to sketch and describe eccentric operation in the lathe. Candidates performed fairly.

Question 3

- (a) State the reasons for heat treatment.
- (b) Briefly describe reasons for the following heat treatment
 - (i) Annealing
 - (ii) Hardening
 - (iii) Tempering
 - (iv) Normalizing
- (c) (i) What is case hardened?
(ii) State the advantage of case hardened component.

Intended task

The candidates were expected to state the reasons for heat treatment and to describe reasons for the following heat treatment: annealing, hardening, tempering and normalizing. They were also expected to recall case hardening and its advantages. Candidates performed well.

Question 4

- (a) What is centreless grinding?
- (b) With a good sketch show the principle of centreless grinding.
- (c) Mention four advantage of centreless grinding machine.

Intended task

The question tested candidates' ability to recall centreless grinding and with a good sketch to show the principle of centreless grinding and mention four advantage of centreless grinding machine. Candidates performed fairly.

Question 5

With a good sketch show the quick return mechanism of a shape machine and show the following parts

- (i) Ram
- (ii) The slotted link
- (iii) Sliding block
- (iv) Driving pinion
- (v) Stroke will or bull wheel.
- (vi) Trunnion
- (vii) The cutting stroke.

Intended task

The question tested candidates' ability to sketch the quick return mechanism of a shape machine and show the following parts: ram, the slotted link, sliding block, driving pinion, stroke will or bull wheel, trunnion and the cutting stroke. Candidates performed well.

Question 6

- (a) Mention four most common types of grinding machine in the workshop.
- (b) With a simple sketch show the structure of a grinding wheel.
- (c) Mention two types of abrasive grains used for grinding wheels.
- (d) Mention four types of bond material used for grinding wheels

Intended task

The question tested candidates' ability to mention four most common types of grinding machine in the workshop and with a simple sketch show the structure of grinding wheel. They were also to mention two types of abrasive grains used for grinding wheels as well as four types of bond material used for grinding wheels. Candidates performed well.

Question 7

- (a) The starting point in commercial preparation of iron and steel is the smelting of ore in the blast furnace.

Draw the cross section through blast furnace and the following parts:

- (i) Skip
 - (ii) Top charging elevator
 - (iii) Charging bells
 - (iv) Plating
 - (v) Lining
 - (vi) Blast tuyeres
 - (vii) Tapping notch for slag and iron
 - (viii) Hearth
- (b) Mention the product of blast furnace
- (c) Mention the two chief ores of iron.

Intended task

The question tested candidates' ability to recall and draw the cross section through blast furnace. They were also expected to label its parts, mention the product of blast furnace and two chief ores of iron. Candidates performed well.

Candidates' strengths

- ✓ Good drawing skills
- ✓ Good presentation of answers.

Candidates' weakness

- Poor grammatical expression.

Suggestions for improvement

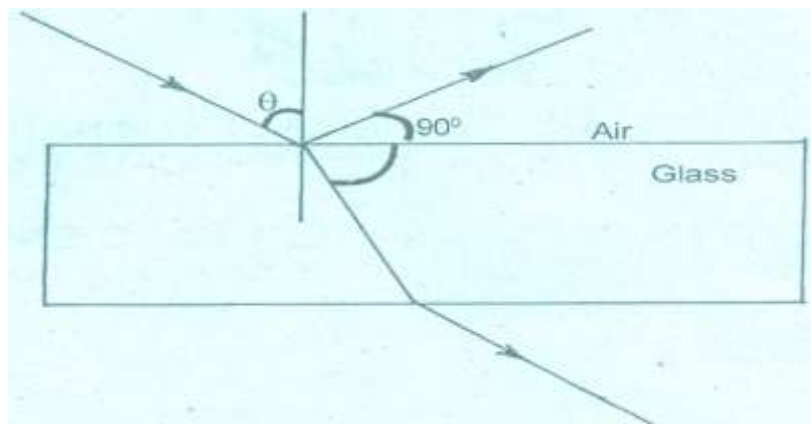
- Teachers should intensify the teaching of English language.
- Students should endeavor to read newspaper, journal and magazine.

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on each Question

Question 1



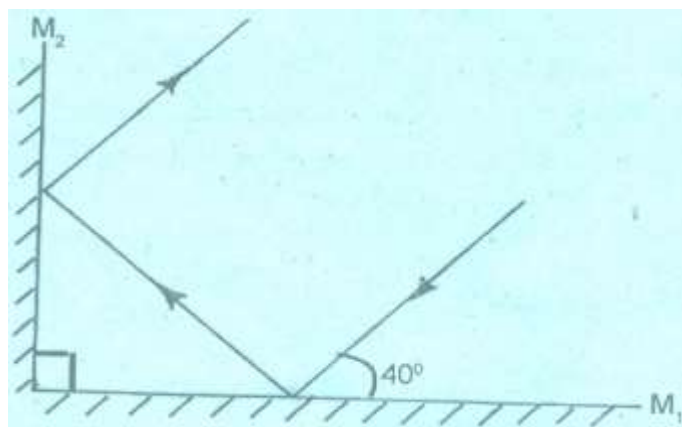
- (a) Calculate angle θ in the figure above given that the refractive index of glass is 1.55.
- (b) State Snell's law of refraction.

Intended Task

Candidates were expected to calculate angle θ in the figure above given that the refractive index of glass is 1.55; and state Snell's law of refraction. Candidates were poor in the computational skill and were good in their method of presentation of answer. Candidates performed fairly.

Question 2

- (a) When is a beam of light said to be polarized.
- (b) Calculate the value of the reflected angle of the ray at M_2 in the figure below.



Intended Task

Candidates were required to explain when is a beam of light said to be polarized and calculate the value of the reflected angle of the ray at M_2 in the figure. Many candidates were able to give good presentation, good answers and drawings. Candidates performed well.

Question 3

- (a) Sketch a graph to show the motion of an object projected upwards after which it turns to the thrower.
- (b) An object falls from rest. What is the distance travelled at the 6th second of its motion?
($g = 9.8\text{m/s}^2$)

Intended Task

Candidates were required to sketch a graph to show the motion of an object projected upwards after which it return to the thrower and also explain the distance travel by an object which fall from rest at the 6th seconds of its motion ($g = 9.8\text{m/s}^2$). Candidates lack good computational skills and presentation of answers was poor. Candidates performed poorly

Question 4

- (a) Distinguish between centripetal and centrifugal forces.
- (b) State two differences between simple harmonic motion and circular motion.

Intended Task

The question tested the candidates on the ability to distinguish between centripetal and centrifugal forces and state two differences between simple harmonic motion and circular motion. Candidates were able to state the differences between the simple motion and circular motion. Candidates performed well.

Question 5

- (a) A simple pendulum of length 0.8m has a period of 2.5 seconds. What is the period of a simple pendulum of length 0.26m?
- (b) State Newton's third law of motion.

Intended Task

Candidates were required to explain the period of a simple pendulum of length 0.26m if a simple pendulum of length 0.8m has a period of 2.5 seconds and state Newton's third law of motion. Candidate lack comparative skill to determine the period of a simple pendulum, but were able to state Newton's Third law of motion correctly. Candidates performed fairly.

Question 6

- (a) Define the term surface tension.
- (b) State four examples to illustrate the effects of surface tension.

Intended Task

Candidates were required to define surface tension and state four examples to illustrate the effect of surface tension. Candidates were able to state the effect of surface tension correctly. Candidates performed well.

Question 7

- (a) List three similarities between conduction and convection.
- (b) Explain sea breeze in terms of heat transfer by convection.

Intended Task

Candidates were required to list three similarities between conduction and convection and explain sea breeze in terms of heat transfer by convection. Candidates performed fairly.

Question 8

- (a) Define the term specific latent heat of fusion.
- (b) Calculate the heat energy required to convert 150g of ice at 0°C to steam at 100°C . (SHC of water = 4200J/KgK ; SLH of fusion of ice = $3.36 \times 10^5 \text{ J/Kg}$; SLH of vaporization of water = $2.27 \times 10^6 \text{ J/Kg}$).

Intended Task

Candidates were expected to define the term specific latent heat of fusion and calculate the heat energy required to convert 150g of ice at 0°C to steam at 100°C . (SHC of water = 4200J/KgK ; SLH of fusion of ice = $3.36 \times 10^5 \text{ J/Kg}$; SLH of vaporization of water = $2.27 \times 10^6 \text{ J/Kg}$). Candidates performed poorly.

Question 9

- (a) State Boyle's law
- (b) A gas has an initial volume, pressure and temperature of 0.01m^3 , 200N/m^2 and 28°C respectively. Calculate the volume at standard temperature and pressure.

Intended Task

Candidates were required to state Boyle's law and also to calculate the volume of a gas with an initial volume, pressure and temperature 0.01m^3 , 200N/m^2 and 28°C respectively at standard temperature and pressure. Candidates stated Boyle's law correctly. Candidates performed well.

Question 10

- (a) Define the term boiling point of water.
- (b) Explain how pure water can be made to boil at a temperature below its boiling point.

Intended Task

Candidates were required to define the term boiling point of water and explain how pure water can be made to boil at a temperature below its boiling point. Candidates were able to define the boiling point of water. Candidates performed fairly.

Question 11

- (a) (i) Define the term density of a solid.
(ii) A body weighs 150N in air and 120N when totally immersed in a liquid of relative density 0.85. Find the relative density of the body.
- (b) A ball of mass 0.10kg is thrown vertically upwards with an initial velocity of 32 m/s. Calculate the
(i) Total energy of the ball.
(ii) Maximum height attained by the ball ($g = 9.8\text{m/s}^2$).
- (c) The upward acceleration of a lift of total mass 2000kg is 0.2m/s^2 . The lift is supported by a steel cable which has a maximum working stress of $1.2 \times 10^7\text{N/m}^2$. What is the cross-sectional area of the cable? ($g = 10\text{m/s}^2$).
- (d) A force of magnitude 400N is applied to the free end of a spiral spring of force constant 1000Nm^{-1} . Calculate the:
(i) Extension produced.
(ii) Energy stored in the stretched spring.
(iii) Stress.
(iv) Strain.
(Original length of spring = 80cm; cross-sectional area of spring = $2.0 \times 10^{-4}\text{m}^2$).

Intended Task

Candidates were expected to define the term density of a solid and find the relative density of a body weighs 150N in air and 120N when totally immersed in a liquid of density 0.85.

To calculate the total energy a ball of mass 0.10kg thrown vertically upward with an initial velocity of 32m/s and the maximum height attained by the ball. ($g = 9.8\text{m/s}^2$). Calculate the cross-sectional area of a steel cable on acceleration of a lift and using original length of spring = 80cm; cross-sectional area of spring = $2.0 \times 10^{-4}\text{m}^2$, calculate extension produced, energy stored in the stretched spring, stress and strain.

The candidates have inadequate understanding of the principle/law of conservation of mechanical energy displaced in question 11b. The density of a solid in question 11a was well defined. Candidates performed fairly.

Question 12

- (a) Explain:
 - (i) Linear momentum.
 - (ii) Impulse.
- (b) State the principle of conservation of linear momentum.
- (c) A light spiral is suspended from a rigid support and its free end carries a mass of 28g which produces an extension of 2cm in the spring. The mass is then pulled downwards through a further 2cm and released, causing the mass to oscillate with simple harmonic motion.
 - (i) State and explain the two types of potential energy stored in the stretched spring.
 - (ii) Calculate the kinetic energy of the mass as it passes through the midpoint of its motion. ($g = 10\text{m/s}^2$).
- (d) Derive an expression for the displacement, y , of the mass in 12 (c) above when it is vibrating with simple harmonic motion.

Intended Task

The question tested the candidate's knowledge of linear momentum and impulse. It also tested them on the principles of conservation of linear momentum. Candidates were also required to explain the two types of potential energy and calculate the kinetic energy of the mass as it passes through the mid-point of its motion and also to derive an expression for the displacement of the mass. Candidates have a misconception of impulse as the product of force and time but rather is a momentary process involving large force which acts within a short time. Also they fail to derive the expression for the displacement in a SHM. Candidates performed poorly.

Question 13

- (a)
 - (i) Define latent heat of fusion.
 - (ii) In an experiment to determine the specific latent heat of vaporization of water, a steam trap is used. State the purpose of the steam trap.

The resistance in the element of a platinum resistance thermometer is 10ohms at 0°C , 12 ohms at 100°C and 11 ohms at room temperature. Find the room temperature on the scale of the resistance thermometer.

- (b)
 - (i) Describe an experiment to determine the specific heat capacity of a copper ball by the methods of mixtures.
 - (ii) State two precautions required to obtain accurate results in the experiment in (c)(i) above

Intended Task

The question tested the candidates knowledge of latent heat of fusion, the purpose of steam trap and the knowledge of finding room temperature on the scale of the resistance temperature. Candidates were also expected to describe an experiment to determine the specific capacity of a copper ball by the method of mixtures and state two precaution required to obtain accurate results in the experiment. Candidates were able to define latent heat of fusion. Candidates performed fairly.

Question 14

- (a) State four assumptions of the kinetic theory of gases.
- (b) Use the kinetic theory to explain how the absolute temperature of a gas will be affected if its volume is increased at constant pressure.
- (c) State two factors each which affects the:
 - (i) Boiling point of a liquid.
 - (ii) Rate of evaporation of a liquid.
- (d)
 - (i) Define dew point and explain saturated vapour pressure.
 - (ii) A relative density glass bottle contains 44.5g of a liquid at 0°C and 42g at 60°C. calculate the real cubic expansivity of the liquid (linear expansivity of glass = $1.0 \times 10^{-5} \text{K}^{-1}$).

Intended Task

The question tested the candidates' knowledge of the assumption of the kinetic theory of gases and state two factors each which affect the boiling point and rate of evaporation of a liquid. Also tested was the Candidates' knowledge of saturated vapour pressure and calculation of the real cubic expansivity of liquid with linear expansivity of glass = $1.0 \times 10^{-5} \text{K}^{-1}$. Candidates have knowledge of kinetic theory of gasses. Candidates performed fairly.

