# TABLE OF CONTENTS

## SUBJECTS

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUANTITATIVE TECHNIQUES IN BUSINESS (QTB)</td>
<td>2</td>
</tr>
<tr>
<td>BUSINESS AND FINANCE (BF)</td>
<td>40</td>
</tr>
<tr>
<td>FINANCIAL ACCOUNTING (FA)</td>
<td>66</td>
</tr>
<tr>
<td>MANAGEMENT INFORMATION (MI)</td>
<td>93</td>
</tr>
<tr>
<td>BUSINESS LAW (BL)</td>
<td>118</td>
</tr>
</tbody>
</table>
THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA

FOUNDATION LEVEL EXAMINATION – MAY 2016

QUANTITATIVE TECHNIQUES IN BUSINESS

Time Allowed: 3 hours

SECTION A: MULTIPLE-CHOICE QUESTIONS (20 Marks)

INSTRUCTIONS: ANSWER ALL QUESTIONS IN THIS SECTION

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

1. A company expects to produce and sell 150,000 units of its product during the first year with this figure growing by 3% per annum. Then the number of units to be sold in year 5 is
   A. 153.798
   B. 163.798
   C. 173.798
   D. 183.798
   E. 193.798

2. A store holding a clearance sale advertises that all prices have been discounted by 20%. If a certain article is on sale for N28.00. What was its price before the sale?
   A. N15
   B. N25
   C. N35
   D. N45
   E. N55

3. The demand function for an item is given by \( p = 32q - q^2 \). Find the elasticity of demand at \( q = 4 \)
   A. -0.17
   B. 1.00
   C. 1.11
   D. 1.17
   E. 1.20
4. A line with a negative slope passes through the point (2, 4). If its x-intercept value is thrice the y-intercept value, then the slope-intercept form of the equation of the line is

A. \[ y = \frac{1}{3} + \frac{14}{3}x \]

B. \[ y = \frac{14}{3} - \frac{x}{3} \]

C. \[ y = \frac{1}{3} - \frac{14}{3}x \]

D. \[ y = \frac{14}{3} + \frac{x}{3} \]

E. \[ y = \frac{14}{3} - x \]

5. A man plans to start saving in June. He plans to set aside N3,500 in June and to increase this amount by N275 in each of the subsequent months. In April of the following year, he would have set aside

A. N6,025

B. N6,205

C. N6,250

D. N6,502

E. N6,520

6. The revenue function of a company is \( R = 48x + 3x^2 \), and the cost function is \( C = x^2 + 46x + 180 \). Where \( x \) is the number in units of item produced and sold.

Obtain the break-even quantity.

A. 8

B. 9

C. 10

D. 11

E. 12

7. Which of the following diagrams is useful for estimating the mode of a grouped frequency distribution?

A. Component bar chat

B. Pie chart

c. z-chat

D. Histogram

E. Ogive
8. The mean of a certain number of observations is 40. If two items with values 50 and 64 are added to this data, the mean rises to 42. The number of items in the original data is
A. 12
B. 13
C. 14
D. 15
E. 16

9. Which of the following statistics is affected by extreme values in a data distribution?
A. Mode
B. Range
C. Median
D. Mean
E. Variance

10. Which of the following does NOT give an indication of the degree of clustering around the value of an array?
A. Variance
B. Mean
C. Standard deviation
D. Range
E. Quartile deviation

11. In a QTB examination, where the maximum possible mark in a question is 20 marks and the Coefficient of Variation is given as 25%, find the variance if the mean score is 12 marks.
A. 3
B. 9
C. 12
D. 15
E. 18

12. The difference between the median and the range of the set of numbers: 18, 25, 48, 26, 36, 55, 42, 12, 38, 27, 64, 58, 20, 58, 30, 40, is
A. -19
B. -17
C. -15
D. 6
E. 25
13. Which of the following is NOT true about expected values?
   A. The worth of a decision can be evaluated as the expected value of outcomes where probabilities are assigned to different outcomes
   B. Expected value is evaluated as the weighted-variance of possible outcomes
   C. Use of expected values is a technique for comparing risk and return of different decisions of options
   D. The expected average value is calculated by multiplying the probability of each possible outcome by the value of the outcome
   E. Information can be analyzed where risk can be assessed in terms of probabilities of different outcomes

14. If a coin and an unbiased die are tossed together, what is the probability of obtaining a tail and a number greater than 3?
   A. 0.25
   B. 0.33
   C. 0.35
   D. 0.50
   E. 0.75

15. The plot of a Time Series as a graph is called
   A. Histogram
   B. Ogive
   C. Pie chart
   D. Historigram
   E. Z-chart

16. Which of the following is used to measure the degree of association between two variables?
   A. Regression
   B. Percentiles
   C. Quartiles
   D. Correlation
   E. Coefficient of variation

17. A company takes stock for 5 months in each year. The stock figures of materials for the most recent three years are as tabulated below:

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>March</th>
<th>May</th>
<th>July</th>
<th>September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>76</td>
<td>84</td>
<td>90</td>
<td>84</td>
<td>86</td>
</tr>
<tr>
<td>Year 2</td>
<td>86</td>
<td>94</td>
<td>100</td>
<td>94</td>
<td>96</td>
</tr>
<tr>
<td>Year 3</td>
<td>96</td>
<td>104</td>
<td>110</td>
<td>104</td>
<td>106</td>
</tr>
</tbody>
</table>
Determine the trend stock for month 6.
A. 84
B. 85
c. 86
D. 87
E. 88

18. The daily sales record of a company with their corresponding probabilities are tabulated as follows:

<table>
<thead>
<tr>
<th>Daily Sales</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.15</td>
</tr>
<tr>
<td>1</td>
<td>0.30</td>
</tr>
<tr>
<td>2</td>
<td>0.12</td>
</tr>
<tr>
<td>3</td>
<td>0.25</td>
</tr>
<tr>
<td>4</td>
<td>0.11</td>
</tr>
<tr>
<td>5</td>
<td>0.07</td>
</tr>
</tbody>
</table>

The probability of total sales of 6 in two consecutive days is
A. 0.1039
B. 0.1309
c. 0.1930
D. 0.3019
E. 0.3109

19. A company makes two products X and Y. It takes 2¼ hours to make one unit of x and 3¾ hours to make one unit of Y. If only 18,000 direct labour hours are available, then the production time constraint is expressed as

A. \(3.75x + 2.25y \leq 18,000\)
B. \(2.25x + 3.75y \leq 18,000\)
C. \(3.75x + 2.25y \geq 18,000\)
D. \(2.75x + 3.75y \geq 18,000\)
E. \(3.75x + 2.25y = 18,000\)

20. In a simple queue, if the arrival rate is 5 customers in 15 minutes and the service rate is 8 customers in 12 minutes, the traffic intensity or utilization factor is
A. 0.25
B. 0.50
c. 0.55
D. 0.65
E. 1.00
SECTION B: OPEN-ENDED QUESTIONS (80 Marks)

INSTRUCTION: ANSWER ANY FOUR OUT OF SIX QUESTIONS IN THIS SECTION

QUESTION 1

a. A company plans to introduce a new product into the market. 6,000 units are to be produced in the first year with an annual growth rate of 3.5%. Selling price is to be set at N1,050 per year with an annual growth rate of 6.5%.

Required:

If the production costs are to be pegged at N850 in the first year with an annual growth rate of 5%, calculate the profit earned in year 5.

(10 marks)

b. An aluminum manufacturing company in Lagos incurs a daily total cost of N5,000 for one unit of production. To produce 4 units, the company spends N30,000 as its total cost.

Required:

i. Draw a graph to depict the above information.
   (3 marks)

ii. Use your graph above to estimate the number of units to be produced to incur a total cost of N70,000.
   (2 marks)

iii. Deduce
   - The daily fixed costs of the company from the graph above
   - From the above, obtain the equation representing the company's activity
   (3 marks)

iv. Comment on the results obtained in (iii) above.
   (1 mark)

(Total 20 marks)

QUESTION 2

a. A barber invests N100,000 for 5 years. At the end of the investment period, he receives a cash transfer of N120,600 as final settlement of the investment.

Required:

Use logarithm (to base 10) to determine the compound interest rate on the investment.

(10 marks)
b.  

i.  The Students Union of a University plans to have an end-of-year party for all its members. The party is scheduled to take place at a major hotel that can take up to 500 persons. The hotel was to charge ₦800 per person. At this gate fee, the hotel expects to sell 400 tickets. But market research postulates that for every ₦40 increase or reduction in the ticket price, the demand will fall or increase by 16.

Required:

If the variable cost per student for the dinner is ₦210, determine the Marginal Revenue (MR) function. (6 marks)

ii.  JANG PLC. produces and sells two products G and H. G and H respectively make contributions of ₦10 and ₦15. The company wishes to maximize its profit. 4,150 units and 3,175 units of G and H respectively, are to be sold. Direct labour hours per unit are 2.5 hours and 1½ hours respectively, for G and H while machine hours per unit are 45 minutes and 3 hours for G and H respectively. Total direct labour hours available and total machine hours available are respectively 18,000 hours and 10,000 hours.

Required:

Derive the following constraints: the direct labour, machine time, sales demand for G, sales demand for H and Non-negativity. (4 marks)

(Total 20 marks)

QUESTION 3

The annual expenditures (₦'000) of a family from 2000 to 2009 were as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure (₦'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>600</td>
</tr>
<tr>
<td>2001</td>
<td>610</td>
</tr>
<tr>
<td>2002</td>
<td>580</td>
</tr>
<tr>
<td>2003</td>
<td>590</td>
</tr>
<tr>
<td>2004</td>
<td>480</td>
</tr>
<tr>
<td>2005</td>
<td>560</td>
</tr>
<tr>
<td>2006</td>
<td>550</td>
</tr>
<tr>
<td>2007</td>
<td>620</td>
</tr>
<tr>
<td>2008</td>
<td>490</td>
</tr>
<tr>
<td>2009</td>
<td>530</td>
</tr>
</tbody>
</table>
Required:

a. Setting year 2000 to 0, fit the least squares line for the annual expenditures.  
   (15 marks)

b. Forecast what the expenditure will be in the years
   i. 2012  
   ii. 2016  
   (Total 20 marks)

**QUESTION 4**

a. A gambler plays a game of chance in which he has 60% chance of winning. If he wins, he collects N1,800 but if he loses he pays N2,300.

Required:

If he loses alternate games,

i. Obtain the sample spaces respectively for 12 games and 14 games  
   (2 marks)

ii. Calculate his expected returns for 12 games and 14 games.  
    (6 marks)

iii. Advise the gambler if he initially staked N1000  
     (2 marks)

b. A house built in Ikoyi increased in value by 8% in year 1, 25% in year 2, 35% in year 3, 43% in year 4 and 22% in year 5.

Required:

If the house cost N10,000,000 to build,

- Estimate its value at the end of 5 years.  
  (3 marks)

- Calculate the average growth rate over the 5-year period.  
  (3 marks)

ii. A company’s Demand/Supply situations together with unit transportation costs are as shown below:

<table>
<thead>
<tr>
<th></th>
<th>Factory A</th>
<th>Factory B</th>
<th>Factory C</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>400</td>
<td>550</td>
<td>500</td>
<td>700</td>
</tr>
<tr>
<td>Supply</td>
<td>700</td>
<td>850</td>
<td>1,250</td>
<td></td>
</tr>
<tr>
<td>Factory A</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Factory B</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Factory C</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Unit Transportation Costs</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Required:

Identify the initial feasible tableau using the Least Cost Method.  
(4 marks)

(Total 20 Marks)
QUESTION 5

a. The marginal cost of producing a particular item is given by $3q^2 - 40q + 600$.

**Required:**
Find the
i. Total cost function $C(q)$, if the cost of producing 2 items is 1,660 (7 marks)

ii. Cost of producing 50 items (3 marks)

b. The weights of bags of Pando Yam produced by Swallow Company limited are normally distributed with mean 3,020 grams and standard deviation 4 grams.

**Required:**
If a bag is picked at random, what is the probability that it weighs
i. Less than 3,012 grams? (4 marks)

ii. Between 3,012 grams and 3,021.6 grams? (6 marks)

Show all the relevant normal distribution diagrams. (Total 20 marks)

QUESTION 6

a. The quarterly sales figures of company ABC Plc. for 3 years are as recorded below:

<table>
<thead>
<tr>
<th></th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>30</td>
<td>34</td>
<td>37</td>
<td>41</td>
</tr>
<tr>
<td>Year 2</td>
<td>45</td>
<td>49</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td>Year 3</td>
<td>59</td>
<td>66</td>
<td>70</td>
<td>74</td>
</tr>
</tbody>
</table>

**Required:**
Calculate:

i. The moving averages (9 marks)

ii. The centered moving average for Quarter 3, Year 1. (1 mark)

b.
i. The following moving average analysis is obtained for the quarterly sales of a bakery based on additive model

<table>
<thead>
<tr>
<th>Quarter 1</th>
<th>Trend</th>
<th>Actual Sales in the Quarter</th>
<th>Variation (Actual – Trend)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1:   Q₁</td>
<td>29.375</td>
<td>29</td>
<td>-0.375</td>
</tr>
<tr>
<td>Year 1:   Q₄</td>
<td>33.125</td>
<td>33</td>
<td>-0.125</td>
</tr>
<tr>
<td>Year 2:   Q₁</td>
<td>37.125</td>
<td>37</td>
<td>-0.125</td>
</tr>
<tr>
<td>Year 2:   Q₂</td>
<td>41.250</td>
<td>41</td>
<td>-0.250</td>
</tr>
<tr>
<td>Year 2:   Q₃</td>
<td>45.000</td>
<td>46</td>
<td>1.000</td>
</tr>
<tr>
<td>Year 2:   Q₄</td>
<td>47.875</td>
<td>48</td>
<td>0.125</td>
</tr>
<tr>
<td>Year 3:   Q₁</td>
<td>53.000</td>
<td>51</td>
<td>-2.000</td>
</tr>
<tr>
<td>Year 3:   Q₂</td>
<td>57.125</td>
<td>58</td>
<td>0.875</td>
</tr>
</tbody>
</table>

Required:
Calculate the seasonal adjustment for each quarter. (6 marks)

ii. An electrical bulb making company runs a production line that contains 760 bulbs of the same wattage. These bulbs fail on regular basis according to the following probability distribution:

<table>
<thead>
<tr>
<th>Life (months)</th>
<th>Probability of failure (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.27</td>
</tr>
<tr>
<td>2</td>
<td>0.56</td>
</tr>
<tr>
<td>3</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Required:
If the cost of replacing a bulb is ₦60, determine the following:
- The life span (2 marks)
- The average number of replacements in the period (1 mark)
- The average monthly cost of replacing the bulbs. (1 mark)

(Total 20 Marks)
Formulae

PROBABILITY

\[ A \cup B = A \text{ or } B \quad A \cap B = A \text{ and } B \text{ (overlap).} \]

\[ P(B | A) = \text{ probability of } B, \text{ given } A \]

Rules of Addition

If \( A \) and \( B \) are mutually exclusive: \( P(A \cup B) = P(A) + P(B) \)

If \( A \) and \( B \) are not mutually exclusive: \( P(A \cup B) = P(A) + P(B) - P(A \cap B) \)

Rules for Multiplication

If \( A \) and \( B \) are independent: \( P(A \cap B) = P(A) \cdot P(B) \)

If \( A \) and \( B \) are not independent: \( P(A \cap B) = P(A) \cdot P(B | A) \)

\[ E(X) = \sum \text{(probability} \times \text{payoff)} \]

Quadratic Equations

If \( ax^2 + bx + c = 0 \) is the general quadratic equation, the two solutions (roots) are given by:

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

DESCRIPTIVE STATISTICS

Arithmetic Mean

\[ \bar{x} = \frac{\sum x}{n} \quad \bar{x} = \frac{\sum fx}{\sum f} \quad \text{(frequency distribution)} \]

Standard Deviation

\[ SD = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \quad SD = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2} \quad \text{(frequency distribution)} \]

INDEX NUMBERS

Price relative = \( 100 \times \frac{P_1}{P_0} \)  

Quantity relative = \( 100 \times \frac{Q_1}{Q_0} \)

Price:

\[ \frac{\sum w \times \left( \frac{P_1}{P_0} \right)}{\sum w} \times 100 \]

Quantity:

\[ \frac{\sum w \times \left( \frac{Q_1}{Q_0} \right)}{\sum w} \times 100 \]

TIME SERIES:

Additive Model  Series = Trend + Seasonal + Random

Multiplicative Model  Series = Trend \times Seasonal \times Random
LINEAR REGRESSION AND CORRELATION

The linear regression equation of Y on X is given by:
\[ Y = a + bX \text{ or } Y - \bar{Y} = b(X - \bar{X}) \]

Where
\[ b = \frac{\text{Covariance (XY)}}{\text{Variance (X)}} = \frac{n\sum xy - (\sum x)(\sum y)}{n\sum x^2 - (\sum x)^2} \]

and
\[ a = \bar{Y} - b\bar{X} \]
or solve
\[ \sum Y = na + b\sum X \]
\[ \sum XY = a\sum X + b\sum x^2 \]

Coefficient of Correlation
\[ r = \frac{\text{Covariance (XY)}}{\sqrt{\text{Var}(X) \cdot \text{Var}(Y)}} = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}} \]

R (rank) = \[ 1 - \frac{6 \sum d^2}{n(n^2 - 1)} \]

FINANCIAL MATHEMATICS

Compound Interest (Values and Sums)
Future Value S, of a sum of X, invested for n periods, compounded at r% interest
\[ S = X (1 + r)^n \]

Annuity
Present value of an annuity of N1 per annum receivable or payable for n years, commencing in one year, discounted at r% per annum
\[ PV = \frac{1}{r} \left[ 1 - \frac{1}{(1 + r)^n} \right] \]

Perpetuity
Present value of N1 per annum, payable or receivable in perpetuity, commencing in one year, discounted at r% per annum.
\[ PV = \frac{1}{r} \]
# Annuity Table

Present value of an annuity of 1 i.e. \( \frac{1 - (1 + r)^n}{r} \)

Where  
- \( r \) = discount rate  
- \( n \) = number of periods

## Discount rate (r)

<table>
<thead>
<tr>
<th>Periods</th>
<th>1%</th>
<th>2%</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
<th>7%</th>
<th>8%</th>
<th>9%</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.990</td>
<td>0.980</td>
<td>0.971</td>
<td>0.962</td>
<td>0.952</td>
<td>0.943</td>
<td>0.935</td>
<td>0.926</td>
<td>0.917</td>
<td>0.909</td>
</tr>
<tr>
<td>2</td>
<td>1.970</td>
<td>1.942</td>
<td>1.913</td>
<td>1.886</td>
<td>1.859</td>
<td>1.833</td>
<td>1.808</td>
<td>1.783</td>
<td>1.759</td>
<td>1.736</td>
</tr>
<tr>
<td>3</td>
<td>2.941</td>
<td>2.884</td>
<td>2.829</td>
<td>2.775</td>
<td>2.723</td>
<td>2.673</td>
<td>2.624</td>
<td>2.577</td>
<td>2.531</td>
<td>2.487</td>
</tr>
<tr>
<td>(n)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1%</td>
<td>12%</td>
<td>13%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
<td>17%</td>
<td>18%</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>1</td>
<td>0.901</td>
<td>0.893</td>
<td>0.885</td>
<td>0.877</td>
<td>0.870</td>
<td>0.862</td>
<td>0.855</td>
<td>0.847</td>
<td>0.840</td>
<td>0.833</td>
</tr>
<tr>
<td>2</td>
<td>1.713</td>
<td>1.690</td>
<td>1.668</td>
<td>1.647</td>
<td>1.626</td>
<td>1.605</td>
<td>1.585</td>
<td>1.566</td>
<td>1.547</td>
<td>1.528</td>
</tr>
<tr>
<td>3</td>
<td>2.444</td>
<td>2.402</td>
<td>2.361</td>
<td>2.322</td>
<td>2.283</td>
<td>2.246</td>
<td>2.210</td>
<td>2.174</td>
<td>2.140</td>
<td>2.106</td>
</tr>
<tr>
<td>4</td>
<td>3.102</td>
<td>3.037</td>
<td>2.974</td>
<td>2.914</td>
<td>2.855</td>
<td>2.798</td>
<td>2.743</td>
<td>2.690</td>
<td>2.639</td>
<td>2.589</td>
</tr>
<tr>
<td>11</td>
<td>6.207</td>
<td>5.938</td>
<td>5.687</td>
<td>5.453</td>
<td>5.234</td>
<td>5.029</td>
<td>4.836</td>
<td>4.656</td>
<td>4.486</td>
<td>4.327</td>
</tr>
</tbody>
</table>
NORMAL DISTRIBUTION

This table gives the area under the normal curve between the mean and a point \( Z \) standard deviations above the mean. The corresponding area for deviations below the mean can be found by symmetry.

\[
\begin{array}{|c|cccccccccc|}
\hline
\begin{array}{c}
Z = \frac{(X - \mu)}{\sigma}
\end{array} & 0.00 & 0.01 & 0.02 & 0.03 & 0.04 & 0.05 & 0.06 & 0.07 & 0.08 & 0.09 \\
\hline
0.0 & 0.000 & 0.040 & 0.080 & 0.120 & 0.159 & 0.199 & 0.239 & 0.279 & 0.319 & 0.359 \\
0.1 & 0.039 & 0.038 & 0.078 & 0.117 & 0.157 & 0.196 & 0.236 & 0.276 & 0.316 & 0.355 \\
0.2 & 0.079 & 0.082 & 0.101 & 0.130 & 0.159 & 0.188 & 0.217 & 0.247 & 0.278 & 0.307 \\
0.3 & 0.117 & 0.121 & 0.135 & 0.164 & 0.193 & 0.222 & 0.251 & 0.281 & 0.310 & 0.339 \\
0.4 & 0.155 & 0.159 & 0.172 & 0.191 & 0.210 & 0.229 & 0.248 & 0.267 & 0.287 & 0.306 \\
0.5 & 0.192 & 0.195 & 0.208 & 0.220 & 0.234 & 0.247 & 0.261 & 0.275 & 0.288 & 0.302 \\
0.6 & 0.228 & 0.231 & 0.243 & 0.255 & 0.267 & 0.279 & 0.292 & 0.305 & 0.318 & 0.331 \\
0.7 & 0.263 & 0.267 & 0.279 & 0.291 & 0.303 & 0.315 & 0.327 & 0.339 & 0.351 & 0.363 \\
0.8 & 0.298 & 0.301 & 0.313 & 0.325 & 0.337 & 0.349 & 0.361 & 0.373 & 0.385 & 0.397 \\
0.9 & 0.332 & 0.335 & 0.347 & 0.359 & 0.371 & 0.382 & 0.394 & 0.405 & 0.418 & 0.430 \\
1.0 & 0.366 & 0.369 & 0.381 & 0.393 & 0.405 & 0.418 & 0.430 & 0.442 & 0.454 & 0.466 \\
1.1 & 0.399 & 0.402 & 0.414 & 0.426 & 0.438 & 0.450 & 0.463 & 0.475 & 0.488 & 0.500 \\
1.2 & 0.433 & 0.435 & 0.448 & 0.460 & 0.472 & 0.485 & 0.498 & 0.511 & 0.524 & 0.537 \\
1.3 & 0.467 & 0.470 & 0.483 & 0.496 & 0.509 & 0.522 & 0.535 & 0.548 & 0.561 & 0.574 \\
1.4 & 0.501 & 0.504 & 0.517 & 0.530 & 0.543 & 0.556 & 0.569 & 0.582 & 0.595 & 0.608 \\
1.5 & 0.535 & 0.538 & 0.551 & 0.564 & 0.577 & 0.590 & 0.603 & 0.616 & 0.629 & 0.642 \\
1.6 & 0.569 & 0.572 & 0.585 & 0.598 & 0.611 & 0.624 & 0.637 & 0.650 & 0.663 & 0.676 \\
1.7 & 0.603 & 0.606 & 0.619 & 0.632 & 0.645 & 0.658 & 0.671 & 0.684 & 0.697 & 0.710 \\
1.8 & 0.637 & 0.640 & 0.653 & 0.666 & 0.679 & 0.692 & 0.705 & 0.718 & 0.731 & 0.744 \\
1.9 & 0.671 & 0.674 & 0.687 & 0.700 & 0.713 & 0.726 & 0.739 & 0.752 & 0.765 & 0.778 \\
2.0 & 0.709 & 0.712 & 0.725 & 0.738 & 0.751 & 0.764 & 0.777 & 0.790 & 0.803 & 0.816 \\
2.1 & 0.742 & 0.745 & 0.757 & 0.770 & 0.783 & 0.796 & 0.809 & 0.822 & 0.835 & 0.848 \\
2.2 & 0.774 & 0.777 & 0.789 & 0.802 & 0.815 & 0.828 & 0.841 & 0.854 & 0.867 & 0.880 \\
2.3 & 0.806 & 0.809 & 0.821 & 0.834 & 0.847 & 0.860 & 0.873 & 0.886 & 0.900 & 0.913 \\
2.4 & 0.837 & 0.840 & 0.853 & 0.866 & 0.879 & 0.892 & 0.905 & 0.918 & 0.931 & 0.944 \\
2.5 & 0.868 & 0.871 & 0.884 & 0.897 & 0.910 & 0.923 & 0.936 & 0.949 & 0.962 & 0.975 \\
2.6 & 0.900 & 0.903 & 0.916 & 0.929 & 0.942 & 0.955 & 0.968 & 0.981 & 0.994 & 1.007 \\
2.7 & 0.932 & 0.935 & 0.948 & 0.961 & 0.974 & 0.987 & 1.000 & 1.013 & 1.026 & 1.039 \\
2.8 & 0.960 & 0.963 & 0.976 & 0.989 & 1.002 & 1.015 & 1.028 & 1.041 & 1.054 & 1.067 \\
2.9 & 0.988 & 0.991 & 1.004 & 1.017 & 1.030 & 1.043 & 1.056 & 1.069 & 1.082 & 1.095 \\
3.0 & 1.018 & 1.021 & 1.034 & 1.047 & 1.060 & 1.073 & 1.086 & 1.100 & 1.113 & 1.126 \\
3.1 & 1.055 & 1.058 & 1.071 & 1.084 & 1.097 & 1.110 & 1.123 & 1.136 & 1.149 & 1.162 \\
3.2 & 1.092 & 1.095 & 1.109 & 1.122 & 1.136 & 1.149 & 1.162 & 1.175 & 1.188 & 1.201 \\
\hline
\end{array}
\]
SOLUTION TO MCQ SET 1

