

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

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

**THE CHIEF
EXAMINERS' REPORT**

ON THE

2016 MAY/JUNE NBC/NTC
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 2016 May/June 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 TRADES

Candidates' performance was generally good in Mathematics (002-2), Economics (003), Physics (004-1), Chemistry (005-1), Biology (006-1), Information and Communication Technology (008) and Civic Education (009) while their performance was fair in English Language (001-2) and Literature in English (007-1).

Candidates' Strengths

- ✓ Candidates displayed good grammatical expression, and
- ✓ Candidates answered questions on comprehension summary correctly.
- ✓ Candidates showed good computation skill.
- ✓ Good presentation of answers.
- ✓ They showed ample understanding of some of the question.
- ✓ They had good knowledge of respiration and cell.
- ✓ They could recall definitions.
- ✓ They answered questions on what led to the death of baby T in Darko's faceless.
- ✓ They answered question on erosions correctly.
- ✓ Candidates gave correct definition of opportunity cost and scarcity.

Candidates' Weaknesses

- ✕ Poor drawing skill.
- ✕ Improper coverage of syllabus.
- ✕ Poor Mathematical Knowledge.
- ✕ Poor spellings.
- ✕ Inability to define properly.
- ✕ Poor handwriting.
- ✕ Poor Communication.
- ✕ Many candidates were not able to state how to access email.
- ✕ Poor reading culture.

Suggestions for Improvement

- ❖ Candidates should be encouraged to consult dictionary.
- ❖ Emphasis should be laid on different types of essay.
- ❖ Teachers/candidates should endeavour to cover the syllabus.
- ❖ Teaching aids should be made available to schools to enhance the teaching and learning.
- ❖ Candidates should be exposed to mathematics and use of English Language to aid their computation skills and grammatical expressions respectively.
- ❖ Teachers should encourage students to develop reading habit.
- ❖ Modern workshop should be organized for teacher to improve their skills.
- ❖ Emphasis should be laid on good handwriting.
- ❖ Emphasis should be laid on drawing skill.
- ❖ Constant inspection should be conducted to check the quality of teachers in schools.

BUSINESS TRADES

Candidates' performance was generally good in Typewriting 35 wpm (411), Office Practice (413), Commerce (421) and Financial accounting (423).

Candidates' Strengths

- ✓ Candidates completed their task on typewriting 35 wpm (411) timely.
- ✓ Candidates distinguished crossed cheque from open cheque clearly.
- ✓ Candidates responded well to the principles of double – entry account system.
- ✓ Good presentation of answers.
- ✓ They displayed proficiency in hotel management.
- ✓ They answered question on industrial development in Nigeria correctly.

Candidates' Weaknesses

- ✕ Candidate inability to use abbreviation.
- ✕ Many candidates engaged in overtyping.
- ✕ Poor spelling.
- ✕ Poor drawing skill.
- ✕ Poor grammatical expression.
- ✕ Poor handwriting.
- ✕ Poor Computation.
- ✕ Poor headings of account topics.
- ✕ Poor understandings of questions.

Suggestions for Improvement

- ❖ Emphasis should be laid on English Language.
- ❖ Typewriters should be serviced and bad ones replaced before the commencement of examination.
- ❖ Refresher courses should be organized for teaching to update their knowledge.
- ❖ Instructional materials should be used by teachers at all levels to teach the students.
- ❖ Current and standard books should be made available to students and teachers in the library.
- ❖ Candidates should cultivate the habit of reading novels, journals, magazines etc.

TECHNICAL TRADES

Candidates' performance was generally good in Introduction to Agricultural Science implements and Machines (011-1), Tractor System (012-1), Motor Vehicle Mechanics (021), Electrical installation and Maintenance Works (041-1), Fabrication and Welding (051-1), Mechanical fabrication and Welding (051-1), Electronics Work (071), Refrigeration and Air-conditioning Works (081-1), Vehicle Body Building (091-1), Mechanic Works (111-1), Marine Engineering Craft (151-1), Computer Craft Studies (171), General Metal Work (191-1), General Wood Work (192-1), Building Engineering Drawing (193-2), Agricultural Science (195-1), Geography (196), Fisheries (201), Introduction to Building Construction (211-1), Carpentry and Joinery (221-1), Furniture Making (231-1), Plumbing and Pipe Fitting (261-1), Men's Garment Making (321-1), Catering Craft Practice (341-1), Surface Design and Textile Printing (373-1), Bleaching, Dyeing, Finishing (374-1), Graphic Design (381-1) ceramic and Design (391-1), Salesmanship (431), Tourism (441), Weaving (372-1).

Candidates performance was fair in Mechanical Engineering Craft practice (061) Basic Electricity (194-1), Painting and Decorating (251-1), Foot Wear Manufacture (353-1). They performed averagely in Animal Husbandry (181-1), Machine Wood Working (241-1), Printing Craft Practice (361-1) and poorly in Auto mobile Electrical Works (031-1), Blocklaying, Bricklaying and Concreting (212-1).

Candidates' Strengths

- ✓ They answer questions on Engine crankshaft correctly.
- ✓ Exceptional performance in the science aspect of refrigeration and air-conditioning.
- ✓ Many candidates displayed good knowledge of Boyles Law and the operation of vapour depression system..
- ✓ They had good knowledge of the concept of mechanics works.
- ✓ The candidates showed good knowledge of units to be disconnected from Engine before over hauling.
- ✓ Candidates showed good pencil work.
- ✓ Candidates defined glaze correctly.

Candidates' Weaknesses

- ✕ Poor presentation of answers.
- ✕ Poor interpretation of questions.
- ✕ Poor drawing skill.
- ✕ Poor grammatical expression.
- ✕ Inability to answer question on cylinder ignition circuit.
- ✕ Poor handwriting.
- ✕ Misinterpretation of terms.
- ✕ Candidates showed poor knowledge of printing craft practice (361-1).

Suggestions for Improvement

- ❖ Students should be encouraged to use the library at all times.
- ❖ Emphasis should be laid more on practicals in workshops and laboratory.
- ❖ Instructors should be train and retrain with modern teaching methods
- ❖ Emphasis should be laid on the teaching of English Language.
- ❖ Emphasis should be laid on drawing skills.
- ❖ Adequate practical and instructional materials should be provided by the government.
- ❖ Emphasis should be laid on building and Engineering Drawing.
- ❖ Emphasis should be laid on spelling and labeling by teachers.
- ❖ Candidates should be made to cultivate the habit of reading.
- ❖ Students should read and understand instructions before attempting the question

SECTION ONE

GENERAL EDUCATION

ENGLISH LANGUAGE (001)

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

You have been invited by the Young Farmers Club of your school to deliver a speech on 'The dangers of bush-burning'. Write your speech.

Intended Task

The question tested candidates' ability on how to write a speech. Candidates' performed poorly.

Question 2

One of your friends has been run down by a car. He or she is in hospital very badly hurt. Write a letter to your friend's mother, explaining what has happened to him or her.

Intended Task

The question tested candidates' ability on how to write an informal letter. Candidates' performed averagely.

Question 3

Write an article for publication in a national newspaper on the increase in prostitution among young girls in your country and suggest ways, by which the incidence can be curbed,

Intended Task

Candidates' were expected to write an article for publication in a national newspaper on the increase in prostitution among young girls in those countries and suggest ways by which the incidence can be curbed. Candidates' performed fairly.

Question 4

Write a story ending with the words, 'it pays to be patient'.

Intended Task

Candidates' were expected to write a story ending with the words, 'it pays to be patient'. Candidates performed fairly.

Section B

Question 5 and 6

Intended Task

The candidates were expected to understand the reading passages and answer the questions that followed. Many of the candidates responded to the questions correctly. Candidates performed well.

Question 7

The reading passage was based on the vital roles libraries performed in the society.

Intended Task

The question on the reading passage expected the candidates to state the functions of libraries. Candidates performed well.

Candidates' Strength

- ✓ Good grammatical expression
- ✓ The candidates answered question on comprehension and summary correctly.

Candidates' Weaknesses

- Candidates performed poorly in question no. 1.

Suggestions for Improvement

- ✂ Student should be encouraged to consult dictionary
- ✂ Emphasis should be laid on different types of essay.

MATHEMATICS 002-2

General comments on the paper

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

Detailed comments on each question

Question 1

(a) Evaluate $\frac{9^{0.25} \times 9^{1.75}}{81}$

(b) If $\log 3=0.477$ and $\log 5=0.699$

Evaluate without using tables (i) $\log 2$ and (ii) $\log 15$.

Intended task

The question tested the candidates' ability to solve equation on indices and logarithm. Candidates performed well.

Question 2

(a) Solve for x and y in the equations

$$\frac{1}{2}x + \frac{3}{4}y = 1 \text{ and } x - \frac{1}{2}y = 1$$

(b) A square pyramid has a perpendicular height of 15m. If the volume of the pyramid is 180cm^3 , find the length of the side of the base.

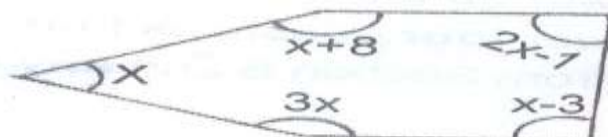
Intended Task

The question tested candidates knowledge on fraction and mensuration . Candidates performed well.

Question 3

(a) The 3rd term of an Arithmetic Progression is 26. If the 10th term is 28 more than the 3rd term find the (i) 1st term and (ii) common difference.

Find the value of x in the figure of a polygon given below:



Intended Task

The question tested candidates' knowledge of Arithmetic progression and regular polygon. The candidates performed well.

Question 4

- (a) If $t = \frac{1+x}{1-x}$, make x the subject of formula and hence find the value of x if $t=8.5$.
- (b) A piece of string is cut up in the proportion of 3:4:5. If the shortest piece is 10.5cm, what is the length of the longest piece of string?

Intended Task

The candidates were expected to express their knowledge of subject of the formula and proportion. Candidates performed fairly well.

Question 5

- (a) Without the use of the table, evaluate $(709.18)^2 - (290.82)^2$
- (b) Calculate the area of an isosceles triangle whose sides are 8cm, 12cm and 12cm, correcting your answer to the nearest whole number.

Intended Task

The question tested candidates' knowledge of difference of two squares and trigonometry. The candidates performed fairly well.

Question 6

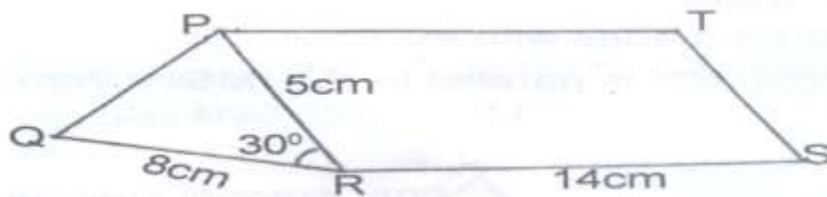
- (a) solve for X , if $\frac{2x}{3} = \frac{6-x}{1+x}$
- (b) find the possible values of x and y in the equations $y=2x-1$, and $y=2x^2-3x-4$.

Intended Task

The question required candidates' knowledge of quadratic equation. The candidates performed averagely.

Question 7

- (a) Solve for X if $\frac{2}{x} \geq \frac{5}{x} - 2$
- (b) five years ago a father was four times as old as his son. Find their present ages.
- (c) The figure below is a triangular prism of length 14cm with $QR=8cm$ $PR=5cm$ and $\angle PRQ = 30^\circ$



Calculate the volume of the prism to the nearest whole number

Intended Task

The candidates' were expected to express their knowledge of inequality, word problem and polygon. Candidates' performed well.

Question 8

- (a) let the universal set $\mu = [1, 2, 3, 4 \dots 20]$
 $A = [1 \leq x \leq 15]$, $B = [\text{Even numbers in } \mu]$ and $C = [\text{prime numbers in } \mu]$
 Find (i) $A \cap B \cap C$ (ii) $A \cap [B - C]$
- (b) A fair coin is tossed and a fair die is thrown once at the same time.
 Find the probability of having
 (i) a tail and 3
 (ii) a head and an odd number
 (iii) a head and a prime number

Intended Task

The question tested the candidates' knowledge of universal set and probability. Candidates' performed fairly well.

Question 9

- (a) The area of a rectangle is 45cm^2 and its perimeter is 28cm.
 Find the length and breadth of the rectangle
- (b) The area of a circle is given as $68 \frac{4}{9}\text{cm}^2$

Calculates its:

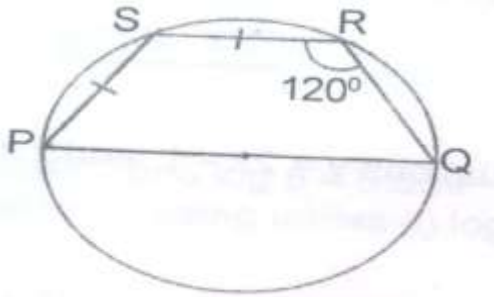
- (i) diameter and
 (ii) circumference (if $\pi = \frac{22}{7}$)

Intended Task

The question tested the candidates' knowledge of mensuration. Candidates' performed well.

Question 10

- (a) Construct a triangle ABC with $AB=8\text{cm}$, $\angle CAB=60^\circ$ and $\angle ABC=45^\circ$. Construct and inscribe circle in $\triangle ABC$. Measure the radius of the circle.
- (b) In the figure below O is the centre of a circle in which a quadrilateral PQRS is inscribed. If $\angle SPQ = \angle SRQ$ and $\angle QRS=120^\circ$. find the size of angle RPQ

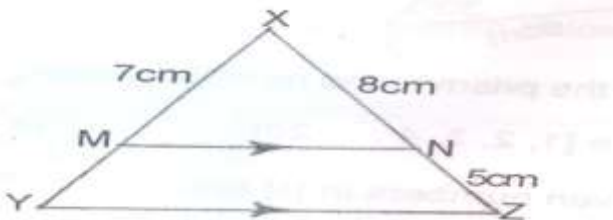


Intended Task

The question tested the candidates' knowledge of construction and circle theorem. Candidates' performed averagely.

Question 11

- (a) A ladder 6.2m long is placed on top of a wall. If the foot of the ladder on the floor is 3.8m away from the wall, find the :
 (i) height of the wall.
 (ii) angle the ladder makes with the floor.
- (b) In the following triangle, MN is parallel to YZ, $MX=7\text{cm}$, $NX=8\text{cm}$, $NZ=5\text{cm}$ and $YZ=15\text{cm}$.



- show that $\triangle XMN$ is similar $\triangle XYZ$.
- Calculate to the nearest whole number the length of MN and MY .

Intended Task

The question tested the candidates' knowledge of bearing and mensuration. Candidates' performed averagely.

Question 12

- (a) The scores obtained in 8 consecutive toss of a die are 3, 2, 4, 2, 4, 2, 5, 2.
Find:
- (i) the mean ,
 - (ii) the mode ,
 - (iii) the median and
 - (iv) the standard deviation of the scores .
- (b) A man invested in 42,000 units of 70k shares at ₦1.10. A dividend of 15% is declared and he later sold the shares at ₦1.80. calculate
- (i) his dividend
 - (ii) the profit made on the sale of the shares

Intended Task

The question tested the candidates' knowledge of statistics and calculation of dividend and profit. Candidates' performed well.

Question 13

- (a) A worker with a monthly salary of ₦20,400.00 has a total allowance of ₦80,000 per annum. If he pays 20% on the first ₦90,000.00 of his taxable income and 25% on the remainder ,
Calculate:
- (i) his yearly income and
 - (ii) the tax paid per annum.
- (b) Calculate the principal which amounted to ₦24,250.00 at simple interest of 17½% for 5years .

Intended Task

The question tested the candidates' knowledge of simple interest and taxation. Candidates performed well.

Question 14

- (a) Find the annual rates paid by a landlord of a house whose rate-able value is Ten Million Naira; if 75k in a naira is charged.
- (b) A man borrowed ₦420,000.00 at 7½% compound interest for 3 years . Calculate the interest and the amount at the end of 3 years.

Intended Task

The question tested the candidates' knowledge of rates and compound interest. Candidates performed well.

Question 15

- (a) Share ₦486,000.00 into the ratio $2\frac{1}{2}:2:1\frac{1}{2}$.
- (b) A trader receives $12\frac{1}{2}\%$ discount for cash and pays ₦8,420.00 for an article, what was the discount ?
- (c) a woman buys 8 bags of yams at ₦4,000.00 per bag of 15 tubers. She finds that $8\frac{1}{3}\%$ of the yams are bad but sells the rest at ₦300.00 per tuber. Find her percentage profit or loss to the nearest whole number .

Intended Task

The question tested the candidates' knowledge of ratio, discount and percentage. Candidates' performed well.

Candidates Strengths

- ✓ Good computational skill
- ✓ Good presentation of answers

Candidates Weaknesses

- Lack of teaching aids
- Improper coverage of syllabus.
- Lack of qualified mathematics teacher
- Poor drawing skill

Suggestions for Improvement

- ✕ Teaching aids should be made available to schools to improve the teaching and learning skills.
- ✕ Teachers/students should endeavour to cover the syllabus
- ✕ Qualified teachers should be employed
- ✕ Assignments involving drawing should always be given to students

ECONOMICS (003)

General Comments on the Paper

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

Detailed comments on each question

Question 1

The quantity of packets of sugar sold by eight(8) market women in a week is shown in a distribution as follows; 5, 7, 8, 10, 12, 14, 16 and 24

Calculate

- (a) The mean deviation
- (b) Standard deviation
- (c) Variance of the distribution

Intended Task

The question tested the candidates' ability to calculate the mean deviation, standard deviation and variance of the distribution given. Candidates' performed well.

Question 2

Given that $C = 140 - 0.4Y$ is a consumption function for commodity X;

- (a) What is the general concept for 140 in the above formula?
- (b) What is the nature of commodity x
- (c) Calculate the corresponding levels of consumption for;-
 - Y= ₦ 0.00
 - Y= ₦20.00
 - Y= N 70.00
 - Y= N 400.00

- (d) Present the answers in 2c in a table

Intended Task

The candidates were expected to give the general concept for 140 in the formula given and state the nature of commodity x given $C = 140 - 0.4Y$ as a consumption function for commodity x. They were equally required to present their answers in 2c in a table and calculate the corresponding levels of consumption for $Y = \text{N } 0.00$, $Y = \text{N } 20.00$, $y = \text{N}70.00$ and $Y = \text{N}400.00$. Candidates' performed well.

Question 3

- (a) What is a socialist economy?
- (b) Highlight any five features of a socialist economy

Intended Task

The candidates were expected to define socialist economy and highlight any five features of a socialist economy. Candidates' performed averagely.

Question 4

- (a) Distinguish between a firm and industry
- (b) Explain any four factors that can influence the location of an industry

Intended Task

The candidates were expected to distinguish between a firm and industry as well as explain four factors that can influence the location of an industry. Candidates' performed well.

Question 5

- (a) Explain: Legal entity and Limited liability
- (b) Briefly explain any four elements which differentiate a private limited company from a public limited company.

Intended Task

The question tested candidates' understanding of legal entity and limited liability, they were also to explain any four elements which differentiate a private limited company from a public limited company. Candidates' performed well.

Question 6

- (a) Distinguish between consumer goods and producer goods.
- (b) What five functions do middlemen perform in the distribution of goods in Nigeria?

Intended Task

The candidates were expected to distinguish between consumer goods and producer goods. They were also required to give five functions of middlemen in the distribution of goods in Nigeria. Candidates' performed well.

Question 7

- (a) With the use of a table highlight any four differences between home trade and external trade.
- (b) Give any four disadvantages of external trade to Nigeria

Intended Task

The candidates were expected to highlight four differences between home trade and external trade in tabular form. They were also required to give four disadvantages of external trade to Nigeria. Candidates' performed averagely.

Question 8

- (a) Distinguish between supply and elasticity of supply
- (b) Explain any five factors that may influence the supply of yam.

Intended Task

The candidates were expected to distinguish between supply and elasticity of supply and also to explain five factors that may influence the supply of yam. Candidates performed well.

Candidates' Strengths

- ✓ The candidates gave correct definition of opportunity cost and scarcity
- ✓ They showed ample understanding of the questions.

Candidate's Weaknesses

- Poor mathematical knowledge.
- Inability to draw tables.
- Poor grammatical expressions.

Suggestions for improvement

- ✂ Qualified teachers should be employed by government and constant inspection should be conducted to check the quality of teachers in schools
- ✂ All aspects of the syllabus should be covered by teachers during teaching.
- ✂ Candidates should be exposed to mathematics and the use of English Language to aid their computational skills and grammatical expressions respectively.

PHYSICS (004-1)

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) Explain
 - (i) Nuclear fission.
 - (ii) Nuclear fusion.
- (b) (i) State three applications of atomic energy.
 - (ii) Define half-life.
 - (iii) Give the expression that relates the half-life T_1 and the decay constant λ of a radioactive material.
- (c) A radioactive element X with atomic number 88 and mass number 226 emits in succession:
 - (i) An alpha particle
 - (ii) A beta particle
 - (iii) Gamma radiationExplain using equations (where necessary) the changes that take place in the atomic structure of the element at each stage.

Intended Task

The candidates were required to explain nuclear fission, nuclear fusion and state three applications of atomic energy. They were to define half-life and give the expression that relate the half-life T_1 and the decay constant λ of a radioactive material. They were also expected to explain the changes in atomic structure of a radioactive element X with atomic number 88 and mass number 226 emits in succession as an alpha particle, a beta particle, gamma particle using equations (where necessary). Candidates' performed fairly.

Question 2

- (a) Define the upper fixed point as used in thermometry.
- (b) The electrical resistance of the element in a platinum resistance thermometer at 100°C is 75 ohms. It is 63 ohms at 0°C and 65 ohms at room temperature. Use this data to determine the room temperature in $^{\circ}\text{C}$.
- (c) (i) State Boyle's law.
 - (ii) A uniform capillary tube closed at one end contains dry air trapped by a thread of mercury of length 0.082m. When the tube was held horizontally, the length of the air column was 0.05m. When it was held vertically with the closed end downwards, the length was 0.04m. Determine the atmospheric pressure at that instance. (density of mercury = 13600kgm^{-3} , $g = 10\text{ms}^{-2}$).

