CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

DATE: THURSDAY 27, AUGUST 2026

INSTRUCTIONS:

1. Time Allowed: **3 hours 45 minutes** (15 minutes reading and 3 hours 30 minutes writing).
2. This examination has **two** sections: **A & B**.
3. Section **A** has **One Compulsory Question** while **Section B** has **Three Optional Questions** to choose any **Two**.
4. In summary attempt **Three Questions**.
5. Marks allocated to each question are shown at the end of the question.
6. Show all your workings where necessary.
7. The question paper should not be taken out of the examination room.

SECTION A

QUESTION ONE

Kigali Innovators Multi-Purpose Investment Group (KIMIG) is a group of companies operating in Kigali since its establishment in 2005. The group owns different subsidiaries of companies specializing in different sectors as outlined below:

1) KIG Manufacturing Limited, a large manufacturing company specializing in the production of industrial packaging materials and plastic containers for the food, beverage, pharmaceutical, and agricultural sectors.
2) Black Panthers Basketball Club operating in Kigali in Bufundu region as part of corporate social responsibility.
3) Kigali Improved Foods Limited (KIFL) operating from the Kigali Special Economic Zone specializing in production of cereal related products

Recently, the group has hired the management staff including the Chief Executive Officer and the Chief Finance Officer and has started the process of evaluating the current performance and they are keen to introduce the modern performance measurement system for all companies to improve efficiency and productivity. You are the Senior Management Accountant at the group level, and you are to help the new management to analyze the performance of different subsidiaries. Below are the data to analyze the subsidiaries 'performance for the new management.

Exhibit1: KIG Manufacturing Limited Financial Performance Measurement
KIG Manufacturing Limited operates through two autonomous divisions namely Packaging Materials Division (Division P) and Plastic Containers Division (Division C). Each division operates as an investment centre with minimal intervention from Head Office. Divisional managers have the authority to make decisions regarding long-term capital investments. KIG Manufacturing Limited evaluates divisional performance using Return on Investment (ROI)**,** calculated using controllable profit and average divisional controllable net assets**.** The target ROI for each division is 20%**.** Divisional managers receive a performance bonus if they achieve or exceed this target. Last year, one divisional manager rejected an investment project that exceeded the company's required rate of return because accepting it would have reduced the division's overall ROI. To discourage this type of dysfunctional decision-making, KIG Manufacturing Limited is considering introducing Residual Income (RI) as an additional performance measure. Like ROI, RI will be based on controllable profit and average divisional controllable net assets.
The draft operating statement for the year prepared by the management accountant is shown below.

Details	**Division P**	**Division C**
	FRW "000 "	**FRW "000 "**
Sales Revenue	7,600	11,400
Less: Variable Costs	(3,250)	(5,020)
Contribution	4,350	6,380
Less: Fixed Costs	(1,980)	(2,630)
Divisional Profit	2,370	3,750
Opening divisional controllable net assets	15,000	20,000
Closing divisional controllable net assets	17,000	24,000

Additional information:

1) Head Office allocates all central administration costs to the divisions. These charges have been included in the fixed costs and amount to FRW 540,000 and FRW 760,000 for division P and C respectively.
2) Included in the fixed costs are depreciation charges of FRW 280,000 and FRW 620,000 for Divisions P and C, respectively. 35% of the depreciation in each division relates to assets controlled by Head Office and should therefore be excluded when determining controllable profit.
3) Division C purchased new manufacturing equipment costing FRW 3 million at the beginning of the year. This investment is included in the net asset balances above. Division C uses the reducing balance method of depreciation, while Division P uses the straight-line method. Both divisions charge a full year's depreciation in the year an asset is acquired.
4) The company's cost of capital is 14%**.**

