



The Institute of  
Chartered Accountants  
of Nigeria (ICAN)

**SKILLS LEVEL EXAMINATION**

**2019**

**Mock Exam**

**(3 hours)**

# Performance Management

1. This paper consists of **SIX** written test questions of which you must answer **FOUR** questions in total.
  - Section A (40 marks) consists of **one compulsory** question
  - Section B (60 marks) consists of five 20-mark questions.  
You must **answer three 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. Answers to each question must begin on a new page and must be clearly numbered. Use both sides of the paper in your answer booklet.
5. 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: 40 marks (compulsory)

### Question 1

Tandem Corporation operates a delivery and passenger transporting service in the metropolitan area. It has grown quickly since it was first established eight years ago. It is now December 20X6.

Its main activities are the door-to-door delivery of parcels, a door-to-door chauffeur driven taxi service and the transport of medical equipment between clinics and other medical centres. Tandem uses the same cars for delivering parcels and carrying people, but uses special vans for transporting medical equipment.

**The information in notes (1) to note (9) below relates to the activities of Tandem Corporation in the year to 31 December 20X6, and planned changes for 20X7.**

- (1) Tandem has a number of contract clients. These are charged a fixed rate of ₦250 for delivery of a parcel, ₦400 for carrying a passenger and ₦8,000 for carrying medical equipment.
- (2) Non-contract clients are also charged a fixed rate, but at higher rates than for contract clients. For the year to 31 December, the prices charged to non-contract clients were at the following premiums to the prices charged to contract clients:

Operation	Extra charge on top of contract customer rates
Parcels	30%
People	20%
Medical equipment	40%

- (3) On 1 January 20X5 Tandem negotiated a fixed price contract for the supply of fuel for vehicles. The contract was for a three-year period ending 31 December 20X7. For the year ending 31 December 20X7, the costs of fuel will be as follows:
  - (a) ₦20 per kilometre for parcels delivery and transporting people
  - (b) ₦30 per kilometre for the delivery of medical equipment.
- (4) Each vehicle operated by Tandem operates for 330 days each year.
- (5) All employees were paid an annual salary of ₦120,000 for the year to 31 December 20X6.
- (6) Operating costs, excluding fuel and salaries were ₦5,000,000 in the year to 31 December 20X6.
- (7) The finance director has estimated that salaries and operating costs, with the exception of fuel costs, will increase by 3% in the year to 31 December 20X7.
- (8) The directors have agreed that all fees and charges should be increased by 4% from 1 January 20X7. No increase in sales volumes is expected, compared with 20X6.
- (9) The board of directors has just completed the acquisition of Dorly Deliveries, a partnership business that was established five years ago. The purchase takes effect from 1 January 20X7. The main activities of Dorly Deliveries are parcel delivery and a passenger taxi service, similar to the activities of Tandem.

**Other information****Table 1: Tandem**

	<b>Parcels</b>	<b>Passengers</b>	<b>Medical equipment</b>
Number of deliveries	160,000	90,000	8,500
Contract customer deliveries	70%	60%	80%
Same-day deliveries	33,600	-	1,570
Next-day deliveries	126,400	-	6,930
Number of on-time deliveries	153,760	-	8,500
On-time deliveries target	98%	-	98%
Number of lost items	1	-	-

**Table 2: Tandem vehicles and employees**

	<b>Tandem</b>	
	<b>Parcels and passengers</b>	<b>Medical equipment</b>
Number of vehicles	35	10
Average kilometres per vehicle per day	250	200
Number of employees	40	15

No changes in these figures are planned for 20X7.

**The information in notes (10) to note (15) below relates to the activities of Dorly Deliveries for the year to 31 December 20X6, and planned changes for 20X7.**

- (10) Dorly Deliveries has established a market niche in providing delivery services for security firms and has been very successful in winning contracts with a number of client firms. Each contract is for a fixed term of three years. The following contracts are in existence:

<b>Number of contracts</b>	<b>Annual value per contract</b>
5	₦500,000
5	₦350,000
8	₦200,000

All these contracts were renewed for a new three-year period on 1 January 20X6.

- (11) In the year to 31 December 20X6, fees charged by Dorly Deliveries were on a similar fixed price structure to Tandem's. It will not be possible to increase these fees in 20X7.
- (12) The volume of parcel deliveries and passenger taxi services is expected to increase by 10% in 20X7.
- (13) It will not be possible to obtain fuel for Dorly Deliveries at the same prices that Tandem has negotiated for its own operations. It is estimated that fuel costs for Dorly's operations will be ₦25 per kilometre for the parcels and passenger services, and ₦40 for security equipment transport. Dorly's vehicles are used for 330 days each year.
- (14) All employees of Dorly Deliveries will be paid the same annual salaries as employees of Tandem Corporation.
- (15) The operating expenses of Dorly Deliveries, excluding fuel and salaries, will be ₦650,000 in 20X7.
- (16) Dorly employees are paid the same as Tandem employees.