Intended Task

The question tested the candidates' ability to use thermometers to determine temperatures and pressures. Candidates performed averagely.

Question 3

- (a)
 - (i) Define the term acceleration.
 - (ii) List two physical quantities that can be deduced from the velocity time graph.
 - (iii) List three types of motion and give one example of each.
- (b) A lorry starts from rest and accelerates uniformly for 15 seconds until it attains a velocity of 20ms^{-1} . It then travels with uniform velocity for 25 seconds before decelerating uniformly to rest in 5 seconds.
 - (i) Find the acceleration.
 - (ii) Calculate the deceleration
 - (iii) Sketch the graph of the motion and deduce the total distance covered throughout the motion

Intended Task

The question tested candidates' computational and graphical skills. Candidates performed well.

Question 4

- (a) Define the apparent cubic expansivity of a liquid.
- (b)
 - i. Describe with the aid of a labelled diagram, an experiment to determine the apparent cubic expansivity of a liquid.
 - ii. State two precautions that should be taken to ensure accurate results.
- (c)
 - i Explain the term beats
 - ii. A sonometer wire of length 0.50m is subjected to tension of 50N . The wire vibrates in resonance with a tuning fork of frequency 256Hz . If the length of the wire is reduced by 0.01m while the tension is kept constant and the tuning fork and the wire are then sounded together, determine the number of beats heard.

Intended Task

The question tested the candidates' ability to recall, draw and their knowledge of sound frequencies. Candidates performed averagely.

Question 5

- (a)
 - i. Distinguish between the electromotive force and terminal potential difference of a battery.
 - ii. Explain why the emf of a cell is not always the same as the potential difference between its terminals

- (b) A cell emf E and internal resistance r is connected in series with a resistor and an ammeter. A current of 2.1A is observed to pass when the resistance of the resistor is 2 ohms . When another resistor of 5 ohms is connected in parallel with the 2 ohms resistor, the new ammeter reading is 2.5A .
- (i) Draw the circuit diagrams to illustrate the two arrangements
 - (ii) Using the circuit diagrams in (i) above, write down the equation for the emf E of the cell in each case.
 - (i) Calculate the internal resistance and the emf of the cell.

Intended Task

The question tested candidates' computational skills and knowledge of circuits. Candidates performed fairly well.

Candidates' Strength

- ✓ Good presentation of answers

Candidates' Weaknesses

- Poor grammatical expression.
- Poor spellings
- Inability to define properly
- Poor understanding of the questions

Suggestions for Improvement

- ✕ Qualified teachers should be employed for the subject
- ✕ Modern workshop should be organized for teachers to improve their skills
- ✕ Students should read and practice drawing and illustrations
- ✕ The Parent Teachers Association should mobilize teachers to conduct extra-moral classes for students
- ✕ Teachers should encourage students to develop the habit of reading.

CHEMISTRY (005-1)

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) (i) State three postulates of Kinetic theory of gases.
- (ii) Argon occupies a volume of 125cm^3 at 17°C . What will be its volume at 100°C if pressure remains constant?
- (b) (i) Classify the following oxides into acidic, basic, neutral and amphoteric-
 $\text{NO}_2, \text{Na}_2\text{O}, \text{P}_4\text{O}_{10}, \text{Al}_2\text{O}_3, \text{CuO}, \text{ZnO}, \text{CO}, \text{N}_2\text{O}$.
- (ii) Define an acid.
- (c) (i) What are the raw materials for the manufacture of tetraoxosulphate VI acid by the contact process?
- (ii) Write an equation for the reaction that requires a catalyst in the contact process.
- (iii) State the catalyst used in c (ii) above.

Intended Task

The candidates were expected to state three postulates of kinetic theory and the volume of Argon at given temperature of 100°C if pressure remains constant. They were also required to classify the oxides into acidic, basic, neutral, amphoteric and classes and define acid. The candidates were further required to give the materials needed to produce H_2SO_4 acid by contact process and the chemical equation when a catalyst is required and the catalyst employed in the process. Candidates' performed fairly.

Question 2

- (a) Write the electronic configuration of the following elements stating their group and period in the periodic table:
 - (i) ${}^{39}_{19}\text{K}$
 - (ii) ${}^{24}_{12}\text{Mg}$
 - (iii) ${}^{32}_{16}\text{S}$
- (b) Give **one** reason in each case why transition metals exhibit the following properties:
 - (i) Paramagnetism.
 - (ii) Used as a catalyst.
 - (iii) Formation of coloured ions.
- (c) (i) What is meant by acid anhydride?
- (ii) Give one example of an acid anhydride.
- (iii) State three properties of an electrovalent compound.
- (d) (i) State three physical properties of a metal.

- (ii) Calculate the percentage of water of crystallization in the compound copper II tetraoxosulphate VI pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) ($\text{Cu}=63.5$, $\text{S}=32$, $\text{O}=16$, $\text{H}=1$).

Intended Task

The candidates were expected to write the electronic configuration of some elements, their group and period in the periodic table. They were also required to give a reason in each case why transition metals exhibit certain listed properties.

The candidates were required to provide the meaning of an acid anhydride with an example of it. They were also required to mention three properties of an electrovalent compound; three physical properties of a metal and calculate the percentage of water of crystallization in the compound copper II tetraoxosulphate VI pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$). Candidates avoided the question.

Question 3

- (a) (i) State the law of definite proportion.
- (ii) List four characteristics of an alkali metal.
- (b) What volume of water is required to convert 25cm^3 of 1.0M of NaOH solution to 0.2M ?
- (c) (i) State two physical differences between fats and oils.
- (ii) Explain how vegetable oil is converted to margarine.
- (iii) Name the reagents needed to convert alkanol to alkanoic acid.
- (d) (i) Write an equation to show the effect of heat on Zinc II trioxonitrate (V)
- (ii) Name the gaseous product of the reaction in d (i) above.

Intended Task

The question tested the candidates' ability to recall the law of definite proportion and to list some characteristics of an alkali metal. They were asked calculate the volume of water required to convert 25cm^3 of 1.0M of NaOH solution to 0.2M .

They were also to state two physical differences between fats and oils as well as explain how vegetable oil is converted to margarine. They were further to name the reagents needed to convert alkanol to alkanoic acid.

In addition, they were expected to write an equation showing the effect of heat on Zinc II trioxonitrate (V) and to name the gaseous product of the reaction. Candidates performed fairly well.

Question 4

- (a)
 - (i) Define an element.
 - (ii) An element Y is represented as
 - (i) How many protons and neutrons are present in the atom of Y?
 - (ii) Write the electronic configuration of Y
 - (iii) Name two allotropes of Y that are crystalline.
- (b) If sodium reacts with Y to form a compound:
 - (i) What type of bond is formed between Y and sodium?
 - (ii) Write the formula of the compound forms.
- (c)
 - (i) With the aid of a labeled diagram, describe the preparation of dry chlorine gas
 - (ii) Give two uses of chlorine gas.

Intended Task

The candidates were required to define an element, say how many protons and neutrons are present in the atom of elements Y, its electronic configuration and its two crystalline allotropes. They were also required to state the type of bond formed if sodium reacts with Y to form a compound and write out the formula of the compound. In addition, they were asked to describe with the aid of a labeled diagram the preparation of dry chlorine gas and give two uses of the gas. Candidates performed poorly.

Question 5

- (a)
 - (i) Describe the processes of fermentation of starch using balanced equation only.
 - (ii) State two physical properties of ethanol.
- (b)
 - (i) Give the molecular formulae and names of the first three alkanoic acid in the homologous series.
 - (ii) What is the name of the chemical reaction between an alkanoic acid and alkanol.
- (c) Calculate the empirical formula of the compound composed as follows:
Carbon 54.5%, O 36.4%, H 9.10% (H=1, C=12, O=16).

Intended Task

The candidates were requested to describe the processes in the fermentation of starch using balanced equation and state two physical properties of ethanol. They were required to give the molecular formulae and of the name of the first three alkanoic acids in the homologous series.

They were also expected to name the chemical reaction between an alkanoic acid and alkanol, and calculate the empirical formula of the compound composed of Carbon 54.5%, O 36.4%, H 9.10% (H=1, C=12, O=16). Candidates performed above average.

Candidates' Strengths

- ✓ Good presentation of answers.
- ✓ They could recall definitions.

Candidates' Weaknesses

- Poor hand writing.
- Poor presentation of answers..
- Poor computation skill.

Suggestions for Improvement

- ✕ Teachers should teach their students how to write correct formulae and symbols of elements.
- ✕ Schools should allocate more time to practicals.
- ✕ Emphasis should be laid on drawings.
- ✕ Emphasis should be laid on balancing of equation.
- ✕ Emphasis should be laid on good handwritings.

BIOLOGY 006 – 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) i. List three forms in which cell exists.
- ii. Give one example each of the forms listed in a(i) above.
- (b) i. Mention three scientists that propounded the cell theory.
- ii. In a tabular form state five differences between a plant cell and an animal cell.

Intended Task

The question tested the candidates' ability to list three forms in which cell exists and give one example of each. They were also expected to mention three scientists that propounded the cell theory and state five differences between a plant cell as well as animal cell in a tabular form. Candidates performed fairly.

Question 2

- (a) What is respiration?
- (b) (i) State four differences between aerobic and anaerobic respiration.
- (ii) List five excretory waste products in plants.
- (iii) Mention three modes of nutrition in plants

Intended Task

The question tested candidates' ability to define respiration. They were also expected to state four differences between aerobic and anaerobic respiration. The question also examined candidates' ability to list five excretory waste products in plants and to mention three modes of nutrition in plants. Candidates performed well.

Question 3

- a. i. Name four types of erosion
- ii. State four ways by which erosion can be controlled
- b. List four components of the soil
- c. Describe three ways by which the fertility of the soil can be maintained.

Intended Task

The question examined candidates ability to name four types of erosion and four ways by which erosion can be controlled. They were expected to list four components of the soil and describe the ways by which the fertility of the soil can be maintained. Candidates performed averagely.

Question 4

- a. i. State five functions of the skeleton
- ii. List three types of skeleton
- b. In a tabular form, mention four differences between arteries and veins
- c. List four kidney diseases

Intended Task

The candidates were expected to state five functions of the skeleton and list three types of skeleton. They were also to mention four differences between arteries and veins, in a tabular form as well as list four kidney diseases. Candidates performed well.

Question 5

- a. What is a balanced diet?
- b. State the importance of the following in animal nutrition
 - i. Water
 - ii. Fat and oil
 - iii. Protein
- c. Make a large labeled diagram of mammalian incisor tooth

Intended Task

The candidates were expected to state what a balanced diet is, explain the importance of water, protein, fat and oil in animal nutrition as well as to make a large labeled diagram of mammalian incisor tooth. Candidates performed fairly.

Question 6

- a. What is a food chain
- b. Explain the roles of the following in a food chain:
 - i. producers
 - ii. herbivores
 - iii. decomposers
- c. Construct a typical food chain for a named aquatic habitat and a named terrestrial habitat.

Intended Task

The question examined candidates' ability to explain a food chain, the roles of producers, herbivores and decomposers. They were also to construct a typical food chain for a named aquatic habitat as well as a named terrestrial habitat. Candidates performed well.

Candidates' Strengths

- ✓ Good presentation of answers
- ✓ They had good knowledge of erosion
- ✓ They had good knowledge of respiration and cell.

Candidates' Weakness

- Spelling errors especially of biological terms.

Suggestion for improvement

- ✂ Monitoring of teaching/learning processes.

LITERATURE IN ENGLISH (007-1)

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

Give an account of the events that led to the death of baby T in Darko's faceless.

Intended task

The candidates were required to give an account of the events that led to the death of baby T in Darko's faceless. Candidates performed fairly well.

Question 2

Write short note on any two of the following themes in the text:

- (i) Poverty and corruption
- (ii) Oppression
- (iii) Superstition and tradition

Intended Task

The candidates were expected to write short note on any of the themes in the given text: poverty and corruption, oppression, superstition and tradition. Candidates performed fairly well.

Question 3

'Yaremi had refused traditional widowhood, order of replacement and was to be punished accordingly'' justify this statement with reference to the tradition of the people of kufi in Adebowale's LonelyDay and the effects on Yaremi.

Intended Task

The question tested the candidates' ability to justify the statement with reference to the tradition of the people of kufi. Candidates performed fairly.

Question 4

Discuss in detail 'the joys of childhood' as a theme in the text.

Intended task

The question required candidates to discuss in detail the joys of childhood as a theme in the text. Candidates' performance was poor.

Question 5

Comment on the narrative techniques of The Castle of Otranto and its success in the development of the plot of the story.

Intended task

The candidates were required to comment on the narrative technique of the castle of Otranto and its success in the development of the plot of the story. Candidates' performed poorly.

Question 6

Compare and contrast the characters of Manfred and Lord Frederick.

Intended task

The candidates were expected to compare and contrast the characters of Manfred and Lord Frederick. Candidates performed poorly.

Question 7

With close reference to the novel, examine critically Biggers' attitude towards the whites in Wright's Native Son.

Intended task

The question required candidates to examine with close reference to the novel (Native Son) Biggers' attitude towards the whites in Wright's Native Son. Candidates performed fairly well.

Question 8

With relevant textual references, discuss three narrative techniques used in the novel.

Intended task

The question tested the candidate's ability to discuss with relevant textual reference three narrative techniques used in the novel. Candidates performed poorly.

Candidates' strength

- ✓ Ability to answer question on what led to the death of baby T in Darko's faceless.

Candidates' weaknesses

- Inability to answer question on the Joys of childhood.
- Inability to answer question on poverty and corruption
- Misinterpretation of questions 5 and 8.
- Poor communication.
- Poor grammatical expression.

Suggestion for improvement

- ✕ Candidates should endeavour to read and understand their questions well before attempting them.
- ✕ Schools should endeavour to cover the syllabus.
- ✕ Candidates should cultivate the habit of reading novels, journals, magazines etc.
- ✕ Poor communication expression.
- ✕ Poor grammatical expression.

INFORMATION AND COMMUNICATION TECHNOLOGY (008)

General Comments on the Paper

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

Detailed Comments on Each Question

Question 1

- (a) Write short notes on the following:
 - i. Hybrid computers
 - ii. Analog computers
 - iii. Fourth generation computers
- (b)
 - i. Describe a computer keyboard
 - ii. Mention any two hardware components of a computer system.

Intended Task

The candidates were expected to write short notes on: Hybrid computers, Analog computers, Fourth generation computers, describe a computer keyboard and mention any two hardware components of a computer system. Candidates performed fairly.

Question 2

- (a)
 - i. What is information technology?
 - ii. State four organizations that use ICT.
- (b)
 - i. Define operating system.
 - ii. Give four examples of operating system software.
- (c) State the basic functions of an operating system.
- (d) Mention the steps used in checking mails on the internet.

Intended Task

The question tested candidates' knowledge of information technology. Candidates performed well.

Question 3

- (a) Explain how Word Processing package can be activated.
- (b) State four things found in windows environment.
- (c) List steps involved in creating tables in Ms-Word.
- (d) What do you understand by Text Alignment?

Intended Task

Candidates were expected to explain how word processing package can be activated, four things found in windows environment, steps involved in creating tables in Ms-Word and their understanding of text-alignment. Candidates performed well.

Question 4

- (a) Describe how presentation can be created using Auto Content Wizard.
- (b) Briefly explain Microsoft PowerPoint as an office productivity tool.
- (c)
 - i. What is a Spreadsheet Application?
 - ii. Mention two examples of Spreadsheet package.

Intended Task

The candidates were expected to describe how presentation can be created using Auto Content Wizard, explain Microsoft PowerPoint as an office productivity tool, define a spreadsheet application and mention two examples of spreadsheet package. Candidates performed well.

Question 5

- (a) List four toolbars in Ms-Excel.
- (b) Explain the following:
 - i. Pop-up menu
 - ii. Menu bar
 - iii. Clipart
 - iv. Property tool bar

Intended Task

The question tested candidates' ability to list four toolbars in Ms-Excel and explain pop-up menu, menu bar, clipart and property tool bar. Candidates performed well.

Question 6

- (a) Describe how an Arc can be drawn in AutoCAD.
- (b) Mention six tools used in AutoCAD drawing.
- (c) State how a new layer can be created in AutoCAD environment.

Intended Task

The question tested candidates' knowledge on how an Arc can be drawn in AutoCAD, tools used in AutoCAD drawing and how a new layer can be created in AutoCAD environment. Candidates' performed well.

Question 7

- (a) Explain the use of the following tools:
 - i. Erase
 - ii. Line
 - iii. Hatch
 - iv. Polygon
- (b) Discuss the two methods of Adding objects to a selection set.

Intended Task

Candidates were expected to explain the use of erase, line, hatch, polygon and also discuss the two methods of adding objects to a selection set. Candidates performed well.

Candidates' Strength

- ✓ Many of the candidates were able to answer the questions correctly.

Candidates' Weaknesses

- Many candidates were not able to write short note on computer keyboard correctly.
- Many candidates were not able to state how to access e-mail.
- Poor drawing skill.

Suggestions for Improvement

- ✕ Students should be encouraged to imbibe good reading culture.
- ✕ Students should be exposed to the practical use of computer system.
- ✕ AutoCAD has no relevance in ICT and should be expunged from the syllabus.
- ✕ The examination should be properly monitored to reduce examination malpractice.

CIVIC EDUCATION (009)

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) Explain what you understand by national ethics.
- (b) How can ethics help to maintain orderliness in the society?

Intended task

The candidates were required to explain what they understood by national ethics and how ethics could help to maintain orderliness in the society. Candidates performed averagely.

Question 2

- (a) What is discipline?
- (b) How can indiscipline lead to chaos in the society?

Intended Task

The candidates were expected to state what indiscipline is and how indiscipline could lead to chaos. Candidates performed fairly.

Question 3

- (a) In a tabular form, list five ICT tasks and their ICT gadgets/ tools.
- (b) Discuss five general importance of ICT

Intended Task

The candidates were expected to list in a tabular form five ICT tasks and their ICT gadgets /tools. They were also to discuss five general importance of ICT. Candidates performed poorly.

Question 4

List and discuss three factors responsible for HIV epidemic in Nigeria and how they can be checked?

Intended task

The question tested candidates ability to list and discuss three factors responsible for HIV epidemic in Nigeria as well as how they could be checked. Candidates performed well.

Question 5

- (a)What is constitution?
- (b) Mention five functions of the government to its citizens.

Intended Task

The candidates were expected to state what constitution is and mention five functions of the government to its citizens. Candidates performed well.

Question 6

In what three ways can the judiciary be made totally independent?

Intended task

The question tested the candidates' ability to recall three ways the judiciary could be made totally independent. Candidates performed well.

Candidates' strength

- ✓ Good presentation of answers

Candidates' weaknesses

- Poor grammatical expression
- Poor handwriting.

Suggestions for improvement

- ✕ Competent teachers should be employed to teach the subject
- ✕ Workshops/seminars should be encouraged and conducted in schools for teachers/students.
- ✕ Emphasis should be laid on good handwriting.

General Comments

The questions covered the syllabus and the candidates' performances were generally good.

Detailed Comments on Each Question

Question 1

- (a) What is agriculture?
- (b) State four reasons why agriculture can be regarded as mainstay of Nigeria economy.
- (c) List four characteristics of commercial agriculture.
- (d) Mention one industry that uses the following produce from agricultural sector:
 - i. Maize
 - ii. Groundnut seed
 - iii. Coffee seed
 - iv. Cocoa

Intended Tasks

The candidates were expected to define agriculture, state four reasons why agriculture can be regarded as mainstay of Nigeria economy and four characteristics of commercial agriculture. They were equally required to mention one industry that make use of maize, groundnut seed, Coffee seed and cocoa as produce from agricultural sector. Candidates performed well.

Question 2

- (a) Mention five agricultural research institutes and their locations in Nigeria
- (b) List five sources of farm power and explain two advantages of each.
- (c) Explain the following terms;
 - i. Primary tillage implements
 - ii. Secondary tillage implements.
- (d) Differentiate between farm implements and farm machinery.

Intended Tasks

The candidates were expected to mention five agricultural research institutes and their locations in Nigeria, five sources of farm power and explain two advantages of each. In addition, they were required to explain primary and secondary tillage implements and differentiate between farm implements and farm machinery. Candidates performed fairly.

Question 3

- (a) Describe the production of yam under the following headings;
 - i. Soil requirement
 - ii. Method of propagation
 - iii. Seed rate
 - iv. Fertilizer application
 - v. Method of harvesting
 - vi. One pest and one disease
 - vii. One major use.
- (b) List five problems of farm mechanization in Nigeria.
- (c) Mention three benefits of farm mechanization in Nigeria.

Intended Tasks

The candidates were expected to describe the production of yam under soil requirement, method of propagation, seed rate, fertilizer application, method of harvesting, one pest and one disease and one major use. They were equally required to list five problems of farm mechanization in Nigeria and mention three benefits of farm mechanization in Nigeria. Candidates performed well.

Question 4

- (a) Name five breeds of cattle in Nigeria.
- (b) List ten poultry equipment
- (c) Explain two advantages and two disadvantages each of battery cage and deep littered system.

Intended tasks

The candidates were required to name five breeds of cattle in Nigeria, list ten poultry equipment, explain two advantages and two disadvantages each of battery cage and deep littered system. Candidates performed well.

Question 5

- (a) Define agricultural credit.
- (b) List three types of credit and explain them.
- (c) Give five reasons for keeping farm records.
- (d) Explain any five farm records you know.

Intended Tasks

The candidates were expected to define agricultural credit, list three types of credit and explain them, give five reasons for keeping farm records and explain any five farm records. The candidates performed fairly.

Question 6

- (a) Define the term weed

- (b) State six economic importance of weeds
- (c) In a tabular form state six characteristics of clay soil and sandy soil
- (d) What is agricultural system?
- (e) List five agricultural system practices in West Africa.