Question 15

- (a) What is real image?
- (b) Draw a ray diagram showing how a real image of magnification equals one is formed by a concave mirror.
- (c) State two applications of a concave mirror.
- (d) A ray of light is incident normally on the hypotenuse of a right angled isosceles triangular glass prism. Explain, using a ray diagram, how the ray passes through the prism.
- (e) A concave mirror of radius of curvature 12cm forms an erect image 18cm from the mirror and 2cm high. Determine the position and size of the object.

Intended Task

The question tested the candidates knowledge of image, drawing a ray diagram showing how real image of magnification equal one is formed by a concave mirror; state two application of a concave mirror. Candidates are also required to explain, by using a ray diagram how the ray passes through a right angled isosceles triangular glass prism. Also to determine the position and size of the object. Candidates performed poorly.

Candidates' Strengths

- ✓ Candidates have knowledge of condition for polarization of a beam of light.
- ✓ Candidates know the differences between simple harmonic motion and circular motion.
- ✓ Candidates stated Newton third law.

Candidates' Weakness

- Inadequate knowledge of geometry and trigonometry
- Inability to sketch a graph for the motion of a projectile.
- Lack of comparative skills to determine the period of a simple pendulum.
- Inadequate understanding of the principal law of conservation mechanical energy.
- Inability to apply law of refraction and reflection of light.

Suggestions for Improvement

- Candidates should learn more on remedial mathematics especially on geometry and trigonometry.
- Emphasis should be placed on application of conceptual knowledge.
- Candidates should be exposed to more practices in the numerical in simple pendulum and drawing of ray diagrams.

INSTRUMENTS MECHANICS WORKS (111-1)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- a. State two advantages of observing safety precautions
- b.
 - i. Explain the word "hazard" in an industry
 - ii. State two causes of hazard in an industry
- c.
 - i. Define pressure
 - ii. State its unit of measurement

Intended Task

The candidates were required to state two advantages of observing safety precautions, explain the word "hazard" and state two causes of hazard in an industry. They were also required to define pressure and to state its unit of measurement. Candidates performed well.

Question 2

- a.
 - i. Define flow rate
 - ii. State two flow rate meters
- b.
 - i. Draw a well labeled level measuring instrument
 - ii. Define temperature
 - iii. State the unit of temperature

Intended Task

The candidates were required to define flow rate and state two flow rate meters. They were also required to draw a well labeled level measuring instrument, define temperature and state the unit of temperature. Candidates performed fairly.

Question 3

- a. State the function of avometer.
- b. With the aid of diagrams, explain the difference between a thermocouple and a thermopile?

Intended Task

The question required candidates to state the function of avometer. The question also required candidates to explain the difference between a thermocouple and a thermopile with the aid of diagrams. Candidates performed poorly.

Question 4

- a. Draw three electrical graphical symbols and state their functions.
- b. State the functions of signal generator
- c. Name and explain two amplifiers

Intended Task

The question tasked the candidates' ability to draw three electrical graphical symbols and state the functions of signal generator. The question also tasked candidates ability to name and explain two amplifiers. Candidates performed well.

Question 5

- a. Name and state the function of a transducer
- b. Draw a well labeled electromagnetic solenoid
- c. Explain its functions

Intended Task

The candidates were expected to name and state the function of a transducer. They were also expected to draw a well labeled electromagnetic solenoid and to explain its functions. Candidates performed fairly.

Question 6

- a. Define the following control terms
 - i. Control
 - ii. Oscillation
 - iii. Set Point
- b. Draw and explain two term control action

Intended Task

Candidates were expected to define these control terms, control, oscillation and set point. They were also expected to draw and explain two term control action. Candidates performed well.

Question 7

- a. What is grinding operation?
- b. Explain the following grinder
 - i. Surface grinder
 - ii. Cylindrical grinder
 - iii. Centre fewer grinders

Intended Task

The candidates were expected to describe grinding operation. They were also expected to explain surface grinder, cylindrical grinder and centre less grinder. Candidates performed fairly.

Candidates' Strengths

- ✓ Good grammatical expression.
- ✓ Candidates answered question 1,4 and 6 correctly.

Candidates' Weakness

- Candidates answered question 3 wrongly.

Suggestions for Improvement

- Candidates should be encouraged to improve on their drawing skills.
- Candidates should practice with NABTEB May/June and November/December past questions for better performance.

MARINE ENGINEERING CRAFT (151-1)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

- a. Sketch a neat diagram of water purification by filtration.
- b. Explain how it works by its gravitational procedure.

Intended Task

The question tested candidates' ability to sketch a neat diagram of water purification by filtration. They were also asked to explain how it works by its gravitational procedure. Candidates performed fairly.

Question 2

Explain the functions of the following components.

- a.
 - i. Spark plug
 - ii. Injector nozzle.
 - iii. Injector pump
 - iv. Oil relief valve
- b. With the aid of sketches, explain the difference between hot plug and cold plug.

Intended Task

The question tested the candidates' ability to explain the function of spark plug, Injector nozzle, Injection pump, oil relief valve and also with the aid of sketches, explain the difference between hot plug and cold plug. Candidates performed well.

Question 3

Explain the following terms:

- i. Strainer
- ii. Priming
- iii. Downward and upward stroke.
- iv. Electrolytic corrosion.

Intended Task

The question tested the candidates' ability to explain the following terms: strainer, priming, downward and upward stroke and electrolytic corrosion. Candidates performed fairly.

Question 4

- a. State two major system used to reduce heat in working engine.
- b. Explain the following terms.
 - i. Overheating
 - ii. Overcharging
 - iii. Air lock

Intended Task

The question tested the candidates' ability to explain two major systems used to reduce heat in working engine, explain overheating, overcharging and air lock. Candidates performed well.

Question 5

- a. Explain two methods used to connect Crankshaft with Camshaft.
- b. Explain the functions of the following terms:
 - i. Timing mark
 - ii. Tensioned
 - iii. Governor

Intended Task

The question tested the candidates' ability to explain two methods used to connect crankshaft with camshaft as well as explain the functions of timing mark, tensioned, governor. Candidates performed well.

Question 6

State two effects of the following on engine performance.

- a. Broken Timing Belt
- b. Air in fuel system of C.I. engine
- c. Faulty water pump
- d. Flooding Carburetor.

Intended Task

The question tested the candidates' ability to state two effects of the following engine performance broken timing belt, air in fuel system of C.I. engine, faulty water pump and flooding carburetor. Candidates performed well.

Question 7

- a. Explain the term 'bleeding'
- b. State how bleeding can be carried out on a diesel engine.
- c.
 - i. Name one type of engine lubricating filter and state its function.
 - ii. Sketch its filter and label four parts.

Intended Task

The question tested the candidates' ability to explain bleeding and state how it can be carried out on a diesel engine. They were also expected to name one type of engine lubricating filter and its functions, sketch the filter and label four parts. Candidates performed fairly.

Candidates' Strengths

- ✓ Good computational skills
- ✓ Good presentation of answers
- ✓ Good grammatical expressions.

Candidates Weakness

- Poor drawing skill

Suggestions for Improvement

- Syllabus should always be made available for candidates to serve as guides.
- Extra lesson should be provided for the candidates.

ADVANCED COMPUTER CRAFT STUDIES (176-1)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

Explain data base management system.

Intended Task

The question tasked the candidates' knowledge of database management system. Candidates failed to mention software that manages a database and dealings with all aspects of access to data. Candidates performed fairly.

Question 2

Differentiate between information hiding and information Security.

Intended Task

The candidates were expected to differentiate between information hiding and information security. Candidates omitted the process of storing information with an ultimate intent to make it secured from intentional or accidental on privileged access. Candidates performed well.

Question 3

List four ancillary equipment in computer room.

Intended Task

The question required candidates to list four ancillary equipment in computer room. Candidates omitted fan, power surge protector and electricity power regulator. Few candidates that responded to the question performed fairly.

Question 4

List four types of data processing standards.

Intended Task

Candidates were expected to list four types of data processing standards. Candidates omitted data transmission standard, data verification, validation standard, data protection and security standard. Candidates performed fairly.

Question 5

Differentiate between false flooring and false roofing.

Intended Task

The question required candidates to differentiate between false flooring and false roofing. Candidates were expected to state that a false floor is a floor installed above the structural floor while false roofing is a second layer of roof suspended from the main roof. Candidates performed well.

Question 6

Define a system.

Intended Task

The candidates were expected to define a system. Candidates failed to define a system is a group of related elements or activities that are organized for a specific purpose or to achieve a common objective. Candidates performed fairly.

Question 7

Explain any two decision making techniques in project management.

Intended Task

The candidates were expected to explain any two decision making techniques in project management. They were expected to state points like analytical technique, group decision making and critical pathway method. Candidates performed fairly.

Question 8

Differentiate between Cartesian and coordinate systems.

Intended Task

The question required candidates to differentiate between Cartesian and coordinate systems. They were expected to state that coordinate system specify the position of a point while cartesian system specifies each point uniquely in a plane by pair of numbers. Candidates performed well.

Question 9

Explain how to make object from one layer to another.

Intended Task

The candidates were expected to explain how to make object from one layer to another. Candidates failed to mention click the home tab – Layer panel –copy objects to new layer. Candidates performed well.

Question 10

Explain the process of writing numbers on a drawing.

Intended Task

The candidates were expected to explain the process of writing numbers on a drawing. They were also expected to state click the dimension icon on the dimension tool bar. Candidates performed fairly.

Question 11

- a. Explain user interfaces Database Management System
- b. Differentiate between the following
 - i. Data Independence
 - ii. Structure Independence

Intended Task

The candidates were expected to explain user interfaces Database Management System and differentiate between data independence and structure independence. They were expected to state the means of interacting with a database management system. Candidates performed well.

Question 12

- a. Explain the importance of air-conditioning and communication facilities in a computer room.
- b. Define the following:
 - i. Feasibility study
 - ii. Proposal specification

Intended Task

The candidates were expected to explain the importance of air-conditioning and communication facilities in a computer room. They were also expected to define feasibility study and proposal specification. Candidates were expected to state that feasibility study is a formal study to decide what type of system can be developed that meets the needs of organization and user objectives. Candidates performed well.

Question 13

- a. State three equipment in data processing and explain their functions.
- b. Explain pre-installation arrangement and internal partitioning

Intended Task

The question required candidates to state three equipment in data processing and explain their functions. The question also required candidates to explain pre-installation arrangement and internal partitioning. They were also expected to mention equipment like keyboard, mouse, terminal, printer and scanner. Candidates performed fairly.

Question 14

- a.
 - i. Define Organization
 - ii. List four types of organization
- b. Explain the different stages in decision-making

Intended Task

Candidates were expected to define and list four types of organization. They were also expected to explain the different stages in decision-making. They were to state the four types of organization as business organization, public service organization, profit and non-profit organization. Candidates performed well.

Question 15

Explain how to perform the following operations in AUTOCAD

- i. Copy Object
- ii. Erase Object
- iii. Trim Objects
- iv. Move Objects

Intended Task

The candidates were expected to explain how to copy object, erase object, trim objects and move object in AUTOCAD. Candidates performed fairly.

Question 16

- a. Explain the different input methods in AUTOCAD
- b. Explain how to change color of layers

Intended Task

The candidates were expected to explain the different input methods in AutoCAD and explain how to change color of layers. Candidates performed well.

Question 17

- a. Differentiate between move and copy in AUTOCAD
- b. Explain how to produce a full drawing with title blocks from real engineering component

Intended Task

The question required candidates to differentiate between move and copy in AutoCAD. The question also required candidates to explain how to produce a full drawing with title blocks from real engineering component. They were expected to mention points like keyboard draw toolbar and pull down menu. Candidates performed well.

Candidates' Strengths

- ✓ Good grammatical expression
- ✓ Good presentation of answers

Candidates' weaknesses

- Candidates answered question 6 wrongly.
- Candidates answered question 10 and 13 wrongly.
- Poor drawing skills.

Suggestions for Improvement

- Teachers should cover teaching syllabi
- Students should be encouraged to buy and study relevant textbooks.
- Students should be encouraged to improve their drawing and computational skills.
- Parents/guardians should be encouraged to provide the necessary material for their children and wards.
- Government should invest more into Technical Education.

ANIMAL HUSBANDARY (181-I)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Paper

Question 1

- a. Define the term poultry.
- b. Mention the names of six poultry birds you know.
- c. Identify the classes of poultry feed available in the market.
- d. Explain the use of each one in poultry production.

Intended Task

The candidates were required to define poultry and to mention the names of six poultry birds known to them. They were also required to identify the classes of poultry feed available in the market as well as explaining the use of each one in poultry production. Candidates performed fairly.

Question 2

- a. Define the term balanced Ration.
- b. What kind of ration would you give to the following classes of pigs?
 - i. Pregnant sow
 - ii. Piglets that are still sucking their sow
 - iii. Piglets that have just been weaned.
 - iv. Nursing sow

Intended Task

The candidates were expected to define balanced ration. They were also expected to state the kind of ration that will be suitable for these classes of pigs: pregnant sow, piglets that are still sucking their sow, piglets that have just been weaned and nursing sow. Candidates performed poorly.

Question 3

- a. Identify five ways you can use to recognize a sick goat or sheep.
- b. Mention five importance of goat or sheep to the farmer and meat consumer.
- c. What is the importance of meat inspector in an abattoir?

Intended Task

The candidates were required to identify five ways that can be used to recognize a sick goat or sheep. They were also required to mention five importance of goat or sheep to the farmer and meat consumer as well state the importance of meat inspector in an abattoir. Candidates performed fairly.

Question 4

- a. What is caprophagy?
- b. List ten forages used for feeding rabbits.
- c. Describe the important feature of sexing rabbits.