**Other information**

<b>Table 3: Dorly</b>	<b>Parcels</b>	<b>Passengers</b>	<b>Security equipment</b>
Number of deliveries	30,000	19,000	6,500
Contract customer deliveries	25%	25%	100%
Same-day deliveries	22,500	-	6,500
Next-day deliveries	7,500	-	-
Number of on-time deliveries	23,700	-	6,305
On-time deliveries target	90%	-	100%
Number of lost items	32	-	-

**Table 4: Dorly vehicles and employees**

	<b>Parcels and passengers</b>	<b>Medical equipment</b>
Number of vehicles	10	10
Average kilometres per vehicle per day	120	100
Number of employees	10	12

No changes in these figures are planned for 20X7.

- (17) Tandem Corporation introduced a new customer call centre in January 20X5, with the intention of speeding up responses to customer calls. Operational statistics for the call centre are as follows:

<b>Table 5</b>	<b>Tandem</b>	<b>Dorly</b>
Number of calls received	895,000	302,000
Target time for answering	30 seconds	40 seconds
Number of calls answered in the target time	886,000	270,000
Number of abandoned calls	-	6,100

**Required**

- (a) Prepare the budgeted statements of profit or loss for the year to 31 December 20X7 for:
- Tandem Corporation
  - Dorly Deliveries
  - The two entities combined. **(18 marks)**
- (b) Using relevant calculations where appropriate, comment on the performance of the business operations of Tandem Corporation and Dorly Deliveries for the year ended December 20X6 and for the year to 31 December 20X7. Your comments should include comments on the following specific points:
- revenue per vehicle
  - vehicle utilisation
  - service quality. **(17 marks)**
- (c) Suggest the main benefits that Tandem Corporation might gain from undertaking a PEST analysis for the combined entity. **(5 marks)**  
**(Total: 40 marks)**

**Section B: 60 marks – answer three out of five questions****Question 2**

Hall Sound Company manufactures digital radios. It produces two models of radio. Model V and Model X. The two models are manufactured and assembled in the same production facility.

The following information relates to the year ending 31 December 20X8.

- (1) Unit selling prices and costs

	<b>Model V</b> ₦ per unit	<b>Model X</b> ₦ per unit
Sales price	40	32
Material cost	25	15
Variable production conversion costs	5	2

- (2) Fixed production costs attributable to the manufacture of these two models of radio will be ₦4,000,000 in 20X8.

- (3) Expected demand for the two models:

Model V	240,000 units
Model X	300,000 units

- (4) Each model is completed in the same finishing department, where there will be 70,000 hours of available time during 20X8. Time in the finishing department is restricted by a shortage of available equipment, which cannot be resolved in 20X8.

The quantity of each model that can be completed in the finishing department in one hour is as follows:

Model V	8 units
Model X	6 units

- (5) Hall Sound operates a just-in-time (JIT) manufacturing system for the manufacture of the radios, and its policy is to hold minimum quantities of work-in-progress and finished goods. There are no inventories of finished goods at the beginning of the year.

**Required**

- (a) Using marginal costing, calculate the quantities of each model of radio that should be produced and sold in 20X8 in order to maximise profit, and state the amount of that profit. **(6 marks)**
- (b) Calculate the throughput accounting ratio for each model of radio. Explain briefly how the throughput accounting ratio indicates whether it is worth making a product, assuming that throughput accounting principles are applied. You should assume that the variable production conversion costs in your answer in part (a), amounting to ₦1,400,000, are fixed costs in the short term. **(5 marks)**
- (c) Using throughput accounting, calculate the quantities of each model of radio that should be produced and sold in 20X8 in order to maximise profit, and state the amount of that profit. **(5 marks)**
- (d) Describe two aspects in which the concept of 'contribution' in marginal costing differs from the concepts used in throughput accounting. **(4 marks)**
- (Total: 20 marks)**

### Question 3

Slab Processes manufactures a single product. The product is manufactured in a single process, by combining three raw materials, A, B and C.