Intended Tasks

The candidates were expected to define the term weed and agricultural system, state six economic importance of weeds and six characteristics of clay soil and sandy soil in a tabular form. They were equally required to list five agricultural system practices in West Africa. Candidates performed averagely.

Question 7

- (a) Explain the term “ marketing”
- (b) Outline five marketing channels for cocoa
- (c) Explain the following terms
 - i. Salvage value
 - ii. Depreciation
 - iii. Useful life
 - iv. Appreciation
- (d) List four factors that can cause a change in supply of agricultural produce
- (e) List the three main extension teaching methods

Intended Tasks

The candidates were expected to outline five marketing channels for cocoa and explain the terms: marketing, salvage value, depreciation, useful life and appreciation. They were also required to list four factors that can cause a change in supply of agriculture and three main extension teaching methods. Candidates performed well.

Candidates’ Strength

- ✓ Questions 1, 2, 3 and 4 were well answered by the candidates.

Candidates’ Weaknesses

- Many candidates could not spell words correctly
- Many were unable to write correctly the location of Agricultural Research Institutes in Nigeria
- Poor reading culture.

Suggestions for improvement

- ✂ Relevant textbooks should be made available to teachers and students on the subject
- ✂ Qualified Agricultural Science teachers should be employed and posted to schools

- ✕ Teachers should emphasize the importance of location of Agricultural Research Institutes in Nigeria.
- ✕ Candidates should be properly groomed in the numbering of answer booklets.
- ✕ Emphasis should be laid on practicals.

GEOGRAPHY (196)

General Comments on the Paper

The questions covered the syllabus and the candidates' performances were generally good.

Detailed Comments on each Question

Part I (Human And Economic Geography)

Question 1

- (a) Highlight five areas of differences between rural and urban settlements.
- (b) Discuss briefly five factors responsible for the present decay of rural settlements.

Intended Task

The question tested the candidates' knowledge of rural and urban settlements. They were also to discuss five factors responsible for the present decay of rural settlement. Candidates performed well.

Question 2

- (a) Highlight five reasons why developing countries should key into modern industrialization process.
- (b) Outline five factors militating against industrial development of developing countries.

Intended Task

The question tasked the candidates' knowledge of modern industrialization process. They were also expected to outline factors militating against industrial development of developing countries. The candidates avoided the "a" part of the question candidates performed well in part 'b' of the question.

Question 3

- (a) Define the term "International trade"
- (b) State five reasons why countries like Nigeria should engaged in trade with other countries.
- (c) Highlight four benefits of trading with other countries.

Intended Task

The question tested the candidates' ability to recall the definition of international trade. It further required them to state reasons why Nigeria should engaged in trade with other countries. They were also to highlight the benefits of trading with other countries. Candidates performed well.

Question 4

- (a) Identify any five communication networks in Nigeria
- (b) Highlight two advantages and two disadvantages of one communication network mentioned in 4 (a) above.
- (c) Explain briefly three problems of communication in Nigeria.
- (d) Suggest possible solutions to communication problems mentioned in 4 (a) above in Nigeria.

Intended Tasks

The candidates were expected to identify any five communication networks in Nigeria, highlight advantages and disadvantages of communication network mentioned and explain problems of communication in Nigeria. They were also expected to suggest possible solutions to communication problems in Nigeria. Candidates' performed fairly well.

Part II (Regional Geography of Nigeria)

Question 5

- (a) Draw an outline map of Nigeria. On the map, show and name
 - (i) Salt water swamps
 - (ii) Fresh water swamps
 - (iii) High forest
- (b) State the vegetation characteristics of the high forest
- (c) Outline four economic benefits of vegetation resources to man.

Intend Tasks

The candidates were expected to draw the map of Nigeria, to show and name salt water swamps, fresh water swamps and high forest. They were also required to state the vegetation characteristics of high forest and outline the economic benefits of vegetation resources to man. Candidates performed fairly well.

Question 6

- (a) Draw an outline map of Nigeria. On the map show and name:
 - (i) One industrial zone to the North.
 - (ii) Two industrial zones to the south.
 - (iii) One important town in each zone.
- (b) Highlight five obstacles militating against industrial development in Nigeria.
- (c) Suggest ways of over-coming these obstacles identified in 6(b) above.

Intended Tasks

The candidates were expected to draw map of Nigeria, show and name industrial zones to the north and south and one important town in each zone. They were also required to highlight obstacles militating against industrial development in Nigeria and to suggest ways of over-coming the obstacles identified. Candidates performed well.

Question 7

- (a) Discuss briefly western highland in Nigeria under the following headings:
 - (i) Location and extent
 - (ii) Physical characteristics
 - (iii) Economic activities
 - (iv) Problems of development.

Intended Task

The question tested candidates' knowledge of Western Highland in Nigeria. Candidates performed well.

Question 8

- (a) Draw an outline map of Nigeria. On the map, show and name
 - (i) Two railway terminus at the airport.
 - (ii) Two railway terminus at the hinterland.
 - (iii) One town each where the terminus exists.
- (a) Highlight five problems of railway transportation in Nigeria.
- (b) Suggest solutions to the problems identified in 8(b) above.

Intended Tasks

The candidates' were expected to draw an outline of map of Nigeria to show and name two railway terminus at the airport and hinterland with one town each where the terminus exists. They were also required to highlight the problems of railway transport in Nigeria and suggest solutions to the problems identified in 8(b) above. Candidates avoided this question.

Candidates' Strength

- ✓ Generally, candidates had good knowledge of the subject matter.

Candidates' weaknesses

- Poor drawing skills
- Poor grammatical expression
- Poor handwriting

Suggestion for Improvement

- ✕ Emphasis should be laid on drawing skill.
- ✕ Candidates should cultivate the habit of reading novels, journals and magazines etc.
- ✕ Emphasis should be laid on English language.

SECTION TWO

BUSINESS TRADES

TYPEWRITING 35 WPM (411)

General Comments on the Paper

The questions covered the syllabus and the candidates' performances were generally good.

Detailed comments on each Question

Task 1

Type the speed and accuracy below on a plain A4 paper in double line spacing, the use of eraser is not allowed in this task

Speed and Accuracy

Nearly all companies which sell goods on credit send a statement of accounts to their customers at certain periods. This is really a copy of the accounts of the customer since it was last balanced as shown in the company's records. In most cases, the date of sending this statement is the last day of each calendar month or as soon as possible.

The statement shows the balance due at the beginning of the period, the dates and amounts on invoices for goods bought, credit notes for goods returned or for other allowances and also payments made. Apart from acting as a note to the debtor that he owes the money, the statement is vital to enable the two involved to compare the entries in their books regarding the trade between them. If the company receiving the statement feels it is not a correct record of the transactions, it will then draw the attention of the supplier to the error.

In cases where cash discounts are allowed for payment within a short period, details relating to this will usually be shown on the statement as well as the invoice. When the account becomes due, the debtor will after deducting any discount to which he may be due, prepare his cheque for the net amount payable and forward this along with the statement of accounts to the creditor's firm.

The latter will then acknowledge receipt of the cheque by writing words to that effect on the statement and returning it to the sender of the cheque.

Intended Task

The question examined candidates' ability to type accurately with minimal errors. Candidates' performed averagely.

Type the letter below on the A4 Headed paper provided for dispatch today and take a carbon copy.

Mrs
Alhaja Oladeji Azeezat
40, Mubaraq Road
Tudun Wada
Zaria

Offer of appointment } $C_{u/s}^{p/s}$

We refer to your recent application & interviewed had with us and have the pleasure to inform you that you have offered appointment as Senior Assistant to our Managing Director. The appointment takes effect from the day you assume duty. On assumption of duty, you to report to Personnel manager, who will give you further directives. [You have been placed on salary of A120,000.00 per month. You will be entitled to a Vehicle Loan of A1.5million after a six month Probation. & you will be paid a transport allowance of A10,000.00 per month.

(A Partially furnished four bed-room bungalow @ No 16, Ibokun Way, Osogbo together with its two room boys quarter is being renovated for you.

run

Am Pending the readiness of our official quarters, you will be accommodated @ De-Place Hotel, Osogbo & all bills for feeding, Laundry & telephone services shall be settled by our organisation. The org. shall also bear the cost of your movement from your present station to our head office.

uc Pls accept my congratulations and wishing u many happy years of service & progress with the organisation. You are to notify me within one month from the date of this letter, your acceptance of offer, & when you will assume duty.

Yrs ffly
Unique Business Organisation

Temitope folorunso
General Manager

Intended Task

The question tested the candidates' ability to type from a displayed letter with special note on typing rules and abbreviations. Candidates performed well.

Task 3

Type the manuscript below on plain A4 paper. Use double line spacing

Improvement In World Health / caps & u/s

restatement
uc
wiped

To say that the health of the world has very much improved in the last century is not an over statement. Since the / of the World health organisation in 1948, the attention given to health has been greater throughout the world. A great number of diseases have been reduced in their effort & some have bn completely or almost completely / out.

The reasons for the improvement in world health are not far-fetched. In the first instance there has been numerous advances in all the procedures of medical practice. Much more is known to day about the ways in which the body works.

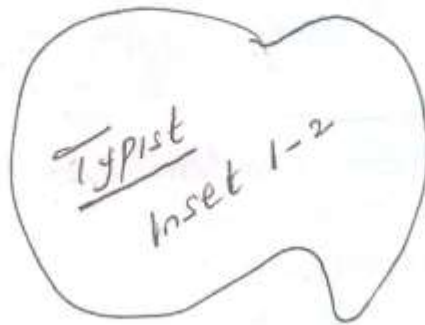
run on
NP
fment

In addition to this, there has bn a large increase in the number of drugs & medicines available to doctors. [Today, much more is known abt the importance of clean water, hygiene both in the treat / of food in the home & in establishing and maintaining of good health. National bodies have been set up by very many countries to protect and improve the health of the people. There have also been great attempts by many countries to bring the best

Task 3 Contd.

medical attention to everyone particularly @ the grass-root.

NP There are two aspects to health approach. (1) The treatment of sickness, disease & accident (2) promotion and maintaining good health. [Food, drink and exercise is a great influence on the body] make a person healthy and remain so throughout life and in to old age.



Intended Task

The question examined candidates' knowledge on typing skills. The candidates performed well.

Task 4

Type the following play on a plain A4 paper

The image shows a handwritten play script on lined paper. The text is written in cursive and includes several annotations. On the left margin, there are three '4/c' marks. At the top right, there is a note 'caps + u/s'. The script itself is as follows:

the gods are not to blame // caps + u/s

4/c The action of the play takes place in Kutuje near Oyo State of Nigeria

Act I: Towns people complained of illness + deaths

Act II: Baba Fakunle consulted to assist

4/c Act III: Alaka and gbongba entered into the kings Palace

Characters // sp. caps

Narrator	-----	Ola Rutimi
Kings Odewale	-----	Femi Robinson
Queen Ojuola	-----	Tinka Anjorin
King Adetuba	-----	Kayode Ogaju
Adetapo	-----	Tony Obisade
Baba Fakunle	-----	Boale Sowande
Gbongba	-----	Johnson Olatusi

4/c

Typist
Pls. Use leader dots

Intended Task

The candidates were expected to type the written play on a plain A4 paper. Candidates' performed well.

Task 5

Type a copy of the tabular statement below on A4 paper in double line spacing.

Idu Technical College Staff Record

Name of Staff	Subject taught	yr of graduation	Qualification
Mr Peter	Typewriting	1977	HND, NDE
Okonkwo P	Shorthand	1977	B. Ed
Okolie S	Office Practice	2001	NCE
Nwange C	Eng. lang.	1995 1985	BA
Alizer F	Mathematics	1995	BSC
Etuehi B	Sci. duties	2004	NCE
Onozuka R	Accts	1999	HND
Adegbeye Z	Phy	1985	BSC
Musa B	Econ	1988	NCE
Ehwerika B	Geo	2006	NCE
Anazia A	Commerce	2006	BA
Abasi D	Literature	1996	BSC

Tip:
 Items re subject taught shld. be typed in full

Intended Task

The question tested candidates' knowledge on tabulation. Candidates performed well.

Candidates' Strengths

- ✓ The candidates completed their task on time
- ✓ Task four was a walk-over for all the candidates and they performed well on this question.

Candidates' Weaknesses

- Most candidates could not spell correctly
- Most candidates engaged in over- typing.
- Candidates' inability to use abbreviations.
- Many centers lack good typewriters

Suggestions for improvement

- ✂ Typewriters should be serviced and bad ones replaced before the commencement of examinations.
- ✂ Emphasis should be laid on English Language.

OFFICE PRACTICE (413)

General comment on the paper

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

Detailed comments on each question

Question 1

- (a) Mention five merits of studying office practice.
- (b) State five relevance of office practice to business education.

Intended Task

The candidates were expected to mention five merits of studying office practice and state five relevance of office practice to business education. Candidates' performed well.

Question 2

- (a) What is office layout?
- (b) Explain five factors to be considered in an office location.

Intended Task

The candidates were expected to define office layout and explain five factors to be considered in an office location. Candidates performed well.

Question 3

- (a) What are the principles of good organization?
- (b) Prepare an organizational chart of a manufacturing company showing five departments with their heads.

Intended Task

Candidates were expected to give the principles of good organization. They were also tasked to prepare an organizational chart of a manufacturing company showing five departments with their heads. Candidates performed averagely.

Question 4

- (a) State two differences between a letter and an office memorandum.
- (b) Give five essential qualities required of a new telephone operator.

Intended Task

Candidates were expected to state two differences between a letter and an office memorandum. They were equally required to state five essential qualities required of a new telephone operator. Candidates performed fairly well.

Question 5

- (a) Explain three important instructions which should be given as a guide to a junior clerk on how to deal with incoming mail.
- (b) State the use of the following mail room equipment.
 - (i) Date stamp
 - (ii) Guillotine
 - (iii) Jogger
 - (iv) Trays
 - (v) Dispenser
 - (vi) Roller moistener.

Intended Task

The question tested candidates' knowledge of how to deal with incoming mail and uses of mail room equipment.

Question 6

Mention and explain six postal services provided by NIPOST in Nigeria.

Intended Task

The candidates were expected to list and explain six postal services provided by NIPOST in Nigeria. Candidates performed well.

Question 7

In what circumstances would each of the following system of classification in filing be used in a large organization?

- (i) Alphabetical system
- (ii) Subject system
- (iii) Numerical system
- (iv) Geographical system
- (v) Alpha- Numerical system

Intended Task

The question tested candidates' ability to recall the uses of Alphabetical system, Subject system, Numerical system, Geographical system, Alpha-Numerical system in classification of filing in a large organization? Candidates performed well.

Question 8

- (a) State and explain five factors to be considered when choosing office machines.
- (b) Mention any five areas in which a photocopying machine may be of service to a large company.

Intended Task

Candidates were expected to state and explain five factors to be considered when choosing office machines and five areas in which a photocopying machine may be of service to a large company. Candidates performed well.

Question 9

- (a)
 - (i) What is credit transfer?
 - (ii) Mention four benefits that a business man gets by using a credit transfer.
- (b) State three differences between a crossed cheque and an open cheque.

Intended Task

The question tested candidates' knowledge of credit transfer and differences between a crossed cheque and an open cheque.

Question 10

Write short notes on the following terms used in connection with meetings.

- (i) Motion
- (ii) Resolution
- (iii) Quorum
- (iv) Proxy
- (v) Standing order

Intended Task

Candidates were expected to write short notes on the terms used in connection with meetings such as Motion, Resolution, Quorum, Proxy and Standing order. Candidates performed well.

Candidates' Strengths

- ✓ Candidates answered question numbers 2, 5 and 10 correctly.
- ✓ Candidates distinguished crossed cheque from open cheque clearly.

Candidates Weaknesses

- Poor drawing skill.
- Poor knowledge of question number 5 and 8b.

Suggestions for Improvement

- ✕ Refreshers courses should be organized for teachers to update their knowledge.
- ✕ Instructional materials should be used by teachers at all levels to teach the candidates.
- ✕ Teachers should be mindful when teaching a topic or using materials that is technical.
- ✕ Tutorial lessons should be encouraged.

COMMERCE (421)

General Comments on the Paper

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

Detailed Comments on Each Question

Question 1

- (a) Explain five functions of commerce
- (b) List five aids to trade.

Intended Task

Candidates were expected to explain five functions of commerce and list five aids to trade. Candidates performed well.

Question 2

- (a) Explain the term foreign trade.
- (b) Give two examples of foreign trade.
- (c) List and explain five barriers to foreign trade.

Intended Task

The question tested the candidates' knowledge of the term foreign trade. Many of the candidates who attempted the question could not give examples of foreign trade. Candidates performed well.

Question 3

- (a) Explain five reasons why a businessman would prefer to use the road transport.
- (b) State five factors to be considered before choosing a means of transport.

Intended Task

Candidates were expected to explain five reasons why a businessman would prefer to use the road transport and state five factors to be considered before choosing a means of transport. Candidates performed well.

Question 4

List and explain five functions of NIPOST.

Intended Task

Candidates were expected to list and explain five functions of NIPOST. Candidates performed well.

Question 5

- (a) What is 'Deed of Partnership'?
- (b) Explain six contents of a Deed of Partnership.

Intended Task

The question tested candidates' ability to explain deed of partnership and its six contents. Candidates performed well.

Question 6

List and explain five qualities of money.

Intended Task

Candidates were expected to list and explain five qualities of money. Candidates who answered the question performed well.

Question 7

- (a) Define credit with two examples.
- (b) State three advantages of credit
- (c) State two disadvantages of credit.

Intended Task

Candidates were expected to give the definition of credit with examples including three of its advantages and two disadvantages respectively. Candidates performed well.

Question 8

- (a) What is consumer protection?
- (b) Explain five reasons why consumers need protection.

Intended Task

Candidates were expected to define consumer protection and explain five reasons why consumers need protection. Candidates performed well.

Question 9

- (a) Explain five benefits of insurance to businessman.
- (b) List five types of insurance policies.

Intended Task

Candidates were expected to explain five benefits of insurance to businessman and list five types of insurance policies. Candidates performed well.

Question 10

- (a) What is capital?
- (b) List and explain six types of capital.

Intended Task

The question tested candidates' knowledge of capital. Candidates performed well.

Candidates' Strength

- ✓ Candidates have good knowledge of the question.
- ✓ Candidates performed well in all questions.

Candidates' Weaknesses

- Poor grammatical expression.
- Poor handwriting.

Suggestions for Improvement

- ✕ Students should be encouraged to read enough literature books, magazine, newspapers.
- ✕ Students should be taught how to answer questions.
- ✕ Emphasis should be laid on English Language.
- ✕ Emphasis should be laid on good handwriting.

FINANCIAL ACCOUNTING (423)

General comment on the paper

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

Detailed comment on each question

Question 1

- (a) Differentiate between called-up capital and paid-up capital.
- (b) List any five items that can be found in the articles of association of public Company.
- (c) Classify the following items in Real, Nominal and Personal Accounts.
 - (i) Mr. Chuks and Company Limited
 - (ii) Land and Buildings
 - (iii) Electricity
 - (iv) Salaries
 - (v) Recorded delivery expenses
 - (vi) MTN calls
 - (vii) Accrued expenses
 - (viii) Machinery
 - (ix) Creditors
 - (x) Insurance

Intended Task

The question tasked the candidates to differentiate between called-up capital and paid-up capital, mention five items that can be found in the articles of association of a public company with the classification of some items in Real, Nominal and Personal Accounts. Candidates performed fairly well.

Question 2

- (a) List five sources of capital to a public company
- (b) List and explain five characteristics of computer.

Intended Task

The candidates were expected to mention five sources of capital to a public company and explain five characteristics of computer. Candidates performed well.

Question 3

The following information were extracted from the ledger of Hamed Limited for October,2009:

		N
1/10/2009	Debit balance in the sales ledger	10,000
1/10/2009	Debit balance in the bought ledger	240
30/10/2009	Sales of goods	60,000
	Returns inwards	4,000
	Bad debt written off	800
	Discount allowed	400
	Purchases	36,000
	Cash received	20,000
	Cash paid	16,000
	Returns outwards	800
	Customers' cheques dishonoured	2,000
	Discount received	1,000
	Interest charged to customers account	100

You are required to prepare for the month of October,2009:

- (a) Sales ledger control account
- (b) Purchases ledger control account

Intended Task

The question tasked candidates to prepare for the month of October, 2009 sales ledger control account and purchases ledger control account. Candidates performed fairly well

Question 4

Use the information from the books of Babayaro & Sons to answer questions below:

	N
Purchases	15,000
Creditor	2,500
Sales	25,000
Opening stock	10,000
Closing stock	15,000
Expenses	5,000
Fixed assets	20,000
Sundry debtors	5,000

Calculate:

- (a) Cost of goods sold
- (b) Net profit percentage
- (c) Acid-test ratio
- (d) Current ratio
- (e) Working capital
- (f) Gross profit percentage

Intended Task

The question tested candidates computational skills using the information from the book of Babayaro & Sons book of account, candidates were expected to calculate the cost of goods sold, net profit percentage, acid test ratio, working capital and gross profit percentage. Candidates performed fairly.

Question 5

Chinyere and Bala trading in partnership agreed to dissolve the partnership on 31st December 2010, and at this date, the Balance Sheet was as follow:

	N		N
Capital account	4,500	Capital:	
Motor vehicle	2,400	Chinyere	3,000
Stock	1,750	Bala	<u>1,800</u>
Debtors	2,900		4,800
Bank	450	Current a/c:	
		Chinyere	300
		Bala	200
		<u>Current Liabilities</u>	
		Creditors	<u>4,900</u>
	N7,200		N7,200
	=====		=====

The assets were realized as follows:

	N
Goodwill	3,000
Motor vehicle	1,800
Stock	1,560
Debtors	2,700

The creditors were paid off for N1,840 the difference being due to discounts received. The costs of dissolution were N270:

You are required to prepare:

- (i) Realisation account
- (ii) Partners capital account
- (iii) Cash Account

Note: Profits and losses were shared in the ratio 2:1

Intended Task

Given the balance sheet of Chinyere and Bala trading in partnership to dissolve the partnership on the 31st December 2010, candidates were expected to prepare realization account, partners capital account and cash account and also to note the profit and losses to be shared in the ratio 2:1. Candidates performed poorly.