Intended Task

The candidates were expected to describe caprophagy. They were also expected to list ten forages used for feeding rabbits and to describe the important feature of sexing rabbits. Candidates performed well.

Question 5

- a. What is nutrition?
- b. Describe how each of the following essential constituent of farm animal's diet is used by cattle:
 - i. Protein
 - ii. Carbohydrate
 - iii. Minerals
 - iv. Vitamins
 - v. Water.
- c. Name two major sources of each of them.

Intended Task

Candidates were expected to define nutrition. They were also expected to describe how protein, carbohydrate, minerals, vitamins and water which are essential constituent of farm animals diet is used by cattle as well as name two major sources of each of them. Candidates performed well.

Question 6

- a. Write short notes on the agricultural importance of the following:
 - i. Quarantine
 - ii. Vaccination
 - iii. Cross breeding
 - iv. Culling
 - v. Isolation.
- b. With examples, explain the difference between pests and parasites of farm animals.

Intended Task

The candidates were required to write short notes on the agricultural importance of quarantine, vaccination, cross breeding, culling and isolation. They were also required to explain the difference between pests and parasites of farm animals citing examples. Candidates performed well.

Question 7

Give reasons why you will construct a small ruminant house to have the following features:

- i. Foot dip
- ii. Dwarf wall
- iii. Screen or wire net
- iv. Thatch roof
- v. Concrete floor.

Intended Task

The question tested candidates' ability to construct a small ruminant house to have the following features, foot dip, dwarf wall, screen or wire net, thatch roof and concrete floor. Candidates performed well.

Candidates' Strengths

- ✓ Good grammatical expressions.
- ✓ Candidates answered question 4 and 5 correctly.
- ✓ Candidates answered question 6 and 7 correctly.

Candidates' Weakness

- Candidates answered question 2 wrongly.

Suggestions for Improvement

- Candidates should be encouraged to procure and study relevant textbooks.
- Teachers should prepare candidates adequately using NABTEB past questions.
- Students should be taken on excursion to abattoir and be exposed more to the practical aspect of the subject.

ADVANCED ANIMAL HUSBANDRY (186-1)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- a. State the name given to the meat of sheep and goats.
- b. Mention two characteristics of pigs.

Indented Task

The questions required candidates to state the name given to the meat of sheep and goats. They were also to mention two characteristics of pigs. Candidates performed fairly.

Question 2

- a. Give two examples of occasional management operations in poultry productions.
- b. Name four problems of rabbits keeping in Nigeria.

Indented Task

The candidates were required to give two examples of occasional management operations in poultry production. They were also required to name four problems of rabbits keeping in Nigeria. Candidates performed fairly.

Question 3

- a. Mention four examples of exotic breeds of pigs.
- b. Name four features of rabbit housing.

Indented Task

The candidates were required to mention four examples of exotic breeds of pigs. They were also required to name four features of rabbit housing. Candidates performed fairly.

Question 4

- a. Give four examples of local breeds of cattle.
- b. State four stomach compartments of ruminant animals.

Indented Task

The candidates were required to give four examples of local breeds of cattle. They were also required to state four stomach compartments of ruminant animals. Candidates performed fairly.

Question 5

- a. Give four examples of exotic breeds of rabbit.
- b. State two factors to be considered in rabbit feeding.

Indented Task

The candidates were expected to give four examples of exotic breeds of rabbit. They were also expected to state two factors to be considered in rabbit feeding. Candidates performed fairly.

Question 6

What is the gestation period of each of the following?

- i. Cow
- ii. Sow
- iii. Doe
- iv. Ewe

Indented Task

Candidates were expected to give the gestation period of cow, sow, doe and ewe. Candidates performed fairly.

Question 7

Define parturition and state the name of this process in Cow, Sow and Ewe.

Indented Task

The candidates were required to define parturition and to state the name of this process in Cow, Sow, Sow and Ewe. Candidates performed fairly.

Question 8

State the meaning of “flushing-up” and give one significance of this process in sheep management.

Indented Task

The candidates were expected to state the meaning of “flushing-up”. They were also expected to give one significance of this process in sheep. Candidates performed fairly.

Question 9

Define "steaming-up" and state two advantages of this in sheep management.

Indented Task

The candidates were required to define “steaming-up”. They were also required to state two advantages of this in sheep management. Candidates performed fairly.

Question 10

- a. Give two examples each of the polygastric and monogastric animals.
- b. Name two diseases of domestic fowls.

Indented Task

Candidates were expected to give two examples each of the polygastric and monogastric animals. They were also expected to name two diseases of domestic fowls. Candidates performed fairly.

Question 11

- a. State five importance of rabbit production.
- b. Write short notes on the intensive method of managing poultry under the following headings:
 - i. Sanitation.
 - ii. Feeding.
- c. List three breeds of pigs.
- d. Define candling in chicks production.

Indented Task

The candidates were required to state five importance of rabbit production and to write short notes on the intensive method of managing poultry in relation to sanitation and feeding. Candidates performed fairly.

Question 12

- a. Explain how you will prevent the liver fluke from completing its life cycle in the field.
- b. List three effects of lice on cattle.
- c. With the aid of annotated diagram, describe the life cycle of the liver fluke (*fasciola hepatica*).
- d. What is the function of estrogen in female animal?

Indented Task

The candidates were expected to explain how to prevent the liver fluke from completing its life cycle in the field and to list three effects of lice on cattle. They were also expected to describe the life cycle of the liver fluke (*fasciola hepatica*) with the aid of an annotated diagram as well as to give the function of estrogen in female animal. Candidates performed fairly.

Question 13

State three characteristics of each of the following animal breeds:

- a. West African dwarf goat.
- b. Ouda sheep.
- c. White Fulani cattle.
- d. Flemish giant rabbit.

Indented Task

The question required candidates to state three characteristics of each of these animal breeds, westAfrican dwarf goat, Ouida sheep, white Fulani cattle and Flemish giant rabbit. Candidates performed fairly.

Question 14

- a. Give four reasons for rearing animals in Nigeria.
- b. In a tabular form, state four differences between ruminant and monogastric digestive systems.
- c. Define hutch in rabbitry.
- d. What are net boxes used for in rabbitry?

Indented Task

The candidates were required to give four reasons for rearing animals in Nigeria and to state four differences between ruminant and monogastric digestive systems in a tabular form. They were also required to define hutch in rabbitry to state the use of net boxes in rabbitry. Candidates performed fairly.

Question 15

Write short notes on the following:

- a. False pregnancy in rabbitry.
- b. Record keeping in animal production.
- c. Kidding.
- d. Calving.

Indented Task

Candidates were expected to write short notes on false pregnancy in rabbitry, Record keeping in animal production, kidding and calving. Candidates performed fairly.

Question 16

- a. List three advantages and three disadvantages of the extensive system of rearing goats in Nigeria.
- b. State four characteristic features of a good layer.
- c. Describe the preparations to be carried out for receiving day old chicks for rearing.

Indented Task

The candidates were required to list three advantages and three disadvantages of the extensive system of rearing goats in Nigeria. They were also required to state four characteristic features of a good layer as well as describing the preparations to be carried out for receiving day old chicks for rearing. Candidates performed fairly.

Question 17

Define the following terms:

- a. Breeding in rabbits.
- b. Brooding.
- c. Debarking.
- d. Deworming.

Indented Task

The candidates were expected to define breeding in rabbits, brooding, debeaking and deworming. Candidates performed fairly.

Candidates' Strength

- ✓ Good presentation of answers.

Candidates' Weaknesses

- Poor grammatical expressions
- Poor drawing skills

Suggestions for Improvement

- Teachers should cover teaching syllabi.
- Candidates should be exposed to useful information and technology for better performance.
- Candidates should be exposed to the specimen prior the examination for enhanced performance.

GENERAL METAL WORKS (191-1)

General Comments on the Paper

The question covered the syllabus and candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) (i) mention four safety precautions to be observed in gas welding workshop
- (ii) State three reasons why the tip of soldering iron is made of copper.
- (b) Draw a soldering bit and label the following:
 - (i) Lip.
 - (ii) Handle.

Intended task

The candidates were expected to mention four safety precautions to be observed in gas welding workshop, and state three reasons why the tip of soldering iron is made of copper. The question also requested candidates to draw a soldering bit and label the following: lip and handle. Candidates performed well.

Question 2

- (a) List six marking out tools used in mechanical workshop.
- (b) Sketch two and their uses.
- (c) What precaution is to be observed when using any of them?

Intended task

Candidates were expected to list six marking out tools used in mechanical workshop, and the precaution to be observed when using any of them. They were also tasked to sketch two tools and their uses. Candidates performed well.

Question 3

- (a) (i) What is riveting?
- (ii) List any four rivets
- (b) (i) Mention five condition necessary to obtain good riveting
- (ii) With the aid of sketches, show two rivets.

Intended task

The question tested candidates' ability to recall riveting and list any four rivets. The question also requested them to mention five conditions necessary to obtain good riveting and draw two rivets. Candidates performed well.

Question 4

- (a) (i) sketch a suitable limit gauge for checking the diameter of hole
(ii) in dimension of 60mm tolerance of $\pm 0.02\text{mm}$. State the upper limit and the lower limit.
- (b) Mention two ways of caring gauges.

Intended task

Candidates were expected to sketch a suitable limit gauge for checking the diameter of hole, in a dimension of 60mm tolerance of $\pm 0.02\text{mm}$. State the upper limit and the lower limit. They were also to mention two ways of caring gauges. Candidates performed fairly.

Question 5

- (a) (i) Mention four methods of classifying a file
(ii) Differentiate between grade and type of cut in a file.
- (b) Differentiate between flat file and hand file with sketch.

Intended task

The candidates were expected to mention four methods of classifying a file and to differentiate between grade and type of cut in a file. They were also to differentiate between flat file and hand file with sketch. Candidates performed well.

Question 6

- (a) (i) Show with the aid of a line diagram a buttress thread.
(ii) Mention two practical applications.
(iii) With a sketch show the pitch buttress thread.

Intended task

The candidates were expected to show with the aid of a line diagram a buttress thread and mention two practical applications. They were also, with a sketch, show the pitch buttress thread. Candidates performed poorly.

Question 7

- (a) List six parts on a centre lathe.
- (b) With the aid of a sketch, show how to turn between centres.

Intended task

The candidates were expected to list six parts on a centre lathe and with the aid of a sketch, show how to turn between centres. Candidates performed fairly.

Candidates' strength

- ✓ Few candidates express themselves well in section 2, 3, 5, and 7.

Candidates' weaknesses

- Poor grammatical expression.
- Poor computational skills.
- Poor drawing skills.

Suggestions for Improvement

- Teaching and learning of English language should be encouraged in technical school to improve their English expression.
- Teachers should encourage candidates on how to practice free-hand sketching and reading books like journals, technical magazines to aid their drawing skills.

GENERAL WOOD WORK (192-1)

General Comments on the Paper

The paper covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) (i) list the three types of carcase construction
- (ii) Identify the three types of framed construction.
- (b) Sketch the following joints:
 - (i) Dovetail joint
 - (ii) Mortise and tenon joint

Intended task

The question tested candidate's ability to list three types of carcase construction, identify three types of framed construction. They were to sketch the following joints (i) Dovetail joint (ii) Mortise and tenon joint. Candidates performed well.

Question 2

- (a) List five different operations that can be performed on a circular saw machine.
- (b) With the aid of sketches, explain any two operations listed in 2 (a) above

Intended task

The question tested candidate's ability to list five different operations that can be performed on a circular saw as well as with the aid of sketches explain any two operations of a circular saw. Candidates performed fairly.

Question 3

- (a) State two characteristic of each of the following African timbers:
 - (i) Mahogany
 - (ii) Opepe
 - (iii) Arura
- (a) Draw the cross-section of a log and label its parts.

Intended task

The question tested candidates' ability to state two characteristics of mahogany, opepe and arura and to draw the cross-section of a log and label its parts. Candidates performed fairly.

Question 4

Define the following terms:

- (i) Adhesive
- (ii) Conversion
- (iii) Defect
- (iv) Seasoning
- (v) Manufactured boards

Intended task

The candidates were tested on their ability to define adhesive, conversion, defect, seasoning and manufactured boards. Candidates performed well.

Question 5

- (a) List five personal safety precautions to be observed in the wood workshop
- (b) Identify three holding devices used in wood workshop.

Intended task

The question tested candidates' ability to recall five personal safety precautions to be observed in the wood workshop and to identify three holding devices used in wood workshop. Candidates performed well.

Candidates' strengths

- ✓ They demonstrated good knowledge and understanding of carcass construction, safety, precaution, holding device.
- ✓ Legible handwriting
- ✓ Precise and straight forward answers.
- ✓ Good presentation of answers

Candidates Weakness

- Poor command of English

Suggestions for Improvement

- Candidates should learn how to interpret question correctly
- Qualified teachers should be employed to teach the subject.
- Candidates should always listen to news, read newspapers, magazines and journals.

BUILDING/ENGINEERING DRAWING (193-2)

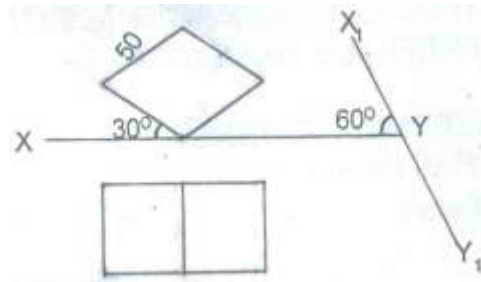
General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

Copy the given view of a cube below and draw its auxiliary view on plane $X_1 Y_1$

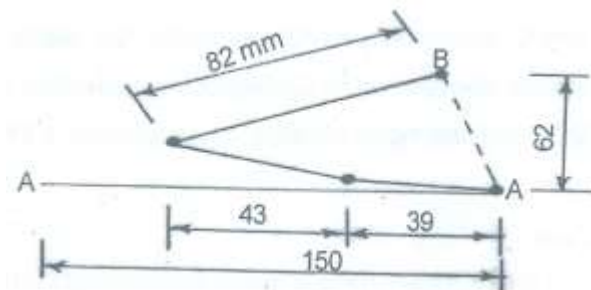


Question 2

Use the auxiliary circle method and construct an ellipse, major axis = 100cm and minor axis = 70mm

Question 3

The stay BHA is pin-pointed at H and is free to rotate about the fixed point B plot the locus of P as end A moves in one complete revolution.