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

WORKINGS

1. 1st year = 150,000
   n\textsuperscript{th} year = 150,000 x (1.0375)\textsuperscript{n-1}
   \therefore 5\textsuperscript{th} year = 150,000 x (1.0375)\textsuperscript{4} = N173,798.  (C)

2. Let Cost Price be x
   Discount = \frac{r}{100} \cdot x = 0.01rx
   Sales Price = x - 0.01rx
   SP = x(1- 0.01r)
\[
X = \frac{SP}{1 - 0.01r} = \frac{28.00}{1 - (0.01)20} \\
X = \frac{28.00}{0.8} = 35
\] (C)

3. \( P = 32q - q^2 \)
\[
\frac{dp}{dq} = 32 - 2q
\]
At \( q = 4 \), \( \frac{dq}{dp} = 32 - 2(4) = 24 \)
At \( q = 4 \), \( p = 32(4) - 4^2 = 128 - 16 = 112 \)

Elasticity, \( e = \frac{dp}{dq} \times \frac{p}{q} = \left| \frac{p}{dq/dp} \right| = \frac{112/4}{24} = \frac{28}{24} = 1.17 \) (D)

4. \( \frac{x}{a} + \frac{y}{b} = 1 \)
But \( a = 3b \)
\[
\therefore \frac{x}{3b} + \frac{y}{b} = 1 \Rightarrow x + 3y = 3b
\]
\( \Rightarrow 2 + 3(4) = 3b \Rightarrow 3b = 14 \Rightarrow b = \frac{14}{3} \)
\[
\therefore a = 3 \left( \frac{14}{3} \right) = 14
\]

hence \( \frac{x}{14} + \frac{y}{14} = 1 \Rightarrow \frac{x}{14} + \frac{3y}{14} = 1 \Rightarrow x + 3y = 14 \)
\[
\therefore y = \frac{14}{3} - \frac{x}{3}
\] (B)

ALITER
Let the y intercept = c
x intercept = 3c
slope = \( m = -\frac{c}{3c} = -\frac{1}{3} \)
then, equation of the line is
\( y - y_i = m(x - x_i) \)
\( y - 4 = -\frac{1}{3}(x - 2) \)
\( 3y - 12 = -x + 2 \)
\( 3y = -x + 2 + 12 \)
\( 3y = -x + 14 \)
\( y = -\frac{x}{3} + \frac{14}{3} \) (B)
5. It's an AP such that $T_n = a + (n - 1)d$, where $a = N3,500$, $d = N275$ and $n = June 2017$ to April 2018 = 11 months

$T_{11} = a + d (11 - 1) = N3,500 + N275 \times 10 = N6,250$ \(\text{(C)}\)

6. $R = c$ at break even point

$x^2 + 46x + 180 = 48x + 3x^2$

$3x^2 - x^2 + 48x - 46x - 180 = 0$

$2x^2 + 2x - 180 = 0$

$x^2 + x - 90 = 0$

$(x + 10)(x - 9) = 0$

$x = -10$ or $9$

$x$ cannot be negative

$\therefore x = 9$

i.e break even quantity is 9 units. \(\text{(B)}\)

8. $Mean = \frac{\Sigma x}{n} = 40$

$= 40n$

$\frac{40n + 50 + 64}{n + 2} = 42$

$40n + 114 = 42n + 84$

$2n = 30$

$n = 15$ \(\text{(D)}\)

11. $C of V = \frac{s}{x} \Rightarrow s = (\bar{x})C of V$

$\therefore$ variance $= s^2 = (\bar{x}.C of V)^2$

$= (12 \times 0.25)^2 = 9$ \(\text{(B)}\)

12. Arranging in ascending orders

12,18,20,25,26,27,30,36,38,40,42,48,55,58,58,64

Range $= 64 - 12 = 52$

Median position $= \frac{16th}{2}$ and $\left(\frac{16}{2} + 1\right)th = 8^{th}$ and $9^{th}$

Median $= \frac{36 + 38}{2} = \frac{74}{2} = 37$

Median – Range $= 37 - 52 = -15$ \(\text{(C)}\)
14. 

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
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<tbody>
<tr>
<td>H</td>
<td>H.1</td>
<td>H.2</td>
<td>H.3</td>
<td>H.4</td>
<td>H.5</td>
<td>H.6</td>
</tr>
<tr>
<td>T</td>
<td>T.1</td>
<td>T.2</td>
<td>T.3</td>
<td>T.4</td>
<td>T.5</td>
<td>T.6</td>
</tr>
</tbody>
</table>

\[ n(S) = 12 \]
\[ P(\text{a tail and no. greater than 3}) = P((T,4); (T,5); (T,6)) \]
\[ = \frac{3}{12} = \frac{1}{4} \]
\[ = 0.25 \] \hspace{1cm} (A)

17. The trend stock for month \[ \frac{84 + 86 + 86 + 94 + 100}{5} \]
\[ = \frac{450}{5} = 90 \] \hspace{1cm} (E)

18. Day 1 Day 2
1 and 5 → \[ 0.30 \times 0.07 = 0.0210 \]
2 and 4 → \[ 0.12 \times 0.11 = 0.0132 \]
3 and 3 → \[ 0.25 \times 0.25 = 0.0625 \]
4 and 2 → \[ 0.11 \times 0.12 = 0.0132 \]
5 and 1 → \[ 0.07 \times 0.30 = 0.0210 \]

\[ 0.1309 \] \hspace{1cm} (B)

19. \[ 2 \frac{1}{2} x + 3 \frac{3}{4} y \leq 18000 \]
\[ 2.25x + 3.75y \leq 18000 \] \hspace{1cm} (B)

20. \[ \lambda = \text{arrival rate} = \frac{5}{15/60} = \frac{5}{0.25} = 20 \]
\[ \mu = \text{service rate} = \frac{8}{12/60} = \frac{8}{0.2} = 40 \]

Traffic intensity, \[ T = \frac{\lambda}{\mu} = \frac{20}{40} = 0.5 \] \hspace{1cm} (B)

**EXAMINER’S REPORT**

The questions are adequate (in content and in standard) for the level of the examination. They enjoy a reasonable spread over the syllabus. Inspite of these inherent features of the questions, the candidates did not demonstrate the expected understanding of the requirements of the questions which was why the performance of about 60% of the candidates in this section of the examination was below average.

Candidates should try to cover the syllabus fairly well to be sure of better performance in future.
SOLUTION TO THEORY

SOLUTION 1

a. Units produced and sold in year 1 = 6000
   if the growth rate per annum = 1.035, then the
   units produced and sold in year 5 = 6000 \( (1.035)^4 \) = 6885
   Selling price in year 1 = \( N1050 \)
   If the growth rate per annum = 1.065, then the
   selling price in year 5 = \( N[1050 \times (1.065)^4] \) = \( N1350.79 \)
   Production costs in year 1 = \( N850 \)
   If the growth rate per annum = 1.05, then the
   production costs in year 5 = \( N[850 \times (1.05)^4] \) = \( N1033.18 \)
   Profit in year 5 = \( N[6885(1350.79 - 1033.18)] \) = \( N6,885 \times 317.61 \)
   \( = N2,186,744.85 \)

b. Explanation
   i. The graph to be drawn involves 2 points (1,15000) and (4,30000). This gives a
      straight line passing through the two points with total costs as dependent
      variable and number of units produced as independent variable.

   ii. Read the units produced when the total costs is 100 (i.e. \( N100,000 \))

   iii. Use the two given points plus any point (\( x,y \)) to determine the equation of the
        straight line

        OR

        deduce the slope of the graph and combine this with any of the two given points
        to obtain \( c \) in \( y = mx + c \) (Note: this is the general equation of a straight line
        with slope \( m \) and constant \( c \); \( c \) in this case will be equal to the fixed costs
        obtained in (ii) above).

   • Actual graphing – the solution proper + marking scheme

   (i) Let \( y \) (in thousands) represent the total cost and \( x \) to be the number of units
       produced.

       Thus, the two points given are A(1,15) and (4,30).
The graph is as shown with it intersecting the y-axis at \( y = 10 \).

- Total cost of \( N70,000 \) means \( y = 70 \)
  
  If \( y = 70 \), then \( x = 12 \) as shown on the graph.
  
  \( \therefore \) 12 units were produced at a total cost of \( N70,000 \)

(ii) Since the graph cuts the y-axis at \( y = 10 \),
Gradient = \frac{30}{6} = 5
then, the fixed cost of the company comes to ₦10,000

- The equation for the straight line drawn is obtained as follows:
From the graph, slope (or gradient) = 5

Considering point A(1,15) and any arbitrary point P(x,y),
then \( y = m(x - x_1) + y_1 \)
\( y = 5(x - 1) + 15 \Rightarrow y = 10 + 5x \) as the equation of the straight line

(iii) This equation shows that, the fixed cost is given as \( y = 10 \) i.e. ₦10,000 which is the same as obtained in (ii) above.

Marking Guide

1
a. Correct growth rate per annum for units produced and sold (i.e. 1.035) \( \frac{1}{2} \)
Correct expression for units produced and sold in year 5 [i.e. 6,000(1.035)\(^{4}\)] \( \frac{1}{2} \)
Correct answer (i.e. ₦6,885) \( 1 \)
Correct growth rate per annum for selling price (i.e. 1.065) \( \frac{1}{2} \)
Correct expression for selling price in year 5 [i.e. 1,050(1.065)\(^{4}\)] \( \frac{1}{2} \)
Correct answer (i.e. ₦1,350.79) \( 1 \)
Correct growth rate per annum for production cost (i.e. 1.05) \( \frac{1}{2} \)
Correct expression for production cost in year 5 [i.e. 850(1.05)\(^{4}\)] \( \frac{1}{2} \)
Correct answer (i.e. ₦1,033.18) \( 1 \)
Correct subtraction of year 5 selling price production cost (i.e. 1,350.79 – 1,033.00) \( 1 \)
Correct answer (i.e. 317.61) \( \frac{1}{2} \)
Correct expression for profit in year 5 (i.e. 6,885 x 317.61) \( \frac{1}{2} \)
Correct answer for profit (i.e. ₦2,185,744.85) \( 2 \)

10

ALITER
a. Correct annual growth rate for units sold (i.e. 1.035) \( \frac{1}{2} \)
Correct annum growth rate for selling price (i.e. 1.065) \( \frac{1}{2} \)
Correct annual growth rate for production cost (i.e. 1.05) \( \frac{1}{2} \)
Correct units sold for years 2, 3, 4, and 5 respectively (i.e. 6,210.00, 6,427.00, 6,052.00, and 6,885.00) [\( \frac{1}{2} \) mark each] \( 2 \)
Correct selling price for years 2, 3, 4, and 5 respectively (i.e. 1,118.25, 1,190.94, 1,268.35, and 1,350.79) [\( \frac{1}{2} \) mark each] \( 2 \)
Correct production cost for years 2, 3, 4, and 5 respectively (i.e. 892.50, 937.13, 983.98, and 1,033.18) [\( \frac{1}{2} \) mark each] \( 2 \)
Correct profit for years 1, 2, 3, 4, and 5 respectively (i.e. 1,200,000.00; 1,401,907.50; 1,631,236.87; 1,891,629.24; and 2,186,744.85) [\( \frac{1}{2} \) mark each] \( 2\frac{1}{2} \)

10
b. i. Correct identification of point (1,15) or (1, 15000) ½
Correct identification of point (4,30) or (4, 30000) ½
Correct plotting of straight line graph 2

b.ii. Correct expression for total cost of 70,000 (i.e. y = 70 or y = 70,000) ½
Correct tracing of y = 70,000 or y = 70 to the line on the graph ½
Correct tracing of point of intersection of y = 70,000 with the line to x = 12 on the graph ½
Correct answer (i.e. x = 12) ½

iii. • Correct tracing of where the graph cuts y- axis at y = 10 or y = 10,000 on the graph ½
Correct answer for the fixed costs (i.e. ₦10,000) ½

• Correct calculation of slope or gradient from the graph
  (i.e. slope = \( \frac{20}{4} = 5 \)) 1
  Correct formula for the equation of a line [i.e. \( y - y_1 = m(x - x_1) \)] ½
  Correct substitution into the formula ½
  Correct answer for the equation of the straight line
  (i.e. \( y = 10 + 5x \)) 1

iv. Correct comment 1

EXAMINER’S REPORT
The question tests candidates’ understanding of production, cost and profit concepts and their skills in the use of tables and graphs to compute production levels, costs and profit associated with business operation/activities in a company or firm setting.

About 45 percent of the candidates attempted the question and their performance was poor. Most of the candidates showed wobbled understanding of Part (a) of the question and obtained solutions that are at variance with the required solution as suggested above. It, therefore, appears that this category of candidates jumped at attempting this question with a shallow understanding of its requirements.

Candidates are, therefore, advised to study questions critically so as to understand their solution requirements before deciding or rushing to attempt them.
SOLUTION 2

a. For compound interest, we have
Amount = principal \((1 + r)^n\)
i.e \(A = P(1 + r)^n\)
Substituting, we have
\(120,600 = 100.000 (1 + r)^5\)
\(\therefore (1 + r)^5 = \frac{120,600}{100,000} = 1.206\)
Using logarithm to base 10 gives
\(5 \log (1 + r) = \log_{10} (1.206)\)
\(\therefore \log_{10} (1 + r) = \frac{0.081347}{5} = 0.0163\)
\(1 + r = \text{anti log of } 0.0163 = 1.0382\)
\(\therefore r = 0.0382\)
\(\therefore \) The compound interest rate is 3.82%

b. (i). Let the demand curve be \(P = a - bQ\)
where \(P = \) sales price
\(Q = \) quantity demanded
\(a = \) sales price when the quantity demand is zero
\(b = \) change in sales price divided by change in quantity sold
Since demand is 400 if the sales price is N800 and demand falls by 16 units for every N40 increase
\(\therefore \) No of increases before demand falls to zero = \(\frac{400}{16} = 25\)
\(\therefore 25 \) increases lead to \((25 \times N40)\) or N1000
\(\therefore \) the price at which the demand would be zero \(= N800 + N1000 = N1,800\)
i.e \(a = N1,800\) and
\(b = N \frac{40}{16} = N2.50\)
\(\therefore \) Demand curve is given as \(P = 1,800 - 2.5Q\)
Revenue curve is given as \(Q \ (1,800 - 2.5Q)\)
\(R = 1,800Q - 2.5Q^2\)
\(\therefore \) Marginal Revenue function (MR) = \(\frac{dR}{dQ} = 1,800 - 5Q\)
(ii). if \(g\) and \(h\) respectively represent numbers of units of products G and H, then the
direct/labour constraint is \(2.8g + 1.5h \leq 1,800\)
Machine line constraint is \(0.75g + 3h \leq 10,000\)
Constraint for sales demand for product G is \(g \leq 4,150\)
Constraint for sales demand for product H is \(h \leq 3,175\)
Non-negativity constraints are \(g \geq 0\) and \(h \geq 0\)
**Marking Guide**

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Correct substitution into the compound interest formula</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>[i.e. $120,600 = 100,000(1 + r)^5$]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correct simplification [i.e. $(1 + r)^5 = 1.206$]</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Correct expression for $\log_{10} (1 + r)^5 = \log_{10} 1.206$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[i.e. $5\log_{10} (1 + r) = \log_{10} 1.206$]</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct $\log_{10}$ of 1.206 (i.e. 0.081347)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct expression for $\log_{10}(1 + r) = 0.0163$</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct anti-log of 0.0163 (i.e. 1.0382)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct expression for $(1 + r) = 1.0382$</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct answer for $r$ (i.e. $r = 0.0382$)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct compound interest rate (i.e. 3.82%)</td>
<td></td>
</tr>
<tr>
<td>b.i.</td>
<td>Correct formula for demand curve (i.e. $p = a - bQ$)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct number of increases before demand falls to zero (i.e. $\frac{400}{16} = 25$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct cost of 25 increases (i.e. $25 \times \mathbf{\text{N}}40 = \mathbf{\text{N}}1000$)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct price at which demand would be zero</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i.e. $\mathbf{\text{N}}800 + \mathbf{\text{N}}1,000 = \mathbf{\text{N}}1,800 = a$)</td>
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<tr>
<td></td>
<td>Correct value for $b$ (i.e. $b = \frac{400}{16} = \text{N}2.50$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct demand curve (i.e. $P = 1,800 - 2.5Q$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct expression for revenue curve [i.e. $R = PQ = (1,800 - 2.5Q)Q$]</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct revenue curve (i.e. $R = 1,800Q - 2.5Q^2$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct marginal revenue function (i.e. $MR = 1,800 - 5Q$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td>ALITER</td>
<td>Correct formula for price function using equation of line</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(i.e. $p - p_1 = m(Q - Q_1)$)</td>
<td></td>
</tr>
<tr>
<td>b.i.</td>
<td>Correct expression for $p_2$ (i.e. $800 + 40 = 840$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct expression for $Q_2$ (i.e. $400 - 16 = 384$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct calculation of slope (i.e. $m = \frac{s}{2}$)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct substitution into price formula (i.e. $p - 800 = \frac{5}{2}Q - 400$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct simplification</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct demand/price functions (i.e. $p = 1,800 - 2.5Q$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct expression for revenue function [i.e. $R = PQ = (1,800 - 2.5Q)Q$]</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct revenue curve (i.e. $R = 1,800Q - 2.5Q^2$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct marginal revenue function (i.e. $MR = 1,800 - 5Q$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td>b.ii.</td>
<td>Correct Direct Labour constraint (i.e. $2.5g + 1.5h \leq 18,000$)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct machine hour constraint (i.e. $0.75g + 3h \leq 10,000$)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Correct sales demand for product g constraint (i.e. $g \leq 4,150$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct sales demand for product h constraint (i.e. $h \leq 3,175$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct non-negativity constraint for $g$ (i.e. $g \geq 0$)</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td></td>
<td>Correct non-negativity constraint for $h$ (i.e. $h \geq 0$)</td>
<td>$\frac{1}{2}$</td>
</tr>
</tbody>
</table>

Total 20
EXAMINER’S REPORT
This question tests candidates’ understanding of (a) compound interest analysis and (b) derivation of (i) marginal revenue function from total revenue function and (ii) constraint functions associated with specified business activity.

About 60 percent of the candidates attempted the question and performance was fair. Some of the candidates had no clue to the solution to Part (b)(i) of the question as presented above and hence they didn’t attempt it.

Candidates’ are advised to be familiar with the requirements of questions so that they can be guided in their choice of questions as partial solution attempts of questions can lead to loss of marks and poor examination performance as it was the case in this question.
SOLUTION 3

a.

<table>
<thead>
<tr>
<th>Year</th>
<th>x</th>
<th>y</th>
<th>x^2</th>
<th>xy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0</td>
<td>600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2001</td>
<td>1</td>
<td>610</td>
<td>1</td>
<td>610</td>
</tr>
<tr>
<td>2002</td>
<td>2</td>
<td>580</td>
<td>4</td>
<td>1160</td>
</tr>
<tr>
<td>2003</td>
<td>3</td>
<td>590</td>
<td>9</td>
<td>1770</td>
</tr>
<tr>
<td>2004</td>
<td>4</td>
<td>480</td>
<td>16</td>
<td>1920</td>
</tr>
<tr>
<td>2005</td>
<td>5</td>
<td>560</td>
<td>25</td>
<td>2800</td>
</tr>
<tr>
<td>2006</td>
<td>6</td>
<td>550</td>
<td>36</td>
<td>3300</td>
</tr>
<tr>
<td>2007</td>
<td>7</td>
<td>620</td>
<td>49</td>
<td>4340</td>
</tr>
<tr>
<td>2008</td>
<td>8</td>
<td>490</td>
<td>64</td>
<td>3920</td>
</tr>
<tr>
<td>2009</td>
<td>9</td>
<td>530</td>
<td>81</td>
<td>4770</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>5610</td>
<td>285</td>
<td>24590</td>
</tr>
</tbody>
</table>

Let the regression model be $y = a + bx$

\[
b = \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2} = \frac{10(24,590) - (45)(5,610)}{10(285) - (45)^2}
\]

\[
= \frac{24,590 - 252,450}{2,850 - 2025} = \frac{-6,550}{825} = -7.94
\]

\[a = \bar{y} - bx = 56 - (-7.94)(4.5) = 596.73\]

\[\therefore y = 596.73 - 7.94x\]

b. (i) In 2012, $x = 12$ and $y = 596.73 - 7.94(12) = 501.45$

i.e $y = \text{₦501,450}$

(ii) In 2016, $x = 16$ and $y = 596.73 - 7.94(16) = 469.69$

i.e $= \text{₦469,690}$
Marking Guide

a. Correct x column (setting year 2000 to zero)  
   Correct $\sum x$ (i.e. 45)  
   Correct $\sum y$ (i.e. 5,610)  
   Correct $x^2$ column (-$\frac{1}{2}$ for each error)  
   Correct $\sum x^2$ (i.e. 285)  
   Correct $xy$ column (-$\frac{1}{2}$ for each error)  
   Correct $\sum xy$ (i.e. 24,590)  
   Correct substitution into b formula  
   Correct simplification  
   Correct further simplification (i.e. $\frac{-6,550}{825}$)  
   Correct answer for b (i.e. – 7.94)  
   Correct substitution into a formula  
   Correct answer for a (i.e. 596.73)  
   Correct least squares line (i.e. $y = 596.73 - 7.94x$)  
   
   b.i. Correct value for x in year 2012 (i.e. x = 12)  
   Correct substitution in the least squares line  
   Correct value of y (i.e. y = 501.45)  
   Correct expenditure for year 2012 (i.e. N501,450)  
   
   ii. Correct value of x in year 2016 (i.e. x = 16)  
   Correct substitution in the least squares line  
   Correct value of y (i.e. y = 469.69)  
   Correct expenditure for year 2016 (i.e. N69,690)  

EXAMINER’S REPORT

The question tests candidates’ skills in the fitting of least squares line for a given data and in the use of such fitted line for prediction or forecasting.

About 80% of the candidates attempted this question and performance was good.
SOLUTION 4

(a)


(ii) Expected returns
For 12 games
\[(0.6 \times 1800 \times 6) - (0.4 \times 2300 \times 6) = \text{₦}960\]
For 14 games
\[(0.6 \times 1800 \times 7) - (0.4 \times 2300 \times 7) = \text{₦}1,200\]

(iii) The gambler should not play less than 14 games because that is when he/she can make some gain.

b. (i) This obeys the Geometric Mean property.
\[
\therefore \text{Its value at the end of 5 years} \\
= \text{₦}10,000 \times 1.08 \times 1.25 \times 1.35 \times 1.43 \times 1.22 \\
= \text{₦}31,795,335
\]

- The average growth rate over the 5-year period
\[
= \left( \frac{31,795,335}{10,000,000} \right)^{\frac{1}{5}} \\
= (3.1795335)^{\frac{1}{5}} \\
= 1.26
\]

- The average growth rate over the 5 – year period is 26%.

(ii) The initial feasible tableau using the least cost method

<table>
<thead>
<tr>
<th></th>
<th>Factory A</th>
<th>Factory B</th>
<th>Factory C</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>700 50 0</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>850 450 0</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>1250 700 0</td>
</tr>
<tr>
<td>50</td>
<td>450</td>
<td>50</td>
<td>650</td>
<td>650 0</td>
</tr>
<tr>
<td>2</td>
<td>650</td>
<td>5</td>
<td>700 650 0</td>
<td></td>
</tr>
<tr>
<td>650</td>
<td>0</td>
<td>500</td>
<td>650 0</td>
<td></td>
</tr>
<tr>
<td>Demand</td>
<td>400</td>
<td>550 0</td>
<td>0</td>
<td>2800</td>
</tr>
</tbody>
</table>
Marking Guide

Marking Guide

a.i. Correct sample space for 12 games
Correct sample game for 14 games

ii. Correct expected gain for 12 games (i.e. $\mathbf{0.6 \times 1,800 \times 6}$)
Correct expected loss for 12 games (i.e. $\mathbf{0.4 \times 2,300 \times 6}$)
Correct expected returns for 12 games (i.e. $\mathbf{6,480 - 5,520 = 960}$)
Correct expected gain for 14 games (i.e. $\mathbf{0.6 \times 1,800 \times 7}$)
Correct expected loss for 14 games (i.e. $\mathbf{0.4 \times 2,300 \times 7}$)
Correct expected returns for 14 games (i.e. $\mathbf{7,560 - 6,440 = 1,120}$)

iii. Correct advice (i.e. not to play less than 14 games)
Correct reason (point of making some gains)

b.i. • Correct annual increase rate for years 1, 2, 3, 4, and 5 respectively (i.e. 1.08, 1.25, 1.35, 1.43, 1.22) [½ mark each]
Correct estimated value at the end of year 5 (i.e. $\mathbf{31,795,335}$)
• Correct expression for average growth rate over 5-year period i.e. $\frac{31,795,335}{10,000,000}$
Correct simplification [i.e. $(3.1795335)^\frac{1}{5}$]
Correct answer (i.e. 1.26)
Correct average growth rate over 5-year period (i.e. 26%)

ALITER

b.i. • Correct value of the house at the end of year 1 (i.e. $\mathbf{10,800,000}$)
Correct value of the house at the end of year 2 (i.e. $\mathbf{13,500,000}$)
Correct value of the house at the end of year 3 (i.e. $\mathbf{18,225,000}$)
Correct value of the house at the end of year 4 (i.e. $\mathbf{26,061,750}$)
Correct value of the house at the end of year 5 (i.e. $\mathbf{31,795,335}$)
• Correct substitution of the annual growth rate for years 1, 2, 3, 4, and 5 into the geometric mean formula
Correct simplification (i.e. $\sqrt[5]{3.1795335}$)
Correct answer (i.e. 1.260)
Correct average growth rate over 5-year period (i.e. 26%)
b.ii. Correct allocation of 650 against the transportation cost of 2 along Factory A row  
Correct allocation of 50 against the transportation cost of 3 along Factory A row  
Correct allocation of 400 against the transportation cost of 3 along Factory B row  
Correct allocation of 450 against the transportation cost of 7 along Factory B row  
Correct allocation of 550 against the transportation cost of 3 along Factory C row  
Correct allocation of 50 against the transportation cost of 6 along Factory C row  
Correct allocation of 650 against the transportation cost of 4 along Factory C row  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correct allocation</strong></td>
<td><strong>4</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

EXAMINER’S REPORT

The question tests candidates’ understanding of probability analysis, expected value/returns computations in game situation and identification of feasible solution in transportation problem using the least cost method.