Question 6

James & Sons started business on January 2009 with an initial capital of ₦140,000 cash. The following transactions took place in the month:

₦

January 1	Purchased fixtures and fittings for cash	3,000
2	Purchased goods by cash	2,500
3	Purchased goods on credit from A. Audu	6,000
4	Sold goods for cash	7,000
5	Sold goods on credit to Chukwuma S.	3,000
16	Paid wages in cash	500
17	Paid A. Audu (Part-payment) for goods bought	4,000
22	Paid rates in cash	800
25	Paid electricity bill by cash	1,000

You are required to write up:

- Ledger accounts to record these transactions and
- Extract a Trial Balance as at 31st December, 2009

Intended Task

The question tested candidates knowledge on principle of book keeping . Candidates were required to write-up ledger account to record transactions and extract a trial balance as at 31st December, 2009. Candidates performed well.

Question 7

The receipts and payments account of IOBC for the year ended 31st December, 2009 is as follows:

	₦		
Balance	200	Bar supplies	2,850
Subscriptions for 2009	3,600	Wages (Bar)	350
“ “ “ 2010	250	General expenses	1,000
Receipts from Bar	4,500	Printing and Stationery	120
Receipts from Dance	500	Equipment	350
Sundry receipts	1,000	Furniture	300
		Repairs	200
		Balances c/d	<u>4,880</u>
	₦10,050		₦10,050
	=====		=====

You are given the following additional information:

	1/1/2009		31/12/2009
	₦		₦
Equipment	2,500		2,850
Furniture and Fittings	2,000		2,300
Stock-Bar	1,200		3,200
Bar-Supplies	2,400		5,600

You are required to prepare:

- (a) Statement of affairs as at 1st January, 2009
- (b) Bar Trading account.
- (c) Income and Expenditure Account for the year ended 31st December, 2009.

Intended Task

The candidates were expected to prepare statement of affairs as at 1st January, 2009, Bar Trading account, income and expenditure account for the year ended 31st December, 2009. Candidates performed poorly.

Candidates' Strength

- ✓ Candidates had good knowledge of the subject.
- ✓ Candidates responded very well to the principle of double-entry account system.

Candidates' Weaknesses

- Poor computation of account figures.
- Poor headings of the account topics.
- Some students lack understanding of question.

Suggestions for improvement

- ✕ Qualified teachers should be employed to teach the syllabus appropriately.
- ✕ Candidates should be encouraged to read the prescribed textbooks.

SALESMANSHIP (431)

General comments on the paper

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

Detailed on each question

Question 1

- (a) Define the terms consumer behaviour.
- (b) State two ways by which social group influence consumer behaviour.
- (c) Outline four different classes of social group.
- (d) Mention four factors that influence consumer behaviour.

Intended Task

The question tested the candidate's ability to recall the term consumer behaviour and to state two ways by which social group influences consumer behaviour. They were also required to outline four different classes of social group and mention four factors that influence consumer behaviour. Candidates performed well.

Question 2

- (a) Define the term personality.
- (b) Briefly explain the term culture.
- (c) Explain four ways personality influence consumer behaviour.

Intended Task

The candidates were expected to define the term personality. They were also required to explain the term culture and four ways personality influence consumer behaviour. Candidates performed averagely.

Question 3

- (a) Define the term contract.
- (b) Mention five conditions necessary for a valid contract.
- (c) Briefly explain three ways by which a contract can be terminated.

Intended Task

The question tested the candidates' ability to define the term contract and were equally required to mention five conditions necessary for a valid contract and briefly explain three ways by which a contract can be terminated. Candidates performed well.

Question 4

- (a) State two provision of hire purchase act.
- (b) Mention three advantages of Auction sales.
- (c) What is hire purchase?
- (d) States two differences between hire purchase and deffered payment.

Intended Task

Candidates were expected to state two provisions of hire purchase act and mention three advantages of Auction sales as well as to state two differences between hire purchase and deferred payment. Candidates performed well.

Question 5

- (a) Define the term negotiable instrument.
- (b) State four types of negotiable instrument.
- (c) Explain two of the instrument above.

Intended task

The candidates were expected to define the term negotiable instrument and state four types of negotiable instrument and explain two of the instruments above. Candidates performed well.

Question 6

- (a) Explain briefly the following documents:
 - (i) Partnership deed.
 - (ii) Certificate of trading.
 - (iii) Articles of association.
 - (iv) Memorandum of Association.
- (b) State three features of public limited companies.

Intended Task

The question required the candidate's ability to explain the following documents, Partnership deed, Certificate of trading, Articles of association and Memorandum of Association and State three features of public limited companies. Candidates performed well.

Question 7

- (a) State five qualities of a good salesman
- (b) Differentiate between a salesman and a sales carrier.
- (c) List four advantages of personal selling.

Intended task

The candidates were expected to list five qualities of a good salesman, differentiate between a salesman and a sales carrier and List four advantages of personal selling. Candidates performed averagely.

Question 8

- (a) Mention five problem of pre-approach in planning.
- (b) State four advantages of pre-approach in planning.
- (c) Explain three differences between a prospect and lead.

Intended task

- (a) The candidates were expected to mention five problems of pre-approach in planning, state four advantages of pre-approach in planning and three differences between a prospect and lead. Candidates performed fairly well.

Question 9

- (a) Define the term approach.
- (b) Explain the term sales presentation.
- (c) Mention five types of approach in sales presentation.

Intended task

The question tested the candidate's ability to recall the term approach, explain the term sales presentation and Mention five types of approach in sales presentation. Candidates performed averagely well.

Question 10

- (a) Explain three methods of closing sales.
- (b) Briefly the term objection.
- (c) List three methods of handing objection
- (d) Define the term following-up

Intended task

The candidates were expected to explain three methods of closing sales and explain the term objection briefly. They were also to list three methods of handing objection and define the term following-up. Candidates performed fairly well.

Candidate's strength

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

Candidate's weaknesses

- Non- availability of qualified Business Studies teachers.

Suggestion for improvement

- ✕ Teachers should endeavour to give detailed notes to students.
- ✕ Current and standard books should be made available to student and teachers.
- ✕ Qualified teachers should be employed.

TOURISM – (441)

General Comment on the paper

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

Detailed Comment on each Question

Question 1

Explain four factors responsible for the growth of tourism in Nigeria.

Intended task

The question tested candidate's ability to explain factors responsible for the growth of tourism in Nigeria. Candidates' performed well.

Question 2

- (a) Outline four hotel checkout routine.
- (b) Explain the following terms:
 - (i) Financial records of client.
 - (ii) Luggage pick-up

Intended task

The candidates were required to outline four hotel checkout routine and explain financial records of client and luggage pick-up. Candidates performed well.

Question 3

Explain four factors that influence industrial development in Nigeria?

Intended task

The candidates were expected to explain four factors that influence industrial development in Nigeria. Candidates' performed well.

Question 4

- (a) Mention four states each that are:
 - (i) Densely populated.
 - (ii) Moderately populated.
 - (iii) Sparsely populated
- (b) Describe two main features of climate of Northern Nigeria.

Intended task

The candidates were expected to mention four states each that are densely populated, moderately populated and sparsely populated. They were required to describe two main features of climates of northern Nigeria. Candidates' performed averagely.

Question 5

- (a) Draw a map of Nigeria, on it, locate three major ethnic group and their cities.
- (b) State four major economic activities of these ethnic groups.

Intended task

The candidates were expected to draw a map of Nigeria and were required to locate three major ethnic groups and include their cities on the map as well as to state four major economic activities of this ethnic group. Candidates' performed well.

Question 6

- (a) Explain the terms 'river basin'
- (b) List three factors affecting the location of a river basin.
- (c) State four social problems associated with river basin development project in Nigeria.

Intended task

The question tested the candidates' ability to explain river basin, list factors affecting the location of a river basin and also state four social problems associated with river basin development project in Nigeria. Candidates' performance was good.

Candidates' strength

- ✓ Proficiency in hotel management.
- ✓ Ability to answer question on industrial development in Nigeria.

Candidate's weaknesses

- Poor grammatical expression.
- Poor drawing skills.

Suggestion for improvement

- ✕ Teachers in tourism should be encouraged to use enough teaching aids, demonstrate practical knowledge during teaching, to make teaching real to the students.
- ✕ Candidates should cultivate the habit of reading novels, journals, magazines etc.
- ✕ Teachers should intensify the teaching of English language

SECTION THREE

TECHNICAL TRADES

INTRODUCTION TO AGRIC SCIENCE IMPLEMENTS AND MACHINE (011-1)

General comment on the paper

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

Detailed Comment on Each question

Question 1

- (a) List three agents of pollination.
- (b) Differentiate between sexual and asexual propagation.
- (c) Explain the following plant propagation.
 - (i) Budding
 - (ii) Grafting
 - (iii) Layering

Intended Task

The candidates were expected to list three agents of pollination, differentiate between sexual and asexual propagation and explain the following plant propagation methods: budding, Grafting and layering. Candidates performed averagely.

Question 2

- (a) Draw a fully labelled flowering plant
- (b) List three types of rocks
- (c) Define the term 'micronutrients'

Intended task

The question tested the candidate's ability to sketch and label flowering plants. They were also expected to list three types of rocks and define the term 'micronutrients'. Candidates performed well.

Question 3

- (a) State three ways in which weeds can be controlled.
- (b) List three advantages of poultry farming.
- (c) State two differences between pollination and photosynthesis.

Intended Task

The question required the candidates to state three ways in which weeds can be controlled. They were equally asked to List three advantages of poultry farming and State two differences between pollination and photosynthesis. Candidates performed well.

Question 4

- (a) What is calibration as it applies to sprayers?
- (b) With the aid of diagram, describe the section of an elevator digger.

Intended Task

The question tested the candidate's ability to recall calibration as it applies to sprayers, and also describe with the aid of diagram the section of an elevator digger. Candidates performed well.

Question 5

- (a) Identify three protective device provided on balers and where they are located.
- (b) Discuss the following combine harvester parts:
 - (i) Straw walker
 - (ii) Rear beater
 - (iii) Grain tank

Intended Task

The question required the candidates to identify three protective devices provided on balers and where they are located. They were also expected to discuss the following combine harvester parts: straw walker, Rear beater and Grain tank. Candidate's performed averagely.

Question 6

- (a) With the aid of sketches, describe the following agricultural implements:
 - (i) Pruning shear.
 - (ii) Pick axe.
 - (iii) Fork.
- (b) Define the following trams and give two examples of each:
 - (i) Primary tillage.
 - (ii) Secondary tillage.

Intended Task

- (a) The candidates were expected to sketch and describe the following agricultural implements: Pruning shear, Pick axe and fork. They were equally required to define and give two examples each of Primary and Secondary tillages. Candidates performed well.

Question 7

- (a) Explain the term respiration.
- (b) What is the difference between artificial and natural respiration.
- (c) List sequentially, the steps in artificial respiration.

Intended Task

The question tested candidates' knowledge of artificial and natural respiration. Candidates performed well.

Candidate's Strength

- ✓ They were good in defining the types of rocks
- ✓ The candidates have good sketching skills/ drawing skill.

Candidate's Weaknesses

- Most of the candidates could not explain the point clearly.
- Poor presentation of answers.
- Poor interpretation of questions.

Suggestion for implement

- ✂ Students should be encouraged to use library at all time.

TRACTOR SYSTEM (012-1)

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) Draw a vehicle showing the following components:
 - (i) Engine.
 - (ii) Clutch.
 - (iii) Gear box.
 - (iv) Half shaft.
 - (v) Rear axle.
- (b) State two advantages of a front-engine front wheel drive over a front-engine rear wheel drive.

Intended Task

The candidates were expected to draw a vehicle layout showing the following components; engine, clutch, gear box, half shaft and rear axle. They were also expected to state two advantages of front-engine front wheel drive over a front-engine rear wheel drive. Candidates performed fairly well.

Question 2

- (a) List three methods of transmitting power.
- (b) Sketch and explain one of the methods mentioned in (a) above.

Intended Task

The candidates were expected to list three methods of transmitting power and explain one of the methods with the aid of a diagram. Candidates performed well.

Question 3

- (a) Define air lock.
- (b) List in correct order, the steps in removing air lock.
- (c) State one reason for providing the primary and secondary filters in the fuel system of the diesel engine.

Intended Task

The candidates were required to define air lock, list in correct order the steps in removing air lock and state one reason for providing the primary and secondary filters in the fuel system of the diesel engine. Candidates performed poorly.

Question 4

- (a) Briefly explain the principle of operations of a drum braking system.
- (b) State two causes of excessive brake pedal travel.
- (c) Give one difference between mechanical and hydraulic brakes.

Intended Task

The question required the candidates' knowledge of the principles and operations of brake systems. Candidates performed fairly well.

Question 5

Explain how the kick-starter obtains its power to start the tractor. Draw a dipstick and on it indicate the following oil levels:

- (i) Full
- (ii) Add
- (iii) Low

Intended Task

The question tested candidates' ability to explain how the kick starter obtains its power to start the tractor, equally to draw and label a dip stick. Candidates performed poorly.

Question 6

- (a) Describe with a well labeled diagram the working principle of a thermosyphon cooling system.
- (b) List two functions of water pump.
- (c) Mention two types of thermostat.

Intended Task

The question tested the candidates' ability to draw, label and explain the working principle of a thermosyphon cooling system. They were also to list two functions of water pump and mention two types of thermostat. Candidates performed poorly.

Question 7

- (a) State the function of differential unit used on the tractor.
- (b) List four parts of a tractor differential unit.
- (c) Sketch and fully label an engine piston.

Intended Task

The candidates were expected to state the function of differential unit used on the tractor and list four parts of a tractor differential unit. They were also required to sketch and fully label an engine piston. The candidates performed poorly.

Candidates' Strength

- ✓ Candidates were able to answer questions on vehicle engines and transmission power correctly.

Candidates' Weaknesses

- Poor drawing skills.
- Inability to present answers in a logical manner.
- Candidates' inability to read and understand questions/instructions.

Suggestions for Improvement

- ✕ Candidates should be encouraged to key into the habit of reading.
- ✕ Candidates should be encouraged to improve on their drawing skills.
- ✕ Candidates should endeavour to read and understand the questions before attempting.
- ✕ Instructors should be trained and retrained on modern teaching methods to enable them impact the knowledge into the students.
- ✕ Mock examinations should be introduced.
- ✕ Emphasis should be laid on practicals.

MOTOR VEHICLE MECHANICS WORK - 021-1

General Comment on the Paper

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

Detailed Comment on Each Question

Question 1

- (a) State the order of heat transfer in a thermosyphon cooling system.
- (b) What is the main function of a radiator?
- (c) List five causes of engine overheating excluding the faults in the cooling system.

Intended Task

The candidates were expected to state the order of heat transfer in a thermosyphon cooling system. They were equally required to explain the main function of a radiator and list five causes of engine overheating excluding the faults in the cooling system. Candidates' performed well.

Question 2

- (a) (i) Rearrange the following motor vehicle units in sequential order of transmitting power:
 - i. clutch
 - ii. engine
 - iii. gearbox
 - iv. rear axle
 - v. propeller shaft
 - vi. rear wheels
- (ii) Copy the following table and complete the missing strokes.

Firing Order	1	3	4	2
1	Power	-	-	-
2	-	-	Compression	-
3	-	Exhaust	-	-
4	-	Induction	-	-

- (b) (i) Explain briefly the term sludge.
- (ii) State four causes of sludge.

Intended Task

The candidates were required to rearrange some vehicle units in a sequential order of transmitting power, copy the table given and complete the missing strokes. They were also expected to explain briefly sludge and state four causes of sludge. Candidates performed well.

Question 3

- (a) State **one** reason for the use of each of the following types of governor.
 - (i) Mechanical
 - (ii) Pneumatic
- (b) Give two reasons why a compression ignition engine needs a governor.

Intended Task

Candidates were expected to state one reason for the use of mechanical and pneumatic types of governor and to give two reasons why a compression ignition engine needs a governor. Candidates performed well.

Question 4

- (a) Sketch an independent front suspension system that employs coil spring and unequal length upper and lower arm.
- (b) State three advantages of an independent front suspension system over a beam axle layout.

Intended Task

The question required candidates' ability to sketch an independent front suspension system that employs coil spring and unequal length upper and lower arms. They were expected to state three advantages of an independent front suspension system over a beam axle layout. Candidates' performed well.

Question 5

- (a) Define the following fuel injection terms:
 - (i) phasing.
 - (ii) calibration.
 - (iii) timing.
- (b) Explain the work principal of a Mechanical Governor fitted to an engine.

Intended Task

The question required the candidates' knowledge on fuel injection terminology and also to explain the work principal of a mechanical governor fitted to an engine. Candidates performed well.

Question 6

- (a) Give **two** reasons for venting a fuel tank.

- (b) Describe with the neat sketches what occur during the induction stroke of C.I. engine.
- (c) List four typical component parts of injector nozzle assembly.

Intended Task

The candidates were expected to give two reasons for venting a fuel tank. They were also required to describe with the aid of neat sketches, what occur during the induction stroke of C.I. engine and list four typical component parts of injector nozzle assembly. Candidates performed well.

Question 7

- (a) State **two** functions of an engine crankshaft.
- (b) State **four** advantages of a C.I. engine over its S.I. engine equivalent.

Intended Task

Candidates were expected to state two functions of an engine crankshaft and state four advantages of a C.I engine over its S.I. engine equivalent. Candidates' performed well.

Candidate's Strength

- ✓ Ability to answer question on sketches and drawing.
- ✓ Ability to answer question on an engine crankshaft.
- ✓ Ability to answer question on fuel injections terms.

Suggestions for Improvement

- ✂ Teacher should exposed the student to the use of text books and encourage them to read relevant textbooks.

AUTOMOBILE ELECTRICAL WORKS (031-1)

General Comments on the Paper

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

Detailed Comments on Each Question

Question 1

- (a) What is the function of starter motor in a motor vehicle?
- (b) Show with the aid of a good diagram the inboard and outboard starter pinion arrangement.

Intended Task

The question tested the candidates' knowledge on the function of starter motor in a motor vehicle. The candidates performed poorly.

Question 2

- (a) Sketch an inertial starter driver.
- (b) Label **five** parts in 2(a) above.

Intended Task

The candidates were required to sketch an inertial starter driver and label five of its parts. Candidates performed poorly.

Question 3

- (a) What is the function of cooling system in an automobile engine?
- (b) Enumerate **five** advantages each of both air and water cooling system.

Intended Task

The question tested candidates' knowledge on the function of cooling system in an automobile engine. They were also to list five merits each of both air and water cooling system. Candidates performed fairly.

Question 4

- (a) Define each of the following engine terms:
 - (i) Top dead centre (T.D.C.).
 - (ii) Bottom dead centre (B/D.C.).
 - (iii) Stroke.
 - (iv) Swept volume.
 - (v) Clearance volume.
- (b) With the aid of a good diagram, explain the principle of operation of four stroke cycle petrol engine.

Intended Task

The candidates were expected to define some engine terms listed. They were also to explain the principle of operation of a four stroke cycle petrol engine using a good diagram. Candidates performed well.

Question 5

- (a) What is the function of brake system in an automobile?
- (b) What is brake fade?
- (c) Draw the disc brake assembly and label **five** parts.

Intended Task

The question probed the candidates' knowledge on the function of the brake system in an automobile. They were also to draw the disc brake assembly and label some of its parts. Candidates performed fairly.

Question 6

- (a) List **five** safety precautions to be observed when preparing battery electrolytes.
- (b) Sketch a battery high rate discharged tester and label four parts.

Intended Task

The candidates were required to list some safety precautions to be observed when preparing battery electrolytes. They were also to sketch a battery high rate discharged tester and label four of its parts. Candidates performed fairly.

Question 7

- (a) What is the function of the transmission system in an automobile?
- (b) State the function of each of the following unit of automobile transmission system:
 - (i) Clutch.
 - (ii) Propeller shaft.
 - (iii) Final drive.
 - (iv) Gear box.

- (v) Drive shaft.

Intended Task

The question tested candidates' knowledge of a transmission system and some of its units in an automobile. Candidates performed fairly.

Candidates' Strength

- ✓ The candidates' answered questions on a four stroke cycle in a petrol engine, brake system and the preparation of battery electrolyte fairly.

Candidates' Weaknesses

- Poor grammatical expressions.
- Poor drawing/sketching skills.
- Inadequate knowledge on practical questions.
- Inability to present their work in a logical manner.
- Poor reading skills.

Suggestion for Improvement

- ✕ Qualified teachers should be employed and assigned to teach trade subjects in Technical Schools.
- ✕ Emphasis should be placed on practical aspects of training in Technical Colleges.
- ✕ Adequate supervision of schools to strengthen effective teaching.
- ✕ Provision of adequate facilities in Technical Workshops.

ELECTRICAL INSTALLATION AND MAINTANANCE WORKS (041-1)

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) Define centenary writing system.
- (b) List five steps to be followed to carry out the construction 1(a) above.

Intended Task

Candidates were expected to define centenary writing system and list five steps to carry out the construction 1(a) above. Candidates performed fairly.

Question 2

- (a) Distinguish between temporary and existing installation.
- (b) State five I.E.E regulations covering temporary installation.

Intended Task

The question tested candidates' knowledge of temporary and existing installation. Candidates Performed averagely.

Question 3

- (a) List three types of protective devices.
- (b) Define fuse rating
- (c) A P.V.C cable having a rating of 650A is to be protected by a semi enclosed fused. Determine its fuse rating, if the cable rating is 0.725.

Intended Task

The question tested the candidates' knowledge of types of protective devices, fuse rating and its calculation.