Question 4

The drawing below shows the drawing plan of a three bedroom bungalow. Draw to scale 1:100

The plan of the building showing all working details

A front view in the direction of arrow 'A' to scale of 1:100

A sectional end view on plane X-X to a scale of 1:50

SPECIFICATION:

FOUNDATION FOOTING:

WALLS:

HARDCORE:

CONCRETE FLOOR SLAB:

FLOOR FINISH:

DOOR:

WINDOW:

450X150 at 900 from ground level

150 thick block work

300 thick

100 thick over site

150 screed

2100x900

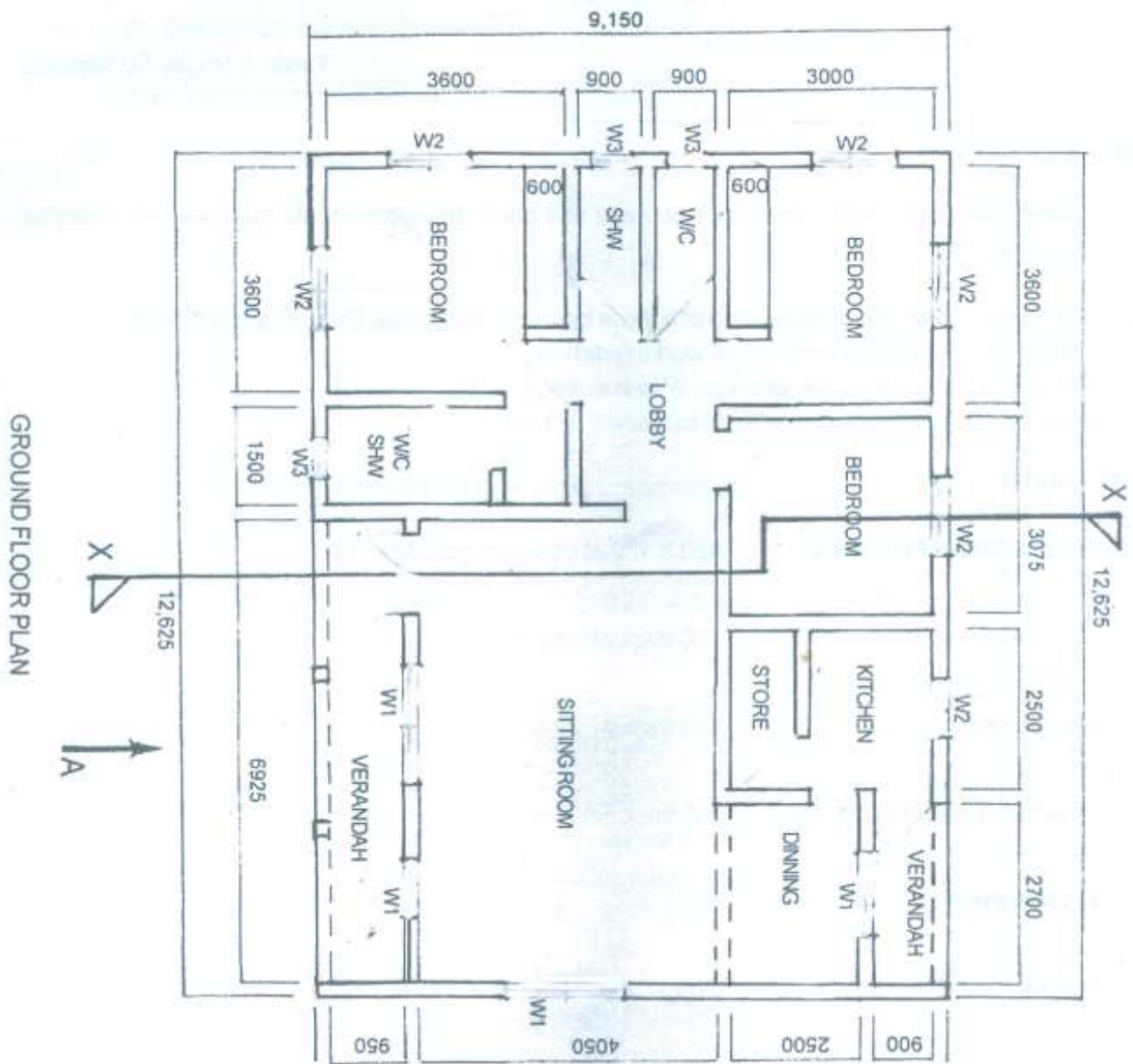
$W_1=1800 \times 1200$

$W_2=1200 \times 1200$

$W_3=600 \times 600$

ROOF:

Gable roof with aluminum covering all dimensions in millimetres



Question 5

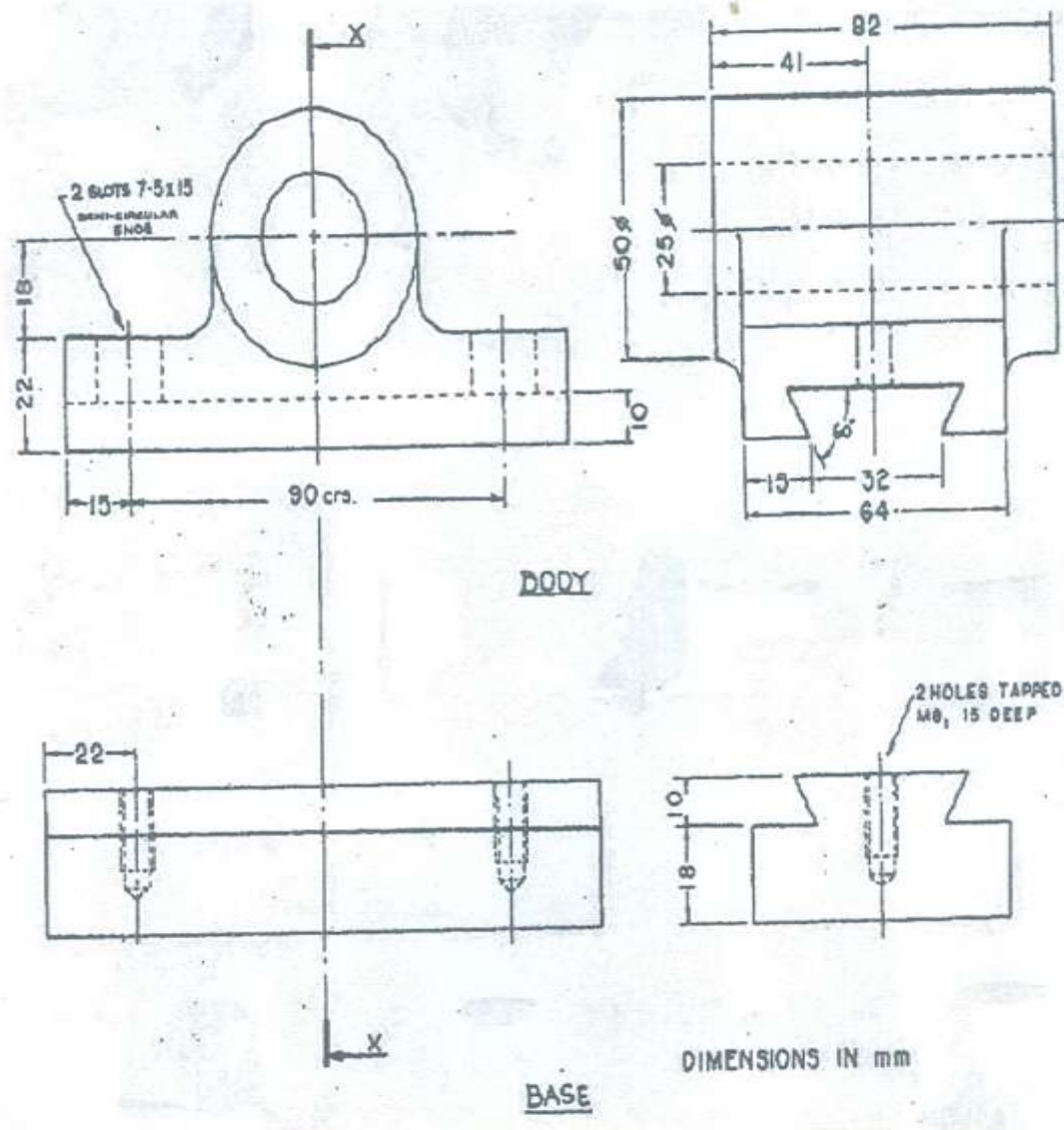
Below are the two views in first angle projection of the body and base of a shaft bearing. The body is secured in position on the base by two hexagon-headed M8 set screws, 25mm long complete with washers.

DRAW:

Full size in correct projection, the elevation of the complete assembly.

A sectional side view on X-X in the direction indicated.

All dimensions in millimetres



Candidates' Strengths

- ✓ Good interpretation of answers.

Candidates' Weaknesses

- Poor drawing and sketching skills.
- Poor presentation of answers.

Suggestions for Improvement

- Teachers should cover teaching syllabi.
- Students should be encouraged to buy and study relevant textbooks.
- Students should be encouraged to improve on their drawing skills.

BASIC ELECTRICITY (194-1)

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally on the average.

Detailed Comment on Each Question

Question 1

- (a) What is soldering?
- (b) List six procedure for soldering.
- (c) List three precautions while soldering.
- (d) Mention two types of solder.

Intended task

The questions tested the candidates' knowledge on soldering and were further expected to mention six procedures for soldering and three precautions on measure to follow while soldering. They were required to mention two types of solder. Many candidates were not able to state the procedure for soldering. Candidates performed fairly.

Question 2

- (a) Define a capacitor.
- (b) List four types of capacitors
- (c) State three application of a capacitor
- (d) Three capacitor of 10uf, 14uf and 22uf are connected in a circuit. Calculate the resultant capacitance when connected in circuit
 - (i) Series
 - (ii) Parallel.

Intended Task

The question tested candidates' knowledge of a capacitor. They were required to list four types of capacitors, three application of a capacitor and three capacitor of 10uf, 14uf and 22uf connected in a circuit. They were also required to calculate the resultant capacitance when connected in a circuit (i) Series (ii) Parallel. Most of the candidates were able to define and list four types of capacitor. Candidates performed well.

Question 3

- (a) State ohms law.
- (b) State four factors that affect the resistance of s conductor
- (c) Three resistors of resistance 20Ω , 30Ω and 40Ω are connected as follows :
 20Ω and 30Ω in series and 40Ω across the two parallel. The combination is connected to 200v.c supply. Calculate:
 - (i) Total restance of the circuit
 - (ii) Total current
 - (iii) Current in the 40Ω resistor
 - (iv) Current in 20Ω resistors.

Intended Task

The question required candidate's knowledge of ohms law. They were expected to state four factors that affect the resistance of a conductor and three resistors of resistance 20Ω , 30Ω and 40Ω are connected as follows: 20Ω and 30Ω in series and 40Ω across the two parallel. The combination is connected to 200v.c supply. Calculate:

- (i) Total restance of the circuit
- (ii) Total current
- (iii) Current in the 40Ω resistor
- (iv) Current in 20Ω resistors and 30Ω resistors.
- (v) Candidates performed well.

Question 4

- (a) Define the following terms and state their symbols and their units of measurement:
 - (i) Inductive reactance.
 - (ii) Capacitive reactance.
 - (iii) Impedance
- (b) A circuit consist (b) 120uf connected in series to 200V 50H₂ supply. Calculate:
 - (i) Inductive reactance.
 - (ii) Capacitive reactance.
 - (iii) Current in the circuit.

Intended Task

Candidates were expected to define the following terms: inductive reactance, capacitive reactance and impedance and to further state their symbols and unit of measurement. The candidates were required to calculate Inductive reactance, capacitive reactance and current in the circuit that consist of resistance of 10Ω Inductive of $0.5H$ and a capacitive pd $120\mu f$ connected in series to $200V$ $50Hz$ supply. Most of the candidates gave a wrong formula. Candidates performed poorly.

Question 5

- (a) Define a transformer.
- (b) With the aid of a diagram, describe the operating of a double wound transformer.
- (c) A single phase step down double wound transformer has a volt per turn of $1.5V$. The primary voltage is $300V$ while the secondary voltage is $240V$. If the primary current is $15A$, calculate the
 - (i) Respective number of turns in each winding.
 - (ii) Secondary current.

Intended Task

The candidates were expected to define a transformer and with the aid of a diagram, describe the operating of a double wound transformer. A single phase step down double wound transformer has a volt per turn of $1.5V$. The primary voltage is $300V$ while the secondary voltage is $240V$. If the primary current is $15A$, calculate the (i) Respective number of turns in each winding (ii) Secondary current. Candidate performed well.

Question 6

- (a) What is an indicating?
- (b) With the aid of a diagram, describe the principle of operation of a moving coil instrument.
- (c) List two advantages and disadvantages of moving coil instrument.
- (d) A moving coil instrument gives full scale deflection with $15mA$ and has a resistance of $5W$. Calculate the resistance required to enable the instrument read to:
 - (i) $10A$
 - (ii) $100V$

Intended Task

The question tested candidate knowledge of an indicating instrument. Candidates were expected to describe the principle of operation of a moving coil instrument and to List two advantages and disadvantages of moving coil instrument. A moving coil instrument gives full scale deflection with $15mA$ and has a resistance of $5W$. Calculate the resistance required to enable the instrument read to: (i) $10A$, (ii) $100V$. The candidates were unable to draw a moving coil instrument. Candidates performed averagely.

