



The Institute of
Chartered Accountants
of Nigeria (ICAN)

FOUNDATION LEVEL EXAMINATION

2019

Mock Exam

(3 hours)

Management Information

1. This paper consists of **TWENTY** compulsory multiple-choice questions and **SIX** long-form questions of which you must answer **FOUR** questions in total.
 - Section A (20 marks) consists of **twenty compulsory** multiple-choice questions
 - Section B (80 marks) consists of six 20-mark questions.
You must **answer four questions only**.
2. Ensure your candidate details are on the front of your answer booklet.
3. Answer each question in black ballpoint pen only.
4. Answer section A multiple choice questions by marking an X in the appropriate box on the answer grid provided.
5. Answers to each section B question must begin on a new page and must be clearly numbered. Use both sides of the paper in your answer booklet.
6. The examiner will take account of the way in which answers are presented.

IMPORTANT

Question papers contain confidential information and must NOT be removed from the examination hall.

DO NOT OPEN THE QUESTION PAPER UNTIL INSTRUCTED

Enter your candidate number in this box

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Section A: 20 marks (compulsory)

A1 A company has established a marginal costing profit of ₦85,000. Opening inventory was 400 units and closing inventory was 850 units. The fixed production overhead absorption rate has been calculated as ₦8 per unit.

What was the profit under absorption costing?

- A ₦82,400
- B ₦85,000
- C ₦88,600
- D ₦92,200

(1 mark)

A2 A company uses limiting factor analysis to calculate an optimal production plan given a scarce resource.

The following applies to the three products of the company:

Product	I	II	III
	₦	₦	₦
Direct materials (at ₦5/kg)	25	25	15
Direct labour (at ₦14/hour)	28	35	42
Variable overheads (₦2/hour)	4	5	6
	<u>57</u>	<u>65</u>	<u>63</u>
Maximum demand (units)	5,000	6,000	4,000
Optimal production plan	600	6,000	4,000

How many kilograms of material were available for use in production?

- A 10,600 kg
- B 15,000 kg
- C 45,000 kg
- D 67,000 kg

(1 mark)

A3 Which of the following would not be considered to be a service industry?

- (i) an airline company
- (ii) a railway company
- (iii) a firm of accountants

- A (i) and (ii) only
- B (ii) and (iii) only
- C (i), (ii) and (iii) only
- D None of the above

(1 mark)

A4 A cost that stays the same over a certain activity range and then increases but remains stable over a revised activity range in the short term is known as a:

- A** fixed cost
- B** variable cost
- C** semi-variable cost
- D** stepped fixed cost

(1 mark)

A5 A company incurs the following costs at various activity levels:

Total cost	Activity level
₦	Units
500,000	5,000
625,000	7,500
800,000	10,000

Using the high-low method calculate the fixed cost.

- A** ₦200,000
- B** ₦220,000
- C** ₦250,000
- D** ₦275,000

(1 mark)

A6 Which of the following is not correct with regard to regression analysis?

- A** In regression analysis the n stands for the number of pairs of data.
- B** Σx^2 is not the same calculation as $(\Sigma x)^2$
- C** Σxy is calculated by multiplying the total value of x and the total value of y
- D** Regression analysis is used to estimate fixed and variable costs **(1 mark)**

A7 The following statements refer to cost behaviour.

Statement (1) A fixed cost is a cost that is the same amount during a given period of time and does not change with variations in the volume of activity.

Statement (2) A variable cost is a cost that is a variable amount per unit for every unit of activity.

Statement (3) Total variable costs increase in direct proportion to increases in the volume of activity.

Which of these statements are correct?

- A** (1) and (2)
- B** (1) and (3)
- C** (2) and (3)
- D** (1), (2) and (3)

(1 mark)

- A8** Which of the following is the correct description of a flexed budget?
- A** A budget prepared at the beginning of a budget period and which is designed to show the results that would be expected at different levels of activity.
 - B** A budget prepared at the end of a budget period and which is designed to show the results that would be expected at different levels of activity.
 - C** A budget prepared at the beginning of a budget period and looks back at what costs, revenues and profits should have been in a period (based on actual activity levels).
 - D** A budget prepared at the end of a budget period and looks back at what costs, revenues and profits should have been in a period (based on actual activity levels). **(1 mark)**

- A9** A company has experienced the following labour costs in the latest period.