Question 4

Sketch the following conduit fittings accessories:

- (i) Solid elbows
- (ii) Inspection elbow
- (iii) Terminal tee
- (iv) Terminal box
- (v) Through box
- (vi) Angle box
- (vii) Tee box
- (viii) Tangent tee box
- (ix) Back entry box
- (x) Adaptable box

Intended Task

Candidates were expected to sketch conduit fittings accessories such as Solid elbow, Inspection elbow, Inspection tee, Terminal box, Through box, Angle box, Tee box, Tangent tee box, Back entry box and Adaptable box. Candidates performed fairly well.

Question 5

- (a) Define stock and die.
- (b) List five procedures for threading a metallic conduit pipe.

Intended Task

Candidates were expected to define stock and die and list five procedures for threading a metallic conduit pipe. Candidates performed fairly well.

Question 6

- (a) List and briefly explain three major parts of a d.c generator.
- (b) List four generator faults and state their causes and remedies.

Intended Task

Candidates were expected to list four generator faults and briefly explain three major parts of a **d.c** generator, their causes and remedies. Candidates performed averagely.

Question 7

- (a) Enumerate two differences between a wave and lap winding
- (b) A six pole wave wound armature has 64 conductors each generating an emf of 3v. Calculate the generated output emf.

Intended Task

The question tested candidates' knowledge of a wave and lap winding and how to calculate the generative output of emf.

Question 8

- (a) State the major difference between a star and Delta Connection.
- (b) A three phase star connected motor takes line current of 12A from a three phase supply and the phase voltage is 236V. Calculate the line voltage and the phase current.

Intended Task

The question tested the candidates' knowledge of a star and Delta Connection and how to calculate the line voltage and the phase current. Candidates performed averagely.

Question 9

- (a) Sketch a ring circuit having five socket outlets and one spur.
- (b) State one I.E.E regulation relating to the size of cables and
- (c) The fuse rating of a ring circuit.

Intended Task

The question tested the candidate's knowledge of a ring circuit. Candidates performed fairly.

Candidates Strength

- ✓ Candidates performed averagely in question no. 6 and 8.

Candidates Weakness

- Poor presentation of answers
- Poor computational skill
- Poor grammatical expression

Suggestion for Improvement

- ✕ Training and retraining of Technical teachers should be encouraged.
- ✕ More qualified and professional Technical teachers should be employed.
- ✕ Technical education should be given adequate or more publicity.
- ✕ The board (NABTEB) should strictly monitor and evaluate examinations development and examination administration personnel in regard to its examinations.

FABRICATION AND WELDING (051 -1)

General comments

The question covered the syllabus and generally, the performance were good.

detailed comments on each question

Question 1

- (a) State three marking out tools and describe their functions
- (b) State three advantages of soldering over the brazing

Intended task

The candidates were expected to state three marking out tools and describe their functions. They were also to state three advantages soldering has over the brazing. Candidates performed well.

Question 2

- (a) State two safety precautions each that must be observed in the use of the following tools:
 - (i) Snips
 - (ii) Chisel
 - (iii) file
- (b) Define any three mechanical properties of low carbon steel

Intended task

The candidates were asked to state two safety precautions each that must be observed in the use of snips, chisel and file tools. Candidates performed well.

Question 3

- (a) Briefly explain the difference between the terms stress and strain
- (b) Explain the following terms:
 - (i) carburizing flame
 - (ii) ductility
 - (iii) rectifier
 - (iv) tensile strength

Intended task

The candidates were expected to explain briefly the difference between the terms stress and strain. They were also to explain carburizing flame, ductility, rectifier and tensile strength. Candidates performed well.

Question 4

- (a) State three functions of the flux coating on manual metal arc electrodes
- (b) Name and sketch three welding flames used in oxy-acetylene

Intended task

The question required the candidates' ability to state three functions of the flux coating on manual metal-arc electrode and to name and sketch three welding flames used in oxy-acetylene. Candidates performed well.

Question 5

- (a) Distinguish between ferrous and non-ferrous metals and give three examples of each
- (b) Name two factors which can influence the rate at which heat is transmitted through a metal

Intended task

The candidates were required to distinguish between ferrous and non-ferrous metals and give examples of each. They were also to name two factors which influence the rate at which heat is transmitted through a metal. Candidates performed well.

Question 6

- (a) Describe with the aid of diagrams each of the following weld defects
 - (i) lack of root penetration
 - (ii) overlap
 - (iii) lack of fusion
 - (iv) undercutting
- (b) State two causes of each defect listed in 6(a) above

Intended task

The question tasked candidates' to explain diagrammatically, the lack of root penetration, overlap, lack of fusion and undercutting. They were also to state two causes of each defect listed. Candidates performed well.

Question 7

- (a) What is the function of a choke?
- (b) Describe the main types of welding transformer
- (c) Explain briefly the meaning of each of the following terms
 - (i) Voltage
 - (ii) Current
 - (iii) Resistance

Intended task

The candidates were expected to state the function of a choke; describe the main types of welding transformer and explain briefly the meaning of voltage, current and resistance. Candidates performed well.

Candidates' Strengths

- ✓ Many of the candidates answered the questions correctly
- ✓ Candidates answered question 5 correctly

Candidates' Weaknesses

- poor grammatical expression
- Poor sketches were presented

Suggestions for Improvement

- ✕ School should do more on the teaching of drawing.
- ✕ There should be improvement in the teaching of English Language.

MECHANICAL ENNGINEERING CRAFT PRATICE (061)

General comment on the paper

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

Detailed Comments on each Question.

Question 1

- (a) Sketch and explain the cutting action, working principle and operation of a sharper.
- (b) Explain the classification of shapers according to ram driving mechanism.
- (c) What are the functions of the cross rail and tool head in the shaper.

Intended Task

The question tested the candidate's ability to sketch and explain the cutting action, working principle and operation of a sharper; they were equally required to explain the classification of shapers according to ram driving mechanism and to state the functions of the cross rail and tool head in the shaper. Candidates performed fairly well.

Question 2

- (a) Sketch the headstock and tailstock and show its various component parts.
- (b) What is feed mechanism?
- (c) State three types of lathe tool feed.

Intended Task

- (a) The candidates were expected to sketch the headstock and tailstock and show its various component parts, define feed mechanism and state three types of lathe tool feed. Candidates performed fairly well.

Question 3

- (a) Use sketch to show practical methods of thread cutting on the lathe.
- (b) State the characteristics of cutting fluid.

Intended Task

The candidates were expected to show practical methods of thread cutting on the lathe and sketch characteristics of cutting fluid. Candidates performed well.

Question 4

- (a) Explain the terms:
 - (i) Tool life
 - (ii) Tool failure
 - (iii) Tool wear
- (b) Itemize factors affecting rate of material removal during lathe operation.
- (c) Explain any three in 4(b) above

Intended task

The candidates were expected to explain the terms: Tool life, Tool failure, and Tool wear. They were equally required to itemize and explain three factors affecting rate of rate of material removal during lathe operation. Candidates performed averagely.

Question 5

- (a) Find the drill speed to cut 24 metres per minute if the diameter of the drill is 20mm.
- (b) With a good sketch, explain the difference between
 - (i) Drilling.
 - (ii) Boring

Intended Task

The candidates were required to find the drill speed of metres per minute if the diameter of the drill is 20mm, they were also expected to explain the difference between drilling and boring with a good sketch. Candidates performed well.

Question 6

- (a) What is chatter? Explain its possible means of occurrence.
- (b) As a machinist, state the possible ways to minimize chatter during machine operation.
- (c) (i) Draw an anvil and label its component parts.
 - (i) What is the function of the hardie hole?

Intended Task

The question tested candidates' knowledge of chatter. They were also expected to explain the function of hardie hole, draw an anvil and label its component parts. Candidates performed fairly well.

Question 7

- (a) Explain the word ‘girding’.
- (b) What are the safety measures to be observed during girding?
- (c) Use sketch where necessary to show it differences between
 - (i) Grit and grade,
 - (ii) punching and piercing.

Intended Task

The candidates were expected to explain the word ‘ginding’ and state safety measures to be observed during girding. They were also to show the differences between Grit and grade, punching and piercing. Candidates performed well.

Candidate’s weaknesses

- poor drawing skill.
- Poor grammatical expression
- Poor computational skill.

Suggestion for improvement

- ✕ Emphasis should be laid on English classes.
- ✕ Students should be exposed to workshop and laboratory.
- ✕ Emphasis should be laid on drawing skills.

ELECTRONICS WORK (071)

General Comments on the Paper

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

Detailed Comments on Each Questions

Question 1

- (a) What is full wave rectification?
- (b) Draw the circuit of a full wave rectifier using semiconductor diodes.
- (c) How do characteristics of a diode help in rectification?

Intended Task

The question tested the candidates' ability to define the term full wave rectification. They were also expected to draw the circuit of a full wave rectifier using semiconductor diodes as well as to state how characteristics of a diode help in rectification. Candidates performed well.

Question 2

- (a) Define semiconductors.
- (b) List **three** advantages of semiconductors.
- (c) Distinguish between forward bias and reverse bias.

Intended Task

The candidates were expected to define semiconductors, list three advantages of semiconductors as well as distinguish between forward bias and reverse bias. Candidates performed averagely.

Question 3

- (a) What is multivibrator?
- (b) Distinguish between bistable multivibrator and mono-stable.

Intended Task

The question tested the candidates' knowledge of a multivibrator and required them to distinguish between bistable multivibrator and mono-stable. Candidates performed averagely.

Question 4

- (a) What are the main functions of a radio receiver?
- (b) What are the **three** main characteristics of a radio receiver?
- (c) Explain the meaning of each of these characteristics mentioned in (b) above.

Intended Task

The candidates were required to explain the main functions, and list three characteristics of a radio receiver. They were also to explain the meaning of each of these characteristics mentioned in (b) above. Candidates performed well.

Question 5

- (a) What are the **two** important types of modulation used for radio broadcasting?
- (b) Give their relative advantages and disadvantages.

Intended Task

The candidates were required to state the uses of the two important types of modulation in radio broadcasting and give their relative advantages and disadvantages. Candidates performed well.

Question 6

Write short notes on the following:

- (i) Scanning.
- (ii) Blanking.
- (iii) Synchronisation.
- (iv) Raster.
- (v) Retrace.

Intended Task

The candidates were expected to explain some electronics works terminologies such as scanning, blanking, synchronization, raster and retrace. Candidates performed well.

Question 7

- (a) Explain the principle of interface scanning.
- (b) What are the causes of vertical rolling in a T.V. receiver?

Intended Task

The question tested the candidates' ability to recall the principle of interface scanning and the causes of vertical rolling in a T.V. receiver. Candidates performed well.

Candidate Strengths

- ✓ Good presentation of answers.

Candidates' Weaknesses

- The candidates were unable to explain all aspects of the questions asked.
- Candidates lacked the knowledge of the electronic terms needed in answering questions.
- Poor response to some of the questions.

Suggestion for Improvement

- ✧ Candidates should strive to master contents of the syllabus while preparing for the examination.

REFRIGERATION AND AIR-CONDITIONING WORKS (081-1)

General Comments on the Paper

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

Detailed Comments on Each Question

Question 1

With a well labeled diagram, explain in a nutshell the operation of an absorption system.

Intended Task

The candidates were expected to briefly explain the operation of an absorption system using a well labeled diagram. Candidates performed fairly.

Question 2

A coldroom unit trips on overload. The overload was changed with a new one, yet the unit will not work but trips off the circuit breaker. What could be the probable cause and solution?

Intended Task

The question tested candidates' ability to examine the probable cause and solution to a coldroom unit which trips on overload though the overload was changed with a new one, the problem persisted. Candidates performed averagely.

Question 3

- (a) Define and state Boyles law.
- (b) A gas having an initial volume of 1.5m^3 at a temperature of 280K is heated under constant pressure until it's volume increases to 2.5m^3 . Determine the final temperature of the gas in Kelvin.

Intended Task

The question tested the candidates' ability to recall and state Boyles law and to determine the final temperature of a gas in Kelvin using given parameters. Candidates performed well.

Question 4

Scan object

From the pressure/enthalpy chart shown above, state how the following values can be computed:

- (i) Net refrigerating effect.
- (ii) Heat of compression.
- (iii) Heat of condensation.
- (iv) Co-efficient of performance.

Intended Task

The question tested candidates' computational ability in refrigerating and air-conditioning. Candidates performed poorly.

Question 5

Explain with a well labeled drawing the mode of operation of a vapour compression system.

Intended Task

The candidates were required to explain with the aid of a well labeled diagram the mode of operation of a vapour compression system. Candidates performed well.

Question 6

Draw and explain the operation of evaporative condenser.

Intended Task

The candidates were required to draw and explain the operation of evaporative condenser. Candidates performed well.

Question 7

State **six** desirable properties of refrigerant and explain why each point stated is important.

Intended Task

The candidates were expected to state six desirable properties of refrigerant and explain their importance. Candidates performed poorly.

Candidates' Strengths

- ✓ Good drawing skills
- ✓ Good computational skills.
- ✓ Exceptional performance in the science aspect of refrigeration and air-conditioning.
- ✓ Candidates displayed good knowledge of Boyles law and the operation of vapour depression system.

Candidates' Weaknesses

- Some of the candidates were unable to compute some values, e.g. net refrigerating effect, heat of compression, heat of condensation and co-efficient of performance.
- Candidates were unable to answer questions on the operations of absorption system and the physical and chemical properties of refrigerants adequately.

Suggestions for Improvement

- ✕ More qualified teachers should be employed to teach trade subjects in Technical schools.
- ✕ Adequate practical and instructional facilities should be provided.

VEHICLE BODY BUILDING (091-1)

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) Draw and label a typical hacksaw.
- (b) Describe how to use it in sequential order with its precautionary measures.

Intended Task

The question tested the candidates' knowledge of a typical hacksaw in terms of drawing, labeling and usage. Candidates performed averagely.

Question 2

- (a) Draw a blast furnace and label its parts.
- (b) List the basic ingredients of pig-iron production.

Intended Task

Candidates were expected to draw and label a typical hacksaw; and describe its usage in sequential order with precautionary measures. Candidates performed averagely.

Question 3

- (a) What is first-Aids?
- (b) State four responsibilities each of the following in relations to safety.
 - (i) Employees
 - (ii) Employers

Intended Task

Candidates were expected to define First-Aid and state four responsibilities of employees and employers in relations to safety. Candidates performed averagely.

Question 4

- (a) With a neat sketch, describe two methods of seasoning of timber.
- (b) Sketch five hand tools commonly used in day-to-day activities in a wood workshop.

Intended Task

The question tested the candidates knowledge on methods of seasoning of timber and hand tools commonly used in day-to-day activities in a woodshop. Candidates performed well.

Question 5

- (a) Briefly explain four welding defects and their remedies.
- (b) List two examples each in both the destructive and non-destructive tests.

Intended Task

Candidates were expected to briefly explain four welding defects and their remedies. They were also required to list two examples each in both the destructive and non-destructive test. Candidates performed fairly well.

Question 6

Explain how suction fed (or syphon fed) spray gun operates.

Intended Task

Candidates are expected to explain how suction fed (or siphon fed) spray gun operates. Candidates performed averagely.

Question 7

- (a) State three of the advantages to be gained from the method used by vehicle manufacturers for applying priming coat.
- (b) Define the following welding terms.
 - (i) Flash back
 - (ii) Neutral flame.

Intended Task

The question tested the candidates' knowledge of the method used by vehicle manufacturer for applying priming coat and other welding terms such as flash back and neutral flame. Candidates performed well.

Candidates Strength

- ✓ The candidates attempted question 4 and 7 correctly.

Candidate's Weakness

- Poor drawing skill

Suggestion for Improvement

- ✕ Emphasis should be laid on Building and engineering drawing or Trade-drawing in vehicle body building course, so that they will be professionals in drawing skills.

MECHANIC WORKS (111-1)

General Comments on the Paper

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

Detailed Comment on Each paper

Question 1

- (a) State three safety measures to be taken while working in the workshop
- (b) Draw a well labelled diagram of level measuring instrument.
- (c) Define temperatures and name its units.

Intended Task

Candidates were required to state three safety measures to be taken while working in the work shop. They were also expected to draw a well labelled diagram of level measuring instrument as well as to define temperature and its units. Candidate's performance was good.

Question 2

- (a) Draw three electrical symbols and their uses.
- (b) Draw a well labelled diagram of thermocouple and explain its functions.

Intended Task

The question examined candidate's ability to draw three electrical symbols alongside with their uses. They were also expected to sketch a well labelled diagram of thermocouple and explain its functions. Candidates performed well

Question 3

- (a) Define pressure and its units.
- (b) Mention two instruments used for flow rate.
- (c) State the definition of speed and its units.

Intended Task

The question tested the candidate's ability to define pressure and its units. They were also expected to mention two instruments used for flow rate; and state definition of speed and its units. Candidates performed well.

Question 4

- (a) What is a wattmeter?
- (b) Explain the functions of iron core in the wattmeter.
- (c) State the functions of signal generator.

Intended Task

The question tested candidate's knowledge of wattmeter and functions of signal generator. Candidates performed well.

Question 5

- (a) State the function of an amplifier in a circuit.
- (b) What is a transducer?
- (c) Explain electromagnetic solenoid.

Intended Task

The question required candidates to state the function of an amplifier in a circuit. They were also expected to define transducers and explain electromagnetic solenoid. Candidates performed well.

Question 6

- (a) Explain the following terms:
 - (i) Transfer lag.
 - (ii) Deviation.
 - (iii) Two step control.
- (b) Explain the following action:
 - (i) Integral action.
 - (ii) Derivative action.
 - (iii) Proportional action.

Intended Task

The candidates were expected to explain the terms transfer lag, deviation and two step controls. They were also expected to explain the following action: Integral action, Derivative action and Proportional action. Candidates performed averagely.

Question 7

- (a) Explain the operation of a grinding machine.
- (b) List grinding machine accessories.
- (c) State two advantages and two disadvantage of cylindrical grinder.

Intended Task

The question tested the candidate's knowledge of grinding machine, its accessories and state two advantages and two disadvantages of cylindrical. Candidate's performance was fair.

Candidates Strength

- ✓ Good knowledge of the concept mechanics works.

Candidates' Weakness

- Inability to answer question on control studies and the operations of a grinding machine.

Suggestion for Improvement

- ✂ Assignment on control studies and grinding machines should be given to students by their teachers.

MARINE ENGINEERING CRAFT (151-1)

General comment on the paper

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

Detailed Comment on Each Question.

Question 1

- (a) (i) Explain the term rain water circle.
(ii) Draw a neat diagram to show how it takes place.
- (b) (i) State the difference between surface and underground water supply
(ii) Give an example each of the source of supply.

Intended task

The candidates were expected to explain rain water circle and show how it take place using diagram. They were also required to state the difference between surface and underground water supply giving an example on each source of supply. Candidates' performed fairly.

Question 2

- (a) With the aid of a neat diagram explain the process of hot water circulation.
- (b) State five precautions to be observed during installation and use of domestic hot water supply.

Intended task

Candidates were required to explain the process of hot water circulation with the aid of a neat diagram. They were also expected to state five precautions to be observed during installation and use of domestics hot water supply. Candidates performed fairly.

Question 3

- (a) State two function of clutch.
- (b) Draw a neat diagram of a single plate clutch and label five parts.

Intended task

Candidates were expected to state two functions of clutch and draw a neat diagram of a single plate clutch. Candidates performed averagely.

Question 4

- (a) Name the four shafts used in a gear box.
- (b) Explain how torque is transmitted when reverse gear is engaged.

Intended task

The question tested candidate's knowledge of gear box. Candidates performed averagely.

Question 5

Explain the following terms:

- (a) Gasket
- (b) Oil gallery.
- (c) Oil seal.
- (d) Oil sump.

Intended task

The question tasked candidates' knowledge of the following terminologies: Gasket, oil galley, oil seal and oil sump. Candidates performed well.

Question 6

State six units to be disconnected from engine before it can be brought out for overhauling.

Intended task

The question required candidates to state six units to be disconnected from engine before it can be brought out for overhauling. Candidates performed well.

Question 7

- (a) Draw four cylinder ignition circuit and label eight parts.
- (b) Explain the following terms:
 - (i) Dwell angle
 - (ii) Ballast resistor

Intended task

The candidates were required to draw four cylinder ignition circuits and label eight parts. They were also expected to explain dwell angle and ballast resistor. Candidates' performed poorly.

Candidates' strengths

- ✓ The candidates displayed good knowledge of units to be disconnected from engine before overhauling.
- ✓ Ability to answer question on gasket, oil gallery, oil seal and oil sump.
- ✓ Ability to answer question on clutch.

Candidates' weaknesses

- Inability to answer question on cylinder ignition circuit.
- Poor grammatical expression.
- illegible hand writing

Suggestion for improvement

- ✕ Candidates should cultivate the habit of reading novels, journals, and magazines on engineering topics.

COMPUTER CRAFT STUDIES (171)

General comments on the paper

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

Detailed comments on each question

Question 1

Write short notes on the following terminologies.

- (a) Browser
- (b) Auto content wizard.
- (c) Close.
- (d) Document window.
- (e) Land scape orientation.
- (f) Redo.

Intended Task

The question tested the candidate's knowledge on the following terminologies: Brower, Auto content wizard, Close, Document window, Land scape orientation and redo. Candidates performed well.

Question 2

- (a) Define 'data processing.
- (b) Describe the flow of data and commands in a computer system.

Intended Task

The Candidates were expected to define 'data processing' and also describe the flow of data and commands in a computer system. Candidates performed well.

Question 3

- (a) State four limitations of program flowcharts.
- (b) Draw the symbol of the following program flow charts.
 - (i) Terminal symbols
 - (ii) Process symbols
 - (iii) Decision symbol
 - (iv) Input/out symbol

Intended Task

Candidates' were expected to state four limitations of program flowchart and draw the symbol of the program flowchart. Candidates performed averagely.

Question 4

Explain the following:

- (i) Control unit.
- (ii) Primary storage unit.
- (iii) Bit.
- (iv) Semi conductor memory.
- (v) Arithmetic logic.
- (vi) Touch screen.

Intended Task

The question explored candidates' knowledge on the following: control unit, primary storage unit, Bit, Semi-conductor memory, Arithmetic logic, and touch screen. Candidates performed well.