Question 7

Draw the B.S graphic symbol of the following:

- (i) Rheostart
- (ii) Ammeter
- (iii) Earth electrode
- (iv) Discharge lamp, (v) Circuit breaker, (vi) Alternating, (vii) Two way switch, (viii) battery, (ix) Auto transformer, (x) Air inductor, (xi) Ba plug, (xii) pedance.

Intended Task

The candidates were expected to draw the B.S graphic symbol of the following, (i) Rheostart, (ii) Ammete, (iii) Earth electrode, Discharge lamp, (v) Circuit breaker, (vi) Alternating, (vii) Two way switch, (viii) battery, (xi) Auto transformer, (x) Air inductor, (xi) Ba plug, (xii) pedance. Most of the candidates know some of the symbol but were unable to give the B9 graphical symbol of discharge lamp, circuit breaker, and alternating, current motion. Candidates performed averagely.

Candidate's weaknesses

- Poor grammatical expression
- Most of the candidates lack drawing skills
- Most of the candidates were unable to give the B.S graphical symbol for, Circuit breaker, Discharge lamp, Alternating current motor, Two way switch, Auto transformer.
- drew wrong diagram of double wounded transformer .
- They were unable to draw a moving coil.

Suggestions for improvement

- Candidates should attend classes
- Candidates should buy relevant text books
- Candidates should develop the habit of reading
- Teachers should cover the syllabus
- School should organize seminars for student

FISHERIES (201-1)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- a. What are the factors responsible for spoilage?
- b. Describe the fish salting process.

Intended Task

The question tested candidates to recall the factors responsible for spoilage and also describe the fish salting process. Candidates performed well.

Question 2

Write an essay on the physical properties of aquatic habitats.

Intended Task

The question tested the candidates' knowledge to recall an essay on the physical properties of aquatic habitats. Candidates performed well.

Question 3

Compare and contrast fresh and brackish water in fish environment.

Intended Task

Candidates were expected to compare and contrast fresh and brackish water in fish environment. Candidates performed fairly.

Question 4

Discuss the external and internal anatomy of a named fresh water fish.

Intended Task

The candidates were expected to explain the external and internal anatomy of a named fresh water fish. Candidates performed well.

Question 5

Discuss the basic difference between fish processing and fish preservation.

Intended Task

The candidates were expected to discuss the basic difference between fish processing and fish preservation. Candidates performed well.

Question 6

Describe a fresh water aquatic ecosystem and their animal biodiversity.

Intended Task

The question tested the candidates' knowledge of a fresh water aquatic ecosystem and their animal biodiversity. Candidates performed well.

Question 7

Write short notes on physical, chemical and biological characteristics of water as they affect fish production.

Intended Task

The question tested candidates' ability to recall the physical, chemical and biological characteristics of water as they affect fish production. Candidates performed well.

Candidates' Strengths

- ✓ Many candidates responded correctly to compare and contrast fresh and brackish water in fish environment.
- ✓ Many candidates responded well to the factors responsible for spoilage.
- ✓ Many candidates responded correctly to the physical properties of aquatic habitats.
- ✓ Many candidates responded correctly to the characteristics of water as they affect fish production.

Candidates' Weaknesses

- Poor grammatical expression.
- Misinterpretations of questions
- Poor drawing skills

Suggestions for Improvement

- Candidates should be advised on the use of library to enhance their brain for the examinations.
- Assignments involving drawings and sketching should always be given to students

ADVANCED BRICKLAYING/BLOCKLAYING AND CONCRETING (217-1)

General Comments on the Paper

The paper covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

Explain the following terms used in levelling:

- (a) Reduced level
- (b) Tripod
- (c) Foresight
- (d) Levelling staff.

Intended Task

The candidates were expected to explain the following terms used in leveling reduced level, tripod, foresight and levelling staff. Many candidates responded well to the question. Candidates performed well.

Question 2

State two ways of checking the accuracy of setting out of a building.

Intended Task

Candidates were expected to state two ways of checking the accuracy of setting out of a building. Many candidates avoided the question. Candidates performed poorly.

Question 3

Briefly explain two types of retaining wall

Intended Task

The candidates were expected to briefly explain two types of retaining wall. Many candidates avoided the question. Candidates performed poorly.

Question 4

Differentiate between an arch and a turning piece, illustrating with sketches

Intended Task

The candidates were expected to differentiate between an arch and a turning piece using sketches. Candidates performed poorly.

Question 5

- i. What are the factors to be considered when designing a mix?
- ii. Explain the term water/cement ratio

Intended Task

The question tasked candidates' knowledge of the factors to be considered when designing a mix and to explain water/cement ratio. Candidates performed poorly.

Question 6

State two main disadvantages of non-self-centering floors.

Intended Task

Candidates were expected to state two main disadvantages of non-self centering floors. Candidates performed poorly.

Question 7

State the functions of two ingredients used in the production of emulsion points.

Intended Task

Candidates were expected to state the functions of two ingredients used in the production of emulsion points. Candidates performed well.

Question 8

Briefly explain the difference between curtain walling and cladding.

Intended Task

The candidates were expected to explain the difference between curtain walling and cladding. Candidates performed poorly.

Question 9

With the aid of neat sketches describe briefly the use of sight rails and boning rods in setting out drains.

Intended Task

Candidates were expected to describe briefly the use of sight rails and boning rods in setting out drains using neat sketches. Candidates performed poorly.

Question 10

Outline three factors to be considered when making choice of water proofing materials.

Intended Task

The candidates were expected to outline three factors to be considered when making choice of water proofing materials. Candidates performed poorly.

Question 11

- (a) Explain the difference between rise and fall and collimation methods of booking levels.
- (b) With the aid of sketch(es), explain the following as used in timbering:
 - (i) Poling board
 - (ii) Strut
 - (iii) Lip block
 - (iv) Page.

Intended Task

Candidates were expected to explain the difference between rise and fall and collimation methods of booking levels. They were also expected with sketches to explain these terms as used in timbering: poling board, strut, lip block and page as used in timbering. Candidates performed poorly.

Question 12

A 150mm thick block wall measuring 2m high and 20m long is to be built on an existing concrete slab. The wall is to receive 12mm rendering on both sides. Calculate the cost of the work using the following rates which include profit and allow 15% for wastage.

- (a) 150mm thick block wall at ₦ 2,400 per m².
- (b) 12mm thick rendering at ₦ 1,500 per m².

Intended Task

The question required the candidates' ability to calculate the cost of work using rate which include profit and allow 15% for wastage given a 150mm thick block wall measuring 2m high and 20m long is to be built on an existing concrete slab. The wall is to receive 12mm rendering on both sides. Candidates performed poorly.

Question 13

Show with neat sketches where the tensile forces act and positions of the main reinforcement bars in the following structures:

- (a) Retaining wall
- (b) Continuous beam
- (c) Simply supported beam.

Intended Task

Candidates were expected to show with neat sketches where the tensile forces act and positions of the main reinforcement bars in the following structures retaining wall, continuous beam and simply supported beam. Candidates performed fairly.

Question 14

With the aid of sketches, describe the following types of floor construction:

- (a) Beam and slab.
- (b) Hollow slab floors.
- (c) Ribbed precast concrete slabs.

Intended Task

Candidates were expected using sketches to describe the following types of floor construction beam and slab, hollow slab floor and ribbed precast concrete slabs. Candidates performed poorly.

Question 15

- (a) Describe the preparation of a smooth concrete wall prior to rendering.
- (b) State four functions of rendering.

Intended Task

The candidates were expected to describe the preparation of a smooth concrete wall prior to rendering and state four functions of rendering. Many candidates avoided the question. Candidates performed poorly.

Question 16

- (a) Explain with the aid of sketch, the term curtain walling.
- (b) State two disadvantages of curtain walling.

Intended Task

The candidates were expected to explain with a sketch the term curtain walling and state two of its disadvantages. Candidates performed poorly.

Question 17

Briefly explain tyrolean finish as a method of rendering external walls.

Intended Task

Candidates were expected to briefly explain tyrolean finish as a method of rendering external walls. Many candidates responded well to the question. Candidates performed well.

Candidates' Strengths

- ✓ Good grammatical expression.
- ✓ Good presentation of answers.

Candidate's Weaknesses

- Poor drawing skill.
- Poor computation skill.
- Illegible hand writing.
- Misinterpretation of question.
- Poor labeling of sketches.

Suggestions for Improvement

- Qualified instructors should be recruited to teach in colleges and vocational institutes.
- Teachers teaching trade areas should lay more emphasis on practical and demonstrations.
- Discipline should be a watch word to principals/teachers; this would help to imbibe character in the students.
- Policy makers should make Technical Education a priority in Nigeria.

MACHINE WOOD WORKING (246-1)

General Comments on the paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comment on Each Question

Question 1

State two hazards of a saw mill machine.

Intended Task

The candidates were expected to state two hazards of a saw mill machine. Candidates performed well.

Question 2

List at least five functions of a saw mill machine.

Intended Task

The candidates were expected to list at least five functions of a saw mill machine. Candidates performed well.

Question 3

Mention two types of maintenance and explain one of them.

Intended Task

The question tasked candidates ability to mention two types of maintenance and explain one of them. Candidates performed well.

Question 4

Advance three personal safety precautions to be observed by wood work machine operator.

Intended Task

The candidates were required to advance three personal safety precautions to be observed by wood work machine operator. Candidates performed fairly.

Question 5

Explain briefly what you understand by deeping.

Intended Task

The candidates were expected to explain briefly deeping. Candidates performed well.

Question 6

Mention three safety principles and regulations of a saw mill machine.

Intended Task

The question tasked candidates' ability to mention three safety principles and regulations of a saw mill machine. Candidates performed fairly.

Question 7

Describe the following wood machines

- (i) Circular saw mill
- (ii) Cross-cut saw

Intended Task

The candidates were expected to describe the listed wood machines. Candidates performed well.

Question 8

State the importance of a regular servicing of a wood machine.

Intended Task

The candidates were expected to state the importance of a regular servicing of a wood machine. Candidates performed fairly.

Question 9

Identify any three principles of operation while operating a wood machine.

Intended Task

Candidates were expected to identify any three principles of operation while operating a wood machine. Candidates performed well.

Question 10

List two merit and demerits of over-head and under-head wood machine.

Intended Task

The candidates were expected to list two merits and demerits of over-head and under head wood machine. Candidates performed well.

Candidates' Strengths

- ✓ Good grammatical expression.
- ✓ Good presentation of answers.

Candidates' Weaknesses

- Poor grammatical expression.
- Misinterpretations of questions

Suggestions for Improvement

- Teachers should cover teaching syllabus
- Student should be encouraged to buy relevant textbooks.
- Candidates should be encourages to pay attention to the study of English Language.

PAINTING AND DECORATION (251-1)

General Comments on the Paper

The question covered all areas of the syllabus. Candidates' performance was generally on the average.

Detailed Comments on Each Question

Question 1

In relation to spray project, state four parts of air receiver storage tank.

Intended Task

The candidates were expected to explain four parts of air receiver storage tank in relation to spray project. Few of the candidates could not interpret the questions correctly. Candidates performed well.

Question 2

- (a) Define the term "Lapping"
- (b) Give two importance of lapping in the process of wall hanging.

Intended Task

The candidates were required to define "Lapping" and give two importance of Lapping in the process of wall hanging. Some candidates had poor grammatical expression which could not be overlooked because of the level of examination. Candidates performed averagely.

Question 3

Distinguish between a – row of standard and two rows of standard.

Intended Task

The candidates were expected to distinguish between a – row of standard and two rows of standard. Few candidates could not distinguish between a row of standard and two rows of standard. Candidates performed fairly.

Question 4

Enumerate four advantages of the use of Texture paint on a plastered surface.

Intended Task

The candidates were expected to enumerate four advantages of the use of Texture paint on a plastered surface. Candidates performed well.

Question 5

In relation to gilding work, describe briefly the term “burnishing”.

Intended Task

The candidates were required to describe briefly the term “burnishing” in relation to gilding work. Candidates performed well.

Question 6

State four outstanding advantages of the use of JET SATIN screen ink.

Intended Task

The candidates were expected to state four outstanding advantages of the use of JET SATIN screen ink. Candidates performed well.

Question 7

Calculate the time and cost of producing 20 units of stencil design is a unit costs of ~~N~~1,000 for a duration of two hours.

Intended Task

The candidates were required to calculate the time and cost of producing 20 units of stencil design of a unit cost of ~~N~~1,000 for a duration of two hours. Candidates performed averagely.

Question 8

Explain the use of Letraset equipment in art work and state three advantages of its use.

Intended Task

The candidates were expected to explain the use of Letraset equipment in art work and state three advantages of its use. Candidates performed well.

Question 9

State one use for each of the following graining tools:

- (a) Hog hair overgrainer.
- (b) flogger.
- (c) Badger.
- (d) Mottler.

Intended Task

The candidates were expected to explain one use for each of the graining tools listed in the question above. Candidates performed well.

Question 10

Briefly distinguish between graining and marbling work.

Intended Task

The candidates were expected to briefly distinguish between graining and marbling work. Candidates performed well.

Question 11

- (a) Describe the use of each of the following tools:
 - (i) Stencil Knife
 - (ii) Ulano swivel Knife
 - (iii) Ulano double cutter head.
 - (iv) Compass adaptor.
- (b) Distinguish between composite machine squeegee and darkroom squeegee.

Intended Task

The candidates were expected to describe the use of each of the following tools.

- (i) Stencil Knife
- (ii) Ulano swivel Knife
- (iii) Ulano double cutter head.
- (iv) Compass adaptor.

and distinguish between composite machine squeegee and darkroom squeegee. Candidates performed well.