Output	Total cost
Units	₦
18,500	640,000
19,250	662,500
21,000	715,000

When output levels exceed 25,000 units, fixed costs are seen to increase by ₦20,000.

Use high/low analysis to estimate the total cost of producing 28,000 units.

- A** ₦925,000
- B** ₦945,000
- C** ₦952,000
- D** ₦954,000 **(1 mark)**

- A10** Which of the following items is an indirect cost?
- A** Tools which are hired for a specific job
 - B** The labour cost of workers in the assembly department
 - C** Licence fees paid for the use of a patent for a product
 - D** Rental cost of maintenance equipment **(1 mark)**

- A11** A small company employs a driver to deliver its products to its customers. The driver's salary is:
- A** A selling and distribution overhead
 - B** A direct expense
 - C** Part of production overhead
 - D** Part of the prime cost **(1 mark)**

- A12** Which of the following statements regarding the cost equation $y = 3 + 2x$ is true?
- A Variable cost per unit = ~~₦3~~ and fixed cost = ~~₦2~~
 - B Variable cost per unit = ~~₦1.50~~ and fixed cost = ~~₦3~~
 - C Variable cost per unit = ~~₦1.50~~ and fixed cost = ~~₦2~~
 - D Variable cost per unit = ~~₦2~~ and fixed cost = ~~₦3~~ **(1 mark)**
- A13** Which of the following is a normal characteristic of strategic information?
- A Summarised
 - B Highly accurate
 - C Routine
 - D Historical **(1 mark)**
- A14** A standard set of rules and procedures for the control of communication in a network is known as:
- A Topology
 - B Protocol
 - C Layer
 - D Controller
 - E Bridge **(1 mark)**
- A15** Key considerations when selecting a web host would least likely include which of the following:
- A VHF compatibility
 - B Bandwidth
 - C Number of domains required
 - D Up-time percentage **(1 mark)**
- A16** Encryption means:
- A Installing a device to detect and prevent unauthorised access to a system
 - B Installing software that deliberately corrupts computer systems
 - C A sequence of characters that allows access to a computer system
 - D Coding data so that it is not understandable to the casual reader **(1 mark)**

- A17** Which of the following statements regarding the outsourcing of information systems (IS) is the odd one out?
- A** When IS work is outsourced there is a risk of losing control over IS processing and systems development
 - B** The external service provider may become financially unstable and go out of business
 - C** An outsourced IS service provider is more likely to have access to a greater number of specialist and experienced staff leading to a higher quality information system
 - D** There may be risks to the security of data files held on the premises of an external service provider with information system security more difficult to manage and control (1 mark)
- A18** Which of the following types of maintenance is needed to address new requirements due to changes in an information system's environment?
- A** Corrective maintenance
 - B** Adaptive maintenance
 - C** Legislative maintenance
 - D** Technical maintenance (1 mark)
- A19** A project's success is often determined by its Critical Path. Which of the following defines a Critical Path of a project?
- A** A path in the project that has Zero-Sum activities
 - B** A path that marks the beginning and the end of the project
 - C** A path whose sum of activity time is shorter than that of any other path through the network
 - D** A path whose activity time-sum is equal to zero (1 mark)
- A20** An aspect of an e-marketing mix might be to encourage customers to provide information about themselves as well as providing information to the customer about the firm's goods or services. This aspect of e-marketing, in terms of the 6Is of e-marketing, is:
- A** individualisation
 - B** intelligence
 - C** integration
 - D** interactivity (1 mark)

Section B: 80 marks – answer four out of six questions

Question B1

CB (Nigeria) Limited manufactures and sells a single product. Relevant information relating to the year ended June 30, 20X3 is as under:

Raw material per unit	5 kg at ₦60 per kg
Actual labour time per unit (same as budgeted)	4 hours at ₦75 per hour
Actual machine hours per unit (same as budgeted)	3 hours
Variable production overheads	₦15 per machine hour
Fixed production overheads	₦6 million
Annual sales	19,000 units
Annual production	18,000 units
Selling and administration overheads (70% fixed)	₦10 million

Salient features of the business plan for the year ending June 30, 20X4 are as under:

- (i) Sale is budgeted at 21,000 units at the rate of ₦1,100 per unit.
- (ii) Cost of raw material is budgeted to increase by 4%.
- (iii) A quality control consultant will be hired to check the quality of raw material. It will help improve the quality of material procured and reduce raw material usage by 5%. Payment will be made to the consultant at ₦2 per kg.
- (iv) The management has negotiated a new agreement with labour union whereby wages would be increased by 10%. The following measures have been planned to improve the efficiency:
 - (a) 30% of the savings in labour cost would be paid as bonus.
 - (b) A training consultant will be hired at a cost of ₦297,900 per annum to improve the working capabilities of the workers.