Question 5

- (a) State three effects of AUTOCARD in architecture.
- (b) Identify three various drawing tools used in AUTOCARD.

Intended Task

The question tested the candidates' knowledge on effect of AUTOCARD in architecture and identifies drawing tools used in AUTOCARD. Candidates performed averagely.

Question 6

- (a) Write the pseudocode which explains the steps in cooking rice.
- (b) Identify the functional elements of a computer.

Intended Task

Candidates were expected to write the pseudocode which explains the steps in cooking rice and also identify the functional elements of a computer. Candidates performed well.

Question 7

With the aid of a labelled diagram, explain the following logic operations:

- (i) Exclusive
- (ii) AND
- (iii) OR
- (iv) NOT

Intended task

Candidates were expected to explain with the aid of a labelled diagram the logic operation of: exclusive, AND OR NOT. Candidates performed well.

Candidate's Strength

- ✓ Good drawing skill.

Candidate's Weaknesses

- Poor grammatical expression
- Misinterpretation of terms.

Suggestion for improvement

- ✕ Candidates should be serious with their studies.
- ✕ School should be equipped with necessary instructional materials that will help in preparing candidates for the examination subsequently.
- ✕ Constant training and retraining of teacher should be encouraged.
- ✕ NBTE should formulate policy that will help in adequate funding of Technical Education.

ANIMAL HUSBANDRY 181-1

General comments on the paper

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

Detailed comments on each question

Question 1

- (a) Discuss briefly the type of feed given to the following ages of pig.
 - (i) Piglet
 - (ii) Boar
 - (iii) Sow
- (b) List four diseases of pig and state their casual organisms.
- (c) Give the names of four exotic breeds of pigs.

Intended Task

The candidates were expected to briefly discuss the type of feed given to the ages of pig at Piglet, Boar and Sow.

They were further required to list four diseases of pig and state their casual organisms as well as names of four exotic breeds of pigs. Candidates performed fairly.

Question 2

- (a) Draw and label six external features of a named poultry bird.
- (b) List four different types of roots used in poultry house.
- (c) List two materials used in the construction of poultry houses.

Intended Task

The candidates were expected to draw and label six external features of a named poultry bird and further required to list four different types of roots used in poultry house and mention two materials used in the construction of poultry houses. Candidates' performance was fairly.

Question 3

- (a) Explain the following terms used in poultry management.
 - (i) Debeaking
 - (ii) Parent stock
 - (iii) Dubbing
 - (iv) Brooder
 - (v) Flock

- (b) Define the term 'Poultry'
- (c) With the aid of a table, state the names of the male, female and young ones of the following kind of poultry.
 - (i) Fowl
 - (ii) Duck
 - (iii) Geese
 - (iv) Turkey
 - (v) Guinea fowl

Intended Task

The question tested candidates knowledge of poultry and terms used in its management. They were further expected to state names of the male and female young ones of Fowl, Duck, Geese, Turkey and Guinea fowl, with the aid of a table. Candidates performed fairly well.

Question 4

- (a) Define the following terms used in cattle management.
 - (i) Isolation
 - (ii) Vaccination
 - (iii) Culling
 - (iv) Tick control
- (b) List six exotic breeds of cattle.
- (c) Why is record keeping an important aspect of cattle management?

Intended Task

The question tasked candidates' knowledge of the following terms used in cattle management, Isolation, Vaccination, Culling and tick control. They were equally expected to list six exotic breeds of cattle; and also to recall the importance of record keeping in cattle management. Candidates performed averagely.

Question 5

- (a) Name two diseases caused by the following organisms in cattle management.
 - (i) Virus
 - (ii) Vaccination
 - (iii) Bacteria
 - (iv) Fungi
- (b) List three types of natural mating in cattle.
- (c) Write briefly on any one of (b above).

Intended Task

The question tested the candidates' knowledge of two diseases caused by the following organisms: Virus, Vaccination, Bacteria and Fungi. They were further expected to list three types of natural mating in cattle and write a brief note on one of (b above). Candidates performed well.

Question 6

- (a) Identify four signs of heat in goats.
- (b) List four common breeds of goat found in Nigeria.
- (c) Describe the reproductive method in goats.

Intended Task

The question tested candidates' ability to recall four signs of heat in goats and list four common breeds of goat found in Nigeria. They were further expected to describe the reproductive method in goat. Candidates performed fairly well.

Question 7

- (a) List six general characteristics of rabbits.
- (b) What do you understand by the term pseudo pregnancy in rabbit production.

Intended Task

The candidates were expected to list six general characteristics of rabbits and explain the term pseudo pregnancy in rabbit production. Candidates performed averagely.

Candidates' Strengths

- ✓ Candidates are familiar with the general characteristics of rabbits.
- ✓ Candidates wrote or gave good description of the type of feed fed to piglet, boar and sow in question 1a.
- ✓ Candidates gave good account of diseases and their casual organism in question 1b.

Candidates Weakness

- Candidates could not give or list the types of roof in question 2b.
- Candidates do not know some of the characters exhibited naturally by rabbit.

Suggestion for Improvement

- ✕ Emphasis should be laid on use of terms and their meaning when teaching.
- ✕ Candidates are required to read their books using the syllabus or scheme of work for the preparation of their examinations.
- ✕ Emphasis should be laid on the practicals.

GENEERAL MENTAL WORKS (191-1)

General comment on the paper

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

Detailed comment on each question

Question 1

- (a) With a neat sketch, show the bench vice and label the following:
 - (i) The fixed jaw
 - (ii) Movable jaw
 - (iii) The handle
 - (iv) The spindle
- (b) Why is vice clamp used?
- (c) What is the purpose of the serrated teeth on the vice jaw?

Intended task

The candidates were expected to show the bench vice and label fixed jaw, Movable jaw, the handle and the spindle using a neat sketch. They were also required to state the usefulness of vice clamp and state the purpose of the serrated teeth on the vice jaw. Candidates performed poorly.

Question 2

- (a) Give three ways in which files are classified.
- (b) What is fire clogging?
- (c) Sketch a flat file and indicate:
 - (i) The tang
 - (ii) Length
 - (iii) Body
 - (iv) Face
 - (v) Edge

Intended task

The question required candidates to give three ways in which files are classified. They were also expected to explain file clogging and sketch a flat file indicating the tang, length, body, face, and edge. Candidate's performance was good.

Question 3

- (a) Differentiate between drilling and reaming.
- (b) Why drilling machine is termed 'sensitive drilling machine'?

- (c) Make a neat sketch of a drill and indicate the:
- (i) Web
 - (ii) Lip
 - (iii) Shank
 - (iv) Land

Intended task

Candidates were expected to make a neat sketch of a drill and indicate the following: Web, Lip, Shank and Land. Candidates performed well.

Question 4

- (a) List three classes of fit
- (b) With an example, illustrate:
 - (i) Bilateral measurement
 - (ii) Nominal size
- (c) With a neat sketch, show
 - (i) High limit of hole
 - (ii) Low limit of hole
 - (iii) High limit of shaft
 - (iv) Low limit of shaft
 - (v) Allowance

Intended task

The question required candidates to list three classes of fit and to illustrate with examples: Bilateral measurement and normal size, as well as to show high limit of hole, low limit of hole, high limit of shaft, low limit of shaft and allowance using a neat sketch. Candidates performed well.

Question 5

- (a) List and define any four mechanical properties of metal.
- (b) Explain the following
 - (i) Normalizing
 - (ii) Tempering
- (c) Differentiate between hardening and case hardening.

Intended task

The question tested the candidate's ability to list and define any four mechanical properties of metal; they were also expected to explain normalizing, tempering and differentiate between hardening and case hardening. Candidate's performed well.

Question 6

- (a) List four main parts of the lathe machine.
- (b) What is the advantage of the gap bedded lathe?
- (c) Explain why the three jaw chuck is termed self-centering chuck.

Intended task

The candidates were expected to list four main parts of the lathe machine, explain the advantages of the gap bedded lathe. They were equally required to explain why the three jaw chuck is termed self-centering chuck. Candidate's performance was good.

Question 7

- (a) List three method of joining metals
- (b) (i) Define permanent joint
- (i) Give two examples of permanent joint.
- (c) What is the base metal in an alloy?

Intended task

- (a) The question examined the candidate's knowledge of methods of joining metals. They were also expected to define permanent joint with two examples and explain a base metal in an alloy. Candidates performed poorly.

Candidate's strength

- ✓ Candidates answered question on vice clamp and serrated teeth on the vice jaw correctly.
- ✓ Ability to answer question on files classification and file clogging.
- ✓ Candidates displayed proficiency in drawing flat file and indicating the part named in question 2c correctly.
- ✓ Ability to differentiate between drilling and reaming.

Candidate's weaknesses

- Poor grammatical expression.
- Poor drawing skills.
- Inability to answer question on joining metals and permanent joint.

Suggestion for improvement

- ✂ Candidates should be encouraged to read journals, magazines and newspaper to improve on their grammar.
- ✂ Emphasis should be laid on practical work.

GENERAL WOODWORK (192 – 1)

General comments

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

Detailed comments on each question

Question 1

- (a) Describe two properties of plastic foams and list the properties and uses of each
- (b) List the precautions that should be taken in the use of plastic foams in relations to fire hazard

Intended Task

The candidates were expected to explain two properties of plastic foams, its uses and precautions that should be taken on their usage in relation to fire hazard. Candidates performed averagely.

Question 2

- (a) Name four portable tools that are used in a wood workshop and give the uses of each

Intended Task

The question tested the candidates ability to recall portable tools used in a wood workshop and its uses. Candidates performed well.

Question 3

A cutting list for a table made of solid timber is given below

4 legs – 700mm by 37mm by 37mm

2 rails – 820mm by 75mm by 18mm

2 rails – 450mm by 75mm by 18mm

- (a) Calculate in square meters the net quantity of timber contained in each item
- (b) Calculate in square meters the amount of timber required to make 125 tables, allowing for 40% waste.

Intended task

The question tested candidates' ability to calculate in square meters. Candidates performed poorly.

Question 4

Draw a cross section of a drawer to show the following parts:

- (a) Sides
- (b) Bottom
- (c) Drawer slips

Intended task

Candidates were expected to draw a cross section of a drawer to show sides, bottom and drawer slips. Candidates performed averagely.

Question 5

Explain each of the following terms as applied to metals:

- (a) Malleability
- (b) Ductility
- (c) Elasticity
- (d) Hardness

Intended Task

Candidates were expected to explain properties of metals. Many candidates avoided these questions

Candidate's strength

- ✓ Candidates performed well in question number 2

Candidate's weakness

- Candidates performed poorly in the areas of calculation and sketches.

Suggestions for improvement

- ✕ Teachers handling the subject should ensure they cover the syllabus adequately.
- ✕ Candidates should be made to understand sketching drills to improve on their skills.
- ✕ Candidates should be encouraged to prepare very well before the examination by reading adequately to cover the syllabus.
- ✕ Candidates should be exposed in activities that would help to develop the habit of critical thinking and logical reasoning.
- ✕ Teachers handling the subject should lay more emphasis on topics such as drawing and design

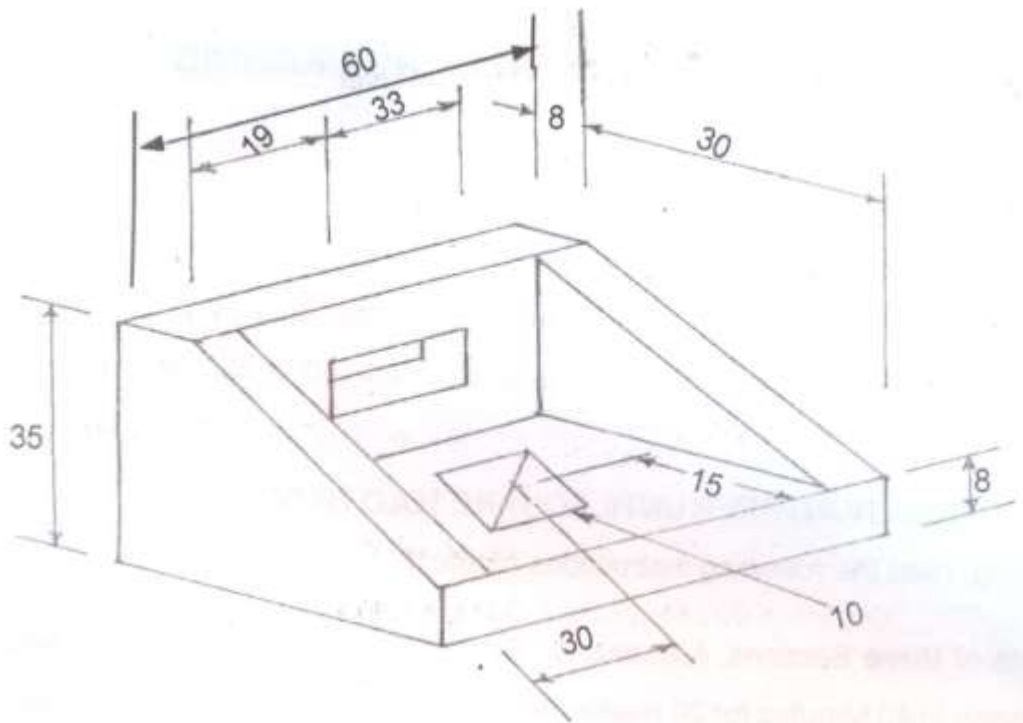
BUILDING/ENGINEERING DRAWING (193 -1)

General comments

The questions covered the syllabus and candidates' performed generally well.

Question 1

- Draw full size views of the block in third angle orthographic projection. On each of the views, show any two important dimensions



Intended tasks

The question tasked the candidates' ability of drawing full size view of the block in third angle orthographic projection. They were also to show two important dimensions on each of the views. Candidates performed well.

Question 2

Construct a pentagon having a length of a side 50mm. On the pentagon, draw a circle to touch the five sides internally. Measure the radius of the circle.

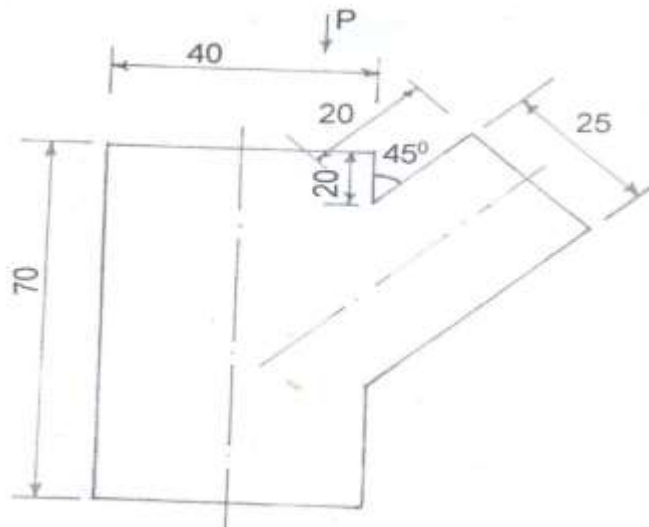
Intended task

The question tested the candidates' ability on the construction of a pentagon having length of a side 50mm draw and a circle to touch the five sides internally and measure the radius of the circle. Candidates performed well.

Question 3

Draw:

- (a) The given two unequal cylinders intersected at 45° angle and with curve of interpenetration
- (b) The plan looking in the direction of arrow P



Intended task

The questions tested candidates' ability to draw two unequal cylinders intersected at 45° angle and with curve of interpenetration. They were equally expected to draw the plan looking in the direction of arrow P. The candidates performed fairly well.

Question 4

The diagram below is the sketch of a 3 bed room bungalow. Study the given specifications and use them to answer the questions that follow:

SPECIFICATIONS:

FOUNDATION: 450 x 150 concrete strip at 900 from ground level

WALLS: All walls 150

DOORS:
D₁ 2100 x 1200 x 38. Double swing steel door with frame
D₂ 2100 x 800 x 38 single flush door on 100 x 50 timber frame
D₃ 2100 x 750 x 38 single swing flush door on 100 x 50 timber frame

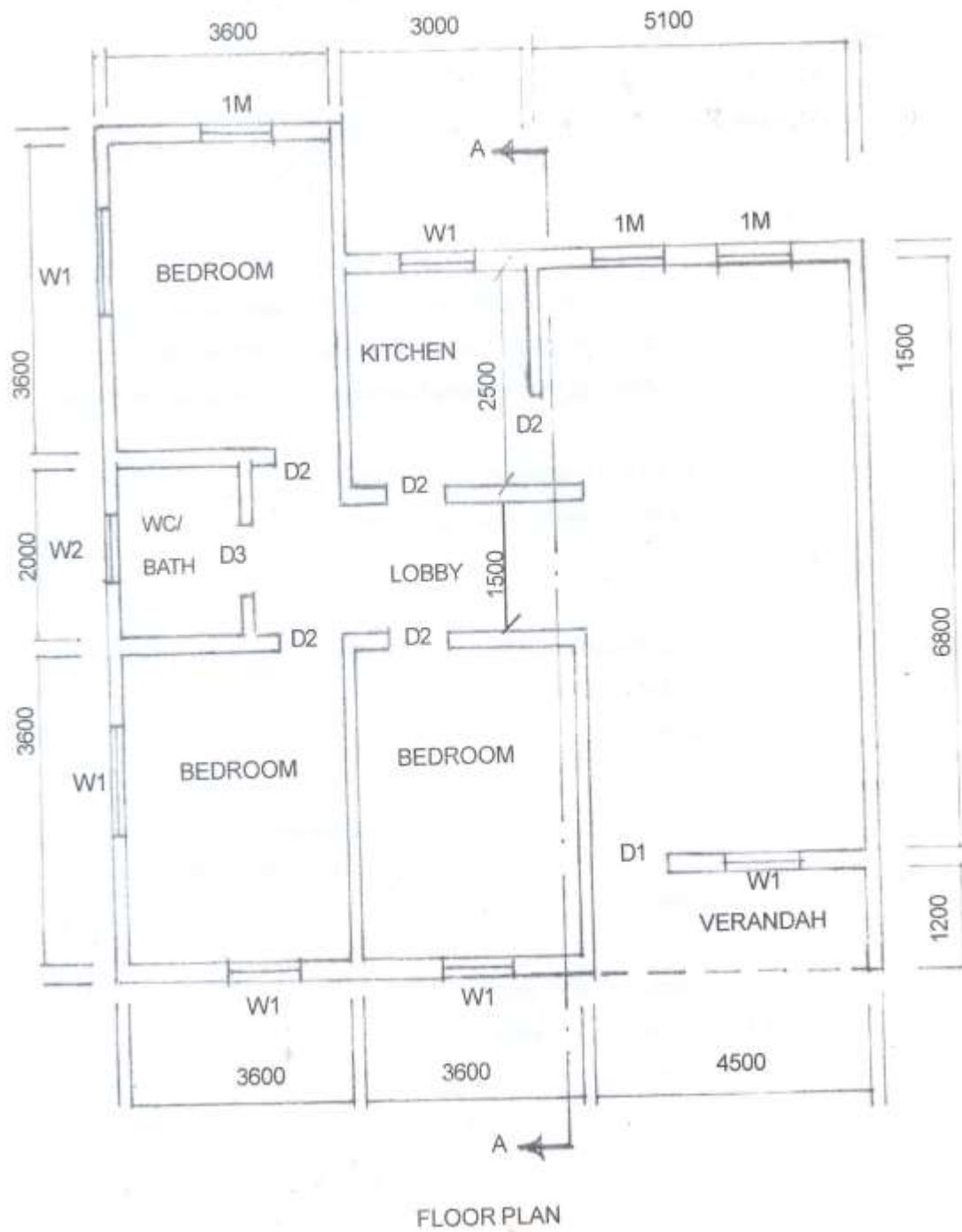
WINDOWS:
W1 1200 x 1200 Aluminum sash window
W2 600 x 600 Aluminum sliding window

FLOOR:
30 screed, 150 concrete slab
300 hardcore filling and
50 blinding layer

HEAD ROOM 3000

ROOF GABLE END

Use scale
1:100 to draw one floor plan
1:100 to draw the front view
1:50 to draw section A – A from foundation to roof



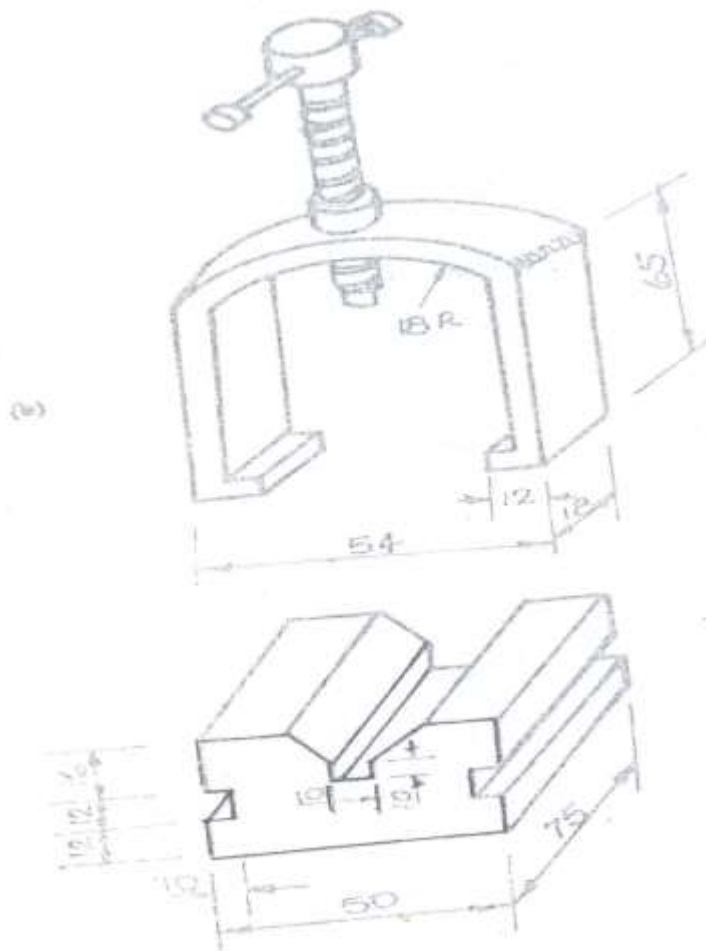
Intended tasks

The questions tested the candidates' ability to study the given specification of a sketch of three bedroom bungalow and use them to answer the question on "foundation, walls, windows floor, head room and roof". Candidates performed well

Question 5

Details of a vee-block and clamp are shown. Draw in orthographic projection an assembly of the following views

- (i) Front view with a 020mm rod in place
- (ii) Side view of the assembly



Intended task

The question required the candidates to draw in orthographic projection an assembly of the following views: front view with a 020mm rod in place; and side view of the assembly given details of a Vee-block and clamp. Candidates performed well.