Question 12

Describe the process and pigments used in the graining of the following wood grains:

- (a) Oak
- (b) Walnut

Intended Task

The candidates were expected to describe the process and pigments used in the graining of the following wood grains (i) Oak (ii) Walnut. Candidates performed well.

Question 13

Describe the process of producing black and gold marble with reference to ground coat, tools, protective coating and other materials.

Intended Task

The candidates were expected to describe the process of producing black and gold marble with reference to ground coat, tools, protective coating and other materials. Candidates performed well.

Question 14

In relation to scaffolding, describe:

- (a) The use of Lightweight staging.
- (b) Why the length of stile is designed convex?
- (c) The minimum width of working platform up to 7.3 meters long without the need of intermediate support

Intended Task

Candidates were expected to describe: the use of Lightweight staging, why the length of stile is designed convex, The minimum width of working platform up to 7.3 metres long without the need of intermediate support. Candidates performed well.

Question 15

An accidental car panel beated is to be refinished with auto based metallic paint with the total area of the car as 240m^2 , state the:

- (a) Process required from preparation to finishing coat.
- (b) Materials required for the preparation.
- (c) Number of litres required to coat the surface if the spreading rate of the paint is 60m^2 per litre.
- (d) Cost of purchasing the paint at ₦1,250 per litre.

Intended Task

The candidates were expected to state: Process required from preparation to finishing coat, Materials required for the preparation, Number of litres required to coat the surface if the spreading rate of the paint is 60m^2 per litre, Cost of purchasing the paint at ₦1, 250 per litre.

If an accidental car panel beated is to be refinished with auto based metallic paint with the total area of the car as 240m^2 state. Candidates performed fairly.

Candidates' Strength

- ✓ Most of the candidates were able to answer the questions appropriately as demanded.
- ✓ The methods of presentation of answers by some candidates were logical and clearly expressed.
- ✓ Some candidates were good in their responses to the answers for instance most candidates in question 1. were able to explain rag rolling as a method of producing a broken colour effect in a tinted glaze medium with the use of squeezed rag or clauses leather etc.

Candidates' Weakness

- Most candidates misinterpreted question

Suggestions for Improvements

- Teachers should cover teaching syllabus
- Student should be encouraged to buy relevant textbooks.
- Candidates should be encourages to pay attention to the study of English Language.

PLUMBING AND PIPE FITTING (261-1)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

- (a) Discuss fully the procedures used in cutting a metal with oxy-acetylene flame nozzle.
- (b) List two ways of cutting metals used in oxy-acetylene gas.

Intended Task

The candidates were expected to discuss the procedures used in cutting a metal with oxy-acetylene flame nozzle. They were also required to list two ways of cutting metals used in oxy-acetylene gas. Candidates performed well.

Question 2

- (a) Mention three sources of water supply, and give two examples on each.
- (b) List the materials used in the manufacturing of storage tanks.
- (c) What is the function of governor to injector pumps?

Intended Task

The candidates were expected to mention three sources of water supply and give two examples of each as well as list the materials used in the manufacturing of storage tanks. They were also required to state the function of governor to injector pumps. Candidates performed well.

Question 3

With a neat diagram, describe briefly the direct system of cold water supply to a building and show all the fittings.

Intended Task

The candidates were expected to describe the direct system of cold water supply to a building using diagram. Candidates performed well.

Question 4

Briefly explain with the aid of a neat diagram the difference(s) between one pipe and two pipe system of drainage.

Intended Task

The question tasked candidates' ability to explain using diagram the difference(s) between one pipe and two pipe system of drainage. Candidates performed well.

Question 5

- (a) Give six safety precautions to be observed when performing welding operations in the workshop.
- (b) List six operational sequence of assembling oxy-acetylene equipment.

Intended Task

The candidates were expected to give six safety precautions to be observed when performing welding operations in the workshop and to list six operational sequence of assembling oxy-acetylene equipment. Candidates performed well.

Question 6

- (a) Explain the two ways by which oxy-acetylene can be produced for welding purposes.
- (b) Explain the purpose of gas pressure in oxy-acetylene welding.

Intended Task

The candidates were expected to explain the two ways by which acetylene can be produced for welding purposes. They were equally required to explain the purpose of gas pressure in oxy-acetylene welding. Candidates performed well.

Question 7

- (a) Explain the main difference between bronze welding and brazing.
- (b) Identify six non-ferrous metal and give their chemical symbols.

Intended Task

The candidates were expected to explain the main difference bronze welding and brazing as well as identify six non-ferrous metals and give their chemical symbols. Candidates performed well.

Candidates' Strengths

- ✓ Good sketches /drawing skills.
- ✓ Ability to answer questions that has to do with identification of items.

Candidates' Weakness

- Poor grammatical expression

Suggestion for improvement

- Assignment involving practical should be given to candidates.

DRAUGHTSMANSHIP CRAFT PRACTICE (271-1)

General Comments on the Paper

The question covered the syllabus and the candidates' performance was generally poor.

Detailed Comments on Each Question

Question 1

- a. List and state the use of any three tools and materials used in freehand sketching.
- b. Sketch neatly the conventional symbols of the following materials:
 - (i) Concrete
 - (ii) Hardcore
 - (iii) Sink
- c. State the use of the following AutoCAD modifying tools:
 - (i) Mirror
 - (ii) Offset
 - (iii) Array.

Intended Task

The candidates were expected to list, explain three tools and materials used in freehand as well as sketching. Candidates were also expected to sketch the conventional symbols of concrete, hardcore and sink, to explain the following AutoCAD modifying tools, mirror, offset and array. Candidates performed poorly.

Question 2

- a.
 - i. What are secondary colours?
 - ii. List the constituents of the basis secondary colours
- b.
 - i. Define the term calligraphy.
 - ii. Write neatly with your pencil, the upper case letters.
- c. State the function of a fuse in an electrical circuit.

Intended Task

The question tested candidates' ability to recall secondary colours. They were equally asked to list the constituents of the basic secondary colours, define calligraphy and neatly outline with a pencil, the upper case letter, state the function of a case in an electrical circuit. Candidates performed poorly.

Question 3

- a. State the importance of fire-alarm in an industrial building.
- b. Draw and label a circuit diagram of a fire-alarm system.
- c. Distinguish between:
 - 2 - Dimensional shapes and
 - 3 – Dimensional shapes.

Intended Task

The candidates were expected to explain the importance of fire alarm in an industrial building. The question also tested candidates' ability to draw and label a circuit diagram of a fire-alarm system and distinguish between 2-dimensional shapes and 3-dimensional shapes. Candidates performed poorly.

Question 4

- a. List and state the use of at least three drawing reproduction machines used in architecture.
- b. State two ways of maintaining the machines mentioned in 4(a) above.
- c. With the aid of a well – labeled block diagram only, describe the principle of operation of an air-conditioner.

Intended Task

The candidates were expected to list and explain the use of three reproduction machines used in architecture. The question also tested candidates' ability to describe the principle of operation of an air-conditioner. Candidates performed poorly.

Question 5

- a. State the importance of shadow casting.
- b. Sketch neatly the following types of lines and state their uses respectively:
 - (i) Thick continuous lines.
 - (ii) Thin continuous lines.
 - (iii) Short dash lines.
- c. State the names of the modifying commands sketched below:



Intended Task

The candidates were expected to explain the importance of shadow casting. They were expected to neatly sketch the following terminologies, thick continuous lines, thin continuous lines, short dash lines and explain the names of the modifying commands. Candidates performed poorly.

Candidates Weaknesses

- Poor grammatical expression
- Poor drawing skills
- Poor misinterpretations of answers
- Poor computational skills.

Suggestions for Improvement

- Candidates should be advised on the use of textbooks
- Candidates should be advised to prepare for the examinations by making use of the library.
- Assignment involving drawings should always be given to candidates.

COSMETOLOGY (311-1)

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally good.

Detailed Comment on Each Question

Question 1

- (a) Define these terms and give examples:
 - (i) Mixture
 - (ii) Bases
 - (iii) Alkalinity point on PH
 - (iv) Soft water
 - (v) Paste
- (b) Give reasons why water is very important in the saloon.
- (c) Describe how to dispose of waste water in the saloon
- (d) Mention two safety use of electricity.
- (e) Name four electrical appliances required in the saloon.

Intended Task

The question tested candidate's knowledge of mixture, bases, Alkalinity point on PH, soft water and paste. They were required to give reasons why water is very important in the saloon and describe how to dispose waste water in the saloon. They were equally required to mention two safety use of electricity and four electrical appliances required in the saloon. Candidates performed fairly.

Question 2

- (i) Enumerate two activities that are necessary for good health.
- (ii) State four rules of personal hygienic and cleanliness.

Intended Task

The candidates were required to enumerate two activities that are necessary for good health and to state four rules of personal hygienic and cleanliness. Candidates performed well.

Question 3

- (i) Define the following:
 - a. Sterilization.
 - b. Sanitation
- (ii) State three precautions to be taken when handling chemicals.

Intended Task

The question required the candidates to define sterilization, sanitation and to state three precautions to be taken when handling chemicals. Candidates performed well.

Question 4

- (i) What does shaping mean in hair styling?
- (ii) Name three factors necessary for proficiency in hair styling.
- (iii) Draw and label four types of pins/clips for saloon use.

Why are they necessary in hair styling?

Intended Task

The candidates were expected to explain shaping means in hair styling, name three factors necessary for proficiency in hair styling and draw and label four types of pins/clips for saloon use. Candidates performed well.

Question 5

- (i) Differentiate between wigs and hair pieces.
- (ii) What do the terms mean – hair lightning hair colouring?
- (iii) What types of temporary colours are available in the market?
- (iv) What is usually done to the hair before colouring

Intended Task

Candidates were expected to differentiate between wigs and hair pieces. They were required to explain the term hair lightning and hair colouring. They were also expected to list types of temporary colours available in the market and what is done to the hair before coloring. Candidates performed fairly.

Question 6

- (i) Differentiate between cold waving and chemical hair relaxing.
- (ii) What are the three basic steps involved in chemical hair relaxing?
- (iii) What is retouching. What are the major materials required for retouching hair.

Intended Task

The candidates were expected to differentiate between cold waving and chemical hair relaxing. They were also expected to explain the three basic steps involved in chemical hair relaxing. They were asked to explain retouching and major materials required for retouching hair. Candidates performed fairly.

Question 7

- (i) Enumerate four rules that are given to a supportive staff.
- (ii) Discuss three ways to advertise a very basic salon.
- (iii) How are salon stock and cash managed on a daily basis?

Intended Task

The candidates were expected to enumerate four rules that are given to a supportive staff. They were also required to discuss three ways to advertise a very basic solon and how solon stock and cash managed on a daily basis. Candidates performed well.

Question 8

- (i) What are the principal parts of a nail
- (ii) Describe the diagram four shapes of a nail
- (iii) Explain two common nail disorder
- (iv) What a nail polishers and hardeners?

Intended Task

The candidates were expected to explain the principal parts of a nail and describe the diagram four shapes of a nail. They were expected to explain two common nail disorder, nail polishers and hardness. Candidates performed well.

Candidate's weaknesses

- Poor grammatical expression
- Poor drawing skills
- Most candidates miss interpreted the question.

Suggestions for improvement

- Teachers should cover the syllabus with special emphasis when necessity.
- Organize seminars and workshop for teachers.
- Students should be encouraged to buy and study recommended textbook.

ADVANCED LADIES GARMENT MAKING (336-1)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

State four factors that should be taken into consideration when choosing a design.

Intended Task

Candidates were expected to state four factors that should be taken into consideration when choosing a design. Candidates performed fairly.

Question 2

- a. Name four decorations that are usually used on ladies or children's garment.
- b. State four areas of the garment where ribbons can be used.

Intended Task

The candidates were expected to name four decorations that are usually used on ladies or children's garment. They were also expected to state four areas of the garment where ribbons can be used. Candidates performed well.

Question 3

State two factors to be considered when choosing an English evening dress.

Intended Task

The question required candidates to state two factors to be considered when choosing an English evening dress. Candidates performed fairly.

Question 4

Differentiate between traditional occasional wears and English evening wears.

Intended Task

Candidates were expected to differentiate between traditional occasional wears and English evening wears. Candidates performed well.

Question 5

- a. List two types of sewing machine.
- b. State two ways of caring for sewing machines.

Intended Task

The question required candidates to list two types of sewing machine. The question also required candidates to state two ways of caring for sewing machines. Candidates performed fairly.

Question 6

State four safety precautions to be taken on the use of sewing machines and sewing equipment.

Intended Task

The candidates were expected to state four safety precautions to be taken on the use of sewing machines and sewing equipment. Candidates performed fairly.

Question 7

- a. Explain the term “Mass Production”.
- b. Differentiate between tracing wheel and pinking shears.

Intended Task

Candidates were expected to explain the term “Mass Production”. They were also expected to differentiate between tracing wheel and pinking shears. Candidates performed fairly.

Question 8

Define the following terms:

- a. Seam
- b. Flat Seam

Intended Task

The question required candidates to define Seam and Flat Seam. Candidates performed well.

Question 9

- a. What is Scissors?
- b. List three types of scissors.

Intended Task

The candidates were expected to define scissors. They were also expected to list three types of scissors. Candidates performed well.

Question 10

Write short notes on:

- a. Fabric
- b. In-vogue

Intended Task

Candidates were expected to write short notes on fabric and in-vogue. Candidates performed well.

Question 11

Write short notes on four of the following:

- i. Culture
- ii. Vogue
- iii. Smocking
- iv. Treadle Machine
- v. Pattern blocks.

Intended Task

Candidates were expected to write short notes on any four of these, culture, vogue, smocking, treadle machine and pattern blocks. Candidates performed well.

Question 12

- a. Give two reasons why pattern drafting is important for mass garment production.
- b. State four precautions that should be taken when cutting and using sewing machines for garments.