About 40% of the candidates attempted the question and performance was poor. There is virtually no part of the question where candidates who attempted it demonstrated more than a fair understanding of the requirements of the question. This seems to suggest that candidates failed to pay adequate attention to the topics covered by this question.

Candidates are, therefore, advised to read widely and ensure that they attach adequate attention to every area of the syllabus when preparing for future examinations.
**SOLUTION 5**

a. (i) \[ C(q) = \int (3q^2 - 40q + 600) \, dq = q^3 - 20q^2 + 600q + k \]
When \( q = 2 \), then \( q(2) = 1.1600 = 8 - 80 + 1200 + k \)
\( \therefore k = 53291 \)
**i.e.** \( C(q) = q^3 - 20q^2 + 600q + 532. \)

(ii) \[ C(50) = 50^3 - 20(50^2) + 600(50) + 532. \]
\[ = 125000 - 50000 + 30000 + 532 \]
\[ = N105,532 \]

b. (i) 3012 grams is below the mean \( \Rightarrow Z = \frac{x - \mu}{\sigma} \)
\[ = \frac{3012 - 3020}{4} \]
\[ = -2 \]
That is, 3012 grams is 2 **standard deviations** below the **mean** (fig b(i))
\( \therefore \) From the table, \( Z = 2 \) gives 0.4772 or 47.72\% of the distribution to be within two **standard deviations** below the **mean**
\( \therefore \) \( P(Z < -2) = 0.5 - 0.4772 = 0.0288 \)
\( \therefore \) The probability of a bag of Pando yam being less than 3012 grams is **0.0228**

![Normal Distribution Graph](image)

(ii) - 3012 grams is below the **mean**:
\[ \frac{x - \mu}{\sigma} = \frac{3012 - 3020}{4} = -2 \]
\( \therefore 3021.6 \) grams is above the **mean**
\[ Z = \frac{3021.6 - 3020}{4} = \frac{1.6}{4} = 0.4 \]

We are interested in the area of the normal curve between 2 standard deviations below the mean and 0.4 standard deviation above the mean.

(fig b(ii))

\[ \therefore \text{From the table} \]

\[ Z = -2 \text{ (below the mean), probability} = 0.4772 \]

\[ Z = 0.4 \text{ (above the mean), probability} = 0.1554 \]

This gives the total probability as 0.6326

That is, there is a 0.6326 or 63.23% chance that a bag of Pando yam picked at random will lie between 3012 grams and 3021.6 grams.

**Marking Guide**

<table>
<thead>
<tr>
<th>Marks</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a.i.</td>
<td></td>
</tr>
<tr>
<td>Correct expression for total cost function</td>
<td></td>
</tr>
<tr>
<td>i.e. ( c(q) = \int (3q^2 - 40q + 600) dq )</td>
<td></td>
</tr>
<tr>
<td>Correct integration i.e. ( c(q) = q^3 - 20q^2 + 600q + k )</td>
<td></td>
</tr>
<tr>
<td>( ½ mark for each term)</td>
<td></td>
</tr>
<tr>
<td>For ( C(2) = 1.660 )</td>
<td></td>
</tr>
<tr>
<td>Correct substitution of ( q=2 ) and ( C(2) = 1.660 ) into ( C(q) )</td>
<td></td>
</tr>
<tr>
<td>Correct value of ( k ) (i.e. ( k = 532 ))</td>
<td></td>
</tr>
<tr>
<td>Correct total cost function [i.e. ( C(q) = q^3 - 20q^2 + 600q + 50 )]</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

| ii.   |       |
| Correct substitution of \( q = 50 \) into \( C(q) \) |
| i.e. \( c(50) = 50^3 - 20(50)^2 + 600(50) + 532 \) |
| Correct simplification of \( C(50) \) |
| (i.e. \( 125,000 - 50,000 + 30,000 + 532 \)) |
| Correct answer (i.e. N105,532) |
| 1 |
| 1 |
| 3 |
b.i. Correct substitution into \( z \) formula (i.e. \( z = \frac{3,012 - 3,020}{4} \))

Correct value of \( z \) (i.e. \( z = -2 \))
Correct normal distribution diagram with required area shaded (i.e. \( z < -2 \))
Correct value of \( z = 2 \) from standard normal distribution table (i.e. 0.4772)
Correct probability of \( z < -2 \) [i.e. \( p(z < -2) = 0.0288 \)]

\[ \frac{1}{2} \]

\[ \frac{1}{2} \]

\[ 1 \]

\[ 1 \]

\[ 4 \]

ii. Correct substitution into \( z \) formula (i.e. \( z = \frac{3,012 - 3,020}{4} \))

Correct value of \( z \) (i.e. \( z = -2 \))
Correct substitution into \( z \) formula (i.e. \( z = \frac{3,021.6 - 3,020}{4} \))
Correct value of \( z = 0.4 \)
Correct normal distribution diagram with required area shaded (i.e. \(-2 < z < 0.4\))
Correct value of (\( z = 2 \) from standard normal distribution table (i.e. 0.4772)
Correct value of \( z = 0.4 \) from standard normal distribution table (i.e. 0.1554)
Correct probability of \(-2 < z < 0.4 \) [i.e. \( p(-2 < z < 0.4) = 0.6326 \)]

\[ \frac{1}{2} \]

\[ \frac{1}{2} \]

\[ 1 \]

\[ 1 \]

\[ 1 \]

\[ 6 \]

\[ 20 \]

EXAMINER’S REPORT

This question tests candidates’ ability to:

i. Derive firm’s total cost relations from its marginal cost relations using the calculus concept of integration; and

ii. Use the normal distribution analysis for probability computations.

About 65 percent of the candidates attempted the question and performance was fair. Some candidates were unable to derive the required total cost function from the given marginal cost function using the concept of integration as done in the suggested solution above, a failure that translated into substantial loss of marks in Part (a) of the question.
SOLUTION 6

a.

<table>
<thead>
<tr>
<th>C1 Quarter</th>
<th>C2 sales</th>
<th>C3 4.th quarter total</th>
<th>C4 moving average ( (= \frac{c_3}{4}) )</th>
<th>Centred Moving Total ((c_5))</th>
<th>Centred moving average ( (= \frac{c_5}{2}) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>142</td>
<td>35.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>37</td>
<td>157</td>
<td>35.5 + 39.25 = 74.75</td>
<td>37.375</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>41</td>
<td>172</td>
<td>82.25</td>
<td>41.125</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>45</td>
<td>189</td>
<td>90.25</td>
<td>45.125</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>49</td>
<td>205</td>
<td>98.50</td>
<td>49.250</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>54</td>
<td>219</td>
<td>106.00</td>
<td>53.000</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>57</td>
<td>236</td>
<td>113.75</td>
<td>56.875</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>59</td>
<td>252</td>
<td>122.00</td>
<td>61.000</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>66</td>
<td>269</td>
<td>130.25</td>
<td>65.125</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(i) moving averages are shown in column 4

(ii) the centered moving average for Quarter 3 is 37.375
The centred moving average for Quarter 3, Year 1 is **37.375**
<table>
<thead>
<tr>
<th>Variation</th>
<th>Q₁</th>
<th>Q₂</th>
<th>Q₃</th>
<th>Q₄</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td></td>
<td>-0.375</td>
<td>-0.125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>-0.125</td>
<td>-0.250</td>
<td>1.000</td>
<td>0.125</td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>-2.000</td>
<td>0.875</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Adjustment</td>
<td>-1.063</td>
<td>0.313</td>
<td>0.313</td>
<td>0.0</td>
<td>-0.437</td>
</tr>
<tr>
<td>Seasonal adjustment</td>
<td>-0.95375</td>
<td>0.42225</td>
<td>0.42225</td>
<td>0.10925</td>
<td>0</td>
</tr>
</tbody>
</table>

a. life (in months) probability of failure(px)

<table>
<thead>
<tr>
<th></th>
<th>probability of failure(p)</th>
<th>px</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.27</td>
<td>0.27</td>
</tr>
<tr>
<td>2</td>
<td>0.56</td>
<td>1.12</td>
</tr>
<tr>
<td>3</td>
<td>0.17</td>
<td>0.51</td>
</tr>
</tbody>
</table>

Life span = 1.90

- Average number of bulbs replaced = \( \frac{760}{1.9} = 400 \)
- Average monthly cost = 400 x N60 = N24,000

Marking Guide

a.i. Correct 4-quarter moving total column with correct placement ( -½ for each error) 3
Correct 4-quarter moving average column with correct placement ( -½ for each error) 3
Correct centred moving average i.e. Trend column with correct placement ( -½ for each error) 3

Marks Marks

No. 38
ALITER
Correct 4-quarter moving total column with correct placement (\(-\frac{1}{2}\) for each error) 3
Correct 2 x 4 quarter moving average column with correct placement (\(-\frac{1}{2}\) for each error) 3
Correct centred 4th quarter moving average i.e. Trend column with correct placement (\(-\frac{1}{2}\) for each error) 3

ii. Correct value for the centred moving average for quarter 3 (i.e. 37.375) 1

b.i. Correct arrangement of variations 1
Correct average of variations in Q1, Q2, Q3, and Q4 (i.e. \(-1.063, 0.313, 0.313, 0.0\)) [\(\frac{1}{2}\) mark each] 2
Correct sum of averages over the 4 quarters i.e. \(-0.437\) \[\frac{1}{2}\]
Correct adjustment for each quarter i.e. \[\frac{0.437}{4} = 0.10925\] 1
Correct sum of adjustments over the 4 quarters i.e. 0.437 \[\frac{1}{2}\]
Correct seasonal adjustment which is computed by adding the average for each quarter to the adjustment for each quarter (i.e. -0.095375, 0.42225, 0.42225, 0.10925) 1

ii. • Correct \(p_x\) for month 1 (i.e. 0.27) \[\frac{1}{2}\]
Correct \(p_x\) for month 2 (i.e. 1.12) \[\frac{1}{2}\]
Correct \(p_x\) for month 3 (i.e. 0.51) \[\frac{1}{2}\]
Correct average life span (i.e. \(\sum p_x = 1.90\)) \[\frac{1}{2}\]

• Correct expression for average number of bulbs replaced (i.e. \[\frac{760}{1.9}\]) \[\frac{1}{2}\]
Correct answer (i.e. 400) \[\frac{1}{2}\]

• Correct expression for average monthly cost of replacing the bulbs (i.e. \(400 \times 60\)) \[\frac{1}{2}\]
Correct answer (i.e. N24,000) \[\frac{1}{2}\]

Total 20

EXAMINER’S REPORT
This question tests candidates’ skills in the computation of:
   i. Trend values from quarterly business data; and
   ii. Seasonal adjustment for quarterly data
It also tests candidates’ understanding of replacement analysis.
About 68% of the candidates attempted the question and performance was good
SECTION A: MULTIPLE-CHOICE QUESTIONS (20 Marks)

INSTRUCTIONS: ANSWER ALL QUESTIONS IN THIS SECTION

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

1. An entity that does not have any strategic ambition to gain a position in the larger market environment is called ....................... Strategy
   A. Leader
   B. Challenger
   C. Follower
   D. Sole Trader
   E. Nicher

2. “Organisation structure” is the framework wherein the activities of people within the organisation are co-ordinated and managed. The following are common forms of business organisation structures EXCEPT
   A. Entrepreneurial structure
   B. Functional structure
   C. Divisional structure
   D. Matrix structure
   E. Boundary structure

3. The following are TRUE about Not-For-Profit Organisations EXCEPT
   A. They exist for purposes other than making profit
   B. They operate within the funding and cash available
   C. They are wholly or partly funded from non-government sources
   D. The operating surplus is retained for the organisation
   E. They will aim to operate at a surplus

4. Which of the following is NOT a Non-Governmental Organisation?
   A. Women in Management and Business
   B. University of Lagos
   C. Access to Education for Children
   D. Action Aid International Nigeria
   E. Lagos Digital Village
5. It is often assumed that the main objective of a company should be to maximise the wealth of its shareholders, Johnson, Scholes and Whittington state that the objective of an entity should be to ..................
   A. Fulfil ‘stakeholder’ expectations
   B. Fulfil ‘stakeholder’ values
   C. Fulfil ‘shareholder’ expectations
   D. Fulfil ‘government’ expectations
   E. Fulfil ‘stakeholder’ thinking

6. Unemployment that results from a ‘slump’ in the economy can be described as
   A. Frictional unemployment
   B. Seasonal unemployment
   C. Residual unemployment
   D. Cyclical unemployment
   E. Recessional unemployment

7. The aim of market skimming is to ......................
   A. Build customer demand
   B. Offer an attractive price
   C. Increase sales volume
   D. Maximise the gross profit per unit sold
   E. Penetrate the market

8. The following are sources of short-term funds, **EXCEPT**
   A. Bank Overdraft
   B. Trade Payables
   C. Operating Leases
   D. Lease Finance
   E. Debt Factoring

9. **ABC Limited is considering investing in a project with the following financial data.**

<table>
<thead>
<tr>
<th>Year (N)</th>
<th>Profit before depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(350,000)</td>
</tr>
<tr>
<td>1</td>
<td>200,000</td>
</tr>
<tr>
<td>2</td>
<td>195,000</td>
</tr>
<tr>
<td>3</td>
<td>90,000</td>
</tr>
<tr>
<td>4</td>
<td>75,000</td>
</tr>
</tbody>
</table>

The project life span is **FOUR** years and has no residual value at the end of the **FOUR** years. **Calculate the ARR.**
   A. 25%
   B. 30%
   C. 32%
   D. 33%
   E. 35%
10. Which of the following is **NOT** part of Porters’ Model of Strategic Management?
   A. The Strategic goal for a company should be to achieve a superior long-term return on investment
   B. Strategy must offer a unique value proposition for the customer
   C. There should also be a distinctive value chain
   D. The selected strategy will not involve some trade-offs
   E. There should be continuity of strategic direction

11. Which of the following is **NOT** a source of financing?
   A. Bank overdrafts
   B. Short-term bank loans
   C. Suppliers
   D. Proceeds of disposal of fixed assets
   E. Operating leases

12. Which of the following is **NOT** a function of a stock exchange?
   A. Provide a system in which shares can be traded in a regulated manner
   B. Enforce rules of business conduct on market participants
   C. Ensure availability of shares and bonds to be traded by investors
   D. Ensure that there is an efficient system for providing new financial information about companies to investors in the market
   E. Provide a system for recording information about the prices at which shares are bought and sold and making them available to participants

13. It is usual for accountants to associate public interest with the following matters **EXCEPT**
   A. Detecting and reporting any serious misdemeanour or crime
   B. Protecting health and public safety
   C. Preventing the public from being misled by a statement or action of an individual or an organisation
   D. Protecting health and personal safety
   E. Revealing the existence of any conflict of interests of those individuals who are in a position of power or influence

14. The general public might consider that it has a stake or interest in major companies, because the actions of these companies can affect society as a whole. Areas of public concern may include any of the following **EXCEPT**
   A. Public health, especially in the case of food manufacturers and manufacturers of drugs and medicines
   B. Protection of the environment, reducing pollution, and creating ‘sustainable businesses’
   C. Corruption in business practices
   D. The exploitation of the consumer through misleading descriptions of goods
   E. Excess profit made by these companies
15. A role of management in building a team is to provide ................... to teams and workgroups, so that the term can be successful.
   A. Supervision
   B. Coordination
   C. Leadership
   D. Control
   E. Motivate

16. In work places, as in all aspects of living, people must communicate. What are the TWO ways of exchanging information?
   A. Formal and informal communication
   B. Telephone and fax messages
   C. Television and newspapers
   D. Television and print media
   E. Email messages and mobile phones

17. An example of informal communication is
   A. Grapevine
   B. Buzz
   C. Pipeline
   D. Noise
   E. Uproar

18. ‘Leadership motivates the people to work and not the power of money’. This concept is related to the
   A. Autocratic model
   B. Custodial model
   C. Supportive model
   D. Collegial model
   E. Collective bargaining

19. Which of the following is most likely to be a result of competition?
   A. Development of new products
   B. Reduction in product quality
   C. High prices
   D. More monopolies
   E. Market regulation

20. Job satisfaction ......................... relates to absenteeism and labour turnover
   A. Positively
   B. Negatively
   C. Directly
   D. Elastically
   E. Indirectly
SECTION B: OPEN-ENDED QUESTIONS (80 MARKS)

INSTRUCTION: ANSWER ANY FOUR OUT OF SIX QUESTIONS IN THIS SECTION

QUESTION 1
Financial management is about planning and controlling the financial affairs of an organisation, to ensure that it achieves its objectives, particularly financial objectives.

a. Explain the meaning of financial engineering in the light of the above. (5 Marks)
b. State and explain briefly THREE main financial objectives of an organisation. (15 Marks)
(Total 20 Marks)

QUESTION 2
a. Businesses need to establish a strategy for achieving and subsequently sustaining competitive advantage.

You are required to:
Define and explain briefly the types of competitive advantage. (5 Marks)

b. Porter’s generic strategies for competitive advantage, has suggested three strategies for sustaining competitive advantage over rival firms and their products or services.

You are required to:
Identify and explain these THREE strategies. (15 Marks)
(Total 20 Marks)
QUESTION 3

a. Professional Accountants and Managers' attitude to ethics and ethical issues are based on their backgrounds, experiences, culture, religion and individual values.

Explain the **FIVE** fundamental principles of professional ethics established in the ICAN Code of Conduct and Guide for members. **(10 Marks)**

b. Explain the concepts:

i. Social ecology
ii. Ecological footprint
iii. Sustainable development
iv. Social footprint **(10 Marks)**

(Total 20 Marks)

QUESTION 4

a. National income, gross national product and gross domestic product are all measures of total economic activity for a particular country during a given time period, usually one year.

Required:
Identify and explain **TWO** broad approaches to the measurement of total economic activity during a given time period. **(5 Marks)**

b. The terms “Demand and Supply” refer to the behaviour of people as they interact with **ONE** another in the markets.

Required:
Explain the terms
i. Demand
ii. Supply
iii. Market Pricing Mechanism **(15 Marks)**

(Total 20 Marks)
QUESTION 5

a. A workgroup is a group of employees who act with a common purpose and a sense of identity.

Required:

List and explain briefly TWO types of workgroups. (5 Marks)

b. Bruce Tuckman (1965) provided an analysis of how small teams develop and change character over time. The appropriate form of team leadership changes as the team goes through each new stage of development.

Required:
List and explain briefly FIVE stages of team development. (15 Marks)
(Total 20 Marks)

QUESTION 6

a. List FIVE disadvantages of accounting rate of return. (5 Marks)

b. Gidado Nigeria Limited is considering TWO mutually exclusive projects with the following project data:

<table>
<thead>
<tr>
<th>Year</th>
<th>Project A (₦)</th>
<th>Project B (₦)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-40,000</td>
<td>-140,000</td>
</tr>
<tr>
<td>1</td>
<td>24,000</td>
<td>74,000</td>
</tr>
<tr>
<td>2</td>
<td>16,000</td>
<td>56,000</td>
</tr>
<tr>
<td>3</td>
<td>15,000</td>
<td>55,000</td>
</tr>
</tbody>
</table>

The company's cost of capital is 16%.

You are required to advise Gidado on the better project to accept using the NPV and IRR methods. (15 Marks)
(Total 20 Marks)
MULTIPLE CHOICE SOLUTIONS

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

Solution to MCQ Question 9

Average Rate of Return (ARR) = \( \frac{\text{Average profit}}{\text{Average investments}} \times 100\% \)

Profit for the period after depreciation = \( \frac{(200,000 + 195,000 + 90,000 + 75,000 - 350,000)}{4} \) = 52,500

Average investment = \( \frac{\text{(initial investment + residual value)}}{2} \) = \( \frac{350,000 + 0}{2} \) = 175,000

ARR = \( \frac{52,500}{175,000} \times 100\% \) = 30%
EXAMINER’S REPORT

Section A tests all the areas of business and finance concepts and principles.

The performance of the candidates that took the paper was average. The major pitfall was that the candidates displayed inadequate knowledge of basic business concepts and principles. Candidates are advised to cover the syllabus for better performance in subsequent examinations.

SECTION B: ESSAY QUESTIONS

SOLUTION: QUESTION 1

(a) **Meaning of Financial Engineering**

Financial engineering involves the use of mathematical techniques to solve financial problems. It involves the use of tools and knowledge drawn from the fields of statistics, economics, computer science and applied mathematics to address current financial issues and devise new and innovative financial products.

Financial engineering is sometimes referred to as quantitative analysis and is primarily used by investment banks, insurance agencies, hedge funds and commercial banks.

Financial engineering can also be used to refer to strategies adopted by companies to maximise profits or other metrics through:

i. Derivatives that address unusual risks faced by a party in a transaction;
ii. Instructing a purchase or sale in a way that better addresses the interests of the buyer or seller.
iii. Using new methods to compute the fair value of new or existing financial instruments.

(b) The financial objective of an organisation can be expressed in a number of different ways, and each of them has its advantages and weaknesses or limitations with each of them. Three commonly-used financial objectives are to maximise:

- Shareholder wealth
- Profits
- Growth in earnings per share.

1. **Maximising shareholder wealth**

The overall objective of a company might be stated as maximising the wealth of its owners. Shareholders’ wealth is increased by dividend payments and a higher share price. Corporate strategies are therefore desirable if they result in higher dividends, a higher share price, or both.

There are some problems with assuming that the financial objective of a company should be shareholders wealth maximisation. The considerations here include:

- Setting the time period for wealth maximisation.
- Measuring the wealth creation and dividing the wealth created into the portion for dividend payments and share price growth.
• Consideration of share prices which are often affected by general stock market sentiment, and short-term increases or falls in a share price might be caused by investor attitudes rather than any real success or failing of the company itself.

The objective of maximising shareholder wealth is generally accepted as a sound basis for financial planning, but is not practical in terms of actually setting financial performance targets and measuring actual performance against the target. Other financial objectives might therefore be used instead, in the expectation that if these objectives are achieved, shareholder wealth will be increased by an optimal amount.

ii. **Maximising profits**
A company might express its main financial objectives in terms of profit maximisation and targets can be set for profit growth over a strategic planning period, as profit after tax is what is distributable to the company’s owners.

Profit growth objectives have the advantage of simplicity. When a company states that its aim is to increase profits by 20% per year for the next three years, the intention is quite clear and easily understood – by managers, investors and others.

The main problem with an objective of maximising profits is to decide the time period over which profit performance should be measured.

• Short-term profits might be increased only by taking action that will have a harmful effect on profits in the longer term. For example, a company might avoid replacing ageing equipment in order to avoid higher depreciation and interest charges, or might avoid investing in new projects if they will make losses initially – regardless of how profitable they might be in the longer term.

• It is often necessary to invest now to improve profits over the longer term. Innovation and taking business risks are often essential for long-term success. However, longer-term success is usually only achieved by making some sacrifices in the short term.

In practice, managers often focus on short-term profitability, and give insufficient thought to the longer term because:

• Their remuneration might depend on meeting annual performance targets. Annual cash bonuses, for example, might be dependent on making a specified minimum amount of profit for the year.

• Managers often do not expect to remain in the same job for more than a few years; therefore short-term achievements might mean more to them than longer-term benefits after they have moved on to a different position or job.

• Profits can be increased by raising and investing more capital. When share capital is increased, total profits might increase due to the bigger investment, but the profit per share might fall. This is why a company’s financial objective might be expressed in terms of profit per share or growth in profit per share.

iii. **Maximising growth in earnings per share**
The most common measure of profit per share is earnings per share (EPS). The financial objective might be to increase the earnings per share each year and possibly to grow EPS by a target amount each year for the next few years. If there is growth in EPS, there
will be more profits to pay out in dividends per share, or there will be more retained profits to reinvest with the intention of increasing earnings per share even more in the future. EPS growth should therefore result in growth in shareholder wealth over the long term.

However, there are some problems with using EPS growth as a financial objective. It might be possible to increase EPS through borrowing and debt capital. If a company needs more capital to expand its operations, it can raise the money by borrowing. Tax relief is available on the interest charges, and this reduces the effective cost of borrowing. Shareholders benefit from any growth in profits after interest, allowing for tax relief on the interest, and EPS increases. However, higher financial gearing (the ratio of debt capital to total capital) can expose shareholders to greater financial risk. As a consequence of higher gearing, the share price might fall even when EPS increases.

Marking Guide

(a)  
   i. Description of the term attracts 2 marks
   ii. Further detailed explanation of the meaning and what it entails 3

(b)  
   i. Stating the three main financial objectives properly attracts 2 marks each 6
   ii. Detailed explanation of each of the three main financial objectives attracts 3 marks each 9
       Total 20

EXAMINER’S REPORT

This question tests the ability of candidates on their understanding of the basics of financial engineering and financial objectives of an organisation.

About half of the candidates that attempted this question scored average marks.

Many of the candidates could not clearly explain the features of the three main financial objectives of an organisation.

Candidates are therefore advised to read and have a good understanding of this aspect of the syllabus.
SOLUTION 2

(a) Competitive advantage is the ability of an entity to do something which other organisations cannot do, or doing something far better than other organisations. It means offering something better to customers than competitors. Competitive advantage gives organisations superior performance in the market place. Having some competitive advantage over rival firms is essential. Without it, there is no reason why customers should buy the company’s product instead of the products of a competitor. Essentially, competitive advantage arises from customers’ perception of value for money being offered through the product/service on sale.

Types of competitive advantage include the following:-

1. Cost Competitive advantage;
2. Product;
3. Niche; and
4. Sustainable competitive advantages

Cost Competitive advantage is when a company is able to utilize its skilled workforce, inexpensive raw materials, controlled costs, and efficient operations to create maximum value to consumers. Walmart uses the cost advantage strategy by providing a very large selection and low prices via its retailer strength and size. Costs can be kept at a minimum in many different ways. Some companies like Nissan, have years of experience producing cars in a very cost-effective manner. Other companies use offshore manufacturing to keep the costs of their products down. The current trend is for companies to cut down on the extras they offer to customers.