On account of the above measures, it is estimated that labour time will be reduced by 15%.

- (v) Variable production overheads will increase by 5%.
- (vi) Fixed production overheads are expected to increase at the rate of 8% on account of inflation. Fixed overheads are allocated on the basis of machine hours.
- (vii) The company has a policy of maintaining closing inventory at 5% of sales. In order to avoid stock-outs, closing inventory would now be maintained at 10% of sales. The closing inventories are valued on FIFO basis.

Required

- (a) Prepare a budgeted profit and loss statement for the year ending June 30, 20X4 under marginal and absorption costing.
- (b) Reconcile the profit worked out under the two methods. **(Total: 20 marks)**

Question B2

BRO makes and sells a single product, product A. The following information is available for use in the budgeting process for the year to 31 December Year 8.

- (i) Sales: Selling price per product unit ₦20.

	Year 8				Year 9
	Q1	Q2	Q3	Q4	Q1
Sales (units)	6,000	4,000	3,600	5,600	4,800

- (ii) Inventory levels

At 31 December Year 7: Finished product A: 1,500 units

Raw material X: 3,500 kilos

Closing inventory of finished product A at the end of each quarter is budgeted as a percentage of the sales units of the following quarter, as follows:

- At the end of quarters 1 and 2: units of inventory of A = 25% of sales in the next quarter
- At the end of quarters 3 and 4: units of inventory of A = 35% of sales in the next quarter.

Closing inventory of raw material X is budgeted to fall by 300 kilos at the end of each quarter in order to reduce holdings by 1,200 kilos during Year 8.

- (iii) Product A unit data:

Material X: 4 kilos per unit at ₦1.60 per kilo

Direct labour: 0.3 hours per unit at ₦7.00 per hour.

- (iv) Other quarterly expenditure

	Q1	Q2	Q3	Q4
	₦	₦	₦	₦
Fixed overheads	45,000	48,000	47,000	50,000
Capital expenditure		50,000		

- (v) Forecast balances at 31 December Year 7

Trade receivables	₦40,000
Non-current assets (at cost)	₦500,000
Bad debts provision:	₦2,000
Trade payables (all for materials)	₦9,600
Cash in the bank	₦22,000

- (vi) Cash flow timing information
 - (1) Sales revenue: 60% of trade receivables are paid during the quarter of sale, and 38% during the next quarter. Expected bad debts are 2% of sales.
 - (2) Material purchases: 70% of purchases will be paid for during the quarter of purchase, and the remaining 30% will be paid during the next quarter.
 - (3) Direct wages, fixed overheads and capital expenditure: 100% is payable during the quarter in which the expenditures occur.
- (vii) Non-current assets are depreciated on a straight-line basis at a rate of 5% of cost per year, with a residual value of zero. This depreciation is based on the total cost of non-current assets held at any point during the year.
- (viii) All forecast receivables and payables balances at 31 December Year 7 will be received or paid as relevant during the first quarter of Year 8.
- (ix) Stocks of product A are valued on a marginal cost basis for internal budgeting purposes.

Required

- (a) Prepare a cash budget for BRO for each quarter of the year to 31 December Year 8.
- (b) Prepare a budgeted profit and loss account for the year to 31 December Year 8. **(Total: 20 marks)**

Question B3

A company operates a standard cost system.

The following information relates to the previous quarter.