Exhibit2: The Basketball Club's costing system and variance analysis

With a view to achieve the company's corporate social responsibility initiatives, KIMIG decided to establish a very powerful and strong basketball club "Black Panthers Basketball Club" in 2012 to entertain the city, and it plays in its locality of Remera at "Bufundu Arena". The team currently uses events labor hours to allocate its overheads and the overhead absorption rate on this basis was accurately calculated at FRW 24,000 per event labor hour. Unfortunately, this costing system was greatly criticized by the newly hired senior management to be too traditional and failed to properly allocate overhead to different seats hence leads to under or overprice the arena seats as overheads may be incorrectly allocated. As a result, the Activity Based Costing system is to be introduced as the team believes it will resolve all inefficiencies arisen from the use of the current traditional costing system. The following standard data regarding cost pools, drivers and percentage allocation of total overheads have been correctly ascertained by the Black Panthers Basketball Club management for analysis purposes:

Cost pools	**Cost drivers**	**Classic suites tickets**	**Lower bowl tickets**	**Upper bowl tickets**	**% of total overhead**
Stadium maintenance	Maintenance event-days	40	30	15	32
Utilities	Arena operating hours	120	90	75	13
Pitch/court management	Court prep hours	200	140	80	9
Match security	Attendees (tickets)	1,600	800	1,200	12
Other staff	Events labor hours	400	280	160	34
Total					100

Bufundu Arena is owned and managed by the City of Bufundu. The arena has the capacity of 5,000 seats of which 2,000 seats are for classic suites, while 1,000 seats are at lower bowl and the remaining part are located in the upper bowl. The Bufundu Arena charges Black Panthers Basketball Club a per ticket charge for the use of their facility. All tickets are sold by the Reservation Network using an electronic ticketing system, which charges the Black Panthers Basketball Club a reservation fee per ticket. The Black Panthers Basketball Club standard net revenue per each type of ticket in 2025 is calculated as follows:

Details	**Classic Suites ticket**	**Lower bowl ticket**	**Upper bowl ticket**
	FRW	**FRW**	**FRW**
Selling price	50,000	35,000	22,000
Bufundu Arena fee	14,500	10,000	6,000
Reservation Network fee	9,200	5,000	3,000
Net Revenue per ticket	26,300	20,000	13,000

The budgeted and actual average attendance figures per game and the actual ticket price for the three seat categories in the 2025 season are outlined below:

Details	**Budgeted seats to be sold**	**Actual seats sold**	**Actual selling price**
			FRW
Classic suites tickets	1,600	1,200	60,000
Lower bowl tickets	800	660	40,000
Upper bowl tickets	1,200	1,540	15,000
Total	3,600	3,400	

Exhibit3: The cereal production financial and non-financial performance measurement systems

Kigali Improved Foods Limited (KIFL) is a food manufacturing company located in the Kigali Special Economic Zone. The company specializes in producing nutritious cereal-based food products, including multi-grain porridge and breakfast cereals. Its flagship multi-grain porridge is produced by blending locally sourced sorghum, maize, and wheat**.** The company supplies supermarkets, schools, hospitals, humanitarian organizations, and retail distributors across Rwanda and neighboring countries.

Budgeted costs to produce 100,000 packets of multigrain porridge and the actual costs in July 2025 are as follows:

Cereal type	**Budgeted quantity**	**Standard price per kg**	**Actual price paid per kg**
	Kilograms	**FRW**	**FRW**
Sorghum	45,000	300	280
Maize	180,000	260	260
Wheat	75,000	220	200

During the month of July 2025, the actual output was 100,000 packets of multigrain porridge using 45,000 kg, 190,000 kg and 80,000 kg of sorghum, maize and wheat respectively. For years, Kigali Improved Foods Limited (KIFL) managed performance using only financial KPIs (revenue growth, gross margin, budget variance). Despite meeting budget targets, customer complaints rose, products deliveries fell, product launches were delayed, and inventory built up. The CEO has announced a shift to a Balanced Scorecard (BSC) to align with the strategy: "Deliver safe, nutritious, affordable cereals with reliable supply and profitable growth".