Candidates' strengths

- ✓ The candidates showed a remarkable strength in translating from isometric to orthographic projection
- ✓ Candidates showed good pencil work

Candidates' weaknesses

- Poor knowledge of geometrical construction
- Improper use of drawing instruments
- Illegible labelling

Suggestions for improvement

- ✕ The candidates should be taught basics of Engineering drawing right from the lower classes
- ✕ The candidate should know the difference between geometrical drawing and Engineering drawing.

BASIC ELECTRICITY (194-1)

General Comments

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

Detailed comment on each question

Question 1

- (a) Define the following terms:
 - i. Matter
 - ii. Electric charge
 - iii. Coulomb
- (b) With the aid of a diagram, describe the structure of a hydrogen atom

Intended task

The question tested candidates' ability to give the definition of terms such as: matter, electric-charge, coulomb and their knowledge of the structure of a hydrogen atom using a diagram. Candidates' performed poorly.

Question 2

- (a) Define work and power and state their units of measurement.
- (b) Balls of mass 20 grams fall from a height of 30m. Calculate the kinetic energy of the balls after falling a distance of 25m. Take $g=10 \text{ m/s}^2$

Intended task

Candidates were expected to give the definition of work, power with their unit of measurement and to calculate the kinetic energy of a ball of mass 20 grams fall from a height of 30m after a distance of 25m. Candidates performed fairly.

Question 3

- (a) Define a capacitor
- (b) List three operating characteristics of a capacitor
- (c) Three capacitors of $5\mu\text{f}$, $10\mu\text{f}$, $15\mu\text{f}$ are connected in parallel. Another capacitor of $8\mu\text{f}$ is connected in series with the parallel group across 100V dc supply.
Calculate the:
 - i. Total capacitance of the parallel group
 - ii. Total capacitance of the circuit
 - iii. Total charges stored in the capacitor

Intended task

The question tested candidates knowledge of a capacitor, its characteristics and calculation. Candidates performed fairly.

Question 4

- (a) State Ohm's law
- (b) Mention **four** factors that affect the resistance of a conducting material
- (c) Three resistors of 3Ω , 5Ω and 6Ω are connected in series across a 50 V dc supply

Calculate the:

- i. Total resistance of the circuit
- ii. Current through the 5Ω resistor
- iii. Voltage drop across the 6Ω resistor
- iv. Power consumed by the 3Ω resistor

Intended task

Candidates were expected to state Ohm's law and show their knowledge on resistors and its calculation. Candidates performed fairly.

Question 5

- (a) Define the following terms in relation to A.C circuits stating their symbols and units of measurement
 - i. Reactance
 - ii. Impedance
- (b) An inductor of 0.2H is connected in series with a 20Ω resistor. The combination is connected to a 230V, 50Hz supply. Calculate the:
 - i. Inductive reactance of the inductor
 - ii. Impedance of the circuit
 - iii. Total current in the circuit

Intended task

Candidates were expected to define reactance and impedance in relation to A.C circuit by showing their symbols and unit of measurement as well as their computational skill was tested. Candidates performed poorly.

Question 6

- (a) State the magnetic law of attraction and repulsion
- (b) With the aid of a diagram differentiate between self inductance and mutual inductance
- (c) A coil has self inductance of 45 Henry. When current flows through the circuit, it changes from 0.5A to 0.2A in one minute. Calculate the emf induced in the coil.

Intended task

Candidates were expected to state the magnetic laws of attraction and repulsion and differentiate between self-inductance and mutual inductance using a diagram. Their knowledge of calculations was equally tasked. Candidates performed poorly.

Question 7

Draw the BS graphical symbols of the following

- i. Filament lamp
- ii. Battery
- iii. Electric bell
- iv. Auto transformer
- v. Electric ceiling fan
- vi. Core inductor
- vii. 15 amp socket outlet
- viii. One way switch
- ix. Variable resistor
- x. Soldered joint
- xi. Cooker control unit
- xii. Variable capacitor

Intended task

Candidates were expected to draw the BS graphical symbols of the following: Filament Lamp, Battery, Electric bell, Auto transformer, Electric ceiling, Core inductor, 15amp socket outlet, one way switch, Variable resistor, Soldered joint, Cooker control unit and Variable capacitor. Candidates performed fairly.

Candidates' strengths

- ✓ Candidates demonstrated good knowledge of matter and coulomb in their definition.

Candidates' weaknesses

- Poor drawing skills
- Poor diagrammatical presentation
- Poor computational skill

Suggestions for improvement

- ✕ Candidates should endeavor to attend classes regularly
- ✕ The teachers also should be advised to upgrade their knowledge
- ✕ Modern teaching aid/ equipment should be used while teaching.
- ✕ Candidates should be exposed laboratory for practical work.

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) Describe land and its topography in fish farming.
- (b) (i) Explain salt water habitat.
(ii) Differentiate between rivers and estuaries water body in fish farming.

Intended task

The candidates were required to describe land and its topography in fish farming. They were also expected to explain salt water habitat and to differentiate between rivers and that of estuaries water body in fish farming. Candidates performed averagely.

Question 2

- (a) Write short note on scales.
- (b) (i) Differentiate between cycloid, placid and etenoid scales.
(ii) State four function of scales.

Intended task

The question tested the candidates' knowledge of scales. Candidates performed averagely.

Question 3

- (a) Explain the classification of fish according to their morphology.
- (b) (i) Mention three differences between fin fish and shell fish.
(ii) State three examples of fin fish.

Intended task

The question examined candidates knowledge of fish e.g. fin fish and shell fish. Candidates preformed averagely.

Question 4

- (a) Write short note on the history of development of fisheries industry after independence.

- (b) (i) State three importances of fish in human nutrition.
- (ii) Mention five possible solutions to problem associated with aquaculture.

Intended task

The candidates were expected to write short note on the history of development of fisheries industry after independence and to state three importance of fish in human nutrition as well as the five possible solution to the problems associated with aquaculture. Candidates performed averagely.

Question 5

- (a) (i) List at least four of traditional and modern fishing gear.
- (ii) Describe the uses of four mentioned in a (i) above.
- (b) Differentiate between active and passive fishing gears.

Intended task

The question examined candidate's knowledge on traditional and modern fishing gear. Candidates performed averagely.

Question 6

- (a) Explain hanging ratio and its effect on shape of the net.
- (b) Write short note on the following.
 - (i) Tapering.
 - (ii) Knotting.
 - (iii) Braching.

Intended task

The question required candidates to explain hanging ratio and its effect on shape of the net. They were expected to write short note on tapering, knotting and braching. Candidates performed well.

Question 7

- (a) Enumerate how you can prevent fish diseases and parasites in concrete pond.
- (b) State signs of disease or parasite infection in a concrete pond.

Intended task

The candidates were required to enumerate how fish disease and parasite in concrete pond can be prevented. Candidates performed well.

Candidates' strengths

- ✓ Candidates had basic knowledge of the subject
- ✓ Ability to differentiate between rivers and estuaries water body in fish farming.
- ✓ Candidates answered question on tapering knotting and braching correctly.

Candidate's weaknesses

- Inability to differentiate between fin fish and shell fish.
- Inability to spell correctly the labelling of layout of a fishing boat and traditional fishing gear such as stern, hull, sail, carbon mast and gear.

Suggestion for improvement

- ✕ Emphasis should be laid on spelling and labelling by teachers.

INTRODUCTION TO BUILDING CONSTRUCTION (211 - 1)

General comments on the paper

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

Detailed comments on each question

Question 1

- (a) Describe the following tools used in building sites
 - (i) Brick/Block trowel
 - (ii) Pointing trowel
 - (iii) Straight edge
 - (iv) Spirit edge
- (b) Sketch neatly two of the above mentioned tools

Intended task

The question required candidates' ability to describe each of the above listed tools used in building sites. Also, they were also expected to sketch neatly two of the above mentioned tools. Candidates performed well.

Question 2

Explain the following

- (i) Access to the site
- (ii) Hutments
- (iii) Grubbing
- (iv) Trial holes

Intended task

The candidates were expected to explain access to site, hutments, grubbing and trial holes. Candidates performed well.

Question 3

- (a) Describe the three methods of setting out building
- (b) Using neat sketches, describe three materials used for setting out

Intended task

The question tested candidates' ability on three methods of setting out building. Also, they were expected to make neat sketches and describe three materials used for setting out. Candidates performed well.

Question 4

- (a) Classify foundation according to uses
- (b) What are the purposes of foundations in buildings?
- (c) State four reasons for timbering to trenches.

Intended task

The candidates were expected to classify foundation according to uses and to state the purpose of foundation in building. Also they were to state four reasons for timbering to trenches. Candidates performed well.

Question 5

- (a) Describe and explain where the following walls are used:
 - (i) Parapet
 - (ii) Sleeper wall
 - (iii) Separating wall
 - (v) Cavity wall
- (b) Sketch the following types of floor
 - (i) Hollow Timber
 - (ii) Solid concrete ground floor

Intended task

The candidates' were expected to describe and explain where parapet, sleeper wall, separating wall and cavity wall are used. They were also to sketch hollow timber and solid concrete floors. Candidates performed well.

Question 6

Draw a neat sketch of pitch roof and indicate the following.

- i. Wall plate
- ii. Rafter
- iii. Purlin
- iv King post
- v. Strut
- vi. Ridge cap

Intended task

The question tested candidates drawing skill and were to indicate wall plate, rafter, purlin, king strut and ridge cap. Candidates performed well.

Question 7

State the functions of the following items in drainage system:

- i. Drain Chutes
- ii. Interceptors
- iii. Saddle Back
- iv. Inspection chamber
- v. Plumber hoe
- vi. Man hole

Intended task

The candidates were required to state the functions of drain chutes, interceptors, saddle back, inspection chamber, plumber hole and main hole in drainage system. Candidates performed well

Candidates' weakness

- Poor handwriting
- Poor grammatical expressions
- Poor Drawing

Suggestions for improvement

- ✕ Student should be encouraged to improve on their writing skills.
- ✕ Students should improve on their reading skills
- ✕ Emphasis should be placed on the use of English language.
- ✕ Student should be encouraged to improve on their drawing skills.

BLOCKLAYING, BRICKLAYING AND CONCRETING (212 – 1)

General Comment on the Paper

The paper did not cover the syllabus and the candidates' performance was generally poor.

Detailed comments on each question

Question 1

- (a) Show with sketches the following tools
 - i. Spade
 - ii. Notched trowel
 - iii. Shovel
 - iv. Bolster
- (b) State one use of each of the tools in 1(a) above

Intended task

The question tested candidates' ability to sketch and uses of building tools listed. Candidates performed poorly

Question 2

- (a) What is meant by the term "bearing capacity" of a soil?
- (b) Sketch a typical section through a pad foundation

Intended task

The candidates were expected to explain bearing capacity of a soil as well as sketch a typical section through a pad foundation. Candidates performed poorly

Question 3

- (a) List FOUR types of floor finish and recommend where each type is suitable
- (b) State functions of a wall

Intended task

The candidates were expected to list types of floor finish and recommend where each is suitable. Also they were to state functions of a wall. Candidates' performed poorly.

Question 4

- (a) A concrete floor surface 25m^2 in area is to be covered with linoleum tiles measuring $200\text{mm} \times 200\text{mm} \times 2\text{mm}$ thick. Calculate:
 - i. The number of tiles required to complete the job allowing 5% for damages
 - ii. The cost of finishing the job if the labour cost of 1m^2 of tile is N500

- (b) What material is suitable for fixing synthetic tiles?

Intended task

The question tested candidates' knowledge of calculation. They were also to mention material suitable for fixing synthetic tiles. Candidates 'performed poorly.

Question 5

- (a) State four functional requirements of an upper floor
(b) With a neat sketch show how a lean – to roof is constructed

Intended task

The candidates were expected to state functional requirements of an upper floor. How a lean – to roof is constructed with a sketch. Candidates' performed poorly.

Question 6

- (a) Describe the mode of applying Tyrolean finish on walls
(b) What are the recommended thicknesses for the following in external rendering?
i. Under coat
ii. Final coat

Intended task

Candidates were expected to explain the mode of applying Tyrolean finish on walls. In addition the question tested candidates' ability to recall the recommended thicknesses of under and final coats in external rendering. Candidates performed poorly.

Question 7

- (a) What is the different between a drain and sewer in drainage work?
(b) State the functions of the following
i. Ramp
ii. Staircase

Intended task

Candidates were expected to differentiate between a drain and sewer in drainage work and state the functions of ramp and staircase. Candidate's performed poorly.

Candidate's strengths

- ✓ Candidates displayed good computational skill.

Candidates' weaknesses

- Poor grammatical expression
- Poor sketching

Suggestions for improvement

- ✕ Emphasis should be laid on sketching
- ✕ Candidates should be made to cultivate the habit of reading.

CAPENTRY AND JOINERY (221-1)

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

Detailed Comment on Each Question

Question 1

- (a) Explain the term manufactured board.
- (b) Give four importance of plywood.
- (c) List two advantages of manufactured board over solid wood.

Intended Task

The candidates were expected to explain manufactured board and to state four importance of plywood, they were also expected to list two advantages of manufactured board over solid wood. Candidates performed averagely well.

Question 2

- (a) Make a neat sketch of a making gauge.
- (b) Label four parts of making gauge.
- (c) List two uses of marking gauge.

Intended Task

The question tested the candidate's knowledge of marking gauge. Candidates performed well.

Question 3

- (a) Sketch and state one use each of the following joints
 - (i) Butt joint.
 - (ii) Brindle joint.
 - (iii) Mortise and tenon joint.
 - (iv) Dovetail joint.

Intended Task

The question tasked candidate's ability to draw a diagram stating one use of the following joint: butt joints, brindle joints, mortise, tenon joints and dovetail joint. Candidates performed well.

Question 4

- (a) Explain what is meant by abrasives.
- (b) Differentiate between protein adhesive and synthetic adhesive.

Intended Task

Candidates were expected to explain abrasives and to differentiate between proteins and synthetic adhesive. Candidates performed poorly.

Question 5

- (a) List five part of wood lathe machine.
- (b) Explain how band sawing machine can be maintained.

Intended Task

Candidates were expected to list five parts of wood lathe machine and to explain how band sawing machine can be maintained. Candidates performed well.

Question 6

- (a) Explain what is meant by seasoning of timbers.
- (b) State six reason for seasoning wood.
- (c) List two methods of seasoning.

Intended Task

The question tested candidate's knowledge of seasoning of timber. They were expected to state six reasons for seasoning wood and to list two method of seasoning. Candidates performed well. good.

Candidate's strength

- ✓ Good knowledge of the subject (carpentry and joinery).

Candidate's weaknesses

- Inability to answer question on abrasive.
- Misinterpretation of question 1 and 4.

Suggestion for improvement

- ✕ Students should endeavour to read and understand their questions well before attempting them.
- ✕ Schools should be able to cover the syllabus.

FURNITURE MAKING (231-1)

General Comment on the paper

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

Detailed comment on each question

Question 1

Why should the exposed surfaces of upholstery frame be finished before the final covering.

Intended task

The question requested the candidates to give reason why the exposed surface of upholstery frame should be finished before the final covering. Candidates' performed fairly well.

Question 2

Give the details of how a template for duplicating parts is prepared. What is the appropriate material to be used?

Intended Task

The candidates were expected to explain in details how a template for duplicating parts is prepared. They were also expected to explain the appropriate material to be used. Candidates performed averagely.

Question 3

Explain the characteristics of leather cloth, state where the material is used in furniture construction.

Intended task

Candidates were expected to explain the characteristics of leather cloth and state where the material is used in furniture construction. Candidates performed poorly.

Question 4

Define the following terms /proper of timbers:

- (a) Moisture content.
- (b) Elasticity.
- (c) Hardness.
- (d) Durability

Intended task

The candidates were expected to define some terminologies of timber. Candidates' performed well.

Question 5

Where in furniture making are the following tools used:

- (a) Spoke share.
- (b) Bull nose rebate plane?
- (c) Plough plane?
- (d) Block plane?

Intended task

The question tested candidates' ability to recall simple facts on the usage of tools in furniture making. Candidates' performed well.

Candidate's strength

- ✓ Ability to answer question on the use of hand tools in furniture making.
- ✓ Ability to answer question on the properties of timber.

Candidate's weaknesses

- Poor grammatical expression.
- Poor presentation of answer.
- Poor handwriting.

Suggestion for improvement

- ✕ Students should cultivate the habit of reading journals, magazines to improve their knowledge.
- ✕ Students should understand the questions before attempting.
- ✕ Teachers should emphasize the use of good hand writing.

MACHINE WOOD WORKING (241-1)

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) State six reasons why narrow band saw blade constantly breaks.
- (b) Give four action to be taken to prevent breakage of saw blade

Intended Task

The candidates were expected to state two reasons why narrow blade saw blade constantly breaks and give four actions to be taken to prevent breakage of saw blade. Candidates performed well.

Question 2

- (a) Explain the function of the following tools used on the wood Turing lathe, (i) divider (ii) inside calliper (iii) skew chisel (iv) Tool rest (v) gouges.
- (b) Sketch any three of the above.

Intended Task

The question tested the knowledge of candidates to explain the function of some tools used on the wood turning lathe and to sketch any three of them. Candidates performed fairly well.

Question 3

Make a sketch with explanatory notes on, (a) Riving knife, (b) Push block, (c) push stick.

Intended Task

The question tested the candidate's ability to sketch with explanatory notes on riving knife, push block and push. Candidates performed poorly.

Question 4

Enumerate the types of machine used to produce the following joints.

- (a) Mortise and tenon joints.
- (b) Dovetail joints.
- (c) Tongue and groove.
- (d) Stir housing joints

Intended Task

The question tested the candidate's knowledge of joints. Candidates performed well.

Question 5

- (a) Give five reasons why wood finishing is necessary.
- (b) State any four wood finishing.

Intended Task

The question tested candidates' knowledge on wood finishing. Candidates performed averagely.

Question 6

Name four operation that can be carried out on a jigsaw and sketch any two.

Intended Task

Candidates were expected to name five operations that can be carried out on a jigsaw and to sketch any two. Candidates performed averagely.

Candidate Strength

- ✓ Ability to answer question on the types of machine used to produce the following joints was adequately stated.
- ✓ Ability to answer question on the reason why narrow band saw blade constantly breaks four actions to be taken to prevent breakage of saw blade stated correctly.

Candidates Weaknesses

- Poor computational skills.
- Poor grammatical expression.
- Poor drawing skills.

Suggestions for Improvement

- ✕ Relevant learning materials and equipment should be provided by the school authority.
- ✕ Students should cultivate the habit of reading journals, novel, magazines to enhance performance etc.
- ✕ Principals and all stakeholders of schools and colleges should hold meeting with NABTEB from time to time to address this problem.
- ✕ Teachers should emphasize the importance of free hand drawing on sketches to the students.

PAINTING AND DECORATING (251-1)

General Comments on the Paper

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

Detailed Comments on Question

Question 1

Paper hanger's tools are essential implements of the execution of wall paper hanging.

- (a) List three paper hanger's tools and state the operation for which each is used.
- (b) Explain briefly how to take care of each of the tools in (a) above after use.

Intended Task

The candidates were expected to list three paper hanger's tools and state the operation for which each is been used, they were expected to explain briefly how each of the above tools can be taken care of after use. Candidates performed fairly well.

Question 2

- (a) Define and distinguish between plain painting and broken colour effect.
- (b) List three tools each used for carrying out the two painting operations above.

Intended Task

The question tested the candidate's ability to define and distinguish between plain painting and broken colour effect; they were also expected to list three tools each used for carrying out the two painting operations mention above. Candidates performed fairly well.

Question 3

- (a) Draw a suction feed spray gun with its cup and label three parts.
- (b) Describe briefly the function of the labelled parts.

Intended Task

The question explored candidate's to draw a suction feed spray gun with is cup and label three parts; they were expected to describe briefly the function of the labelled parts. Candidates performed fairly well.

Question 4

- (a) Describe briefly the use of the following tools in the surface preparation for sign and design:

- (i) Blowlamp
- (ii) Dipper
- (iii) Sable brush
- (iv) Mahi stick

(b) Define the following terms as used in sign writing work.

- (i) Valley
- (ii) Word spacing.

Intended Task

The candidates were expected to describe briefly the use of blow lamp, dipper, and sable brush and mahi stick tools in the surface preparation for sign and design. They were also asked to define valley and word spacing as used in sign writing work. Candidates performed well.

Question 5

Define the following colour terms and give example of each

- (i) Complementary
- (ii) Discordant
- (iii) Neutral
- (iv) Harmonious

Intended Task

The candidates were expected to define some colours' terms given example of each: Complementary, discordant, Neutral and Harmonious. Candidates performed well.

Question 6

Scaffolds are temporary working platform for various building operations

- (a) Distinguish by explanation the method of erecting independent and dependent scaffold
- (b) List four important parts of a scaffold.

Intended Task

The question tested the candidate's knowledge of scaffold. Candidate's performance was fair.

Question 7

Describe briefly the following in the glass glazing work.

- (a) Tolerance.
- (b) Bed putty.
- (c) Face putty.
- (d) Glazing sprig.

Intended Task

The candidates were expected to describe some terminologies in the glass glazing work. Candidates performed poorly.

Candidates Strength

- ✓ Ability to answer question on colour.