Companies can also use product design and reengineering to create efficient cost-effective products. Product design is important to companies that use cutting-edge technology. Intel is able to keep microchip processor prices down by continually improving product design that utilizes advancements in the field.

Product/Service Differentiation
Another way that companies can have competitive advantage in the marketplace is through product/service differentiation. If a company’s product or service has a valuable offering for its customers, then loyalty and product/service differentiation can occur. Costs competitive advantage can easily disappear with the introduction of a new competitor or new technology. If a company offers a unique product or service, it is harder to maintain an edge in the market based on price alone. The company must offer something to the customer beside just a low price.

Some companies offer excellent product reliability, such as Honda, an American-made image, such as Harley-Davidson, a valuable brand name, such as Rolex or even excellent service, such as Mercedes-Benz. For companies to excel in this area of competitive advantage, they must constantly look for ways to create new products and innovations that solve customers needs and wants.

Niche strategy is built around serving a particular target fully. It is an arrangement whereby an entity decides to serve a little segment of the market instead of serving a wide market area.
Instead of being a “jack of all trade and master of none”, the firm decides to concentrate its areas of operation in a little market area. This enables the firm to serve its customers in a special way far better than it could have done if serving a very broad area. The firm is also able to develop its competences in this narrow area.

A sustainable competitive advantage is a competitive advantage that is all enduring. It stands the test of time. The capability must be sustainable only if it persists over time, that is, it cannot easily be eroded by competitors. This is the test of sustainability.

A sustained or sustainable competitive advantage occurs when a firm implements a value-creating strategy that is grounded in its own unique resources, capabilities and core competencies of which other companies are unable to duplicate the benefits or find it too costly to imitate. A firm is assured of a competitive advantage only after other’s efforts to duplicate its strategy have failed.

In general, the sustainability of a competitive advantage is a function of three factors namely:-

(i) The rate of core competence obsolescence due to environmental changes.
(ii) The availability of substitutes for the core-competence, and
(iii) The inimitability of the core competence.

(b) Porter’s three strategies for sustaining competitive advantage over rival firms and their products or services are:
   i. Cost leadership strategy
   ii. Differentiation strategy
   iii. Focus strategy

i. **Cost leadership strategy**
   Cost leadership means being the lowest-cost producer in the market. The least cost producer is able to compete effectively on price, by offering its products at a lower price than rival products. It can sell its products more cheaply than competitors and still make a profit. Companies with a cost leadership strategy must have excellent systems of cost control and should continually plan for further cost reductions (in order to remain the cost leader in the market). The source of their competitive advantage is low cost and they must never lose sight of this fact.

   The success of a cost leadership strategy is based on offering products at the lowest price, which means that in order to make a reasonable profit the company must sell large quantities of the product. Total profits usually come from selling large volumes at a low profit margin per unit.

ii. **Differentiation strategy**
   Porter defines differentiation strategy as making a product different from rival products in a way that customers can recognise. Customers might be willing to pay a higher price for the product, because they value its different features. Companies pursuing a differentiation strategy need to offer products and services that are perceived as better
or more suitable than those of their competitors. To deliver better products and services usually requires investment and innovation. Companies with a differentiation strategy cannot ignore cost. They should keep costs under control and try to reduce costs, so that they can offer more value to customers and retain their competitive advantage. However, they are not trying to be the least-cost producers. It is more important for a successful differentiation strategy that products should give more benefits to the customer, even if this means having to spend more to deliver the product.

iii. **Focus strategy**
Focus strategy is concentrating on selling the company’s product to a particular segment of the market and to a particular type of customer in a segmented market.

Cost leadership strategy and a differentiation strategy can be pursued in a market that is not segmented. Within a market segment, a company might seek competitive advantage through:

- Cost leadership within the market segment, or
- Product differentiation within the market segment.

**Marking Guide**

(a)  

<table>
<thead>
<tr>
<th></th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Definition and brief explanation of the term ‘competitive advantage’ attracts</td>
<td>1</td>
</tr>
<tr>
<td>ii. Stating the four types of competitive advantage properly attracts ½ mark each (½mark x 4)</td>
<td>2</td>
</tr>
<tr>
<td>iii. Brief explanation of the four types of competitive advantage attracts ½ mark each (½ mark x 4)</td>
<td>2</td>
</tr>
</tbody>
</table>

(b)  

<table>
<thead>
<tr>
<th></th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Correct identification of the three Porter’s generic strategies for competitive advantage attracts 1 mark each</td>
<td>3</td>
</tr>
<tr>
<td>ii. Proper and brief explanation of the three strategic attract 4 marks each</td>
<td>12</td>
</tr>
</tbody>
</table>

Total 15

**EXAMINER’S REPORT**

The question tests the ability of candidates to:

(a) Define and explain the types of competitive advantage  
(b) Identify and explain Porter’s generic strategies for competitive advantage.
Less than 50% of the total candidates that wrote this examination attempted this question suggesting that students were avoiding this aspect of the syllabus.

The performance was poor with the major pitfall being inadequate understanding of the subject matter.

Candidates are advised to cover the entire syllabus and not indulge in speculating aspects of the syllabus that could come under examination.

SOLUTION 3

(a) The ICAN Code of Conduct and Guide for members requires professional accountants to comply with the following fundamental principles:
   • Integrity
   • Objectivity
   • Professional competence and due care
   • Confidentiality
   • Professional behaviour
   • Technical standards.

**Integrity**
An accountant must be honest and straightforward in his professional and business dealings. This includes a requirement for ‘fair dealing’ and a requirement to be truthful.

**Objectivity**
An accountant must not allow his professional or business judgment to be affected by:
   • bias (personal prejudice)
   • conflicts of interest
   • undue influence from others: for accountants in business, this includes undue pressure from the employer (senior management).

Accountants should try to apply the principle of objectivity in all the work that they do.

**Professional competence and due care**
An accountant has a duty to maintain his professional knowledge and skills at a level that enables him to provide a competent professional service to his clients or employer. This includes a requirement to keep up to date with developments in areas of accounting that are relevant to the work that he does. Accountants should also act in accordance with relevant technical and professional standards when doing their work for clients or employer.

**Confidentiality**
Accountants must respect the confidentiality of information obtained in the course of his/her work. This applies to the confidentiality of information within the firm or employer’s organisation, as well as to confidentiality of information about clients (for accountants in professional practice).
However, there are some circumstances when the disclosure of confidential information is permitted or even required by law. For example, a money deposit bank may be required by a law court to disclose the accounting statement of its customer, if need be, in a litigation.

**Professional behaviour**
Accountants are required to observe relevant laws and regulations, and to avoid any actions that could discredit the accountancy profession. This requirement covers advertising by accountants, which must be truthful and must not disparage or ridicule the services provided by ‘rival’ firms.

**Technical standards**
A professional accountant should perform his professional tasks in accordance with the relevant technical and professional standards. Technical and professional standards include:
- Standards issued by IFAC (such as International Standards on Auditing) or a similar national regulatory body.
- International Financial Reporting Standards (IFRSs).
- Standards and regulations of the member’s professional accountancy body.
- Relevant legislations.

(b) i) **Social ecology**
The social ecologists are critics of the Western capitalist approach to environmentalism. Social ecologists argue that the environmental crisis has been caused by companies seeking growth, profits and economic self-interest. Nothing fundamental has changed. Companies are still trying to get bigger and more profitable, even though they use environmental ideology to express their plans and ambitions.

They argue that the environmental crisis cannot be averted without a radical change in human society. The following comments are illustrative of the thinking of social ecologists.
- Environmental problems are caused by companies that seek continued growth in size and profits.
- The structure of society and the future of the environment are closely linked.
- That most environmentalists focus wrongly, on improving technology to improve the environment, or even on restricting population size. These environmentalists are focusing on symptoms of the environmental problems, not its root causes; so they will not find any lasting solution.
- A truly ‘green’ entrepreneur cannot possibly survive in today’s capitalist culture, because by using ecologically/environmentally sound methods, they would be at a disadvantage to more ruthless rivals who will produce at a lower cost.

ii) **Environmental footprint (ecological footprint)**
An environmental footprint or ecological footprint means the impact that an entity has on the environment, in terms of:
- The amount of raw materials that it uses to make its products or services, where the raw materials are subject to depletion (raw materials that can be renewed, but where the current total rate of consumption exceeds the total current rate of renewal).
- Non-renewable resources that it uses to make its products or services
• The quantity of wastes and emissions that it creates in the process.

In the past, it was accepted that in order to grow, companies (and economic activity as a whole) had to increase their environmental footprint. It has now been recognised that the world cannot go on increasing its environmental footprint. Many leading companies are looking for ways to reduce the size of their own particular footprint and ‘tread more softly’. Reducing an environmental footprint involves the development and implementation of policies for:

• Better (more efficient) resource management, and using different resources
• ‘Green’ procurement policies
• Waste minimisation and waste management (for example, policies on reducing pollution and recycling waste).

iii) Sustainable development

A problem with accounting for sustainable development is to identify what ‘sustainable development’ actually means. A generally-accepted definition provided by the Brundtland Report (for the World Commission on Environment and Development, 1987) is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

However, there are practical difficulties with this definition which includes:

• Identifying the needs of the present: These are more than simply survival needs, because current levels of consumption are, in many parts of the world, well above survival level.
• Identifying the needs of future generations: Are these just survival needs? If so, there is presumably an assumption that economic wealth will decline.
• Identifying over what time period should the needs of future generations be measured: In theory, future needs should be measured into the long-term future. However, companies and governments plan for the future over much shorter time frames.
• Identifying the needs of all people in all societies. How is sustainability measured in terms of individual countries or regions of the world?

Since companies plan for the future and report their performance within fairly short time frames, reporting for sustainable development by companies is likely to focus on relatively short-term measures of sustainability.

iv) Social footprint

A social footprint is the effect of economic activity on society and people. In general, economic activity is seen as providing benefits for society, although some companies are much more ‘people-friendly’ than others. Some companies, for example, use child labour and/or pay subsistence-level wages to their workers.

Companies might seek to measure the contribution of their activities towards society in terms of:

• Total number employed or increase in the total number of employees.
• The proportion of the total workforce employed in different parts of the world.
• The proportion of the total workforce that is female or from different ethnic groups.
• Health and safety at work (for example, numbers of employees injured each year per 1,000 of the work force).
MARKING GUIDE

a  
I. Stating the five fundamental principles of professional ethics as stated in ICAN code of conduct and guide for members attracts ½ mark each

   ii Well stated explanations of the five principles attracts 1½ marks each (1½ x 5)

b  
Proper explanation of each concept attracts 2½ marks each (2½ x 4)

Total

EXAMINER’S REPORT

The question tests the ability of candidates to:

(a) Properly state the role of professional accountants in business and society with particular reference to fundamental principles of ethics.

(b) Identify and explain the impact of non financial factors on investment decision especially in relation to social and environmental issues.

The question was well attempted but performance was average. The major pitfall of candidates was their inability to properly explain the concepts relating to social and environmental issues.

Candidates are advised to pay closer attention to key concepts in the subject.

SOLUTION 4

Broad approaches to the measurement of total national income are:

(a) Expenditure approach
One way of measuring economic activity is to calculate the total amount of spending that has been in the economy. This includes spending on consumption by individuals and firms, spending on capital investment and government spending.

Income approach
Another way of measuring economic activity is to calculate the total income that has been earned by everyone in the economy during the period, such as income earned by individuals and profits earned by companies.
**Output approach**
The output approach of measuring economic activity is to measure the value of output by all industries and other economic activity. This includes service industries as well as agricultural, mining, construction and manufacturing industries.

(b)  

i) **Demand**  
Demand refers to the number of units of particular good or service that customers buy at a given selling price. Price change causes a change in demand.

The law of demand says that:

a. a decrease in price leads to an increase in demand; and  
b. an increase in price leads to a fall in demand.

Demand for a good or service is the total demand from all participants in a market. This can be represented as a plot of quantity demanded against price. Such plots are known as demand curves. A simple demand curve is shown below.

![Demand Curve](image)

This curve shows that the demand for the good in a particular time is 50 units when the price is N10 per unit but would increase to 70 units when the price is N5 per unit.

Demand curves are downward sloping from left to right. A change in price causes demand to move along the curve.

ii) **Supply**  
Supply refers to the quantity of the product (or service) that suppliers are willing to sell at any given sales price.

The law of supply says that:

- the quantity of a good that suppliers are willing to sell rises when the price of the good rises; and  
- the quantity of a good that suppliers are willing to sell falls when the price of the good falls.

Supply is the total supply from all businesses. Higher prices will attract more suppliers into the market and encourage existing suppliers to produce more. Lower prices will deter some suppliers, and might drive some out of business if the price fall results in losses.
This can be represented as a plot of the quantity that suppliers are willing to supply at a given price and such plots are known as supply curves. A simple supply curve is shown below.

Suppliers are only willing to supply 50 units at a price of N5. However, if the price increases to N10 suppliers would supply 80 units.

Supply curves are upward sloping from left to right. A change in price causes supply to move along a curve.

iii) Market pricing mechanism

The sales price for a product in a market is determined by the interaction of demand and supply. This is known as the market price mechanism.

A simple graph of supply and demand is shown below. In this diagram, the equilibrium price level is the sales price that would become established in the market if the factors that affect supply or demand did not change. Here the price would be N P and the total sales demand for the product would be Q units.
Occasionally, sales demand for a product might rise to such a high level that producers in the market are unable to meet the demand in full. Until production capacity can be increased, this situation could result in very large price rises and very high profit margins for producers.

Marking Guide

A
i Identification of two broad approaches to the measurement of total economic activity during a given time period attracts 1 mark each

ii Brief explanation of two approaches identified attracts 1½ marks each

B Proper explanation of each of the three concepts indicated in this part of the question attracts 5 marks each (3 x 5)

Total

EXAMINER’S REPORT

The question which was in two parts test candidates understanding of the measurement of total economic activity in a given time period and three out of several economic concepts.

The performance level of all the candidates that attempted the question was average.

Many of the candidates appear not to have fully understood the requirements of the question. Candidates are admonished to prepare adequately before examination and ensure that the syllabus is covered fully.

SOLUTION 5

(a) A workgroup is a group of employees who act with a common purpose and a sense of identity. There are two types of workgroup:
   - informal workgroups, and
   - formal workgroups.

Informal workgroups
An informal workgroup is a group of employees that does not have a formal or an official identity. It is a group of individuals who get on well with each other and interact socially. They might have lunch together regularly, or might talk about personal interests and family matters over a cup of tea or coffee. Some informal groups might meet together outside work, on a social basis.

Informal workgroups often develop a collective attitude to their work. This attitude might be positive, or it could be hostile to management. Also they can be important because of the way they communicate with each other.
**Formal workgroups**

Formal workgroups are created in order to organise work in an organisation. The employer establishes workgroups to perform specific roles or functions. Each workgroup has a number of jobs to be performed, and employees are appointed to fill the job vacancies. When one employee leaves his job, another person is appointed in his place, and the formal workgroup continues unchanged.

Employees work together in their workgroups, each performing their own job within the group. The workgroup has a formal leader (a manager or supervisor), and will develop its own characteristics and ‘culture’.

(b) Bruce Tuckman’s (1965) five stages of team development are:

i) **Forming**
In the initial stage of the existence of a team is forming. The team is a collection of individuals, but their individual roles and responsibilities within the team are unclear. There is a high level of dependence on the team leader for guidance and direction. The team leader must therefore direct the team members, and tell them what to do.

ii) **Storming**
The second stage in team development is storming. During this stage, decisions do not come easily. There is usually conflict between team members, and the attitudes, norms and preconceptions of individuals are challenged by other team members. Team members compete with each other for status and position within the team. There may be cliques and factions, and power struggles between them. However, there is an improvement in the clarity of the purpose of the team and its goals. The role of the leader is to act as coach to the team members, and to encourage them to focus on the team’s tasks rather than on relationships and emotional issues. The leader also encourages team members to find compromises in order to settle conflicts.

iii) **Norming**
During the norming stage of team development, the team develops norms of behaviour and operations. The roles of the team members become clear. The way in which decisions are taken is also established. Major decisions are taken by the team collectively, with all team members contributing to the decision-making process. Commitment to the tasks of the team and team unity is strong. The team leader can use a participative style of management, so that team members take on greater responsibility for decisions.

iv) **Performing**
Performing is the fourth stage of team development. During this period the team operates at its full potential. The team members are strategically aware and they understand why the team exists and what it is trying to achieve. The team members are also able to get on with their jobs without interference from the team leader, and do not need to be told what to do. The role of the team leader is to delegate new tasks and
oversee performance. Disagreements may occur between team members, but these are resolved in a friendly and constructive way.

v) **Dorming (adjourning)**

There are various ways of describing the fifth stage of team development:

- The group may break up, having achieved its purpose. The members of the team may feel a sense of loss, and the break-up of the team may be stressful for them, particularly if it is unplanned and unexpected.
- Alternatively, the team may lose its efficiency, and might lose its ability to make good decisions. Members of the team may share common views that ignore developments in their business environment and changing circumstances. Keeping the group in existence becomes the prime objective of the team members, rather than achievement of the team’s work objectives. It may be necessary to break up the team.

**MARKING GUIDE**

A

i Listing the two types of workgroups attracts 1 mark each 2

ii Proper explanation of the two workgroups attracts $1\frac{1}{2}$ marks each 3

B

i Listing the five stages of team development attracts 1 mark each 5

ii Proper explanation of each of the five stages of team development so listed attracts 2 marks each ($5 \times 2$) 10

Total 15

**EXAMINER’S REPORT**

The question tested candidates understanding of group behaviour in organisations and teams development.

Candidates’ performance was above average. The performance of candidates that attempted this question indicates that they have a good knowledge of its requirements.
**SOLUTION 6**

(a) Five disadvantages of accounting rate of return (ARR)

i)  It is based on accounting profits, and not cash flows.

ii) Accounting profits are unreliable measure. For example, the annual profit and the average annual investment can both be changed simply by altering the rate of depreciation and the estimated residual value.

iii) It ignores the timing of the accounting profits.

iv) It does not take risk into consideration as profits are considered over the entire life of the project.

v) The decision to set minimum target ARR is not based on any rational economic basis. Any such minimum target accounting return is a subjective target, with no economic or investment significance.

vi) It does not consider the size of investment as it is a relative measure rather than absolute measure.

vii) It is not useful to evaluate the projects where investment is made in two or more installments at different times.

(b) **Gidado Nigeria Limited**

<table>
<thead>
<tr>
<th>Year</th>
<th>Item</th>
<th>Cashflows</th>
<th>DF@16%</th>
<th>PV</th>
<th>DF@20%</th>
<th>PV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial investment</td>
<td>(40,000)</td>
<td>1</td>
<td>(40,000)</td>
<td>1</td>
<td>(40,000)</td>
</tr>
<tr>
<td>0</td>
<td>Net cashflows</td>
<td>24,000</td>
<td>0.862</td>
<td>20,688</td>
<td>0.833</td>
<td>19,992</td>
</tr>
<tr>
<td>1</td>
<td>Net cashflows</td>
<td>16,000</td>
<td>0.743</td>
<td>11,888</td>
<td>0.694</td>
<td>11,104</td>
</tr>
<tr>
<td>2</td>
<td>Net cashflows</td>
<td>15,000</td>
<td>0.641</td>
<td>9.615</td>
<td>0.579</td>
<td>8.685</td>
</tr>
<tr>
<td></td>
<td><strong>NPV</strong></td>
<td></td>
<td></td>
<td><strong>2,191</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The IRR Method is computed as follows:

\[
\text{IRR} = 16 + \frac{2.191}{2.191 + 219} \times (20 - 16)
\]

\[
= 16 + \frac{2.191}{2.410} \times 4
\]

\[
= 16 + 0.31
\]

\[
= 16.31\%
\]

<table>
<thead>
<tr>
<th>Year</th>
<th>Item</th>
<th>Cashflows</th>
<th>DF@16%</th>
<th>PV</th>
<th>DF@20%</th>
<th>PV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial investment</td>
<td>(140,000)</td>
<td>1</td>
<td>(140,000)</td>
<td>1</td>
<td>(140,000)</td>
</tr>
<tr>
<td>0</td>
<td>Net cashflows</td>
<td>74,000</td>
<td>0.862</td>
<td>63,788</td>
<td>0.833</td>
<td>61,642</td>
</tr>
<tr>
<td>1</td>
<td>Net cashflows</td>
<td>56,000</td>
<td>0.743</td>
<td>41,608</td>
<td>0.694</td>
<td>38,864</td>
</tr>
<tr>
<td>2</td>
<td>Net cashflows</td>
<td>55,000</td>
<td>0.641</td>
<td>35,255</td>
<td>0.579</td>
<td>31,845</td>
</tr>
<tr>
<td></td>
<td><strong>NPV</strong></td>
<td></td>
<td></td>
<td><strong>651</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
\text{IRR} = 16 + \frac{651}{651 + 7,649} \times (20 - 16)
\]

\[
= 16 + \frac{651}{8,300} \times 4
\]

\[
= 16 + 0.27
\]

\[
= 16.27\%
\]
The IRR Method is computed as follows:

\[
\text{IRR} = 16 + \frac{651}{651 + 7,649} \times (20 - 16)
\]

\[
= 16 + \frac{651}{8,300} \times 4
\]

\[= 16 + 0.31\]

\[= 16.31\%
\]

These are mutually exclusive projects meaning that you cannot accept both projects, the selection criterion will be based on project with higher NPV or higher IRR but where there is conflict between both methods, we will choose project with higher NPV.

**DECISION RULES**

**PV**

The decision rule is that, ignoring other factors such as risk and uncertainty, and non-financial considerations, a project is worthwhile financially if the NPV is positive or zero. It is not worthwhile if the NPV is negative.

**IRR**

A company might establish the minimum rate of return that it wants to earn on an investment. If other factors such as non-financial considerations and risk and uncertainty are ignored:

- When IRR is equal to or higher than the minimum acceptable rate of return, then such a project should be undertaken.
- When IRR is lower than the minimum required return, then such a project should be rejected.

Since PV and IRR are both methods of DCF analysis, the same investment decision should normally be reached using either method.

**Conclusion and summary**

On the basis of PV, Project A should be accepted because it yielded a higher NPV compared to Project B.

Also, on the basis of IRR, Project A should be accepted as it has a higher IRR than Project B and both IRR are higher than cost of capital.

Therefore, project A should be accepted since the projects are mutually exclusive.
MARKING GUIDE

a

Listing of five advantages of accounting rate of return attracts 1 mark each

Mark

b

i. Calculation of NPV for each of the two projects attracts 3 marks each

6

ii. Calculation of IRR for each of the two projects attracts 3 marks each

6

iii. Correct advice with reasons based on the calculated NPV and IRR attracts

3

Total

15

EXAMINER’S REPORT

The question tests candidates understanding of investment appraisal using NPV and IRR methods. Majority of the candidates attempted the question and their performance was below average.

Candidates that attempted this question appear not to have fully grasped the method needed in answering questions on internal rate of return.

Candidates are advised to have a mastery of all investment appraisal methods and the entire syllabus to ensure a more satisfactory performance in future examinations.
SECTION A: PART 1  MULTIPLE CHOICE QUESTIONS  (20 Marks)

INSTRUCTIONS  ANSWER ALL QUESTIONS IN THIS SECTION

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

1. Which of the following bases is used in preparation of financial statements?
   A. Break up basis
   B. Cash basis
   C. Accrual basis
   D. Modified cash basis
   E. Commitment basis

2. During the preparation of bank reconciliation statement, some transactions were discovered to have caused the difference between the cashbook balance and the bank statement balance. Which of the following will be required for cashbook adjustment?
   A. Uncredited lodgement
   B. Cheque paid in by the company but dishonoured
   C. Amount incorrectly debited by the bank to the account
   D. Amount incorrectly credited by the bank to the account
   E. Cheque issued to Mr. Mohammed by the company but not yet presented in the bank

3. In the statement of financial position, equity is best described as
   A. Market value of the shares of the owners
   B. Issued capital and reserves
   C. Issued capital and loan notes
   D. Revenue and gains
   E. Expenses and losses

4. Ajonibode runs a business as a sole trader and the following information relates to the business:
   On January 1, 2015, the net assets of the business were ₦1,675,000.
   During the year to December 31, 2015, the business made a profit of ₦625,000 and Ajonibode took out ₦550,000 in drawings.
Due to a shortage of cash in the business, he paid an additional capital of ₦100,000 in early December 2015.

What is the net assets of the business as at December 31, 2015?

A. ₦1,675,000  
B. ₦1,850,000  
C. ₦2,300,000  
D. ₦2,400,000  
E. ₦2,950,000

5. Which of the following will be the effect of taking a loan from the bank by an entity?
   A. Increase in both liabilities and equity  
   B. Decrease in assets and increase in liabilities  
   C. Decrease in both liabilities and equity  
   D. Increase in both assets and liabilities  
   E. Increase in assets and decrease in liabilities

6. Which of the following is NOT part of the cost of inventories, in relation to IAS 2 Inventories?
   A. The purchase price  
   B. Import duties  
   C. Transport cost  
   D. Handling costs  
   E. Selling costs

7. A company purchased a non-current asset for ₦4,500,000. The company's Accountant recorded the transaction in the company's books by debiting the purchases account. Raise journal entry to correct the error.