For Year 6, the standard cost of a litre of the product was established in the budget as follows:

Material	Quantity	Price per litre	Standard cost
	litres	₦	₦
A	0.4	2	0.8
B	0.5	4	2.0
C	0.2	8	1.6
	<u>1.1</u>		<u>4.4</u>
Loss in process	(0.1)		-
Standard cost per litre of output	<u>1.0</u>		<u>4.4</u>

The production management committee decided very early during the year that the planned mix of materials was too expensive, and a decision was taken to alter the mix. Although the formal standard cost per unit was not revised for cost accounting purposes, it was established that a realistic cost per unit of output should be as follows:

Material	Quantity	Price per litre	Standard cost
	litres	₦	₦
A	0.7	2	1.4
B	0.4	4	1.6
C	0.1	8	0.8
	<u>1.2</u>		<u>3.8</u>
Loss in process	(0.2)		-
Standard cost per litre of output	<u>1.0</u>		<u>3.8</u>

During one month in the year, 2,000 litres of finished product were output from the process, and the actual direct material costs were as follows:

Material	Quantity litres	Cost ₦
A	1,340	2,970
B	910	3,450
C	240	1,900
		<u>8,320</u>

#### Required

- Calculate the material price variance and the material usage planning and operational variances for the period. **(7 marks)**
- Analyse the operational usage variance into a materials mix and a materials yield variance. **(5 marks)**
- Comment on the significance and usefulness of a materials mix and a materials yield variance, for management control purposes. **(4 marks)**
- Explain the purpose of calculating planning and operational variances, and the usefulness of this approach. **(4 marks)**

**(Total: 20 marks)**

### Question 4

The finance director of Agbim plc is about to renegotiate the company's overdraft facility. The company currently has annual sales of:

Product A: 50,000 units at ₦4.50 per unit.

Product B: 60,000 units at ₦6.50 per unit.

Product C: 75,000 units at ₦3.50 per unit.

Other information is as follows:

	<i>Product A</i>	<i>Product B</i>	<i>Product C</i>
Cost of sales	50%	60%	30%
Inventory conversion period (months)	1.5	2	1
Average receivables credit (months)	2.0	3	1.5
Average suppliers credit (months)	2.5	2.5	1.5
Forecast increase in sales volume	25%	20%	30%

The forecast increase in sales volume is expected to result from aggressive marketing and not as a result of a price reduction. The costs associated with marketing and other administrative activities are included in the average suppliers (payables) conversion rates.

The finance director forecasts three possible scenarios. These are described below. All variations are from the current position.

- (i) The conversion rates of inventory, receivables and payables will remain unchanged.
- (ii) The conversion rates for receivables for all three products will deteriorate by 25% because longer credit periods will have to be offered to customers to gain the new business. The conversion rates for inventory and payables will remain unchanged.
- (iii) Much of the extra business will be gained by entering a new market of cash-paying customers. As a result, the receivables conversion period for all three products will improve by 25%. The conversion rate for inventory will remain unchanged, but the rate for payables is likely to fall slightly to 2.4 months for Products A and B and to 1.2 months for Product C.

#### Required

- (a) Calculate the net current operating assets (inventory, receivables and payables) and the likely future requirements based on the three scenarios presented above; **(14 marks)**
- (b) Comment on other information which the Finance Director might require before he renegotiates the company's overdraft requirements. **(6 marks)**  
**(Total: 20 marks)**

## Question 5

KMP began trading three years ago, on 1 January 20X4. It specialises in the provision of expert advice to clients, in accountancy, taxation and regulatory compliance. It has a team of professional advisers, each specialising in one of these three areas of advice.

KMP has a target for delivering its services to clients promptly. From the time the client asks for advice, KMP undertakes to provide a formal report to the client within 10 working days.

The following information relates to the financial year ended 31 December 20X6.

- (1) The professional advisers are budgeted to work 220 days each year. They charge ₦1,400 per day to new clients and ₦1,200 to established clients.
- (2) As a marketing measure intended to win new business, the advisers also give consultations to potential clients on a 'no fee' basis. These consultations, which are budgeted to take one day each, are accounted for as business development costs in the marketing budget.
- (3) The professional advisers are also required to attend some 'workshops' with new clients who are having difficulties with implementing the advice that they have been given by KMP. These workshops, which are also given on a 'no fee' basis, are budgeted to last two days.
- (4) KMP also has a help desk to provide client support. It responds to telephone and e-mail enquiries from all new and established clients.
- (5) The team of professional advisers is exactly 50. It is a policy of KMP to limit the team to 50, regardless of the volume of demand for its services.
- (6) All professional advisers are paid a salary of ₦100,000 per year. In addition, they are entitled to share equally in an annual bonus. The bonus is 50% of the amount by which fee income generated exceeds budget minus the revenue foregone as a result of having to give workshops for clients. This revenue foregone is assessed at a notional daily rate of ₦1,200 per adviser/day.
- (7) Operating expenses of the business, excluding salaries of the advisers, were ₦3,100,000 in 20X6. The budget for these expenses was ₦2,800,000.