Candidates Weaknesses

- Poor sketching /drawing skills.
- Inability to differentiate between tools, equipment and material.

Suggestion for Improvement

- ✕ Provision for text books and painting and decorating should be made available in the school library by the teachers.
- ✕ Students should be exposed to drawing.
- ✕ Teachers should be encouraged to adopt simple method in teaching differences between tools equipment and materials.

PLUMBING AND PIPE FITING (261-1)

General Comment on the Paper

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

Detailed Comment on Each Question

Question 1

Define briefly how trap may become unusual through the following ways.

- (a) Momentum.
- (b) Compression.
- (c) Capillary.

Intended Task

The candidates were expected to define briefly how trap may become unusual through momentum, compression and capillary ways. Candidates performed well.

Question 2

With neat diagrams to support your answer, explain the lighting of the welding torch and the adjustment of flame to obtain oxidizing, carbonizing and neutral flames.

Intended Task

Candidates were expected to explain the lighting of the welding torch and the adjustment of flame to obtain oxidizing, carbonizing and neutral flames with the aid of a neat diagram. Candidates' performed well.

Question 3

- (a) What are the three features of single stack system?
- (b) Mention any three principle of a good drainage.

Intended Task

Candidates were expected to explain the three features of singles stack system and mention any three system of good drainage. Candidates performed well.

Question 4

List any five distinctive features to differentiate between an acetylene cylinder and oxygen cylinder.

Intended Task

The question explored candidate's ability to list any five distinctive features to differentiate between an acetylene cylinder and oxygen cylinder. Candidates performed well.

Question 5

Use diagram to differentiate between plunger type flushing cistern and automatic flushing cistern.

Intended Task

Candidates were expected to differentiate between plunger and automatic flushing cistern using the diagram. Candidates performed averagely.

Question 6

- (a) Differentiate between brazing and bronze welding.
- (b) Enumerate three precautions to be observed in the preparation to weld.

Intended Task

Candidates were expected to differentiate between brazing and bronze welding. They were expected to also enumerate three precautions observed in the preparation of weld. Candidates performed well.

Candidate's strength

- ✓ Ability to answer question on unseal trap was adequately stated.
- ✓ Ability to answer question on welding.
- ✓ Ability to answer question on single stack system and principles of good drainage.
- ✓ Ability to distinguish between an acetylene and oxygen cylinders.

Candidate's weaknesses

- Poor grammatical expression
- Poor drawing skills.

Suggestion for improvement

- ✂ Students should cultivate the habit of reading journals, novels, magazines, for effective performance etc.
- ✂ Teachers should emphasis the importance of drawing skills

MEN'S GARMENT MAKING (321-1)

General comments on the paper

The questions covered the syllabus and the candidates' performances were generally good.

Detailed comments on each question

Question 1

- (a) Mention and explain **three** fabric finishes.
- (b) Discuss two types of natural fibres.

Intended Task

Candidates' were expected to mention and explain three fabric finishes and two types of natural fibres. Candidates' performed averagely.

Question 2

- (a) Explain three properties of colour.
- (b) Enumerate four figure types and discuss how to improve on them.

Intended Task

The candidates' were expected to explain three properties of colour, enumerate four figure types and discuss how to improve on them. Candidates' performed fairly well.

Question 3

- (a) Give **five** pattern signs (marks).
- (b) Discuss the use of the following in pattern drafting:
 - (i) French curves
 - (ii) Pattern notches
 - (iii) Pattern heights.
 - (iv) Computer equipment.

Intended Task

The question tested the candidates' ability to recall five pattern signs (marks) and discuss the use of French curve, pattern notches, pattern heights and computer equipment in pattern drafting. Candidates performed fairly well.

Question 4

- (a) Explain five principles involved in clothing selection.
- (b) Discuss three methods of renovation of clothes.

Intended task

The question tested the candidates knowledge of clothing selection and renovation of clothes . Candidates performed fairly well.

Question 5

Discuss the characteristics and uses of the following fabrics.

- (i) Polyesters
- (ii) Cotton
- (iii) Linen
- (iv) Silk

Intended task

The question tested the candidates' knowledge of characteristics and uses of fabrics such as polyester, cotton, linen and silk. Candidates performed well.

Question 6

- (a) Outline three ways of dyeing fabrics.
- (b) Discuss five ways of printing on fabrics.

Intended task

The question tested the candidates' knowledge of dyeing and printing on fabrics. Candidates performed fairly well.

Question 7

- (a) Mention five types of needle and state their uses.
- (b) Explain the uses of the following sewing tools and equipment:
 - (i) Pressing board.
 - (ii) Dummy.
 - (iii) Chopper.
 - (iv) Tracing wheel.

Intended task

The question tested the candidates' knowledge of sewing tools, equipment needle and their uses as pressing board, Dummy, Chopper and Tracing wheel. Candidates performed well.

Candidates' strengths

- ✓ Many candidates answered question number five correctly.
- ✓ Candidates answered question number seven correctly.

Candidates' weaknesses

- Poor presentation of answers.
- Poor grammatical expression.

Suggestion for improvement

- ✕ More qualified teachers should be employed in secondary schools and Technical Colleges.
- ✕ Students should be encouraged to cultivate the habit of reading.
- ✕ Government should equip libraries with relevant textbooks.

CATERING CRAFT PRACTICE (341-1)

General Comments

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

Detailed comment on each question

Question 1

- (a) Enumerate **five** examples of Nigeria food commodities and their uses.
- (b) Describe how a potato peeler is operated.
- (c) Explain the following terms:
 - i. Bain-marie.
 - ii. Blanchir.
 - iii. Canapé.
 - iv. Crouton.

Intended Task

The question tested candidates' knowledge of Nigeria food commodities, a potato peeler and terms such as bain-marie, blanchir, canapé and crouton. Candidates performed well.

Question 2

- (a) State **five** types of thickening agents for sauces.
- (b) List the ingredients for consommé royale and give reasons why a consommé soup may go cloudy.
- (c) Enumerate **four** types of salads that can be served as preliminary dish and briefly explain the preparation of any one of them.

Intended Task

The question tested candidates' ability to recall types of thickening agents for sauces, ingredients for consommé royale and types of salad that can be served as preliminary dish. Candidates performed well.

Question 3

- (a) State the proportion of fat to flour for four portions of the following:
 - i. Sugar pastry
 - ii. Puff-pastry
 - iii. Hot water paste
 - iv. Suet paste
 - v. Choux pastry
 - vi. Short pastry

- (b) List the ingredients for Christmas pudding
- (c) List the different types of pastries and give an example each of their products.

Intended Task

Candidates were expected to show the proportion of fat to flour for some portions of sugar pastry, puff-pastry, hot water paste, suet paste, choux pastry, pudding and the different types of pastries. Candidates performed fairly well.

Question 4

- (a) Give the recipe for 1 litre of brown sauce.
- (b) Plan a **four** course meal for a pregnant woman.
- (c) Describe the method of rethickening a twined mayonnaise.
- (d) Give the French equivalent for these kitchen and restaurant staff.
 - i. Restaurant manager.
 - ii. Head waiter.
 - iii. Station waiter.
 - iv. Wine waiter.
 - v. The carver.
 - vi. Headchef.
 - vii. Fish cook.
 - viii. The baker.
 - ix. Pastry cook.
 - x. Apprentice.

Intended Task

The question tested candidates' knowledge of the recipe for 1 litre of brown sauce, a four course meal for a pregnant woman, rethickening a twined mayonnaise and French equivalent for kitchen and restaurant staff. Candidates performed fairly well.

Question 5

- (a) State types of drinks and give an example of each.
- (b) Describe the service of champagne.
 - i. Enumerate the **two** methods of making cocktails.
 - ii. List the **five** key equipment required when making cocktails.

Intended Task

The question tested the candidates' knowledge of types of drinks, service of champagne, equipments and method of making cocktails. Candidates performed fairly well.

Question 6

- (a) Describe the process of digestion of food from the mouth to absorption of the nutrients.
- (b)
 - i. What is pectin?
 - ii. List **two** sources and uses of pectin

Write briefly on the following:

- i. Typhoid
- ii. Tuberculosis
- iii. Dysentery
- iv. Vomiting

Intended Task

The question tested candidates' knowledge of the process of digestion of food, pectin and others such as: typhoid, tuberculosis, dysentery and vomiting. Many candidates avoided question 6(a) And (b). Candidates performed fairly well.

Question 7

- (a) (i) List **five** sources of meat .
- (ii) Give **one** example of a dish that can be made from the meat listed in 7a (i) above.
- (b) (i) State the types of fat and their uses.
- (ii) State the action to take if a guest can not immediately be shown his room by the receptionist.

Intended task

The question explored candidates knowledge of sources of meat and action to take if a quest cannot immediately be shown his room by the receptionist. Candidates performed well.

Candidate's strength

- ✓ Many candidates performed well in questions number 1,2and 7

Candidate's weaknesses

- Many candidates did not adhere to the instructions on the number of questions to answer in section A and B.
- Some of the candidates performed poorly in question no. 4c.

Suggestions for improvement

- ✂ Students should learn to read and understand instructions on questions before attempting.
- ✂ Catering French teachers should lay more emphasis on the subject

FOOT WEAR MANUFACTURE (353-1)

General Comments on the Paper

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

Detailed Comments on Each Question

Question 1

Draw a sample of $\frac{3}{4}$ court shoe. Outline the features that would enable you to know that it was a courts shoe.

Intended task

The candidates were expected to draw a sample of $\frac{3}{4}$ court shoe and outline features that would enable one to know it was a court shoe. Candidate's performed fairly.

Question 2

Draw the sectional patterns of an oxford shoe. Mark all seams and other allowances, stating their amounts and the reason for making them.

Intended task

The question required candidates to draw the sectional patterns of an oxford shoe, mark all seams and allowances stating their amount and the reason for making them. Candidates performed fairly well.

Question 3

- (a) Differentiate between lockstitch and chain stitch formation.
- (b) State the merit and demerit of each and the closing operations for which they are most suitable.

Intended task

Candidates were expected to differentiate between lockstitch and chain stitch formation. They were also expected to state the merit and demerit of each as well as the closing operations for which they were most suitable. Candidates' performed fairly.

Question 4

Give an outline of the safety precautions that should be taken in a department of your choice (state which department you have chosen).

Intended Task

The candidates were expected to give an outline of the safety precautions that should be taken in a department of one's choice. Candidates performed poorly.

Question 5

The following, operation refers to veldt shoe construction. Last upper, remove insole tracks, heat set, pulling over, bottom roughing, insert stiffener, toe-puff application, runner tracking, backtracking, trim runner and sole, brushing, making groove, edge pounding, stitch-runner and sole, back part moulding.

- (a) List these operations in appropriate sequence.
- (b) Explain the effect of heat setting on the lasted upper.

Intended task

The question tested the candidate's knowledge on operation of veldtshoe construction. Candidates' performed fairly.

Candidate's weaknesses

- Poor grammatical expression.
- Candidates misunderstand some questions.
- Inability to understand the question properly.

Suggestion for improvement

- ✕ Candidates should cultivate the habit of reading novels, magazine, journal etc.
- ✕ Syllabus should be well covered.
- ✕ Candidates should understand the question before attempting them.

PRINTING CRAFT PRACTICE (361-1)

General comments

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

Detailed comments on each question

Question 1

Write short notes on the following:

- (i) Platen press.
- (ii) Rotary press.

Intended task

The question tested candidates' knowledge of platen and rotary press. Candidates performed fairly well.

Question 2

Explain the following and state how each functions:

- (i) Successive feeder.
- (ii) Stream feeder.
- (iii) Reel feeder.

Intended task

Candidates were expected to define successive feeder, stream feeder, reel feeder and how each functions. Candidates performed fairly well.

Question 3

- (a) State three (3) basic functions of process camera
- (b)
 - (i) what is a comprehensive layout?
 - (ii) Distinguish between mesh and squeegee

Intended Task

The candidates were expected to state basic functions of process camera, comprehensive layout, differentiate between mesh and squeegee. Candidates performed fairly well

Question 4

- (a) What is an over lay make-ready technique?
- (b) Briefly explain the following as used in binding
 - (i) Gathering.
 - (ii) Collating.

- (iii) Inserting.

Intended task

The question tasked candidates' knowledge of over lay make-ready technique and the use of: Gathering, Collating and Inserting in binding. Candidates performed fairly well.

Question 5

Explain the differences between main exposure and flash exposure.

Intended task

The candidates were expected to give the difference between main exposure and flash exposure. Candidates performed fairly well.

Question 6

- (a) List the constituents of a feeder unit of kord 64
- (b) What is the function of impression gripper of a flat bed cylinder?
- (c) Name the **three** parts that offset printing units are made up of.

Intended task

The question tested candidates' ability to mention constituents of a feeder unit of kord 64, use of impression gripper of a flat bed cylinder and to list three parts that offset printing units are made of. Candidates performed poorly.

Question 5

- (a) With a simple diagram explain the principle of knife folder.
- (b) Explain the following terms as used in binding operations:
 - (i) Soft covers.
 - (ii) Self covers.

Intended task

The candidates were expected to give the definition of the principle of knife folder using a diagram and to discuss terms such as: soft covers, self covers. Candidates performed averagely.

Candidate's strength

- ✓ Candidates performed averagely in questions number (6).

Candidate's weaknesses

- Poor grammatical expressions.
- Candidates showed poor knowledge of the subject.

Suggestions for improvement

- ✕ The government should enhance technical education in Nigeria
- ✕ NABTEB should liaise with government in the area of publicity in Technical Education.

WEAVING (372-1)

General comments on the paper

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

Detailed Comments on Each Question

Question 1

Carefully explain these terms with a simple sketch:

- (a) Headle
- (b) Shuttle
- (c) Beater

Intended task

The candidates were expected to explain headle, shuttle and beater with a simple sketch. Candidates performed well.

Question 2

Describe a simple dobby weaving loom using a simple diagram.

Intended task

The question tested candidate's ability to describe a simple dobby weaving loom using a simple diagram. Candidates' performed well.

Question 3

Define these term:

- (a) Weaving.
- (b) Fibre and fabric.
- (c) Reeds and denting.

Intended task

The question tasked candidate's ability to define weaving, fibre and fabric, and reeds and denting. Candidates performed well.

Question 4

Explain these weaving terms:

- (a) Warp.
- (b) Weft.
- (c) Yarn.

Intended task

The candidates were expected to explain warp, weft and yarn. Candidates performed well.

Question 5

Sketch and explain:

- (a) Plain weave pattern.
- (b) Twill weave pattern.
- (c) Satin weave Pattern.

Intended task

The candidates were expected to sketch and explain plain weave pattern, will weave pattern and satin weave pattern. Candidates performed well.

Question 6

What are the objectives of the following weaving processes?

- (a) Shuttle.
- (b) Heddle.
- (c) Warp stop motion.
- (d) Beater.

Intended task

The candidates were expected to state the objectives of weaving processes:- shuttle, headle, and warp stop motion and beater. Candidates performed well.

Question 7

Make a simple diagram to illustrate the movement of the warp thread through the loom.

Intended task

The candidates were expected to make a simple to illustrate the movement of the warp thread through the loom. Candidates performed well.

Candidate's strength

- ✓ Ability to answer question on the use of appropriate terminology was stated correctly.
- ✓ Ability to answer question on drawing and illustration was good.

SURFACE DESIGN AND TEXTILE PRINTING (373-1)

General comment on the paper

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

Detailed Comment on Each Question

Question 1

Name and describe three types of repeat with illustrations.

Intended Task

The question required the candidates to name and describes three types of repeat with illustrations. Candidates performed well.

Question 2

Write short note on the following.

- (i) Hue.
- (ii) Intensity.
- (iii) Value.

Intended Task

The candidates were expected to write short notes on hue, intensity and value. Candidates performed well.

Question 3

- (a) Define printing.
- (b) Explain roller printing with the aid of a sketch.

Intended Task

The question tasked candidate's ability to define printing and explain roller printing with the aid of a sketch. Candidates performed well.

Question 4

How can you identify the following fibres?

- (i) Wool.
- (ii) Silk.
- (iii) Nylon.
- (iv) Cotton.

Intended Task

The question tested the candidate's knowledge on fabrics. Candidates performed very well.

Question 5

Explain the following weaving motions in simple terms;

- (i) Shedding.
- (ii) Beat-up.
- (iii) Let-up.
- (iv) Take-up.

Intended Task

The candidates were expected to explain some weaving terminology. Candidates performed well.

Question 6

List the sequence of processes involved in screen printing.

Intended Task

The candidates were expected to list and explain the sequence of process involved in screen printing. Candidates performed well.

Question 7

- (a) Enumerate the constituents of a printing plate.
- (b) Explain the constituents listed above.

Intended Task

The candidates were expected to list and explain the constituents of a printing plate. Candidates performed well.

Candidate's strength

- ✓ The candidates displayed good knowledge of the subject.

Candidate's weaknesses

- Poor grammatical expression

Suggestion for further improvement

- ✕ Candidates should cultivate the habit of reading novel, magazines and journals to enhance their performance during examinations etc.

BLEACHING, DYEING AND FINISHING (374-1)

General Comments on the Paper

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

Detailed Comments on each Question

Question 1

- (a) What is sizing.
- (b) What are the objects of sizing?

Intended task

The question tested candidate's knowledge on sizing. Candidates performed well.

Question 2

- (a) What is tie-dye process?
- (b) Explain any four techniques application in the tie-dye process.

Intended task

The candidates were expected to explain tie-dye process and any four techniques applications in the tie-dye process. Candidates performed fairly well.

Question 3

- (a) Define colour fastness.
- (b) Differentiate between the light and wet colour fastness on fabric.
- (c) What factors could prevent the fastness of colour on fabric?

Intended task

The question tested the candidate's knowledge of fastness. They were expected to differentiate between the light and wet colour fastness on fabrics and what factors could prevent the fastness of colour on fabric. Candidates performed well.

Question 4

Write short notes on any four of the following:

- (i) Crabbing.
- (ii) Beeting.
- (iii) Carbonizing.

- (iv) Milling
- (v) heat setting.

Intended task

Candidates were expected to write short note on some terminologies. Candidates performed averagely.

Question 5

- (a) What is the purpose of finishing process?
- (b) Give examples of any three of the mechanical and chemical finishing process.

Intended task

The question tested the candidate's ability to recall the purpose of finishing process. They were also expected to give examples of any of three of the mechanical and chemical finishing process. Candidates performed fairly well.

Question 6

- (a) Explain the function of an Elliptical winch machine.
- (b) How can the machine be improved?

Intended task

The candidates were expected to explain the function of an elliptical winch machine and how it can be improved. Candidates performed averagely.

Question 7

- (a) What is the object of desizing?
- (b) Name and explain three methods of desizing.

Intended task

The candidates were expected to explain the object of desizing and also name and explain three methods of desizing. Candidates performed fairly well.

Candidate's strength

- ✓ Good understanding of the question.

Candidate's weaknesses

- Poor grammatical expression.

Suggestion for improvement

- ✕ Candidates should cultivate the habit of reading novels, journals, magazines to improve their knowledge etc.

GRAPHIC DESIGN (381-1)

General comments on the paper

The questions covered the syllabus and the candidates' performances were generally good.

Detailed comments on each question

Question 1

- (a) What is the term colour triads?
- (b) State three properties of colours.

Intended Task

Candidates were expected to explain colour triads and state three properties of colours. Candidates performed well.

Question 2

Explain two basic functions of the human skeleton.

Intended Task

The candidates were expected to explain two basic functions of the human skeleton. Candidates performed well.

Question 3

List and draw **five** drawing tools.

Intended Task

The candidates' were expected to list and sketch five drawing tools. Candidates performed averagely.

Question 4

Write short notes on **two** elements of art.

Intended Task

The candidates' were expected to write short notes on two elements of art. Candidates' performed fairly well.

Question 5

Describe in details the process of producing multicolour design for reproduction in silk screen method.

Intended Task

Candidates' were expected to describe in details the process of producing multicolour design for reproduction in silk screen method. Candidates' performed fairly well.

Question 6

State the function of the following parts of a camera:

- (i) Lens.
- (ii) View finder.
- (iii) Aperture.

Intended Task

Candidates' were expected to state the function of the following parts of a camera – lens, view finder, and aperture. Candidates' performed well.

Question 7

State the importance of computer graphics in design.

Intended Task

Candidates' were expected to state the importance of computer graphics in design. Candidates' performed well.

Candidates' Strengths

- ✓ Many candidates' answered the question on computer graphics correctly.
- ✓ Many candidates' performed well in question no 1a.

Candidates' Weaknesses

- Poor drawing and sketching skill.
- Poor grammatical expression.

Suggestions for Improvement

- ✕ Candidates' should be exposed to practicals.
- ✕ Candidates' should cultivate the habit of reading books on graphic and photography.

CERAMIC AND DESIGN (391-1)

General comments

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

Detailed comments on each question

Question 1

Define the following terms:

- (a) Grog
- (b) Glaze
- (c) Engobe

Intended task

Candidates were expected to define the terms: Grog, Glaze and Engobe. Candidates performed fairly well.

Question 2

- (a) Explain the word 'Opaque'
- (b) What is fuel?

Intended task

The question tested the candidates' knowledge of the word 'Opaque' and fuel. Candidates performed fairly well.

Question 3

- (a) Explain the method of glaze application
- (b) State **five** properties of clay

Intended task

Candidates were expected to explain the method of glaze application and state five properties of clay. Candidates performed fairly well.

Question 4

- (a) What is throwing?
- (b) Explain the turning method of finishing wares.

Intended task

Candidates were expected to give the meaning of throwing and explain the turning method of finishing wares. Candidates performed fairly well.

Question 5

- (a) List **five** ceramics tools.
- (b) State their uses

Intended task

The question tested candidates' ability to recall five ceramic tools and their uses. Candidates performed fairly well.

Candidate's strength

- ✓ Candidates defined glaze correctly

Candidate's weaknesses

- Poor usage of terms

Suggestions for improvement

- ✕ Candidates should get acquainted to ceramic terms, equipments and machines.
- ✕ Candidates should be exposed to more practical work.