Intended Task

The question required candidates to give two reasons why pattern drafting is important for mass garment production. The question also required the candidates to state four precautions that should be taken when cutting and using sewing machines for garment. Candidates performed well.

Question 13

Sketch two each of ladies and children's garment, stating their relationship with the present day fashion trend.

Intended Task

The question tasked candidates' ability to sketch two each of ladies and children's garment, stating their relationship with the present day fashion trend. Candidates performed well

Question 14

Explain the procedure required in making children's party wear.

Intended Task

Candidates were expected to explain the procedure required in making children's party wear. Candidates performed fairly.

Question 15

- a. State two social and environmental factors each that should be considered when designing ladies garment.
- b. Sketch one:
 - i. Traditional wear
 - ii. Evening wear

Intended Task

The candidates were expected to state two social and environmental factors each that should be considered when designing ladies garment. They were also expected to sketch traditional wear or evening wear. Candidates performed fairly.

Candidates' Strengths

- ✓ Good presentations of answers
- ✓ Good grammatical expression.

Candidates' Weaknesses

- Poor drawing skills
- Misinterpretations of answers

Suggestions for Improvement

- Teachers should endeavour to cover teaching syllabi with special emphasis where necessary.
- Students should be encouraged to buy and study recommended books.
- Government should supply relevant books and teaching materials to schools for teachers and students use.
- Students should be encouraged to study with past question.

CATERING CRAFT PRACTICE (341-1)

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally fair.

Detailed Comment on Each Question

Question 1

- (a) Enumerate six examples of tools used in the kitchen.
- (b) List six types of vegetables and give a dish example of each.
- (c) Change six French terms below of each:
 - (i) hors doeuvre
 - (ii) legateau
 - (iii) flambé
 - (iv) le foie
 - (v) le juslie
 - (vi) mirepoix
 - (vii) oeuf mollet
 - (viii) poivre
 - (ix) le rag out
 - (x) le ravioli
 - (xi) tabled^hote.
- (d) State the formula for the following electric terms:
 - (i) Amperes.
 - (ii) Voltage
 - (iii) Ohms

Intended Task

The candidates were expected to enumerate six examples of tools used in the kitchen. They were also expected to list six types of vegetables and give a dish example of each. They were equally expected to change six French terms listed to English and state the formula for the electric terms: (i) Amperes(ii) Voltage (iii) Ohms. Candidates performed poorly.

Question 2

- (a) Write short note on two of the following:
 - (i) Microwave.
 - (ii) Pot roasting
 - (iii) Braising
- (b) What would be the selling price of dish if the cost of producing four portions is # 560.00 at 40% selling price?
- (c) Give example of a 4-course menu for a nine years old child's birthday party.

Intended Task

Candidates were expected to write short note on the listed methods of cooking. They were required to know the selling price dish if the cost of producing four portions is # 560.00 at 40% selling price. They were equally expected to give example of a 4-course menu for a nine years old child's birthday party. Candidates performed well.

Question 3

- (a) State the recipe for fish stock
- (b) The bill for the party of three comes to #180.60 before VAT at 150% was added. How much change will the customer receive from #4000.00?
- (c) Describe the preparation of any of the following salad:
 - (i) Egg mayonnaise.
 - (ii) Florida salad.
- (d) Briefly explain point to consider when planning a meal.

Intended Task

The candidates were expected to state recipe for fish stock and describe the preparation of (i) Egg mayonnaise (ii) Florida salad. They were also asked to briefly explain point to consider when planning a meal. Candidates performed fairly.

Question 4

- (a) State two storage points for the following ingredients:
 - (i) Flour.
 - (ii) Yeast
 - (iii) Sugar
 - (iv) Baking powder
 - (v) Egg
 - (vi) Milk
- (b) State the procedure for making bread roll.
- (c) Enumerate the recipe for small cakes
- (d) List six types of pastries.

Intended Task

The candidates were expected to state two storage points for the ingredients listed above and procedure for making bread rolls. They were expected to enumerate the recipe for small cakes and list six types of pastries. Candidates performed fairly.

Question 5

- (a)
 - (i) Define the term stillroom.
 - (ii) list the term that will normally be dispensed from the stillroom.
- (b) Explain five basic methods.

- (c) Briefly describe how following should be stored in a snack bar.
 - (i) Sandwiches
 - (ii) Pastries
 - (iii) Fish
- (d) List four cigar types

Intended Task

The question required candidates to define the term stillroom. They were expected to explain five billing methods and describe how the sandwiches, pastries and fish should be stored in a snack bar. They were equally asked to list four cigar. Candidates performed fairly.

Question 6

- (a) Enumerate the five main groups of types of service.
- (b) State the advantages of a control system used in restaurants.
- (c)
 - (i) List five examples of dishes sold in a snacks bar.
 - (iii) When dose the preparation of snack bar start?
- (d) Enumerate the different tobacco wrapper leaves.

Intended Task

The candidates were expected to enumerate the five main groups of types of service. They were expected to state the advantages of a control system used in restaurants, list five examples of dishes sold in a snacks bar and when dose the preparation of snack bar start. They were also expected to enumerate the different tobacco wrapper leaves. Candidates performed fairly.

Question 7

- (a)
 - (i) Give five examples of fish dishes.
 - (ii)List four examples of vegetable proteins.
- (b)
 - (i)state the uses of protein
 - (ii)Explain briefly the cooking effects on proteins.
- (c) What are the factors that affect the growth of bacteria?
- (d)
 - (i)state three reason for house keeping
 - (ii)List four examples of cleaning equipment used in house keeping department.

Intended Task

The candidates were expected to give examples of fish dishes and list four examples of vegetable proteins. They were expected to state the uses of protein and explain briefly the cooking effects on proteins. They were expected to state three reasons for housekeeping and list four list four examples of cleaning equipment used in housekeeping department. Candidates performed fairly.

Candidate's Strength

- ✓ Candidates were able to attempt all question within the given time.

Candidate's Weaknesses

- Many candidates could not understand some of the question correctly
- Poor grammatical expression
- Poor spellings of technical terms
- Poor usage of culinary terms

Suggestions for Improvement

- School need to recruit qualified and adequate number of teachers in the subject.
- There should be revision for student before examinations
- Candidates should be encouraged to attend extra classes.

PAINTING CRAFT PRACTICE (361-1)

General Comment on the Paper

The question covered the syllabus and candidate's performance was generally fair.

Detailed Comment on Each Question

Question 1

- (a) State one function of imposing stone.
- (b) Mention the name of two duplicate relief plates.
- (c) Explain the function of a whirler.

Intended Task

Candidates were expected to state one function of imposing stone, mention the name of two duplicate relief plates and explain the function of a whirler. Candidates performed fairly.

Question 2

- (a) Give the name of a six parts of a platen machine.
- (b) Explain the process of establishing an image on the gravure cylinder.
- (c) Describe a light table using a diagram.

Intended Task

The question tested candidate's ability to recall the names of a six parts of a platen machine, the process of establishing an image on the gravure cylinder and description of a light table using a diagram. Candidates performed well.

Question 3

- (a) What is the function of a contact screen in half tone work?
- (b) State the major different between vertical and horizontal camera.
- (c) Mention the primary duty of a fixer in half tone development.
- (d) Why do we need to agitate tray during film development.

Intended Task

The question tested the candidate's knowledge of function of a contact screen in half tone work, major difference between vertical and horizontal camera and the primary duty of a fixer in half tone development. They were equally asked the need to agitate tray during film development. Few candidates that attempted the question give the function of a contact screen in half tone work well, while candidates could not express well in the primary duty of a fixer in half tone development. Candidates performed well.

Question 4

- (a) What dose spoilage allowance mean when estimating for a job.
- (b) Draw a type and label all its part
- (c) Explain hot metal composition and cold composition.

Intended Task

Candidates were expected to explain what dose spoilage allowance mean when estimating for a job and draw a type and label all its parts. They were also required to explain hot metal composition and cold composition. Candidates performed well.

Question 5

- (a) Write short note on the following.
 - (i) Chase
 - (ii) Dampers
 - (iii) Plate leading edge
- (b) Mention two press faults in lithography and their remedies.

Intended Task

The candidates wee expected to write short note on the following terms: Chase, dampers, plate leading edge and mention two press faults in lithography and their remedies. Candidates performed fairly.

Question 6

- (a) Explain the following terms:
 - (i) Justification
 - (ii) Job ticker
- (b) Distinguish between interlay and overlay
- (c) With the aid of the diagram, explain work, turn and sheet work.

Intended Task

The candidates were expected to explain the following terms: justification, Job ticker and distinguish between interlay and overlay. They were equally asked to explain work, turn and sheet work with the aid of a diagram. This question was tricky and few candidates attempted it. Candidates performed fairly.

Question 7

- (a) Write short note on the following.
 - (i) Cutting
 - (ii) Trimming
 - (iii) Case making
- (b) Mention three types of binding operations and briefly describe each one.

Intended Task

Candidates were expected to write short note on the following: cutting, trimming, case making and mention three types of binding operations and briefly describe each one. Candidate's didn't read and understand the question well in part (b). Candidates performed fairly.

Candidate's Strengths

- ✓ Good grammatical expression
- ✓ Good presentation of answer
- ✓ Good computational skills

Candidate's Weakness

- Misinterpretation of question.

Suggestion for improvement

- Student should be encouraged to buy and study relevant text books.

GRAPHIC DESIGN (381-1)

General Comments on the Paper

The question covers the syllabus and the candidates' performance was generally fair.

Detailed Comments on Each Question

Question 1

- (a) What are primary colours?
- (b) Name three primary colours.
- (c) What mixtures of primary colours would give green, brown and orange?

Intended task

The question tested the candidates' ability to recall what primary colours are and name three primary colours. They were also expected to state the mixture of primary colours that would give green, brown and orange. Candidates performed well.

Question 2

Write short notes on any two of the following.

- (a) Patterns
- (b) Balance
- (c) Rhythm

Intended task

Candidates were expected to write short note on any two of the following: patterns, balance and rhythm. Candidates performed well.

Question 3

- (a) Define the terms contrast.
- (b) Write briefly on how contrast can determine a design.

Intended task

The candidates were required to define the term contrast and also to write briefly on how contrast can determine a design. Candidates performed fairly.

Question 4

- (a) Describe the term monochromatic
- (b) Describe the difference between monochromatic and polychromatic

Intended task

Candidates were expected to recall the term monochromatic and also describe the differences between monochromatic and polychromatic. Candidates performed fairly.

Question 5

Write short notes on any two of the following:

- (a) View finder
- (b) Lens
- (c) Safe light

Intended task

The question required candidates' knowledge to write short note on any two of the following: view finder, lens and safe light. Candidates performed well.

Question 6

- (a) Write on the three most important advantages of the enlarge
- (b) Give two reasons why the dark room is important

Intended task

The candidates were expected to write three most important advantages of the enlarge and give two reasons why the dark room is important. Candidates performed fairly.

Question 7

Write briefly on two importance of the rotring pen

Intended task

The candidates were expected to write briefly on two importance of the rotring pen. Candidates performed well.

Candidates' strengths

- ✓ Good grammatical expression
- ✓ Good drawing skills

Candidates Weakness

- Poor handwriting.

Suggestions for improvement

- Students should be encouraged to buy and study relevant textbooks.
- Students should try to write legibly.

ADVANCE D PHOTOGRAPHIC PRACTICE (406-1)

General Comment on the Paper

The paper covered the syllabus and the candidates' performance was generally good.

Detailed Comments on Each Question

Question 1

Write short note on:

- (i) Hand processing dish
- (ii) Hand processing tank
- (iii) Machine processing
- (iv) Developer

Intended task

The question tested the candidates' knowledge of hand processing dish, hand processing tank, machine processing and developer. Candidates performed well.

Question 2

Explain briefly these camera parts:

- (i) Shutter
- (ii) Shutter speed
- (iii) Aperture
- (iv) View finder.

Intended task

Candidates were expected to explain briefly these camera parts shutter, shutter speed, aperture and view finder. Candidates performed well.

Question 3

Briefly explain the characteristic of film

Intended task

The candidates were to explain the characteristic of film. Candidates performed well.

Question 4

What are the elements of composition?

Intended task

The question tested candidates' ability to recall the element of composition. Candidates performed well.

Question 5

Explain briefly the historical background of photography.

Intended task

Candidates were expected to explain briefly the historical background of photography. Candidates performed well.

Question 6

List four fields of photography.

Intended task

Candidates were expected to list four fields of photography. Candidates performed well.

Question 7

State three advantages and three disadvantages of TLR and SLR cameras.

Intended task

Candidates were expected to state three advantages and three disadvantages of TLR and SLR cameras. Candidates performed well.

Question 8

List five parts of camera.

Intended task

The candidates were expected to list five parts of camera. Candidates performed well.

Question 9

Briefly describe the process involved in printing photograph.

Intended task

The candidates were expected to recall the process involved in printing photograph. Candidates performed well.

Question 10

List four chemicals used in the dark room

Intended task

The candidates were expected to list four chemicals used in the dark room. Candidates performed well.

Question 11

Write short note on the following:

- (i) Focusing
- (ii) Exposure
- (iii) Loading and unloading
- (iv) Source of light

Intended task

The question tested candidates' ability to write short notes on focusing, exposure, loading and unloading and source of light. Candidates performed well.

Question 12

Describe in detail how to care for a camera and camera accessories.

Intended task

Candidates were expected to describe in details how to care for a camera and camera accessories. Candidates performed well.

Question 13

List and explain the various lenses and their uses.

Intended task

The question required candidates' ability to list and explain the various lenses and their uses. Candidates performed well.

Question 14

With analysis, explain the process and problems of dry mounting.

Intended task

Candidates were expected with analysis; explain the process and problems of dry mounting. Candidates performed well.