A. Dr. Purchases Account Cr ₦4,500,000  
   Cash ₦4,500,000  
B. Dr. Non Current Assets Account ₦4,500,000  
   Cr Cash ₦4,500,000  
C. Dr. Purchases Account ₦4,500,000  
   Cr Non Current Assets Account ₦4,500,000  
D. Dr. Non Current Account ₦4,500,000  
   Cr Purchases Account ₦4,500,000  
E. Dr. Non-Current Register Account Cr ₦4,500,000  
   Non-Current Asset Account ₦4,500,000
8. Which of the following contains a permanent record of all transactions?
   A. Sales Day Book
   B. Invoice
   C. Ledger
   D. Debit Note
   E. Purchases Day Book

9. A business marked-up its cost by 50%. This would mean a Gross Profit of
   A. $66\frac{2}{3}\%$ on the market price
   B. $66\frac{2}{3}\%$ on the selling price
   C. 50% on the selling price
   D. $33\frac{1}{3}\%$ on the cost price
   E. $33\frac{1}{3}\%$ on the selling price

10. The bank column in the cash book shows a credit balance of N50,000. This means
    A. A total payment of N50,000
    B. A gross receipt of N50,000
    C. A balance of N50,000 in the bank
    D. An overdraft of N50,000
    E. A balance of N50,000 cash

Use the following information to answer questions 11 and 12

<table>
<thead>
<tr>
<th>Receivables Control Account</th>
<th>N'000</th>
<th></th>
<th>N'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Bal. b/d</td>
<td>26,000</td>
<td>2015 Bal. b/d</td>
<td>1.700</td>
</tr>
<tr>
<td>Jan. 1</td>
<td></td>
<td>Jan. 1</td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>152,600</td>
<td>Bank</td>
<td>131,100</td>
</tr>
<tr>
<td>Dishonoured Cheque</td>
<td>7,000</td>
<td>Discount</td>
<td>6,900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Returns</td>
<td>2,600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchases Ledger</td>
<td>7,200</td>
</tr>
<tr>
<td>Bal. c/d</td>
<td>1,840</td>
<td>Bal. c/d</td>
<td>37,940</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>187,440</td>
<td></td>
<td>187,440</td>
</tr>
<tr>
<td>Feb. 1 Bal. b/d</td>
<td>37,940</td>
<td>Feb. 1 Bal. b/d</td>
<td>1,840</td>
</tr>
</tbody>
</table>

11. The balance of N1,840,000 represents the
    A. Amount necessary to balance the account
    B. Amount due to the customers
    C. Amount due from the customers
    D. Amount due from cash sales
    E. Amount due from sales
12. The item "Purchases Ledger - ₦7,200,000" means
   A. Cash Purchases during the period
   B. Credit purchases during the period
   C. Receivables set off against payables
   D. Cash Payable
   E. Cash Receivable

13. The excess of expenditure over income in a Not-For-Profit organisation is
   A. Accumulated fund
   B. Working capital
   C. Deficit
   D. Surplus
   E. Accruals

14. Purchases in accounting refers to goods bought for
   A. Repairs
   B. Owners use
   C. Resale
   D. Office use
   E. Permanent use

15. Carriage inwards are
   A. Credited to the cost of sales
   B. Debited to the cost of sales
   C. Credited to the profit or loss
   D. Debited to the profit or loss
   E. Debited to equity

16. Olojuede limited failed to record ₦120,000 wages. The error committed is that of
   A. Omission
   B. Commission
   C. Principle
   D. Compensation
   E. Original entry

17. Which of the following reflects the effect of a reduction in the allowance for doubtful debts?
   A. Reduction in net profit
   B. Reduction incash balance
   C. Reduction ingross profit
   D. increase in gross profit
   E. increase in net profit
18. Which of the following is a capital expenditure?
   A. Purchase of inventories
   B. Purchase of motor vehicle for sale
   C. Subscription paid
   D. Extension of building
   E. Repair of generator

19. State the journal entries required to remove the goodwill recognised on the admission of a new partner in a partnership

   A. Dr Partners' Accounts Cr Profit or Loss
   B. Dr Partners' Account Cr Asset Revaluation Account
   C. Dr Goodwill Account Cr Asset Revaluation Account
   D. Dr Profit of Loss Account Cr Partners' Account
   E. Dr. Partners' Accounts Cr Goodwill Account

20. Which of the following will NOT be regarded as investing activity in relation to IAS 7 statement of cash flows?
   A. Dividend received
   B. Cash paid to acquire property, plant and equipment
   C. Cash paid to acquire equities in other entities
   D. Cash payment to supplier of goods and services
   E. Proceed from sale of property, plant and equipment

SECTION B:

INSTRUCTION: ANSWER ANY FOUR OUT OF SIX QUESTIONS IN THIS SECTION (80 MARKS)

QUESTION 1

a. Define a Trial Balance and explain its purpose.

b. Mention FOUR errors that the trial balance will not reveal. (2 Marks)
The following balances were extracted from the books of Arewa & Sons on December 31, 2015.

<table>
<thead>
<tr>
<th>Description</th>
<th>N’000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payables</td>
<td>49,260</td>
</tr>
<tr>
<td>Allowances for receivables</td>
<td>2,330</td>
</tr>
<tr>
<td>Expenses</td>
<td>95,520</td>
</tr>
<tr>
<td>Salaries</td>
<td>41,545</td>
</tr>
<tr>
<td>Wages</td>
<td>72,050</td>
</tr>
<tr>
<td>Purchases</td>
<td>321,870</td>
</tr>
<tr>
<td>Bank Overdraft</td>
<td>65,980</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>10,000</td>
</tr>
<tr>
<td>Discount allowed</td>
<td>9,262</td>
</tr>
<tr>
<td>Revenue</td>
<td>637,285</td>
</tr>
<tr>
<td>Equipment</td>
<td>95,000</td>
</tr>
<tr>
<td>Capital</td>
<td>29,265</td>
</tr>
</tbody>
</table>

On investigation, you discovered the following:
(i) Receivables amounting to N75,980,000 have been omitted.
(ii) Receivables amounting to N2,800,000 have been written off as bad debt, but no posting had been made thus rendering the entry a single entry.
(iii) Discount received shown in the cashbook and totaling N4,065,000 had not been posted to the general ledger.
(iv) The figure of wages should have been N122,050,000.
(v) Drawings amounting to N29,730,000 have been omitted.

You are required to:

i. Prepare journal entries to correct the errors
   (5 Marks)
ii. Prepare the trial balance after effecting the corrections
    (11 Marks)
   (Total 20 Marks)

QUESTION 2

The following is a summary of the receipts and payments for the year to March 31, 2016 of ABUBA Social Club:

<table>
<thead>
<tr>
<th>Description</th>
<th>N’000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts:</td>
<td></td>
</tr>
<tr>
<td>Club subscriptions</td>
<td>255,000</td>
</tr>
<tr>
<td>Donation</td>
<td>22,500</td>
</tr>
<tr>
<td>Christmas dance</td>
<td>12,750</td>
</tr>
<tr>
<td>Bar takings</td>
<td>405,000</td>
</tr>
</tbody>
</table>

Payment:

<table>
<thead>
<tr>
<th></th>
<th>N'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rates</td>
<td>13,500</td>
</tr>
<tr>
<td>General expenses</td>
<td>393,000</td>
</tr>
<tr>
<td>Bar purchases</td>
<td>277,500</td>
</tr>
<tr>
<td>Christmas dance expenses</td>
<td>2,250</td>
</tr>
</tbody>
</table>

Other relevant information at the beginning and end of the year is as follows:

<table>
<thead>
<tr>
<th></th>
<th>April 1 2015</th>
<th>March 31 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscriptions due</td>
<td>13,500</td>
<td>9,000</td>
</tr>
<tr>
<td>Subscriptions paid in advance</td>
<td>750</td>
<td>1,500</td>
</tr>
<tr>
<td>Rates owing</td>
<td>6,750</td>
<td>7,500</td>
</tr>
<tr>
<td>Bar inventory</td>
<td>30,000</td>
<td>37,500</td>
</tr>
<tr>
<td>Club premises (cost N750,000,000)</td>
<td>300,000</td>
<td>270,000</td>
</tr>
<tr>
<td>Furniture (cost N150,000,000)</td>
<td>45,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Bank balance</td>
<td>24,000</td>
<td>33,000</td>
</tr>
</tbody>
</table>

You are required to prepare:

a. Club's Bar Trading Account for the year ended March 31, 2016.  (3 Marks)

b. The Income and Expenditure Account for the year ended March 31, 2016. (8 Marks)

c. The Statement of Financial Position as at March 31, 2016. (9 Marks)

(Show workings)

**QUESTION 3**

The following balances were extracted from the books of Uche and Sons as at September 30, 2015.

<table>
<thead>
<tr>
<th></th>
<th>N'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital at October 1, 2014</td>
<td>90,428</td>
</tr>
<tr>
<td>Purchases</td>
<td>776,400</td>
</tr>
<tr>
<td>Revenue</td>
<td>1,045,800</td>
</tr>
<tr>
<td>Salaries and Wages</td>
<td>66,880</td>
</tr>
<tr>
<td>Rent and rates</td>
<td>28,004</td>
</tr>
<tr>
<td>Receivables</td>
<td>144,600</td>
</tr>
<tr>
<td>Bad Debts</td>
<td>3,768</td>
</tr>
</tbody>
</table>
Additional Information

(i) Inventories at September 30, 2015 was valued at N198,712,000
(ii) Rent prepaid at September 30, 2015 amounted to N3,200,000
(iii) Depreciation is to be provided on the motorcycle at the rate of 20% of cost per annum.
(iv) Salaries and wages outstanding at September 30, 2015 amounted to N6,024,000
(v) Commission not yet due but already received at the trial balance date was N800,000
(vi) Additional irrecoverable debts of N2,840,000 is to be written off.
(vii) Bank interest of N100,000 has fallen due but is yet to be received.
(viii) Allowances for receivables are to be adjusted to 5% of receivables.
(ix) Drawings by the owner of goods costing N1,600,000 and cheques of N2,400,000 are yet to be recorded.

Using extended trial balance, you are required to prepare:

a. Statement of profit or loss of Uche & Sons for the year ended 30 September, 2015.

b. Statement of financial position of Uche & Sons as at 30 September, 2015.

(Total 20 Marks)

QUESTION 4

The trial balance of CLAVELL ENTERPRISES includes the following items:

<table>
<thead>
<tr>
<th>Account</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receivables ledger control account</td>
<td>115,440</td>
</tr>
<tr>
<td>Payables ledger control account</td>
<td>80,901</td>
</tr>
<tr>
<td>Suspense account (debit balance)</td>
<td>3,310</td>
</tr>
</tbody>
</table>
The following information is available.

(i) The total of debit balances in the receivables ledger account is N116,374 and the total of credit balances is N1,234.

(ii) The total of credit balances in the payables ledger account is N80,412 and the total of debit balances is N1,111.

(iii) The receivables ledger account includes a debit balance of N700 for Entity C, and the accounts payable ledger includes a credit balance of N800 relating to Entity C. Only the net amount will eventually be paid.

(iv) Included in the credit balances in the receivables ledger account is a balance of N600 in the name of P Quinn. This arose because a sales invoice for N600 had earlier been posted in error from the sales day book to the debit of the account of M Quinn in the accounts payable ledger.

(v) An allowance of N300 granted to a customer for some damaged goods had been omitted from the appropriate account in the receivables ledger account. This allowance had been included in the receivables ledger control account.

(vi) An invoice for N456 had been entered in the purchases day book as N654.

(vii) A cash receipt from a credit customer for N345 had been entered in the cash book as N245.

(viii) The purchases day book had been overcast by N1,000.

(ix) The bank balance of N1,700 had been included in the trial balance, in error, as an overdraft.

(x) The debit balance on the insurance account in the nominal ledger of N3,456 has been included in the trial balance as N3,546.

**Required:**

a. Prepare a reconciliation of the receivable ledger control account and the receivables ledger balances. (8 Marks)

b. Open a suspense account and post the entries required to clear this account. (4 Marks)

c. Reconcile the payables ledger control account and the payables ledger balances. (8 Marks)

(Total 20 Marks)

**QUESTION 5**

Mr. Mala, the Proprietor of a small bookshop has requested you to prepare his accounts. He did not keep complete records of account. From his passbook, note book, bank statements and oral information obtained during a meeting with him, you put together the following figures for the year ended December 31, 2015:
### January 1, 2015 | December 31, 2015
--- | ---
Cash in hand | N’000 400 | N’000 890
Bank overdraft | N’000 18,000 | N’000 14,000
Furniture & Fittings | N’000 2,000 | N’000 2,000
Delivery van | N’000 3,600 | N’000 3,600
Inventories | N’000 20,400 | N’000 22,400
Trade receivables | N’000 12,400 | N’000 9,800
Trade payables | N’000 9,120 | N’000 8,400
Bills payables | N’000 2,210 | N’000 2,200
Bills receivables | N’000 3,100 | N’000 3,200

During the year Mr. Mala used part of the inventories for domestic affairs which was agreed at N1,200,000. He drew cash for private expenses at frequent intervals. He estimated his drawing in cash at N2,800,000 for the year. He also agreed with the following suggestions:

(i) To write off irrecoverable debts of N300,000 owed by a customer who died in May, 2015.

(ii) To charge a notional rent of N1,000,000 per annum for the shop premises owned by him.

(iii) To allow 15 percent per annum depreciation on furniture and fittings and 20 percent per annum on delivery van.

#### You are required to:

a. Ascertain Mr. Mala's bookshop's profit or loss for the year ended December 31, 2015. (8 Marks)

b. Prepare the statement of financial position of the bookshop at December 31, 2015. (12 Marks)

(Show workings)
QUESTION 6

Given below are items of "Revenue" and "Capital" expenditure.

(i) A number of new cars that had recently been cleared by a motor car dealing company.

(ii) Two new motor boats acquired by a ferry service agency.

(iii) Vacant houses owned by an estate developing company in respect of which negotiations are ongoing for assistance for their sale to prospective landlords.

(iv) New buildings acquired for the purpose of holding the items of plant and machinery belonging to a detergent manufacturing company.

(v) Cost of acquiring a leasehold property for office use.

(vi) Granites purchased by an engineering contractor for use at a construction site.

(vii) Cost of rehabilitating a dilapidated housing unit owned by an estate developer.

(viii) Repairs to plant and machinery in a manufacturing company.

Required:

a. For each of the above, state whether it is a "Revenue" or "Capital" expenditure. (4 Marks)

b. State how each will be recognised in the statement of profit or loss and the statement of financial position as the case may be. (12 Marks)

c. State how the non-current assets register will be affected by any of the transactions. (4 Marks)

(Total 20 Marks)
SECTION A – MULTIPLE CHOICE ANSWER
1. C
2. B
3. B
4. B
5. D
6. E
7. D
8. C
9. E
10. D
11. B
12. C
13. C
14. C
15. B
16. A
17. E
18. D
19. E
20. D

EXAMINER’S REPORT
The Multiple Choice Questions cover the whole syllabus. All Candidates attempted the questions and performance was above average.
SECTION B – THEORY

SOLUTION 1

(a) A trial balance is a summary of balances in the ledgers at a particular time.

It is extracted to test the arithmetical accuracy of the entries in the ledgers. Extracting the trial balance is the first step in preparing the Financial Statements (i.e. Statement of profit or loss and Statement of Financial position).

(b) Errors the Trial Balance will not reveal are:

(i) Error of Omission
(ii) Error of Commission
(iii) Error of Original Entry
(iv) Error of Principle
(v) Error of Complete Reversal of entries
(vi) Compensating Error

ci) **Journal Entries to correct the errors**

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N’000</td>
<td>N’000</td>
</tr>
</tbody>
</table>

1) Receivables
   Suspense 75,980
   Being Receivables omitted now corrected

2) Allowance for Bad debts
   Suspense 2,800
   Being Recognition of bad debt written off

3) Payables Ledger
   Discount received 4,065
   Being posting of discount received to the general ledger

4) Wages
   Suspense 50,000
   Being correction of wages amount understated

5) Drawings
   Suspense 29,730
   Being correction of drawings previously omitted
### Adjusted Trial Balance – 31 December 2015

<table>
<thead>
<tr>
<th></th>
<th>Dr. N'000</th>
<th>Cr. N'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>29,265</td>
<td></td>
</tr>
<tr>
<td>Drawings</td>
<td>29,730</td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td>321,870</td>
<td></td>
</tr>
<tr>
<td>Bank Overdraft</td>
<td>65,980</td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>41,545</td>
<td></td>
</tr>
<tr>
<td>Wages</td>
<td>122,050</td>
<td></td>
</tr>
<tr>
<td>Discount received</td>
<td>4,065</td>
<td></td>
</tr>
<tr>
<td>General Expenses</td>
<td>95,520</td>
<td></td>
</tr>
<tr>
<td>Discount Allowed</td>
<td>9,625</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>95,000</td>
<td></td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Allowance for Bad Debts</td>
<td>2,330</td>
<td></td>
</tr>
<tr>
<td>Receivables</td>
<td>75,980</td>
<td></td>
</tr>
<tr>
<td>Payables</td>
<td>45,195</td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>637,285</td>
<td></td>
</tr>
<tr>
<td>Bad Debt</td>
<td>2,800</td>
<td></td>
</tr>
<tr>
<td></td>
<td>794,120</td>
<td>794,120</td>
</tr>
</tbody>
</table>

### Tutorials

#### (i) Initial Trial Balance

<table>
<thead>
<tr>
<th></th>
<th>Dr. N'000</th>
<th>Cr. N'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payables</td>
<td>49,260</td>
<td></td>
</tr>
<tr>
<td>Allowances for irrecoverable receivables</td>
<td>2,330</td>
<td></td>
</tr>
<tr>
<td>General expenses</td>
<td>95,520</td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>41,545</td>
<td></td>
</tr>
<tr>
<td>Wages</td>
<td>72,050</td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td>321,870</td>
<td></td>
</tr>
<tr>
<td>Bank overdraft</td>
<td>65,980</td>
<td></td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Discount allowed</td>
<td>9,625</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>637,285</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>95,000</td>
<td></td>
</tr>
<tr>
<td>Capital</td>
<td>29,265</td>
<td></td>
</tr>
<tr>
<td>Suspense</td>
<td>158,510</td>
<td></td>
</tr>
<tr>
<td></td>
<td>794,120</td>
<td>794,120</td>
</tr>
</tbody>
</table>
(ii) **Suspense Account**

<table>
<thead>
<tr>
<th></th>
<th>N'000</th>
<th>N'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance b/d</td>
<td>158,510</td>
<td></td>
</tr>
<tr>
<td>Receivables</td>
<td>75,980</td>
<td></td>
</tr>
<tr>
<td>Bad debt written off</td>
<td>2,800</td>
<td></td>
</tr>
<tr>
<td>Wages</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>Drawings</td>
<td>29,730</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>158,510</strong></td>
<td><strong>158,510</strong></td>
</tr>
</tbody>
</table>

**MARKING GUIDE**

<table>
<thead>
<tr>
<th></th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Trial Balance – Definition</td>
<td>1</td>
</tr>
<tr>
<td>- Purpose</td>
<td>1</td>
</tr>
<tr>
<td>b. Errors that will not affect trial balance agreement</td>
<td>2</td>
</tr>
<tr>
<td>- 4 entries at ½ mark each</td>
<td></td>
</tr>
<tr>
<td>C i. Journal entries</td>
<td>5</td>
</tr>
<tr>
<td>- 10 entries excluding narration at ½ mark each</td>
<td></td>
</tr>
<tr>
<td>ii. Adjusted trial balance</td>
<td></td>
</tr>
<tr>
<td>- Title</td>
<td>1</td>
</tr>
<tr>
<td>- 20 entries including working at ½ mark</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>20</td>
</tr>
</tbody>
</table>

**EXAMINER’S REPORT**

The question tests Candidates’ knowledge of definition of trial balance and its purpose. They are also required to prepare adjusting correcting Journal Entries and Trial Balance after effecting the corrections.

Most Candidates attempted the question but performance was below average. Commonest pitfall is raising of incorrect journal entries resulting in drawing up incorrect trial balance. Narration to the journals were either not written or improperly constructed.

Candidates are advised to read up basic double entry principles involving adjustment of errors and preparing trial balance thereafter.
## SOLUTION 2

**ABUBA SOCIAL CLUB**

### a. BAR TRADING ACCOUNT FOR THE YEAR ENDED 31 MARCH, 2016

<table>
<thead>
<tr>
<th></th>
<th>N'000</th>
<th>N’000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td></td>
<td>405,000</td>
</tr>
<tr>
<td>Less: Cost of sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opening inventory</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td>277,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>307,500</td>
<td></td>
</tr>
<tr>
<td>Closing inventory</td>
<td>(37,500)</td>
<td>270,000</td>
</tr>
<tr>
<td>Gross profit</td>
<td></td>
<td>135,000</td>
</tr>
</tbody>
</table>

### b. Income and Expenditure Account for the year ended 31 March 2016.

<table>
<thead>
<tr>
<th></th>
<th>N'000</th>
<th>N’000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar Gross Profit</td>
<td></td>
<td>135,000</td>
</tr>
<tr>
<td>Subscriptions (Wk i)</td>
<td></td>
<td>249,750</td>
</tr>
<tr>
<td>Donations</td>
<td></td>
<td>22,500</td>
</tr>
<tr>
<td>Christmas Dance Income</td>
<td></td>
<td>12,750</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rates (Wk ii)</td>
<td></td>
<td>14,250</td>
</tr>
<tr>
<td>General Expenses</td>
<td></td>
<td>393,000</td>
</tr>
<tr>
<td>Depreciation Premises</td>
<td></td>
<td>30,000</td>
</tr>
<tr>
<td>Furniture</td>
<td></td>
<td>15,000</td>
</tr>
<tr>
<td><strong>Deficit</strong></td>
<td></td>
<td>(34,500)</td>
</tr>
</tbody>
</table>
**ABUBA Social Club**

**Statement of Financial Position as at 31 March, 2016**

<table>
<thead>
<tr>
<th>Cost</th>
<th>Acc. Depr.</th>
<th>Carrying Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Club premises</td>
<td>750,000</td>
<td>480,000</td>
</tr>
<tr>
<td>Furniture</td>
<td>150,000</td>
<td>120,000</td>
</tr>
<tr>
<td><strong>Total Non-Current Assets</strong></td>
<td>900,000</td>
<td>600,000</td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar inventory</td>
<td></td>
<td>37,500</td>
</tr>
<tr>
<td>Subscription outstanding</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td>Cash and Bank balances</td>
<td></td>
<td>33,000</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td></td>
<td>79,500</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td></td>
<td>379,500</td>
</tr>
<tr>
<td><strong>Equity and Liabilities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated Fund (Wk 3)</td>
<td>405,000</td>
<td></td>
</tr>
<tr>
<td>Deficit</td>
<td>(34,500)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Equity</strong></td>
<td>370,500</td>
<td></td>
</tr>
<tr>
<td><strong>Current Liabilities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rates owing</td>
<td>7,500</td>
<td></td>
</tr>
<tr>
<td>Subscription in advance</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total Equity and Liabilities</strong></td>
<td>379,500</td>
<td></td>
</tr>
</tbody>
</table>

**Working Notes**

**Subscription Account**

<table>
<thead>
<tr>
<th>Subscription due b/f</th>
<th>13,500</th>
<th>Sub. in advance b/f</th>
<th>750</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income &amp; Exp. (bal. fig)</td>
<td>249,750</td>
<td>Receipt &amp; Payment</td>
<td>255,000</td>
</tr>
<tr>
<td>Sub. in advance c/d</td>
<td>1,500</td>
<td>Subscription due c/d</td>
<td>9,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>264,750</td>
<td><strong>264,750</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Rates Account**

<table>
<thead>
<tr>
<th>Receipt &amp; Payment</th>
<th>13,500</th>
<th>Owing b/f</th>
<th>6,750</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owing c/d</td>
<td>7,500</td>
<td>Income &amp; Exp. (bal. fig)</td>
<td>14,250</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>21,000</td>
<td><strong>21,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

Bal. b/d | 7,500 |
Wk 3: Statement of Affairs as at April 11, 2015

**Assets:**

<table>
<thead>
<tr>
<th>Description</th>
<th>N’000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscription due</td>
<td>13,500</td>
</tr>
<tr>
<td>Bar inventory</td>
<td>30,000</td>
</tr>
<tr>
<td>Bank balance</td>
<td>24,000</td>
</tr>
<tr>
<td>Club premises: Cost</td>
<td>750,000</td>
</tr>
<tr>
<td>Accumulated Depr.</td>
<td>(450,000)</td>
</tr>
<tr>
<td>Furniture: Cost</td>
<td>150,000</td>
</tr>
<tr>
<td>Accumulated Depr.</td>
<td>(105,000)</td>
</tr>
<tr>
<td>Total Assets</td>
<td>412,500</td>
</tr>
</tbody>
</table>

**Liabilities:**

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscription paid in advance</td>
<td>750</td>
</tr>
<tr>
<td>Rates owing</td>
<td>6,750</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>(7,500)</td>
</tr>
<tr>
<td>Accumulated Fund</td>
<td>405,000</td>
</tr>
</tbody>
</table>

**MARKING GUIDE**

- **Bar Trading** – 6 entries at ½ mark each: 3 marks
- **Income & Expenditure** – Any 10 entries at ½ mark: 5 marks
- **SOFP** – Any 16 entries at ½ mark each: 8 marks
- **Workings:** Any 16 entries at ¼ mark each: 4 marks
  - **Total:** 20 marks

**EXAMINER’S REPORT**

The question tests candidates understanding of the preparation of financial statements of Not-for-Profit Organisation.

Most candidates attempted the question and performance was average. Some candidates could not correctly derive subscription figure that is accounted for in income and expenditure account.