	Actual	Budget
Sales volume (units)	4,900 units	5,000
Sales price per unit (₦)	₦4,500	₦4,000
Production volume	5,400 units	5,000 units
Direct material usage (total)	10,600 kgs	10,000 kgs
Direct material - price/kg	₦600	₦500
Direct labour (hours per unit)	0.55 hrs	0.50 hrs
Direct labour (price per hour)	₦380	₦400
Fixed production overhead	₦10,300,000	₦10,000,000
Fixed administration	₦3,100,000	₦3,000,000

Required:

- (a) Calculate the total budgeted profit **(4 marks)**
- (b) Calculate the actual total profit **(4 marks)**
- (c) Prepare a statement which reconciles the budgeted profit with the actual profit for the quarter, showing individual variances in as much detail as the above data permit **(12 marks)**

(Total: 20 marks)

Question B4

IT-based systems are widespread and varied in the modern workplace incorporating systems such as transaction processing, management information, executive information, expert and financial reporting systems.

Required

- (a) Define a ‘decision support system’ and describe its typical characteristics. **(4 marks)**

- (b) Briefly explain each of the following in the context of Web hosting.
 - (i) Up-time percentage **(1 mark)**
 - (ii) Storage space **(1 mark)**
 - (iii) Technical support **(1 mark)**
 - (iv) Number of domains **(1 mark)**

- (c) Onitsha Fabrication Ltd produces and markets a single product. Presently, the product is manufactured in a plant that relies heavily on direct labour force. Last year, the company sold 5,000 units with the following results:

	₦
Sales	22,500,000
Less: Variable expenses	13,500,000
Contribution margin Less:	9,000,000
Fixed expenses	6,300,000
Net income	2,700,000

Required

- (a) Compute the break-even point in naira and the margin of safety. **(4 marks)**

 - (b) What would be the contribution margin ratio and the break-even point in number of units if variable cost increases by ₦600 per unit? Also compute the selling price per unit if the company wishes to maintain the contribution margin ratio achieved during the previous year. **(5 marks)**

 - (c) The company is also considering the acquisition of a new automated plant. This would result in the reduction of variable costs by 50% of the amount computed in (b) above whereas the fixed expenses will increase by 100%. If the new plant is acquired, how many units will have to be sold next year to earn net income of ₦3,150,000. **(3 marks)**
- (Total: 20 marks)**

Question B5

PK-Lagos (PKL) manufactures a wide range of plastic mouldings. The mouldings are used in such diverse products as motor vehicles, garden furniture and children's toys. As a result of this variety, there are six different sales departments, a single manufacturing department and an ordering department. There is a separate IT service department which provides basic IT services to all the other departments.

The company has established its IT systems within each individual department. Each department has its own computerised records and databases. The IT department of PKL has been very successful in previous years in meeting IT systems requirements and in providing a high quality of service to each user department.

PKL now wishes to set up one central sales database that can be used by all departments. The database will include, amongst other things, details of goods, customers and debtor analysis. This will mean that the individual databases in each department will be amalgamated into this central database.

Required

- (a) Explain the relative merits of PKL concentrating its data and information on individual departments compared with centralising its database. **(14 marks)**
- (b) Evaluate the problems that the IT department may experience in amalgamating the company's data into one central database.

Note: Your answer must concentrate on the data held by the company.

Comments concerning hardware or the physical location of the database are NOT required.

(6 marks)

(Total: 20 marks)

Question B6

- (a) Conversion issues

Required

Discuss the issues that arise in data conversion when:

- (i) Moving from a current manual system to a computer system;
- (ii) Moving from a current computer system to a new computer system.

(7 marks)

- (b) Stickers Abuja Ltd. (SAL) supplies industrial sewing machines to a variety of clients. Sales of machines and spare parts are made by sales representatives visiting each owner of a SAL machine, checking each machine for maintenance requirements and then ordering the parts upon their return to the office. Requirements for new machines are also discussed during the preventative maintenance visit. While customers are generally happy with the service provided, there can be significant time delays in ordering parts for machines because sales representatives may not return to their office for several days. This delay has resulted in some loss of customer goodwill.

The Board of SAL has recognised the need to develop a new information system to support sales representatives. The new system will allow remote access to the SAL Ordering System via mobile computers, and also provide order status and expected delivery dates for customers who will be able to access the Ordering System via an Extranet connection.

SAL has never maintained a large IT department and the Board are seriously considering outsourcing the development of this new system.

Required

Discuss the benefits and drawbacks of outsourcing the new information system in SAL.

(13 marks)

(Total: 20 marks)

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