Question 15

The journey to successful photograph starts with focusing. Discuss

Intended task

The candidates were expected to discuss the journey to successful photograph starts with focusing. Candidates performed fairly.

Candidates' strengths

- ✓ Good grammatical expression.
- ✓ Good presentation of answers.

Candidates' Weakness

- Errors in spelling

Suggestion for Improvement

- Teachers should intensify the teaching of practical.

BUSINESS CONSTRUCTION MANAGEMENT (AOO)

General Comments on the Paper

The question covered the syllabus and the candidate's performance was generally fair.

Detailed Comments on Each Question

Question 1

Explain functional organizational structure

Intended Task

The question tested candidate's ability to explain functional organizational structure. Candidates performed fairly.

Question 2

State two basic needs at the lowest level of Maslow motivational hierarchy

Intended Task

Candidates were required to state two basic needs at the lowest level of Maslow motivational hierarchy. Candidates performed fairly.

Question 3

Mention two challenges of personnel management.

Intended Task

The question tested candidate's ability to recall two challenges of personnel management. Candidates performed well.

Question 4

State two remedies for a breach of contract.

Intended Task

Candidates were expected to state two remedies for a breach of contract. Candidates performed well.

Question 5

State two objective of MBO in an organization

Intended Task

The question required candidates to state two objective of MBO in an organization. Candidates performed well.

Question 6

Explain briefly overhead cost of a business.

Intended Task

The question tested candidate's knowledge on overhead cost of a business. Candidates performed fairly.

Question 7

Differentiate between simple interest and compound interest

Intended Task

The candidates were expected to differentiate between simple interest and compound interest. Candidates performed fairly.

Question 8

What is a stock ledger?

Intended Task

The candidates were expected to recall stock ledger. Candidates performed well.

Question 9

Mention two requirements for effective communication.

Intended Task

The candidates were expected to mention two requirements for effective communication. Candidates performed fairly.

Question 10

Define the term "factory"

Intended Task

Candidates were expected to define the term "factory". Candidates performed fairly.

Question 11

- (a) Explain the reinforcement theory of motivation.
- (b) State four function of motivation in an organization.

Intended Task

The candidates were expected to explain the reinforcement theory of motivation and state four function of motivation in an organization. Candidates performed fairly.

Question 12

Prepare a quotation for the following supplies by Dike Nigeria Ltd.

- (i) 10 laser computer set at #45,000 each.
- (ii) 2 photocopying machines at #60,000 each
- (iii) 4 laptop at #67,000 each
- (iv) A generating set that costs #50,000

Intended Task

The question tested candidate's knowledge of computation skills on quotation for the following supply by Dike Nigeria ltd: 10 laser computers set at #45,000 each, 2 photocopying machines at #60,000 each, 4 laptop at #67,000 each and A generating set that costs #50,000. Candidates performed fairly.

Question 13

Explain three of the following terms in relation to stock valuation:

- (a) Economic order quantity
- (b) Re-order level
- (c) Buffer stock
- (d) Stork legal
- (e) Material Requisition

Intended Task

The candidates were expected to explain three of the following terms in relation to stock valuation: Economic order quantity, Re-order level, Buffer stock, Stork legal and Material Requisition. Candidates performed well.

Question 14

- (a) What is a petty cash book?
- (b) List three items found in a petty cash book.
- (c) Differentiate a trading account from a profit account.

Intended Task

The question tested candidate's ability to recall what is as petty cash book, list three items found in a petty cash book, and also to differentiate a trading account from a profit account. Candidates performed fairly.

Question 15

Explain grievance procedure between:

- (a) Management and employees
- (b) Work group in an organization.

Intended Task

The candidates were expected to explain grievance procedure between (a) Management and employees and work group in an organization. Candidates performed fairly.

Question 16

- (a) Define autocratic leadership.
- (b) Explain five characteristics of democratic leadership style.

Intended Task

The question tested candidate's knowledge of autocratic leadership and five characteristics of democratic leadership style. Candidates performed fairly.

Question 17

- (a) Define work study
- (b) Explain four objective of work study.

Intended Task

The question tested the candidate's ability to recall work study and explain four objective of work study. Candidates performed well.

Question 18

- (a) State the purpose of preparing a bill of quantities.
- (b) Explain three steps involved in the preparation of a bill in quantities.

Intended Task

The candidates were expected to state the purpose of preparing a bill of quantities and explain three steps involved in the preparation of a bill in quantities. Candidates performed fairly.

Question 19

- (a) State three objectives of work measurement.
- (b) Explain the standard procedure for carrying out the objective in 19(a).

Intended Task

The question required candidates to state objectives of work measurement and to explain the standard procedure for carrying out the objective. Candidates performed well.

Candidate's Strength

- ✓ Good grammatical expression.

Candidate's Weaknesses

- Misinterpretation of question
- Poor computational skills.

Suggestions for improvement

- Qualified teachers should be employed.
- Teacher should cover teaching syllabus.

ADVANCED BUILDING DRAWING (A05)

General Comments on the Paper

The questions covered the syllabus and the candidates' performance was generally poor.

Detailed Comments on Each Question

Question 1

Illustrate with sketches the application of balance and harmony in relation to building components e.g. doors, windows, screen wall etc.

Intended Task

The candidates were expected to illustrate with sketches the application of balance and harmony in relation to building components e.g. doors, windows, screen wall etc. Many candidates avoided the question. Candidates performed poorly.

Question 2

- i. Where is the best place for the installation of solar collectors?
- ii. In a building state the radiation used by flat plate collectors.

Intended Task

The question tasked the candidates' ability to identify the best place for the installation of a solar collectors and state the radiation used by flat plate collectors in a building. Many candidates failed to state the correct place where solar collectors should be positioned i.e. the southern part of a roof or on a gable. They also failed to mention that plate collectors utilize both direct and defuse solar radiation. Candidates performed poorly.

Question 3

Give the name of the electrical symbols below:



Intended Task

Candidates were expected to give the name of some electrical symbols. Candidates performed poorly.

Question 4

Draw a longitudinal section of a lintel with the two supporting walls and the ducted reinforcement.

Intended Task

The candidates were expected to draw a longitudinal section of a lintel with the two supporting walls and the ducted reinforcement. Candidates performed well.

Question 5

State the full meaning of the following notations in relation to reinforced concrete.

- i. As
- ii. Fcu
- iii. Fy
- iv. Mu

Intended Task

Candidates were expected to state the full meaning of these notations AS, FCU, FY, MU in relation to reinforced concrete. Candidates performed poorly.

Question 6

Make a neat sketch of a concrete base column for the support of lattice steel truss to show the following:

- i. Mild steel base plate
- ii. Angle cleat
- iii. Bolt
- iv. Concrete base

Intended Task

The question tasked candidates ability to make a neat sketch of a concrete base column for the support of lattice steel truss to show mild steel base plate, angle cleat, bolt and concrete base. Candidates performed poorly.

Question 7

A proposed building is bigger than a site plan. Give professional advise to the client as a builder on how to solve his problem.

Intended Task

The candidates were required to give professional advice to the client as a builder on how to solve the problem of a proposed building that is bigger than the site plan. Candidates performed well.

Question 8

List four areas where site analysis information can be obtained.

Intended Task

The candidates were expected to list four areas where site analysis information can be obtained. Candidates performed poorly.

Question 9

Discuss how structural engineers' floor plan differ from the Architects floor plan.

Intended Task

Candidates were expected to differentiate between the structural engineer's floor plan and the Architects floor plan. Candidates performed poorly.

Question 10

Make neat sketches of the following door symbols.

- i. Folding and Sliding door
- ii. Revolving door
- iii. Double swing door
- iv. Sliding (face) door.

Intended Task

The question tasked candidate's ability to make neat sketches of folding and sliding door, revolving door, double swing door and sliding (face) door. Candidates performed poorly.

Question 11

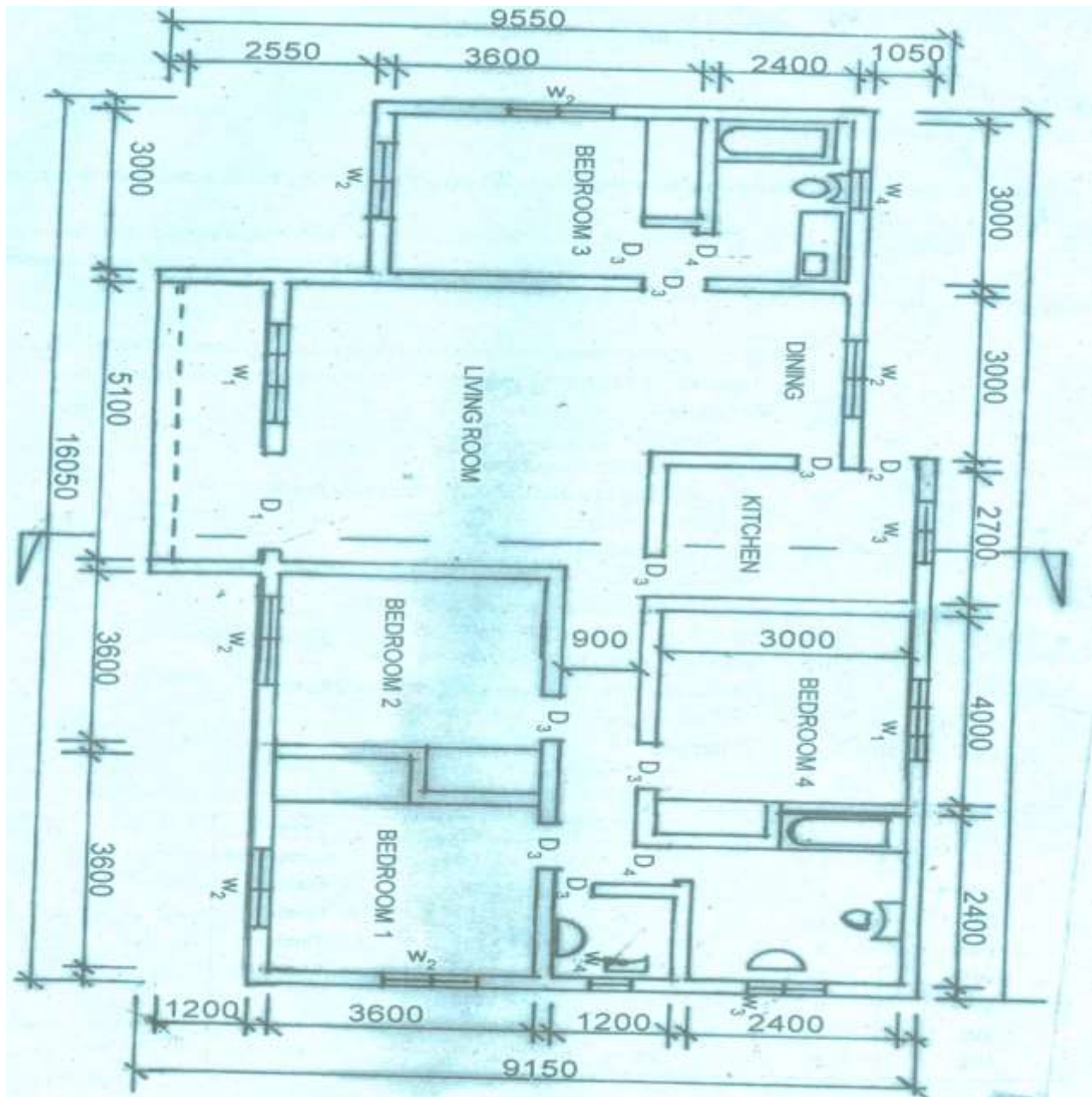
The diagram shown below represents the floor plan of a four bedroom flat. Study the specifications and answer the questions that follow:

- A. Copy the plan on a scale of 1:100 showing all walls 12mm mortar rendering on both sides.
- B. Draw to scale of 1:50 the connection of water closet from a building through a gully, inspection chamber, interception chamber to a public sewer.

FOUNDATION:	750x150 concrete strip laid at a depth of 1000 below ground level.
WALLS:	All walls are 150 thick hollow sand crate blocks with 12mm mortar rendering on both sides.
FLOOR:	150 hard core 150 thick concrete floor slab 25 cement/sand screed with terrazzo floor finish. Height from ground level to roof 3900
LINTEL:	225x150 reinforced concrete
ROOF:	Gable roof with the following details: Aluminum roofing sheet, rafter 50x150, Strut 50x150, tie beam 50x150 King post 50x150, purlin 50x75 Wall plate 75x100, fascia board 225x25 etc.
WATER CLOSET:	Use any model
WASTE WATER PIPE:	100 pvc

DOORS AND WINDOWS SCHEDULE

MARK	QUANTITY	SIZE	TYPE
D1	1	1200X2100	Casement
D2	1	900X2100	Metal
D3	7	750X2100	Flush
D4	3	750X2100	Flush
W1	2	1800X1200	Sliding
W2	6	1200X1200	Sliding
W3	2	1200X600	Sliding
W4	2	600X600	Sliding



Intended Task

The candidates were required to copy the plan of a four bedroom flat on a scale of 1:100 showing all walls 12mm mortar rendering on both sides. They were also required to draw to a scale of 1:50 the connection of water closet from a building through a gully, inspection chamber, intercepting chamber to a public sewer. Candidates performed fairly.

Candidates' Strengths

- ✓ Candidates answered question 7 correctly
- ✓ Candidates answered question 10 correctly
- ✓ Candidates answered question (a) in practical drawing correctly.

Candidates' Weaknesses

- Poor drawing and sketching skills.
- Poor presentation of answers.
- Candidates answered question 1, 2, 3, and 5 wrongly.
- Candidates answered question 6, 8, 9 and 10 wrongly.

Suggestions for Improvement

- Teachers should cover teaching syllabi.
- Students should be encouraged to buy and study relevant textbooks.
- Students should be encouraged to improve on their drawing skills.