Candidates should use the study text of the Institute to learn principles of preparation of financial statements of Not-for-Profit Organisations and practice past questions for better performance in future examinations.
### SOLUTION 3

**Uche and Sons**

**Extended Trial Balance as at September 30, 2015**

<table>
<thead>
<tr>
<th>Initial Trial Balance</th>
<th>Adjustment</th>
<th>Statement of Profit or Loss</th>
<th>Statement of Fin. Position</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DR.</strong></td>
<td><strong>CR.</strong></td>
<td><strong>DR.</strong></td>
<td><strong>CR.</strong></td>
</tr>
<tr>
<td>N'000</td>
<td>N'000</td>
<td>N'000</td>
<td>N'000</td>
</tr>
<tr>
<td><strong>Capital at October 1, 2014</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Purchases</strong></td>
<td>776,400</td>
<td>1,600</td>
<td>774,800</td>
</tr>
<tr>
<td><strong>Sales</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Salaries and wages</strong></td>
<td>66,880</td>
<td>6,024</td>
<td>72,904</td>
</tr>
<tr>
<td><strong>Rent and rates</strong></td>
<td>28,004</td>
<td>3,200</td>
<td>24,804</td>
</tr>
<tr>
<td><strong>Receivables</strong></td>
<td>144,600</td>
<td>2,840</td>
<td></td>
</tr>
<tr>
<td><strong>Bad debts</strong></td>
<td>3,768</td>
<td></td>
<td>6,608</td>
</tr>
<tr>
<td><strong>Drawings</strong></td>
<td>19,004</td>
<td>4,000</td>
<td></td>
</tr>
<tr>
<td><strong>Allowances for Receivables</strong></td>
<td>7,404</td>
<td>316</td>
<td></td>
</tr>
<tr>
<td><strong>Bank</strong></td>
<td>5,632</td>
<td></td>
<td>3,232</td>
</tr>
<tr>
<td><strong>Payables</strong></td>
<td>68,616</td>
<td>2,400</td>
<td>68,616</td>
</tr>
<tr>
<td><strong>Cash</strong></td>
<td>668</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inventories at October 1, 2014</strong></td>
<td>164,248</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motorcycle (at cost)</strong></td>
<td>14,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acc. Depr. on Motorcycle</strong></td>
<td>4,200</td>
<td>2,880</td>
<td>7,080</td>
</tr>
<tr>
<td><strong>Bank interest received</strong></td>
<td>1,756</td>
<td>100</td>
<td>1,856</td>
</tr>
<tr>
<td><strong>Commission received</strong></td>
<td>5,400</td>
<td>800</td>
<td>4,600</td>
</tr>
<tr>
<td><strong>Closing Inventory (SOFP)</strong></td>
<td>198,712</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Closing Inventory (SOPL)</strong></td>
<td></td>
<td>198,712</td>
<td>198,712</td>
</tr>
<tr>
<td><strong>Prepaid rent</strong></td>
<td>3,200</td>
<td>3,200</td>
<td></td>
</tr>
<tr>
<td><strong>Depr. On Motorcycle</strong></td>
<td>2,880</td>
<td>2,880</td>
<td></td>
</tr>
<tr>
<td><strong>Accrued salaries and wages</strong></td>
<td></td>
<td>6,024</td>
<td>6,024</td>
</tr>
<tr>
<td><strong>Prepaid commission received</strong></td>
<td></td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td><strong>Accrued bank interest rec.</strong></td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Decrease in allowance for rec</strong></td>
<td></td>
<td>316</td>
<td>316</td>
</tr>
<tr>
<td><strong>Profit for the year</strong></td>
<td></td>
<td>205,040</td>
<td>205,040</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,223,604</td>
<td>218,872</td>
<td>1,251,284</td>
</tr>
</tbody>
</table>
MARKING GUIDE

Using extended Trial Balance to prepare Financial Statement Marks
Available entries excluding totals 65
Maximum obtainable = 60 entries at $\frac{1}{3} =$ 20

EXAMINER’S REPORT

The question required candidates to prepare extended Trial Balance in columnar format showing initial trial balance, journal adjustments, posting to Statement of Profit or Loss and Statement of Financial Position of a Sole Trader.

Many Candidates attempted the question but performance was poor.

Most Candidates did not follow the instruction to use the Extended Trial Balance consequently resulting in loss of marks.

Candidates are advised to practice with past questions involving preparation of Extended Trial Balance to enhance their performance in future examinations.

SOLUTION 4

ai. Receivables Ledger Control Account

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance c/d</td>
<td>115,440</td>
</tr>
<tr>
<td>Accounts payable ledger-Contra</td>
<td>700</td>
</tr>
<tr>
<td>Corrected balance c/d</td>
<td>114,740</td>
</tr>
<tr>
<td></td>
<td>115,440</td>
</tr>
</tbody>
</table>

ii. Reconciliation of Receivables Ledger control account and Receivable Ledger balances

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receivables ledger balances – Debit</td>
<td>116,374</td>
</tr>
<tr>
<td>Receivables ledger balances – Credit</td>
<td>(1,234)</td>
</tr>
<tr>
<td></td>
<td>115,140</td>
</tr>
<tr>
<td>Centra entry</td>
<td>(700)</td>
</tr>
<tr>
<td>Credit balance error in P Quinn reversed</td>
<td>600</td>
</tr>
<tr>
<td>Allowances granted to customers earlier omitted</td>
<td>(300)</td>
</tr>
<tr>
<td>Balance as per receivables ledger control accounts</td>
<td>114,740</td>
</tr>
</tbody>
</table>
b. **Suspense Account**

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance b/d</td>
<td>3,310</td>
<td>3,310</td>
</tr>
<tr>
<td>Bank balance error (2 × 1700)</td>
<td></td>
<td>3,400</td>
</tr>
<tr>
<td>Insurance overcast</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Cash account understated (345 – 245)</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Payables</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td><strong>3,500</strong></td>
<td><strong>3,500</strong></td>
</tr>
</tbody>
</table>

c. i **Payables Ledger Control Accounts**

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases invoice overstated by M Quinns</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>Balance b/d</td>
<td>600</td>
<td>80,901</td>
</tr>
<tr>
<td>Purchases overcast</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Balance c/d</td>
<td><strong>79,103</strong></td>
<td><strong>80,901</strong></td>
</tr>
</tbody>
</table>

ii. Reconciliation of Payables control account to Payables ledger account

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening payables credit balances</td>
<td>80,412</td>
</tr>
</tbody>
</table>
| Opening payables debit balances         | (1,111) 
| Purchases invoice overstated (654 – 456) | (198) |
| Balance as per payables ledger control  | **79,103** |

**MARKING GUIDE**

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Reconciliation of receivables ledger control with receivables ledger balances</td>
<td>8</td>
</tr>
<tr>
<td>8 entries at 1 mark per tick</td>
<td></td>
</tr>
<tr>
<td>b. Suspense Accounts</td>
<td>2½</td>
</tr>
<tr>
<td>- 5 entries at ½ mark each</td>
<td>1</td>
</tr>
<tr>
<td>Workings – 2 entries at ½ mark each</td>
<td>½</td>
</tr>
<tr>
<td>Total figure 1 entry @ ½</td>
<td>4</td>
</tr>
<tr>
<td>c. Reconciliation of Payables ledger control with Payable ledger balances</td>
<td>8</td>
</tr>
<tr>
<td>8 entries @ 1 mark each</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>
EXAMINER’S REPORT

The question tests candidates’ knowledge on how to reconcile control accounts with the individual ledger accounts.

Only about 20 percent of the candidates attempted the question and their performance was below average.

Candidates failed the question because they did not have a good understanding of the difference between the entries/transactions affecting control accounts and the individual ledger accounts.

Control accounts include a summary of transactions in the day books that have occurred in the period, while ledger accounts are a separate account for each credit customer or credit supplier.

Reconciliation is necessary because of errors in the day books or individual accounts or both. The errors might include errors of addition, wrong posting of figures from day books or from individual customer’s or supplier’s balances. The correction to be made depends in which account the error is committed.

Candidates are advised to grasp well the principles of double-entry and study this area in the study text in-depth.

SOLUTION 5

MR. MALA’S BOOKSHOP

(a) Estimate of Mala’s profit for the year ended 31 December 2015

\[
\begin{array}{lcc}
\text{Networth as at 31 December 2015 (w1)} & \text{N’000} & 17,290 \\
\text{Less Net worth at 1 Jan 2015 (w1)} & \text{N’000} & 12,570 \\
\text{Increase in net worth} & \text{N’000} & 4,720 \\
\text{Add:} & \\
\text{Drawings of Inventory} & \text{N’000} & 1,200 \\
\text{Drawing in cash and kind} & \text{N’000} & 2,800 \\
\text{8,720} & \text{N’000} & 4,000 \\
\text{Less:} & \\
\text{Expenses not yet adjusted} & \\
\text{Bad debt written off} & \text{N’000} & 300 \\
\text{Notional Rent} & \text{N’000} & 1,000 \\
\text{Depreciation on Furniture & fitting} & \text{N’000} & 300 \\
\text{Depreciation on Delivery Van} & \text{N’000} & 720 \\
\text{Net profit for year} & \text{N’000} & 6,400 \\
\end{array}
\]
## Statement of financial position as at December 31, 2015

### Cost

<table>
<thead>
<tr>
<th>Non-Current Assets:</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture &amp; fittings</td>
<td>2,000</td>
</tr>
<tr>
<td>Delivery van</td>
<td>3,600</td>
</tr>
</tbody>
</table>

### Accruals

<table>
<thead>
<tr>
<th>Non-Current Assets:</th>
<th>Accruals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture &amp; fittings</td>
<td>300</td>
</tr>
<tr>
<td>Delivery van</td>
<td>720</td>
</tr>
</tbody>
</table>

### Carrying Value

<table>
<thead>
<tr>
<th>Non-Current Assets:</th>
<th>Carrying Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture &amp; fittings</td>
<td>1,700</td>
</tr>
<tr>
<td>Delivery van</td>
<td>2,880</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Assets:</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventories</td>
<td>22,400</td>
</tr>
<tr>
<td>Trade receivables</td>
<td>9,800</td>
</tr>
<tr>
<td>Irrecoverable debt</td>
<td>(300)</td>
</tr>
<tr>
<td>Bills receivables</td>
<td>3,200</td>
</tr>
</tbody>
</table>

### Cash in hand

<table>
<thead>
<tr>
<th>Current Assets:</th>
<th>Accruals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventories</td>
<td>22,400</td>
</tr>
<tr>
<td>Trade receivables</td>
<td>9,800</td>
</tr>
<tr>
<td>Irrecoverable debt</td>
<td>(300)</td>
</tr>
<tr>
<td>Bills receivables</td>
<td>3,200</td>
</tr>
<tr>
<td>Cash in hand</td>
<td>890</td>
</tr>
</tbody>
</table>

### Total Current Assets

- **Total**: 35,990

### Total Assets

- **Total**: 40,570

### Equity and Liabilities:

<table>
<thead>
<tr>
<th>Equity and Liabilities:</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity at start</td>
<td>12,570</td>
</tr>
<tr>
<td>Additional capital introduced (notional rent)</td>
<td>1,000</td>
</tr>
<tr>
<td>Net profit for the year</td>
<td>6,400</td>
</tr>
<tr>
<td>Drawings</td>
<td>(4,000)</td>
</tr>
<tr>
<td>Equity at end</td>
<td>15,970</td>
</tr>
</tbody>
</table>

### Current Liabilities:

<table>
<thead>
<tr>
<th>Current Liabilities:</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade payables</td>
<td>8,400</td>
</tr>
<tr>
<td>Bills payables</td>
<td>2,200</td>
</tr>
<tr>
<td>Bank overdraft</td>
<td>14,000</td>
</tr>
</tbody>
</table>

### Total Liabilities

- **Total**: 24,600

### Total Equity and Liabilities

- **Total**: 40,570

### Working Notes

#### W1 Calc. of Net Worth/Capital as at

<table>
<thead>
<tr>
<th></th>
<th>1 Jan, 2015</th>
<th>31 Dec, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-current assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Furniture &amp; Fittings</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Delivery Vans</td>
<td>3,600</td>
<td>3,600</td>
</tr>
<tr>
<td>Current Assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>20,400</td>
<td>22,400</td>
</tr>
<tr>
<td>Sundry receivables</td>
<td>12,400</td>
<td>9,800</td>
</tr>
<tr>
<td>Bills receivables</td>
<td>3,100</td>
<td>3,200</td>
</tr>
<tr>
<td>Cash in hand</td>
<td>400</td>
<td>890</td>
</tr>
<tr>
<td></td>
<td>41,900</td>
<td>41,890</td>
</tr>
</tbody>
</table>
Less current liabilities:

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sundry payables</td>
<td>9,120</td>
<td>8,400</td>
</tr>
<tr>
<td>Bills Payables</td>
<td>2,210</td>
<td>2,200</td>
</tr>
<tr>
<td>Bank Overdraft</td>
<td>18,000</td>
<td>(29,330)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14,000</td>
</tr>
<tr>
<td>Networth/capital</td>
<td>12,570</td>
<td>17,290</td>
</tr>
</tbody>
</table>

**MARKING GUIDE**

<table>
<thead>
<tr>
<th></th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Estimate of Profit or Loss:</td>
<td>6</td>
</tr>
<tr>
<td>12 entries at ½ mark each</td>
<td></td>
</tr>
<tr>
<td>b. Statement of Financial position</td>
<td>10</td>
</tr>
<tr>
<td>20 entries at ½ mark each</td>
<td></td>
</tr>
<tr>
<td>Workings – Net worth/Capital: 16 entries at ¼</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>

**EXAMINER’S REPORT**

The basic principle examined in this question is candidates’ ability to prepare financial statements by first deducing the profit for the period from the difference in capital balances at the end and beginning of the period. This requires the application of the accounting equation where:

closing capital = opening capital + profit/(loss) for the period less drawings.

Over 80 percent of the candidates attempted this question and the performance was above average.

However, few candidates who failed the question did not apply the equation correctly. To obtain profit as the subject of the equation:

profit = closing capital + drawings – opening capital.

The ICAN Study Text is very explicit on how to prepare financial statements from incomplete records and single entries. Candidates are advised to Study the text in-depth.

**SOLUTION 6**

(a). Classification of expenditure into Revenue or Capital

i. A number of new cars that had recently been cleared by a motor car dealing company - **Revenue Expenditure**

ii. Two new motor boats acquired by a ferry service agency Capital Expenditure **Capital Expenditure**
iii. Vacant houses owned by an estate developing company in respect of which negotiations are ongoing for assistance for their sale to prospective landlords – **Revenue Expenditure**

iv. New buildings acquired for the purpose of holding the items of plant and machinery belonging to a detergent manufacturing company – **Capital Expenditure**

v. Cost of acquiring a leasehold property for office use – **Capital Expenditure**

vi. Granites purchased by an engineering contractor for use at a construction site. – **Revenue Expenditure**

vii. Cost of rehabilitating a dilapidated housing unit owned by an estate developer – **Capital Expenditure**

viii. Repairs to plant and machinery in a manufacturing company – **Revenue Expenditure**

b) Recognition of the items in the Financial Statement

<table>
<thead>
<tr>
<th>S/N</th>
<th>Recognition in the statement of profit or loss</th>
<th>Recognition in the statement of financial position</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Treated as purchases and added as part of cost of sale</td>
<td>Recognised as unsold inventories (if any) as part of current assets</td>
</tr>
<tr>
<td>ii.</td>
<td>Only the portion consumed as depreciation during the year will be recognised as part of operating expenses</td>
<td>Recognised as part of non-current asset at its carrying amount (i.e. cost less accumulated depreciation)</td>
</tr>
<tr>
<td>iii.</td>
<td>Treated as Inventories and added as part of cost of sale</td>
<td>Recognised as unsold inventories (if any) as part of current assets</td>
</tr>
<tr>
<td>iv.</td>
<td>Only the portion consumed as depreciation during the year will be recognised as part of operating expenses</td>
<td>Recognised as part of non-current asset at its carrying amount (i.e. cost less accumulated depreciation)</td>
</tr>
<tr>
<td>v.</td>
<td>Only the portion consumed as depreciation during the year will be recognised as part of operating expenses</td>
<td>Recognised as part of non-current asset at its carrying amount (i.e. cost less accumulated depreciation)</td>
</tr>
<tr>
<td>vi.</td>
<td>Recognised as a direct expense in the statement of profit or loss</td>
<td>Only accrued or prepaid (if any) of such expenses will be recognised in the statement of financial position.</td>
</tr>
<tr>
<td>vii.</td>
<td>Only the portion consumed as</td>
<td>Recognised as part of non-current</td>
</tr>
<tr>
<td>S/N</td>
<td>Recognition in the statement of profit or loss</td>
<td>Recognition in the statement of financial position</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>depreciation during the year will be recognised as part of operating expenses</td>
<td>asset at its carrying amount (i.e. cost less accumulated depreciation)</td>
</tr>
<tr>
<td>viii.</td>
<td>Recognised as an operating expenses in the statement of profit or loss</td>
<td>Only accrued or prepaid (if any) of such expenses will be recognised in the statement of financial position.</td>
</tr>
</tbody>
</table>

c) Effect of the items on non-current assets register

The non-current assets register will only be affected by items ii, iv, v and vii and their effect on the non-current asset register is that it will only increase the value of the non-current asset by their carrying amount (i.e. Cost – Accumulated depreciation).

MARKING GUIDE

| Identification of 8 cost at ½ mark each | 4 |
| Recognition in Statement of profit or loss at ¾ mark each | 6 |
| Recognition in Statement of Financial position Position at ¾ mark each | 6 |
| Identification of 4 items that affect asset register @ ½ mark | 2 |
| Treatment in non-current asset register at ½ mark | 2 |
| **Total** | **20** |

EXAMINER’S REPORT

The question examines candidates’ ability to identify capital and revenue expenditures from a set of given items and their treatments in the financial statements and non-current assets register.

About 90 percent of the candidates attempted the question and performance was average. Many candidates did well in part ‘a’ of the question. In part ‘b’ performance was poor because the candidates suggested that capital expenditure should be treated only in statement of financial position without stating the effect of the depreciation charged in the statement of profit or loss.

Moreover, the effect of revenue items on profit or loss was correctly mentioned with failure to note the effect of the accrual concept in the statement of financial position.
Few candidates did not know the use of non-current asset register and the effect of capital items on the register.

Candidates are advised to pay attention to details of every aspect of the syllabus as enunciated in the Study Texts.
1. A company pays a manager a salary of N40,000 monthly when production is below 320 hours, when the production is between 320-640 hours two managers would be required. This type of cost is called
A. Fixed cost
B. Variable cost
C. Stepped variable cost
D. Stepped fixed cost
E. Semi-variable cost

2. Which ONE of the following is NOT included in the cost of inventory in storage?
A. Direct materials cost
B. Direct labour cost
C. Direct expenses
D. Period cost
E. Production overhead

3. Which of the following is similar to accounting for scrap value of abnormal gain?
A. Accounting for scrap value of abnormal loss
B. Accounting for scrap value of normal loss
C. Accounting for scrap value of normal gain
D. Accounting for scrap value of by-products
E. Accounting for scrap value of joint products

4. The formula which states that total contributions equal units of sales multiplied by contribution per unit is correct if Selling price
A. And fixed cost are constant
B. And variable cost are constant
C. Varies and variable cost is constant
D. Varies and fixed cost is constant
E. And variable cost vary
Direct Material: N10
Direct Labour hour: N30/12 minutes
Budgeted production: 1,000,000 units
Budgeted production overhead: N2,000,000

5. The following data were extracted from the records of ABCYZ Limited in respect of its product YZ:

The absorption rate using Direct Labour is
A. N2.00
B. N8.00
C. N12.00
D. N24.00
E. N40.00

6. The net profit was N2,650,000 using absorption costing and the closing inventory was 14,600 units. Production overhead absorption rate was N18.50 per unit. If the Non-production absorption rate was N14.00 per unit, then the net profit using marginal costing is
A. N2,379,900
B. N2,445,600
C. N2,650,000
D. N2,854,400
E. N2,920,100

7. The following are functional budgets EXCEPT
A. Sales budget
B. Production budget
C. Distribution budget
D. Cash budget
E. Selling cost budget

8. The budgetary system that requires each budgeting unit to justify all costs in each year rather than year-to-year cost change is called
A. Incremental budget
B. Rolling budget
C. Flexible budget
D. Zero-based budget
E. Program planning budgetary system
9. A company budgets to sell 55,000 units of its products at ₦40 per unit for a variable cost of ₦15. If the fixed cost for the period is expected to be ₦340,000, then the contribution/sales ratio is
A. 60.5%
B. 61.5%
C. 62.5%
D. 63.5%
E. 64.5%

10. The functions of a Budget Committee include the following EXCEPT
A. Establishment of budget procedures and time table
B. Installation of production capacity for the business
C. Revision and acceptance of budgets
D. Co-ordination of business forecasts
E. Review of performance report

11. A company manufactures a single product with a sales price of ₦1,000 and a marginal cost of ₦650. If the fixed cost is ₦685,300 per annum, then the number of units required to Break Even is
A. 1,950
B. 1,955
C. 1,958
D. 1,985
E. 1,988

12. The intentional over estimation of expenses and/or under estimation of revenue in a budget is the definition of
A. Budget slack
B. Sub-optimisation
C. Budget targets
D. Incremental budgeting
E. Budget setting

13. Which of the following is NOT an element of a control system?
A. Behavioural capability
B. Input, process, output
C. Sensor
D. Comparator
E. Effector

14. Which of the following is NOT an output device for a computer system?
A. Monitor
B. Printer
C. Pointer
D. Speaker
E. Projector
15. **THREE** categories of System Software are: Operating System Software, Utility Software and
   A. Communication Software
   B. Application Software
   C. Language Translator
   D. Java
   E. Editor

16. Information Technology (IT) describes the application of computer systems and......................... to store, retrieve, transmit and manipulate data.
   A. Telecommunication Equipment
   B. Telecommunication Media
   C. Transmission Signets
   D. Synchronous Transmission
   E. Telecommunication Software

17. Which of the following is NOT a computer network configuration?
   A. Star network
   B. Ring network
   C. Bus network
   D. Tree network
   E. Circuit network

18. With reference to the web, the meaning of the acronym HTML is
   A. Hypertext Markup Language
   B. Hypertext Makeup Language
   C. Hypertext Markup Language
   D. Hypertext Makeup Language
   E. Hypertext Mark Language

19. The following are data processing methods EXCEPT
   A. Transaction Processing
   B. Star-Ring Processing
   C. Batch Processing
   D. Online Processing
   E. Real-time Processing

20. The following are measures for the management of risks EXCEPT
   A. Identifying risks to system security
   B. Evaluating and prioritising the identified risks
   C. Developing controls to avoid the identified risks or control the risk within acceptance limits
   D. Implementing the controls and monitoring their effectiveness
   E. Allowing the risks to manifest and monitor control
SECTION B:
INSTRUCTION: ANSWER ANY FOUR OUT OF SIX QUESTIONS IN THIS SECTION  (80 MARKS)

QUESTION 1
a. State any TWO advantages and any TWO disadvantages of absorption and marginal costing. (8 Marks)

b. Grammar Limited manufactures product G of which the sales for the year 2015 was ₦25,000,000 at the unit price of ₦40. Production overhead and selling overhead were ₦2.50 and ₦1.50 per unit, respectively. The following additional information are available for the year 2015:

   ₦/unit
   Direct material used  8.50
   Direct labour          7.50
   Fixed production overhead  6.00
   Fixed selling overhead  2.00
   Administration overhead  4.00

You are required to calculate:

i. Full production cost per unit and value
ii. Variable cost per unit and value
iii. Contribution per unit and value
iv. Break-even point in value
v. Total non-production cost per unit and value
vi. New break-even point (to the nearest Naira) if additional distribution expenses of ₦1.50/unit was incurred (12 Marks)

(Total 20 Marks)

QUESTION 2
a. "Under Zero-Based Budgeting, a budget decision must be made before including any decision package in the budget". State what factors you would consider in including a decision-package in a zero-based budget. (5 Marks)

b. Mr. Kogberegbe, a small manufacturer, has approached you as a Cost Accountant with the following data:
Sales Forecast

<table>
<thead>
<tr>
<th>Month</th>
<th>Sales Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2016</td>
<td>2,400,000</td>
</tr>
<tr>
<td>July 2016</td>
<td>2,800,000</td>
</tr>
<tr>
<td>August 2016</td>
<td>2,000,000</td>
</tr>
<tr>
<td>September 2016</td>
<td>3,000,000</td>
</tr>
<tr>
<td>October 2016</td>
<td>3,600,000</td>
</tr>
<tr>
<td>November 2016</td>
<td>3,800,000</td>
</tr>
</tbody>
</table>

Additional information:
- Purchases are 45% of selling price and are paid for two months after delivery. Delivery is in the month of sales.
- Collections from sales are 25% in the month of sales less 2% cash discount, 55% in the month after sales and the balance in the third month after sales.
- Production overheads are paid in the same month in which they are incurred and this amounts to N1,240,000 per month. Included in this amount are depreciation of N70,000 and prepaid rent of N500,000.
- Other expenses are paid for in arrears and these amount to N620,000 per month.
- New plant of N540,000 will be bought in the month of January and installed at a cost of N75,000 the following month.
- Bank opening balance as at August 2016 shows an overdraft of N2,150,000 and interest is charged at 3% of drawn down balance. Ignore other bank charges.

Required:

Prepare a cash budget for Mr. Kogberegbe's business for the three months i.e, **September to November, 2016**. Calculate the values to the nearest naira and show all your workings.  

(Total 20 Marks)
QUESTION 3

HEALTH-GRACE limited produces one standard product called Bambino Syrup which sells at N20.00 per bottle. The trading results for the six months ended June 30, 2015 were as follows:

<table>
<thead>
<tr>
<th>MONTH</th>
<th>SALES (UNITS)</th>
<th>PROFIT/ LOSS (₦)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>120,000</td>
<td>80,000</td>
</tr>
<tr>
<td>February</td>
<td>140,000</td>
<td>120,000</td>
</tr>
<tr>
<td>March</td>
<td>60,000</td>
<td>(40,000)</td>
</tr>
<tr>
<td>April</td>
<td>96,000</td>
<td>32,000</td>
</tr>
<tr>
<td>May</td>
<td>104,000</td>
<td>24,000</td>
</tr>
<tr>
<td>June</td>
<td>72,000</td>
<td>16,000</td>
</tr>
</tbody>
</table>

From the above information, you are required to calculate the following:

a. Break-even point in units and Naira value (2 Marks)
b. Fixed cost (2 Marks)
c. Variable cost per unit (8 Marks)
d. Profit volume ratio (2 Marks)
e. Contribution, assuming 70,000 bottles are sold (2 Marks)
f. Margin of safety assuming 90,000 bottles are sold. (1 Mark)
g. The number of bottles to be sold to generate a profit after tax of N70,000 assuming the tax rate is 70%. (3 Marks)

(Total 20 Marks)

QUESTION 4

a. Define the term “Open System” (2 Marks)
b. Enumerate FOUR ways by which each of the following open systems will adapt to its environment:
   i. Deterministic Systems
   ii. Probabilistic Systems
   iii. Cybernetic Systems (12 Marks)
c. Differentiate between Feedback and Feed forward control systems. (4 Marks)
d. Define “Operating System” of a computer system. (2 Marks)

(Total 20 Marks)
QUESTION 5

a. Define the term:
   i. "Computer Network". (2 Marks)
   ii. "Protocol" in relation to data transmission and state FOUR of its properties. (6 Marks)

b. Explain what is meant by Video Conferencing and state FOUR types of equipment used by participants in the process. (6 Marks)

c. State THREE advantages and THREE disadvantages of Video Conferencing. (6 Marks)

(Total 20 Marks)

QUESTION 6

a. Define the term:
   i. "Data Transmission". (2 Marks)
   ii. "Data warehouse".
   iii. Explain the term "Error Detection" in relation to data transmission and list four error detection algorithms. (6 Marks)

b. Quick Company Limited manufactures three products X, Y, and Z. Production and related costs have been budgeted for a period as follows:

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Units</td>
<td>40,000</td>
<td>30,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Direct Materials</td>
<td>600,000</td>
<td>300,000</td>
<td>160,000</td>
</tr>
<tr>
<td>Direct Labour</td>
<td>400,000</td>
<td>150,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Machine hours</td>
<td>10,000</td>
<td>6,000</td>
<td>4,000</td>
</tr>
</tbody>
</table>

Overhead costs:
- Purchasing function: 180,000
- Machine related costs: 114,000
- Set-up cost: 132,000
- Storage: 48,000
- Materials handling: 88,000
- Inspection: 120,000

Total: 682,000
The following activities which are related to the product line have been budgeted for the period:

<table>
<thead>
<tr>
<th></th>
<th>x</th>
<th>y</th>
<th>z</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of purchases</td>
<td>20</td>
<td>30</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Number of stores requisitions</td>
<td>100</td>
<td>80</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>Number of set ups</td>
<td>80</td>
<td>140</td>
<td>1,180</td>
<td>400</td>
</tr>
<tr>
<td>Number of movements of materials</td>
<td>120</td>
<td>36</td>
<td>20</td>
<td>176</td>
</tr>
<tr>
<td>Number of inspections</td>
<td>336</td>
<td>90</td>
<td>74</td>
<td>500</td>
</tr>
</tbody>
</table>

Required:

Calculate the cost per unit for each product using ABC system.  