### Other information

	Budget 20X6	Actual 20X6
Professional advisers, by category		
Accounting	15	10
Tax	20	20
Compliance	15	20
Enquiries about seeking new advice		
New clients	2,600	2,200
Established clients	4,000	3,700
Number of chargeable client days		
New clients	2,600	2,750
Established clients	5,100	5,500
Average client days per job	4	4
Mix of chargeable client days		
Accounting	1,155	1,650
Tax	1,540	3,300
Compliance	1,155	3,300

**The following are actual results for each of the three years 20X4-20X6**

	<b>20X4</b>	<b>20X5</b>	<b>20X6</b>
Number of clients	160	248	347
Number of complaints from clients	50	75	95
Number of accounts in dispute	10	7	5
Support desk: % of calls resolved	86%	94%	97%
% of jobs completed within 10 days	90%	95%	98%
Average time to complete a job (days)	12.6	10.7	9.5
Chargeable client days	7,200	7,750	8,250
Number of consultations (business development)	50	100	150
Number of workshops given	110	135	165
Revenue (N000)	8,920	9,740	?
Net profit (N000)	1,740	1,940	?

**Required**

Using the information provided, analyse and discuss the performance of KMP for the year to 31 December 20X6, under the following headings:

- (a) financial performance and competitiveness
- (b) internal efficiency
- (c) external effectiveness.

**(Total: 20 marks)**

## Question 6

Tee Company makes and sells a product, the Green, which is nearing the end of its life. A replacement product, Brace, has been designed and test marketed and the company is trying to decide when to replace Green with Brace. Tee Company only has the capability to produce one of the two products at a time.

Sales of Green are expected to be 100,000 units in the first quarter of Year 7 and are forecast to fall after that so that each quarter's sales will be 10% less than those of the previous quarter. Green has a selling price of ₦14 per unit and its contribution to sales ratio (C/S ratio) is 40%. The fixed costs of making Green in Year 7 will be ₦200,000 per quarter.

Test market results for Brace were very good and demand for similar products is growing rapidly. Tee Company believes that sales of Brace can be predicted by the following equation:

$$Y = 80,000 + 6,000 T$$

**Where:**

Y = sales of Brace in units per quarter

T = time, measured in quarters. For the first quarter of Year 7 (that is, January to March Year 7), T = 1; for the second quarter of Year 7, T = 2; etc

The selling price of the Brace will be ₦16 and its contribution per unit will be ₦6.

Fixed costs will increase to ₦240,000 per quarter if Green is replaced by Brace.

To avoid disruption of the production of Tee's other products the changeover between Green and Brace must take place on either 1 January Year 7 or 1 July Year 7. The costs of changeover will differ depending upon which date is chosen and the following information is available.

- 1 Some of the machinery used to make the Green will no longer be required for the Brace. The written down value of this machinery will be ₦250,000 at 1 January Year 7, and ₦220,000 by 1 July Year 7. Its net realisable value at 1 January Year 7 will be ₦140,000, but by 1 July Year 7 it will be ₦30,000.
- 2 Some redundancies will result from the change of products. Redundancy payments of ₦40,000 will be made if the changeover occurs on 1 January, but these will rise to ₦50,000 by 1 July. The five administration workers concerned are each paid ₦20,000 per annum and will not be replaced. Their wages are not included in the costs given in part (a).

**Required**

- (a) Determine whether the company should continue to sell Green in Year 7 or introduce Brace in Year 7. **(7 marks)**
- (b) If the company were to replace Green with Brace in Year 7 recommend whether this should be with effect from 1 January or 1 July. (Include a schedule of relevant costs and revenues and provide explanations of your figures). **(7 marks)**

The CEO of Tee is a non-executive director of Easy Ltd, a long-established company which manufactures a large range of computers on a single site. Its revenue is about ~~N~~850 million per annum. The company has recently undergone a major information systems change involving the following:

- capital expenditure of ~~N~~70 million over three years (the NPV will be ~~N~~8 million)
- workforce change from 900 to 650 employees
- radical changes to work practices, both in the manufacturing systems (use of CAD/CAM) and reorganisation of managerial and administrative functions.

The CEO needs to identify and understand some indicators which can be used to evaluate the success or otherwise of this change.

**Required**

Identify and explain briefly two key indicators that could be used to evaluate the success (or otherwise) of this change.

**(6 marks)**  
**(Total: 20 marks)**

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