(Total 20 Marks)
SOLUTION

MCQ

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

a. **Advantages of Absorption Costing**
   i. Inventory values include an element of fixed production overhead. This is consistent with the requirement of the accounting standard.
   ii. Calculating under/over absorption of overhead is useful in determining overhead expenditure.
   iii. By calculating full cost of sales for a product, it is possible to identify which products are profitable and which are being sold at a loss.
   iv. It is in compliance with the matching concepts.

b. **Disadvantages of Absorption Costing**
   i. It is a more complex system than marginal costing.
   ii. It does not provide information that is useful for decision making.
   iii. It does not support competitive pricing.
   iv. It does not show a realistic profit that is backed up with cash.
   v. It creates problems of calculation of over-and-under absorption of overheads.

c. **Advantages of Marginal Costing**
   i. It is easy to account for fixed overhead using marginal costing.
   ii. There is no under/cover absorption of overheads with marginal costing.
   iii. It provides useful information for decision making.

b. **Disadvantages of Marginal Costing**
   i. It does not value inventory in accordance with the accounting standards.
   ii. It does not help to identify profitable products.
   iii. It does not obey the matching concept.
   iv. It is used only for internal decision making and therefore cannot be used for financial reporting.
b. GRAMMAR LIMITED

Production in units = \( \frac{25,000,000}{40} = 625,000 \) units

i. Full production cost per unit and value

\[
\begin{align*}
\text{Direct material} & \quad 8.50 \\
\text{Direct labour} & \quad 7.50 \\
\text{Fixed production cost} & \quad 6.00 \\
\text{Variable production cost} & \quad 2.50 \\
\hline
\text{Total production cost per unit} & \quad 24.50
\end{align*}
\]

Value \( 625,000 \times N24.50 = N15,312,500 \)

ii. Variable cost per unit and value

\[
\begin{align*}
\text{Direct machine} & \quad 8.50 \\
\text{Direct labour} & \quad 7.50 \\
\text{Variable production overhead} & \quad 2.50 \\
\text{Selling Overhead} & \quad 1.50 \\
\hline
\text{Variable cost per unit} & \quad 20.00
\end{align*}
\]

Value \( 625,000 \times N20.00 = 12,000,000 \)

iii. Contribution per unit and value

\[
\begin{align*}
\text{Selling price} & \quad 40.00 \\
\text{Variable cost} & \quad (20.00) \\
\hline
\text{Contribution per unit} & \quad 20.00
\end{align*}
\]

Value \( 625,000 \times N20.00 = 125,000,000 \)

iv. Break even point in value

\[
\begin{align*}
\text{Break even point} & = \frac{\text{Fixed costs} \times \text{selling price}}{\text{Contribution per unit}} \\
& = \frac{N12x625,000}{20} \times 40 = N15,000,000
\end{align*}
\]
v. Total non-production cost per unit and value

\[
\begin{align*}
\text{Fixed selling overhead} & \quad 2.00 \\
\text{Variable selling overhead} & \quad 2.50 \\
\text{Administration overhead} & \quad 4.00 \\
\text{Total} & \quad 8.50
\end{align*}
\]

Value \( 625,000 \times 8.50 = \text{₦5,312,000} \)

vi. New break-even cost point

\[
\text{Break-even point} = \frac{New \ text{ fixed cost } \times Selling \ text{ price}}{New \ text{ contribution/unit}}
\]

\[
\text{Break-even point} = \text{₦} \left( \frac{12 + 1.50 \times 625,000}{18.50} \right) \times 40
\]

\[
= \text{₦} \left( \frac{8,437,500}{18.50} \right) = \text{₦18,243,243}
\]

**MARKING GUIDE**

a. Two advantages of absorption costing (one mark each) \( 2 \)
Two disadvantages of absorption costing (one mark each) \( 2 \)
Two advantages of marginal costing (one mark each) \( 2 \)
Two disadvantages of marginal costing (one mark each) \( 2 \)

b. Computation of full production cost per unit \( 1 \)
Computation of full production cost \( 1 \)

ii. Computation of variable cost per unit \( 1 \)
Computation of total variable cost \( 1 \)

iii. Computation of total contribution per unit \( 1 \)
Computation of total contribution \( 1 \)

iv. Computation of Break-Even Point Value \( 2 \)
v. Computation of total non-production cost per unit \( 1 \)
Computation of total non-production cost \( 1 \)

vi. Computation of new Break-Even Point \( 2 \) \( \text{12} \) \( \text{20} \)
EXAMINER’S REPORT

This question is in two parts. The first part tests candidates’ ability to decipher the merits and the demerits of Absorption Costing and Marginal Costing. The second part tests candidates’ ability to compute various approaches to product cost computation.

In general, questions were attempted by about 70% of the candidates but performance was poor as about 30% of the candidates who attempted the question scored 50% and above of the allocated mark.

Candidates who did not do well exhibited the following inadequacies:

i. Little understanding of absorption costing and marginal costing approaches
ii. Mix-up of the merits and demerits of absorption costing and marginal costing
iii. Relevance of absorption costing and marginal costing in management decision-making was poorly appreciated
iv. Inability to seamlessly separate costs into their fixed and variable components
v. Relevant and irrelevant costs were not sufficiently understood

Improvement in performance in future examinations will come if candidates

i. Spend more productive time for their studies
ii. Acquaint themselves more with recommended literature including the ICAN Study Text
iii. Work on past question papers and solutions provided in the Institutes’ Pathfinder

SOLUTION 2

a. The following are to be considered in decision package for a Zero-Based Budget

i. Purpose of the activity
ii. The likely results and benefit from the activity
iii. The resources required for the activity and their costs
iv. Alternative ways of achieving same purpose
v. A comparison of the cost and benefit of the activity
b.  MR KOGBEREGBE
CASH BUDGET FOR THE THREE MONTHS SEPTEMBER TO NOVEMBER 2016

<table>
<thead>
<tr>
<th></th>
<th>September '000</th>
<th>October '000</th>
<th>November '000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECEIPTS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collections from sales</td>
<td>2,395</td>
<td>2,932</td>
<td>3,511</td>
</tr>
<tr>
<td>Total inflow</td>
<td>2,395</td>
<td>2,932</td>
<td>3,511</td>
</tr>
<tr>
<td><strong>PAYMENTS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td>1,260</td>
<td>900</td>
<td>1,350</td>
</tr>
<tr>
<td>Production overheads</td>
<td>570</td>
<td>570</td>
<td>570</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>620</td>
<td>620</td>
<td>620</td>
</tr>
<tr>
<td>Interest on overdraft</td>
<td>57.3</td>
<td>60.67</td>
<td>37.23</td>
</tr>
<tr>
<td>Total Outflow</td>
<td>2,507.3</td>
<td>2,150.67</td>
<td>2,577.23</td>
</tr>
<tr>
<td><strong>Net Cash Inflow/ Outflow</strong></td>
<td>(112.3)</td>
<td>781.33</td>
<td>933.77</td>
</tr>
<tr>
<td>Balance brought forward</td>
<td>(1,910)</td>
<td>(2,022.3)</td>
<td>(1,240.97)</td>
</tr>
<tr>
<td>Balance carried forward</td>
<td>(2,022.3)</td>
<td>(1,240.97)</td>
<td>(307.2)</td>
</tr>
</tbody>
</table>

Workings:

<table>
<thead>
<tr>
<th>Collection from sales:</th>
<th>September '000</th>
<th>October '000</th>
<th>November '000</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>560</td>
<td>2,150.67</td>
<td>2,577.23</td>
</tr>
<tr>
<td>August</td>
<td>1,100</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>735</td>
<td>1,650</td>
<td>600</td>
</tr>
<tr>
<td>October</td>
<td>882</td>
<td>1,980</td>
<td></td>
</tr>
<tr>
<td>November</td>
<td></td>
<td>931</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2,395</td>
<td>2,932</td>
<td>3,511</td>
</tr>
</tbody>
</table>

MARKING GUIDE

a.  5 factors to consider in including a decision package (1 mark each)  
5

b.  3 ticks for sales (Sept, Oct, Nov)  
3 ticks for total receipts (Sept, Oct, Nov)  
3 ticks for purchases (Sept, Oct, Nov)  
3 ticks for production overhead (Sept, Oct, Nov)  
3 ticks for other expenses (Sept, Oct, Nov)  
3 ticks for interest on bank loan (Sept, Oct, Nov)  
3 ticks for total payments (Sept, Oct, Nov)
3 ticks for net cash flow (Sept, Oct, Nov)
3 ticks for opening cash balance (Sept, Oct, Nov)
3 ticks for closing cash balance (Sept, Oct, Nov)
30 ticks @ ½ mark per tick

EXAMINER’S REPORT

This question is split into (a) and (b). Part (a) tests candidates’ understanding and the intricacies of Zero-Based Budget. The part (b) tests the extent to which candidates understand the variability’s in cash budget.

This question appears popular among the candidates as about 80% of them attempted it. Performance was, however, fair as about 60% of the candidates who attempted the question scored 50% of the marks obtainable.

Common pitfalls demonstrated by candidates include the following:

i. Inability to generate the sales and purchases figures for the relevant months in the Cash Budget
ii. Inaccurate arithmetic
iii. Timing of outflow for a number of payments was poor
iv. Working was not shown on many occasions thereby leading to loss of marks

It is recommended that:

i. Candidates should use more of past question papers and their solutions as part of their preparation for future examinations
ii. Cover the contents of the syllabus more effectively and assiduously
iii. Spend more productive time for preparation
iv. Vary good quantity texts in their preparation

SOLUTION

a. Break-even point in units = Total fixed cost/contribution per unit
   = ₦160,000/(20-18) = 80,000 units

Break even point in value = Total fixed cost/contribution Margin Ratio
   = ₦160,000/(2/20) = ₦1,600,000
b. \( a = y - bx \)

where \( a = \) total fixed cost  
\( b = \) variable cost per unit, and  
\( x = \) units produced

Using January figures,

\[
a = ((N20 \times 120,000) - N80,000) - (N18 \times 120,000) = N2,320,000 - N2,160,000 = N160,000
\]

c. Using High and Low Methods

<table>
<thead>
<tr>
<th>Units</th>
<th>120,000</th>
<th>60,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price per unit</td>
<td>N20</td>
<td>N20</td>
</tr>
<tr>
<td>Sales value</td>
<td>2,400,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Total cost</td>
<td>2,320,000</td>
<td>1,240,000</td>
</tr>
<tr>
<td>Profit/Loss</td>
<td>80,000</td>
<td>40,000</td>
</tr>
</tbody>
</table>

\[
\text{Change in Cost} \quad \text{Change in activity level} \\
= \frac{2,320,000 - 1,240,000}{120,000 - 60,000}
\]

\[
= \frac{1,080,000}{60,000} = 18
\]

Variable cost per unit = N18

a. Profit/Volume Ratio = \( \frac{2}{20} \times 100 = 10\% \)

b. Contribution assuming 70,000 bottles are sold:

\( 70,000 \times N2 = N140,000 \)

c. Margin of safety assuming 90,000 bottles are sold:

\( 90,000 - \text{BEP in units} = 90,000 - 80,000 = 10,000 \text{ units} \)
d. Sales in units = (Total fixed cost + target profit) / contribution per unit

e. Target profit = N70,000/30% = N233,333
   Sales in units = (N160,000 + N233,333)/2 = 196,667 bottles

**MARKING GUIDE**

a. Computation of break-even point in unit 1
   Computation of break-even point in value 1 2

b. Statement of formula for deriving fixed cost 1
   Computation of fixed cost 1 2

c. Using high and low Method:
   i. Sales value under high and low 2
   ii. Total cost under high and low 2
   iii. Profit/Loss under high and low 2
   iv. Derivation of variable cost per unit 2 8

d. Computation of profit/volume ratio 2

e. Computation of unit of contribution 1
   Computation of unit of contribution 1 2

f. Computation of Margin of Safety 1

g. Statement of Formula 1
   Computation of target profit 1
   Computation of number of units to achieve target profit 1 3 20

**EXAMINER’S REPORT**

This question tests candidates’ understanding of profit/volume relationship and the components of the Break-Even analysis such as: variable costs, fixed costs, contribution, Break-Even point and margin of safety.

About 50% of the candidates attempted this question and performance was good.
The candidates who performed below average showed some similar characteristics in the following areas:

i. Inability to segregate costs into their fixed and variable parts
ii. Contribution could not be correctly determined
iii. The concept of Break-Even point was poorly understood
iv. The margin of safety was not understood and its interpretation was incorrect.

Candidates are likely to perform much better in future examinations if they:

i. Familiarise themselves with copies of recent Pathfinder
ii. Study harder with a view of improved performance

**SOLUTION 4**

a. Open System is a system that interacts with the environment. Therefore, the environment will affect the system and the system will affect the environment. All businesses, social and information systems are open systems.

b. **Properties**
   i. Deterministic systems:
      The properties include:
      • Use predetermined rules
      • They have predicted operations
      • They give predictable outputs
      Examples are machines and computer program
   
   ii. Probabilistic system:
      The properties include:
      • Assigns a probability to future events
      • Its behaviour is less easy to predict
      • Forecasts are based on past events
      An example is businesses
   
   iii. Cybernetic system:
      The properties include:
      • It is self organising
      • It is complex in nature
      • It is continually changing
      • It is not easily amenable to computerisation
      An example is trade union negotiation
c. Feedback control involves a sensor taking a measurement and an adjustment is then made to the system in response to the result of the measurement. In essence, feedback control reacts to something that has already happened.

On the other hand, feed forward control makes control adjustments based on attempting to achieve a particular outcome that has not yet happened.  

(4 Marks)

d. An operating system (OS) of a computer system is the system software that controls the operations of the computer.  

(2 Marks)

(Total 20 Marks)

**MARKING GUIDE**

a. 2 marks for ‘interact with the environment’  

2

bi. 1 mark for each of the 4 properties of Deterministic system  

4

ii. 1 mark for each of the four properties of Probabilistic system  

4

iii. 1 mark for each of the four properties of Cybernetic System  

4 12

c. **Feedback**  

1 mark for ‘taking part of output’, 1 mark for ‘to adjust the operation’  

2

**Feedforward**  

1 mark for ‘to achieve a particular future outcome’  

2

1 mark for ‘outcome has not occurred’  

4

d. 1 mark for ‘it is a system software’, 1 mark for ‘controls the operation of the computer’  

2 2

TOTAL 20

**EXAMINER’S REPORT**

This question tests candidates’ understanding of the definition and explanation of a number of Information Technology terminologies.

The question appears popular among the candidates. About 70% of the entire candidates attempted this question and performance was good as about half of the candidates who attempted this question scored 60% and above of the allocated marks.

Common pitfalls among candidates who performed below average were as follows:
i. Inadequate definition of ‘Open System’

ii. There was a complete mix-up in the meaning of Deterministic System, Probabilistic System and Cybernetic System

iii. The meaning of feedback and feed forward was interposed and attempts didn’t show a clear understanding of the subject matter

Candidates’ performance will improve in future if they:

i. Read modern day texts including the ICAN Study Texts and Pathfinder

ii. Spend more quality time for preparation

iii. Practice with past question papers

**SOLUTION 5**

a. A Computer Network is a telecommunications infrastructure that allows computers to exchange data with each other.

The computer link that exists is either physical media or wireless media

(2 Marks)

b. A Protocol is a rule or convention or standard that governs communication over a network. It controls or enables the connection, communication and data transfer between competing endpoints. It may be implemented by hardware or software or both.

(2 Marks)

**Properties of Protocol include:**

- How to detect unexpected loss of the connection and what to do next
- Detection of the underlying physical connection or the existence of the other endpoints.
- How to start and end a message
- How to format a message
- Termination of a session and/or connection.
- What to do with corrupted or improperly formatted message

(4 Marks)

c) Video Conferencing is a telecommunication system used by people in different physical locations to hold a meeting (called a virtual meeting).

(2 Marks)

**Equipment used:**

- Video input: Camera or webcam
- Video output: Computer monitor, projector or television
- Audio input: Microphone
- Audio output: Loudspeaker, headphone
- Data transfer: Internet
• Computer with video conferencing software including video and audio 
  compression and decompression.
• Desktop systems
• Dedicated systems (4 Marks)

d) **Advantages of Video Conferencing**
• Best option when face-to-face meeting is not possible
• Reduces travel costs
• Increased productivity among dispersed workforce and team
• It encourages short notice meetings
• It improves hiring and retention of high level personnel in different 
  locations
• No need to leave the desk (3 Marks)

**Disadvantages of Video Conferencing**
• Eye contact: It can often give the incorrect impression that the remote 
  participant is avoiding eye contact.
• Appearance consciousness by the participants
• Change in bandwidth or signal quality will affect video conferencing
• Limited non-commercial take-up
• Anxiety by some participants for appearing on camera (3 Marks)

(Total 20 Marks)

**MARKING GUIDE**

a. 1 mark for ‘telecommunication infrastructure’, 1 mark for
    ‘exchange data with each other’ 2 2

bi. 1 mark for ‘convention or rule’, 1 mark for ‘communication over
    a network’ 2

ii. 1 mark for each of four properties of protocol 4 6

ci. **Video Conferencing**
1 mark for ‘to hold meeting in different physical locations’ 2

ii. 1 mark for each of four equipment used 4 6

di. 1 mark for each of three advantages 3

ii. 1 mark for each of three disadvantages 3 6

**TOTAL** 20

**EXAMINER’S REPORT**
This question seeks to test candidates’ ability to define and explain some Information 
Technology terminologies

About 70% of the total population attempted this question and performance was above 
average.
Candidates whose performance was below average showed similar traits of shortcomings as described below:

i. Many candidates could not define the concepts properly
ii. The terminology ‘Protocol’ with reference to Information Technology was literally interpreted to mean the word ‘Protocol’ in government settings
iii. The term ‘Computer Network’ was poorly explained as an Information Technology terminology. Many candidates interpreted this along the line of service providers in telephoning.

For improved performance in future, candidates are enjoined to:

i. Have a good mastery of important Information Technology terminologies (through good quality texts).
ii. Cover the contents of the syllabus very effectively

**SOLUTION 6**

a. Data transmission is the physical transfer of data over a point-to-point or point-to-multipoint communication channel. Copper twisted wires, optical fibres, wireless communication channel are examples of communication channels

ii. A data warehouse is a large database containing operational data from different I.T. systems including legacy systems. It also has reporting and query tools, so that the data can be analysed and information presented in report format. In other words, data warehouse is any centralised data repository which can be queries for business benefit.

iii. Error detection is the ability to recognise the presence of error caused by noise or other impairments during transmission from the transmitter to the receiver.

**Error detection Algorithms are**
- Repetition schemes
- Parity Schemes
- Checksum
- Cyclic redundancy checks
b. Cost per unit for each product using ABC system

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<th>Product</th>
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<th>Y</th>
<th>Z</th>
</tr>
</thead>
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<tr>
<td>Storage</td>
<td>20,000</td>
<td>16,000</td>
<td>12,000</td>
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<tr>
<td>Set-up costs</td>
<td>26,400</td>
<td>46,200</td>
<td>59,400</td>
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<td>Material handling</td>
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<td>18,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Inspection</td>
<td>80,640</td>
<td>21,600</td>
<td>17,760</td>
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Cost per unit

<table>
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<tr>
<th>Product</th>
<th>Cost per unit</th>
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<tbody>
<tr>
<td>X</td>
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<tr>
<td>Y</td>
<td>₦21.33</td>
</tr>
<tr>
<td>Z</td>
<td>₦57.20</td>
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</table>

<table>
<thead>
<tr>
<th>Units Produced</th>
<th>Cost per unit</th>
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</thead>
<tbody>
<tr>
<td>X, Y, Z</td>
<td></td>
</tr>
<tr>
<td>40,000 units</td>
<td>₦32</td>
</tr>
<tr>
<td>30,000 units</td>
<td>₦21.33</td>
</tr>
<tr>
<td>10,000 units</td>
<td>₦57.20</td>
</tr>
</tbody>
</table>

**MARKING GUIDE**

ai. 1 mark for ‘physical transfer of data’, 1 mark for ‘communication channel’          2

ii. 1 mark for ‘ability to recognise’, 1 mark for ‘presence of noise’         2

   1 mark for each of four error detection algorithms 4

iii. 1 mark for ‘large database’, 1 mark for ‘has reporting and query tools’          2 10

b. Determination of Overhead Absorption rates (OAR) for:

   i. Purchasing function ½
   ii. Machine Related Cost ½
   iii. Set-up Cost ½
   iv. Storage ½
   v. Materials Handling ½
   vi. Inspection ½

   Total costs for products X, Y and Z and Grand Total (1 mark each) 4
   Units Produced X, Y and Z (½ mark each) 1½
   Cost per unit X, Y and Z (½ mark each) 1½ 10 20
EXAMINER’S REPORT
This question is in two parts: 
Part a tests candidates’ level of understanding of the explanation and definitions of some computer terminologies while Part b tests their mastery and ability to compute product costs given required information and using the ABC System.

The question was popular among the candidates as about 80% of the population attempted the question. Performance was good as about half of the candidates scored 50% and above.

Those candidates who performed poorly exhibited a number of common shortcomings summarized below:

i. Data workhouse could not be adequately explained  
ii. Candidates did not have a good knowledge of ‘Error Detection’ as Information Technology terminology and the error detection algorithms seem strange to them.  
iii. The term “ABC” seemed strange to candidates  
iv. Inability to determine and apportion overhead related costs  
v. Confusion as to the exact requirements of the question.

Improvement will come in future if candidates:

i. Understand the requirements of a question before attempting to proffer a solution  
ii. Appreciate the peculiarities of ABC and the need to be better grasped  
iii. Read modern and up to date texts including ICAN Study Texts and Pathfinder  
iv. Familiarise themselves with definitions of Information technology terminologies
THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA
FOUNDATION LEVEL EXAMINATION – MAY 2016

BUSINESS LAW

Time Allowed: 3 hours

SECTION A: MULTIPLE–CHOICE QUESTIONS (20 Marks)

INSTRUCTIONS: ANSWER ALL QUESTIONS IN THIS SECTION

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

1. Laws made by the National Assembly are known as
   A. Acts
   B. Decrees
   C. Edits
   D. Bye-Laws
   E. Regulations

2. In a civil action, the person that is sued is known as
   A. The accused
   B. The defendant
   C. The Dependant
   D. The claimant
   E. The respondent

3. Which of the following is NOT contained in the Articles of Association of a company?
   A. Appointment of Directors
   B. Share transfer procedures
   C. Appointment and remuneration of auditors
   D. Procedures at meetings
   E. Object clause

4. Which of the following is NOT a characteristic of a partnership?
   A. Sharing loses
   B. Sharing profits
   C. Business
   D. Liability to pay income tax on its profits
   E. The pooling of resources together
5. The action of a limited liability company is considered ultra vires where it is **NOT** contained in
   A. The capital clause
   B. The subject clause
   C. The authorization clause
   D. The Code of corporate governance
   E. The object or business clause

6. A company is said to be insolvent when it is unable to pay its debts within three weeks after a written demand for the payment of an amount of money exceeding
   A. ₦1,500
   B. ₦2,000
   C. ₦5,000
   D. ₦7,500
   E. ₦10,000

7. Ethical codes are administered by professional bodies to ensure all of the following **EXCEPT**
   A. Maintain high standard in the profession
   B. Protect the vulnerable client
   C. Prevent arbitrary use of power
   D. Prevent quackery in the profession
   E. Maintain a monopoly of the profession

8. Where a student materially alters his school certificate result to gain an advantage for admission to a higher institution, he has committed an offence called
   A. Examination malpractice
   B. Stealing
   C. Forgery
   D. Cheating
   E. Conversion

9. The Money Laundering (Prohibition) Act provides that no individual person shall make or accept cash payment, **EXCEPT** through a financial institution, of an amount of money exceeding the sum of
   A. ₦1,500.00
   B. ₦2,000.00
   C. ₦3,000.00
   D. ₦4,000.00
   E. ₦5,000.00
10. The maximum term of imprisonment on conviction for an economic crime is
   A. 10 years
   B. 15 years
   C. 18 years
   D. 20 years
   E. 25 years

11. Computer generated evidence is admissible in evidence in a Court of law EXCEPT where
   A. The processed information is not altered
   B. The document described the manner of production of the statement
   C. The computer used was in regular operation
   D. The processed document is appropriate for the purpose
   E. It is not from proper custody

12. Which of the following if NOT an element of a valid contract?
   A. Consideration
   B. Intention to create legal relations
   C. Acceptance
   D. Injunction
   E. Offer

13. Agency of necessity may be created in all the following circumstances EXCEPT where it is
   A. An emergency
   B. Impossible to communicate with the principal
   C. To make secret profit
   D. An action in good faith
   E. To prevent irreparable loss

14. The following are disqualified from being directors of a company EXCEPT
   A. A person under the age of 18
   B. An insolvent person
   C. A person certified to be insane
   D. A 30-year old unemployed person
   E. A corporate other than its accredited representative

15. Which of the following is NOT an implied term in a sale of goods contract?
   A. The seller having title to the goods
   B. The goods corresponding with the description
   C. The sample of goods corresponding with the bulk
   D. The goods being of satisfactory quality
   E. The government being informed about the transaction
16. In a hire purchase transaction, the hirer becomes the owner of the good when he
A. Pays a certain amount
B. Is in possession
C. Executes the agreement
D. Exercises the option to purchase as provided in the agreement
E. Completes the instalment payments

17. Insurance contract is broadly divided into
A. Two categories
B. Three categories
C. Four categories
D. Five categories
E. Six categories

18. Which of the following is a negotiable instrument?
A. Share certificate
B. Cheque
C. Postal order
D. Money order
E. Bill of lading

19. The probationary period of employment is to test the employee’s
A. Skill and suitability
B. Obedience
C. Eloquence
D. Emotions
E. Background

20. The persons who are granted Letters of Administration by the Probate Division of a High Court are called
A. Executors
B. Executioners
C. Trustees
D. Administrators/Administratrix
E. Sheriffs of Court
SECTION B: OPEN-ENDED QUESTIONS

(80 MARKS)

INSTRUCTION: ANSWER ANY FOUR OUT OF SIX QUESTIONS IN THIS SECTION

QUESTION 1


**Required:**
State **FOUR** Characteristics of the Constitution of the Federal Republic of Nigeria. (4 Marks)

b. Stealing is an offence punishable by the State.

**Required:**

i. Explain briefly the meaning of stealing. (2 Marks)

ii. Onyi collected the sum of ₦40,000 from Ade for the purpose of assisting him to obtain a UK scholarship to study law abroad. Onyi expended the money on his own children's school fees at Okada High College. Ade did not obtain the UK scholarship, and demanded Onyi to refund his money. Onyi did not refund the money. Ade has come to you for advice.

**Required:**
Advise Ade on what actions he should take to enforce his legal rights. (4 Marks)

c. A company is an artificial person that functions through natural persons.

**Required:**

i. What is the minimum number of directors of a company? (1 Mark)

ii. Explain briefly how directors of a company are appointed. (3 Marks)

iii. Explain **THREE** powers exercised at a General Meeting of a company. (6 Marks)
QUESTION 2

a. Courts are arranged in order of hierarchy from the lowest to the highest.

Requid:  
i. Explain briefly the term ‘Coordinate Jurisdiction’. (2 Marks)  
ii. State TWO Courts that are on the same level of hierarchy (2 Marks)

b. For a contract to be valid, there must be offer and acceptance, among other elements.

Requid:  
i. Explain briefly “Counter-Offer” in the law of contract. (2 Marks)  
ii. State FOUR circumstances that may led to the termination of an offer (4 Marks)

iii. Esther sold a bale of Ankara cloth to Mama Ope who agreed that she would not sell the cloth above ₦1,000 per piece. Bode bought twenty pieces of the cloth from Mama Ope at ₦1,000 per piece and later resold them at ₦1,500 per piece. Esther wants to sue Bode for breach of contract.

Requid:  
Advi Esther on her legal rights in this case. (3 Marks)

c. Money Laundering (Prohibition) Act was enacted to check economic crimes.

Requid:  
Explain briefly the following:  
i. Mandatory disclosure by financial institutions under the Money Laundering (Prohibition) act, and the limitation of lodgement of funds by a corporate body. (4 Marks)

ii. Surveillance on bank account. (3 Marks)

(Total 20 Marks)
QUESTION 3

a. Negotiable instruments are used in commercial transactions.

Required:
Explain briefly

i. Parties to a Bill of Exchange (3 Marks)
ii. General Acceptance of a Bill (3 Marks)

b. Trust is created for the benefit of some other persons.

Required:

i. Explain the term “Trust”. (3 Marks)
ii. State THREE uses of Trust. (3 Marks)

c. Otegbade & Company Limited, a shoe producing company, employed Taju as a Cobbler in the factory. The Managing Director of the company ensures that, in line with the health and safety policy of the factory, workers are provided with working tools and safety equipment, including protective glasses, which he always insists workers in the factory must wear during working hours. Taju disregarded the company's safety policy. In the course of filing the heel of a shoe he was producing yesterday, and while not wearing the protective glasses, plastic particles entered his eyes and have permanently damaged his eye sight. The company denies liability. Taju is threatening to sue the company, and he has come to you for advice.

Required:
Advise Taju on his legal rights in this matter. (6 Marks)

d. Insurance is to mitigate the effect of losses when they occur.

Required:
Explain briefly the term “Insurable Interest”. (2 Marks)

(Total 20 Marks)
QUESTION 4
a. Femi, an entrepreneur, and his friend Umukan, a Chartered Accountant, are members of the same social club. Femi invited Emike to invest in sachet water business. Emike sought the professional advice of Umukan and paid him a fee for the advice. Umukan informed Emike that Femi’s business was doing well. Emike invested to the business based on Umakan’s professional advice and eventually suffered a loss of N350,000. Emike has come to you for advice.

Required:
Advise Emike on his chances of succeeding in a legal action he intends to institute against Umukan. (4 Marks)

b. i. Partnership is a form of business association that requires pooling of resources together.

Required:
State SIX clauses that should be included in a Partnership Deed. (7 Marks)

ii. Ade, Uzo and Yemoh formed a partnership to carry on trade in palm produce. The other partners mandated Yemoh to be in full control in the running of the partnership. The partnership suffered losses and incurred debts of N3,000,000. Ade and Uzo are refusing to pay part of the debts, saying they were not involved in the management of the firm. Yemoh has come to you for advice.

Required:
Advise Yemoh on the legal action, if any, he could take to recover contribution from Ade and Uzo. (6 Marks)

c. Equity develops from the harshness of common law.

Required:
Explain briefly TWO equitable remedies. (4 Marks)

(Total 20 Marks)
QUESTION 5

a. Natural persons run the business of companies, and the principal officers manage them.

You are required to state:

i. TWO persons that could be appointed Secretary of a public company. (2 Marks)

ii. THREE specific duties of a Company Secretary (3 Marks)

iii. Mr Okoruma a flamboyant person, is the Company Secretary of Lukka Company Plc. He hired expensive cars in the name of the company, which he used for his personal purposes. The board has refused to pay the debts incurred by Mr. Okoruma for the car hire.

Required:
Advise Mr. Okoruma. (3 Marks)

b. State SIX circumstances under which a company can be placed under Receivable. (6 Marks)

c. Criminal Law and Ethical Codes are to control the conduct of men and professional in a state.

You are required to:
Explain briefly:
Criminal Law (2 Marks)

i. Ethical Codes (2 Marks)

ii. Bribery (2 Marks)

(Total 20 Marks)
QUESTION 6

a. The nature of a business relationship determines the rights and duties arising therefrom.

You are required to state the following:

i. THREE rights of an agent in agency law; (3 Marks)

ii. THREE rights of hirer in hire purchase transactions; (3 Marks)

iii. THREE classes of goods in sale of goods; (3 Marks)

iv. Capacity of tortuous acts and their exceptions; (4 Marks)

b. Electronic evidence is now admissible in Court.

Required:
Explain briefly the conditions for the admissibility of computer generated evidence in Court. (7 Marks)

(Total 20 Marks)
Multiple-Choice Questions

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

EXAMINER’S REPORT

The questions were spread over the syllabus, and candidates’ performance was good.
Solution 1

(a) The Constitution of the Federal Republic of Nigeria is the Supreme Law of the Land. It has the following characteristics:

i. Supremacy – It is the supreme law of the land. It is the organic law from which all authorities and organs of government derive their authority;
ii. It is written and rigid;
iii. Federalism – It is a Federal Constitution;
iv. Separation of powers – It separates the powers of the organs of government;
v. Rule of law – It is the law that rules and prevents arbitrariness
vi. Fundamental human rights. It makes provisions for the fundamental rights in Chapter IV.

(b) The Criminal Code creates the offence of stealing or theft. A person who fraudulently takes anything capable of being stolen, converting it to his own use or the use of any other person with the intention of permanently depriving the owner of the thing or property is said to steal that thing or property. A person who steals, if found guilty, is liable to imprisonment for 3 years.

The issue in this case is stealing. The physical element of the offence is taking or “converting” the money capable of being stolen. The mental element is the intent, permanently to deprive the owner of the money.

Onyi collected the sum of ₦4,000 with the intention to permanently deprive Ade of the use of the money, and converting it to pay his own children’s school fees.

Ade was not given UK scholarship, and the money was not refunded on demand.

Ade is advised to report the matter to the Police, so that Onyi could be prosecuted in Court for stealing. On conviction, Onyi would be punished with a term of imprisonment.

Ade may also maintain a civil action against Onyi for the tort of conversion.
i. The minimum number of Directors of a company is two.

ii. The first directors of a company are usually appointed by the subscribers to the Memorandum of Association by naming them in the Articles of Association. Subsequent appointments are made by the General Meeting of members.

iii. The General Meeting of a Company exercises the following powers:
    • Declaration of dividends;
    • Appointment and removal of directors;
    • Appointment and fixing of the remuneration of the auditors of the company;
    • Appointment of members of the Audit Committee;
    • Receiving Directors’ Report;
    • Receiving the financial statements; and
    • Auditor’s Report thereon

MARKING GUIDE

(a)          Marks
i. Supremacy  1
ii. Written and Rigid  1
iii. Federalism  1
iv. Separation of powers  1
v. Rule of Law  1
vi. Fundamental Rights  1
   Each correct characteristics earns one mark up to 4 4

(b)          Marks
i. Fraudulent taking or conversion of a thing capable of being stolen – *Actus reus*  1
   Intention to deprive owner of it – *Mens rea*  1  2
ii. Satisfaction of *actus reus* by Onyi  2
    Satisfaction of *mens rea* by Onyi  2  4

(c)          Marks
i. Minimum of two (2) directors  1
ii. First appointment by subscribers  1½
   Subsequent appointment by General Meeting  1½
iii. Appointment and removal of directors  1
    Declaration of dividends  1
    Appointment of Auditors and fixing of their remuneration  1
    Appointment of Audit Committee Members  1
    Acting in matters where directors are disqualified ( 2 marks each for any correct 3)  6  20
EXAMINER’S REPORT
The question tests candidate’s knowledge of the characteristics of the Constitution, meaning and elements of stealing; minimum number of directors; appointment of directors; and the power of the General Meeting.

The candidates had a good understanding of the issues, and their performance of was good.

Solution 2

a.
   i. Coordinate jurisdiction means, being on the same level in the hierarchy of courts. The decisions of these courts are not binding on each other because they are on the same level. The decisions are only of persuasive authority. Courts of coordinate jurisdiction are bound to follow the decisions of higher courts.

   ii. The Courts that are on the same level of hierarchy are as follows
       • Federal High Court;
       • High Court of the Federal Capital Territory
       • State High Court;
       • National Industrial Court;
       • Customary Court of Appeal; and
       • Sharia Court of Appeal

b.
   i. Offer is a definite or clear intention to enter into contract on the basis of stated terms. Where a person to whom an offer is made responds by varying or modifying the terms, there is a counter offer. A counter offer is a rejection of an offer. It nullifies the offer and makes it unavailable for acceptance.

   ii. As a general rule, an offer may be revoked before it is accepted. An offer may be terminated in the following ways.
       i. By death of either party;
       ii. By non acceptance within the timeline;
       iii. Through a counter offer;
       iv. By revocation before acceptance;
       v. By intervening incapacity; or
       vi. By failure of a condition precedent

   iii. In contract, a person who is not a party to the contract cannot claim on it. The rule of privity states that a stranger to a contract cannot sue or be sued on it.
There is no privity of contract between Esther and Bode, therefore, Esther cannot succeed, if she sues Bode.

c.
  i. The Money Laundering Act creates an exception to the duty of secrecy that financial institutions owe their customers. The Act provides that financial institutions shall disclose and report to Drug Law Enforcement Agency in writing within 7 days, any single transaction or transfer of funds in excess of

  - ₦5,000,000, by an individual; and
  - ₦10,000,000, by a corporate body

  ii. The Money Laundering (Prohibition) Act empowers the National Drug Law Enforcement Agency (NDLEA) to place any bank account under surveillance, tap any telephone line, have access to any computer system and obtain communication of any authentic instrument, private contract, financial and commercial records, so as to identify and locate narcotic drugs’ proceeds.

### Marking Guide

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ii. Placing account on surveillance to locate narcotic drugs; wire tapping and computer surveillance

EXAMINER’S REPORT

The question tests candidates’ understanding of hierarchy of courts, counter offer, termination of offer, privity of contracts as well as limits of fund lodgment and surveillance of bank account under the Money Laundering (Prohibition) Act. Candidates’ understanding of the question and their performance were quite good.

Solution 3

a. i. The parties to a Bill are

a. The Drawer: This is the person who draws and signs the bill i.e., the person giving the order to the drawer to pay;

b. The Drawee: This is the person who is ordered to pay. He is the person who is liable to pay the face value of the bill on maturity; and

c. The Payee: This is the person who is entitled to receive the face value of the bill, i.e., the person who is to receive the ascertained sum.

ii. A General Acceptance is the drawee’s assent to the order of the drawer without conditions. It is a confirmation that the drawee is in agreement with the terms of the bill as drawn.

b. Trust can simply be said to be the binding equitable relationship by which a trustee is compelled to hold property (real or personal) in equity for the benefit of the beneficiaries of the trust property of whom he may be one, or for some object permitted by law.

Trust is useful in the following ways:

i. It enables land to be held for the benefit of those who cannot hold it themselves;

ii. It facilitates the object of charitable purposes;

iii. It enables property to be used to the benefit of person in succession;

iv. It reduces the incidence of taxation;

v. It makes a gift dependent on the occurrence of an event; and

vi. It enables persons to make secret provisions in will.

c. The employer in law is under a duty to provide safe work environment and proper tools for his employees. It is the law that if a servant is injured as a result of poor and unsafe or defective work environment, the employer will be liable to the employee in negligence.
In this case, the employer provided factory protective glasses with the instruction that workers should put them on.

Taju disregarded the instruction to wear glasses for safety. Therefore, Taju will not succeed if he sues the company, because the company took proper care to provide him with safe work tools.

d. Insurable interest is the pecuniary or proprietary interest of an insured in the subject matter of the insurance contract, from which he stands to gain, if preserved, and stands to lose if the subject matter is not preserved.

**Marking Guide**

(a)  
1. The drawer, drawee and payee  
2. Assent to drawer’s order without condition  

(b)  
1. An equitable relationship involving trustee who holds property for beneficiaries  
2. Holding of property for the ineligible persons  
3. Facilitation of objects of charitable purpose  
4. Giving of property to benefit persons in succession  
5. Reduction of incidence of taxation  
6. Making a gift dependent on an event  
7. Making secret disposition in a will possible  
8. (1 mark each for any 3)  

(c)  
1. Duty of employer to provide safe work environment and proper tools  
2. Employer not liable for employee’s injury where the latter, failed to use the protective glass  

(d)  
1. Insurable interest – interest in preservation of a subject matter from which the person may suffer loss if damaged or benefit, if preserved  

**EXAMINER’S REPORT**

The question tests candidates’ understanding of parties to, and general acceptance of, a bill of exchange, the meaning of uses of trust, the duty of an employer in provide safe work environment, and insurable interests. Candidates’ understanding of the question and their performance were good.
Solution 4

a. A professional owes a duty of care to his client where there is a fiduciary relationship, or contractual obligation. The duty of care on the professional or individual is to avoid careless statement or misstatement, which results in harm or financial losses. Negligent misstatement, when there is a duty against it, may result in damages.

Emeka paid Umukan, a professional accountant, a fee for his advice, which establishes a fiduciary relationship. Emike has acted on the advice and suffered a financial loss of ₦350,000.

Emike is advised that he will succeed in action against Umukan for damages.

b. i. A Partnership Deed should have the following information:
   • The name of the partnership;
   • The parties to the partnership;
   • The rights and duties of parties, and third parties;
   • The mode of admission of new partners;
   • Retirement of partners;
   • The general nature of business;
   • Partnership assets;
   • Partnership account; and
   • Dissolution of partnership.

In partnership, as a general rule, partners are entitled to contribute equally to the capital and share equally in the profits of the business. They must equally contribute to offset the losses or debts. Ade and Uzo are to contribute equally with Yemoh in paying the debts of the partnership, as there is no evidence of misappropriation of funds by Yemoh. The action of Yemoh in managing the partnership binds the other partners in the general partnership.

Yemoh will succeed in an action against the other partners, Ade and Uzo, to obtain their contribution in offsetting the debt of ₦3,000,000.

c. Equitable Remedies are
   a) Injunction: This is an order of Court to one of the parties to do something or stop to do something.
   b) Specific performance: This is an order of Court that a contract should be performed as agreed.
c) Rescission: This is a remedy in contract cases setting aside the contract and restoring the parties as much as possible to their pre-contract position.

d) Rectification: This is an order of Court that a mistake accidentally made in a document be corrected to achieve the true purpose of the agreement or the intentions of the parties.

Marking Guide

(a) That a professional owes a duty of care where there is contractual obligation/fiduciary relationship

To avoid careless/negligent misstatement which results in financial losses

Negligent misstatement may result in damages

That Emike will succeed in court

(1 mark for each correct salient point)

(b) i. Any six correct clauses mentioned below will earn one mark each

Name of the partnership firm:

Particulars of parties to the partnership

The general nature of business

The rights and duties of parties and third parties

The mode of admission of partners

Retirement of partners

Partnership assets

Partnership accounts

Contribution of capital

Sharing of profits or losses

Dispute resolution mode

Dissolution of partnership

ii. (Each salient point earns two marks)

Every partner is an agent of the firm

Act of a partner in the normal course of business binding on other partners

Yemoh acted with the full consent of the other partners; thus his action is binding

Thus, the other partners are liable to pay the part of debts incurred by Yemoh on behalf of the firm

Yemoh will succeed in action against other partners Ade and Uzo
(c) (1 mark for each correct equitable remedy stated and another 1 mark for each explained)

Injunction 1
Specific performance 1
Rescission 1
Rectification 1 4

EXAMINER’S REPORT

The question tests candidates’ knowledge of the law on professional negligence and its consequence; contents of a Partnership Deed; ability of a partner to bind Partners against third parties; and equitable remedies available.

The question was well attempted by candidates and performance was good.

Solution 5

a. i. The Secretary of Public company must be any of the following

   • A Chartered Accountant;
   • A Legal Practitioner;
   • A Chartered Secretary and Administrator; or
   • A Corporate body or firm consisting of the professionals stated above.

ii. The specific duties of a company secretary are

   • Providing secretarial support at all meetings of the company;
   • Advising the company on regulatory compliance;
   • Maintaining the register and other records of the company;
   • Rendering proper returns and giving notifications to CAC as well as attending to other administrative matters or responsibilities; and
   • Exercising any powers vested in the directors with the authority of the board.

iii. The Secretary has authority to bind the company in all matters of administration. The cars were hired in the name of the company, the company is thus bound to pay.

   Okoruma will succeed in an action to make the company pay the debts incurred on the hired cars.

b. Depending on the terms of the agreement between the company and its debenture holder; a company could be placed under receivership where

   i. The principal sum borrowed by the company or interest is in arrears;
ii. The security or property of the company is in jeopardy, and it is not in the interest of the debenture holder that the company should retain power to dispose its assets;

iii. The company fails to fulfill any of the obligations imposed on it by the debentures;

iv. Any circumstance occurs which by the terms of the debenture calls for realisation of its security;

v. The company is being wound up;

vi. Any creditor of the company issues a process of execution against any of its assets;

vii. The company ceases to do business; or

viii. The creditors apply to Court for receivership.

c. i. Criminal law sets out types of behaviour which are prohibited and punishable by the state. It is an aspect of public law which imposes liability. To establish conviction, the two elements of mens rea and actus reus must be established in Court.

ii. Ethical codes regulate the conduct of professionals such as lawyers, doctors, accountants, etc, in their dealings with clients. Ethical codes are used by professional bodies to ensure high standard of conduct in relation to clients.

iii. Bribery is a form of official corruption. It is committed where a public officer uses his office to extract money from a payer who intends to influence a decision. It could be anything done or omitted to be done in order to influence a decision.

(a)  

i. Any two correct persons stated earn 1 mark each

2

Chartered Accountant

A Legal Practitioner

A Chartered Secretary and Administrator

A corporate body or firm consisting of the professional stated above

1

1

1

1

ii. Any 3 correct duties stated earn

3

1 mark each

Providing Secretarial support at all meetings of the company

1

Advising the company on regulatory compliance

1

Maintaining the register and other records of the company

1

Rendering proper statutory returns

1

138
Exercising any powers vested in the directors with the authority of the board 1

(b)  
   i. The Secretary has authority to bind the company in all matters of administration 1 3
   ii. The cars were hired in the name of the company 1
   iii. The Company Secretary is held out as an agent of the company 1
   iv. Okonima will succeed in an action 1 1
      (1 mark for each correct point)

(c)  
   (1 mark for each correct circumstance stated) 6
   i. Inability to meet financial obligation 1
   ii. The business is being run at a loss 1
   iii. Security or property of the company is in jeopardy 1
   iv. Failure of company to meet statutory obligation 1
   v. The company is being wound up 1
   vi. Company fails to fulfill any obligation imposed on it by debenture holders 1
   vii. The company ceases to do business 1
   viii. The creditors applying to court 1
   ix. Any creditor of the company issues a process of execution against any of it 1

(d)  
   (Each correct brief explanation earns 2 marks) 2
   i. Criminal law
      Acts forbidden by the state at risk of punishment
      To establish conviction, both mens rea and actus rea must be established in court
   ii. Ethical codes
      Regulate conduct of professionals – Accountants, Lawyers, Doctors
      Used to ensure high standards of conduct in relation to clients
   iii. Bribery
      Offence relating to official corruption, receiving or agreeing to receive, taking or taking of property as inducement

EXAMINER’S REPORT
The question tests candidates’ knowledge of eligibility for appointment, duties and status of the Company Secretary; circus instances under which a company can be placed under receivership; and explanation of criminal law, Ethical Codes and bribery.
More than fifty percent of the candidates attempted the question and performed substantially well. Candidates need to pay more attention to admissibility of computer-generated evidence.

Solution 6

a. Rights of an agent in agency are:
   i. The right to an indemnity from his principal;
   ii. The right to be paid commission for work done;
   iii. The right to have his lawful acts ratified by his principal;
   iv. The right of lien over the goods of his principal for his commission and other monies due to him;
   v. Right to enforce contracts against third party;
   vi. Right to set his principal to assume liability and responsibility for the lawful acts of his agent.

   ii. The hirer has the following rights:
   - The right to use the goods;
   - The right to quiet possession and enjoyment of the goods;
   - The right to know the exact instalment to be paid;
   - The right to know the cash payment of the goods; and
   - The right to choice of insurance and garage of and maintenance of goods or motor vehicle

iii. The classes of goods in sale of goods are
   i. Existing goods: Goods owned by the seller at the time of contract;
   ii. Future goods: Goods to be produced by the seller after the contract;
   iii. Ascertained/specific goods: goods identified and agreed upon at the time of contract; and
   iv. Unascertained goods: These are goods which are not identified and agreed upon at the time of contract

iv. As a general rule, all persons of full age can sue and be sued in tort. The following are the exceptions:
   - The President and Vice President, while in office;
   - Governor and their Deputies, while in office;
   - Judges have judicial immunity for acts done in their judicial capacity.
   - Minors or infants cannot be sued because they lack capacity;
   - Persons with mental disability;
   - Diplomat
b) S.84 of the Evidence Act contains provisions and conditions for the admissibility of computer and electronically generated evidence as follows:

i. Statement contained in a document produced by computer shall be admissible evidence of any fact stated in it of which direct oral evidence would be admissible;

ii. The document containing the statement must have been produced over a period when the computer is used regularly to store information for the purpose whether for profit or not by body corporate;

iii. Individual statement made throughout the material period the computer was operating properly and the information in the statement derived from the one supplied to the computer in the course of business of those activities;

iv. The computer storage could be by one computer or a combination operating in succession;

v. The statement being a certificate, identified and proven to be produced by the computer device used in production, dealing with the matter to the best knowledge of the person that signed it;

vi. The information supplied in appropriate form by an appropriate equipment in the course of activities by individual or corporate body; and

vii. The document produced directly from the computer by means of appropriate equipment.

Marking Guide

(a)  

(i) (Any 3 correct rights of an agent in an agency earn 1 mark each)  

- Of indemnity  
- To be paid commission  
- To have his lawful acts ratified by principal  
- Lien over the goods of his principal over commission due  

To enforce contract against third party  

(ii) (An 3 correct rights of a hirer in hire purchase earns 1 mark each)  

- To use the goods  
- To quiet possession  
- To know the exact instalment to be paid  
- To know the cash payment of the goods  
- Freedom of choice of insurer, garage and maintenance of goods or motor vehicle
iii. (Statement of each correct class of goods earns 1 mark)

Existing goods 1
Future goods 1
Ascertained/specific goods 1
Unascertained goods 1

iv. Statement of general rule that all persons of full age can sue and be sued in tort

Statement of any 3 exceptions to the rule will earn 1 mark each

President and Vice President 1
Governors and their Deputies 1
Diplomats 1
Persons suffering from mental disabilities 1
Minors/infants i.e. below 18 years 1

(b) Statement and explanation of conditions for the admissibility of computer generated evidence in court earns 1 mark each

The document processed appropriate for the purpose 1
Document produced was from computer in regular operation 1
Document described the manner of production of the statement 1
Information in the statement derived from the one supplied to the computer in the course of business of those activities 1
Processed information is not altered 1
Computer storage could be by one computer or a combination of computers operating in succession 1
Statement contained in document produced by computer admissible of any fact stated in it which direct oral evidence would be admissible 1

EXAMINERS REPORT
The question tests candidates' knowledge of the rights of an agent in agency and hirer in hire purchase; classes of goods in sale of goods; capacity in tortious acts and their exceptions; and conditions for the admissibility of computer generated evidence in court. Candidates attempted all the questions; but performance was good only in part (a) while part (b) was poor.

The commonest pitfall was candidates' inability to master the conditions that would enable computer generated evidence to be admissible in court.

Candidates are advised to read more on this area of the syllabus.