Required:

Using data from Exhibit1: Financial Performance Measurement

a) Assess the financial performance of using Return on Investment (ROI) and Residual Income (RI) for each of the two divisions of KIG manufacturing Limited (12 Marks)
Briefly comment on the results of the two performance measures and explain whether residual income is likely to encourage better investment decisions than ROI. (2 Marks)

Using data from Exhibit2: The Basketball Club's costing system and variance analysis

b) Calculate the seat Standard Profit for each of the three categories under both traditional and Activity Based Costing System (12 Marks)

c) Calculate and interpret the following variance for Black Panthers Basketball Club's three seat categories

i) Sales Price variance (2 Marks)
ii) Sales Volume Profit Variance (2 Marks)
iii) Sales Mix Profit Variance (3 Marks)

iv) Sales Quantity Profit Variance (3 Marks)

Hint: The seat unit profit from the Activity Based Costing system should be used while calculating these variances.

Using data from Exhibit3: The cereal production performance measurement

d) Calculate direct materials mix and yield variances for the month of July 2025 (6 Marks)

e) Discuss the FOUR perspectives of the Balanced Scorecard and outline its benefits over the purely financial KPIs previously used by KIFL (revenue growth, gross margin, budget variance) (8 Marks)

(Total: 50 Marks)

SECTION B

QUESTION TWO

Innovate Africa Ltd is a fast-growing manufacturing company based in Rwanda that specializes in consumer electronics and household products. The company plans to introduce two new products into the East African market during the coming financial year namely SmartWash Eco Detergent and VisionPro X1 Smart Glasses. The management has asked the Marketing Department to recommend the most appropriate pricing strategy for each product. The company understands that the success of a new product depends not only on its quality but also on selecting the right pricing strategy at the launch stage.

a) Innovate Africa Ltd has developed SmartWash Eco detergent, an environmentally friendly laundry detergent that is affordable and suitable for everyday household use. The detergent has many competitors already established at the local market, including international and local brands. During the recently conducted market research, it was revealed that consumers of this product are highly sensitive to price and are willing to switch brands if prices are lower. The detergent market is very large and demand is expected to increase significantly if prices remain affordable. This financial year, Innovate Africa Ltd has invested in a large production plant with sufficient spare capacity to produce high volumes at relatively low costs. The company's management expects that producing larger quantities will significantly reduce the cost per unit due to economies of scale. In addition, several potential competitors are considering entering the eco-friendly detergent market over the next two years and management wants to gain a large market share as quickly as possible and discourage new competitors from entering the market.

The company has also developed VisionPro X1 Smart Glasses, an innovative wearable technology product that combines augmented reality, voice assistance, health monitoring, and AI-powered translation. The product introduces features that are currently unavailable in the regional market. The market research conducted on this product indicated that technology enthusiasts and high-income professionals are eager to purchase the product even at a premium price, this is good information as the company already invested heavily in research and development and wishes to recover these costs quickly. The product's commercial life is expected to be relatively short because technology changes rapidly and it is associated with significant innovations in the market. There is much uncertainty about how sensitive customers will be to price and the company plans to introduce less sophisticated versions of the product later for middle-income consumers while continuing to sell the premium version to high-end customers. It is expected that there will be early sales to generate much-needed cash to finance future research and product improvements.

Required:

Identify the most appropriate pricing strategy for each of SmartWash Eco Detergent and VisionPro X1 Smart Glasses and justify your recommendation using evidence from the case (8 Marks)

b) The managing director of Innovate Africa Ltd has become aware of the disadvantages of static budgets. The following partial data are available for the actual operations in August 2025 (a recent typical month):

Details	**Amount**
Boxes produced and sold	4,500
Budget lines	**FRW**
Direct material costs	900,000
Direct manufacturing labour costs	67,500
Depreciation and other fixed manufacturing costs	507,000
Average selling price per box	1,600
Fixed marketing costs	813,500

Assume no opening or closing inventory of boxes. A 10% increase in the selling price is expected in October. The only variable marketing cost is a commission of FRW 550 per unit paid to the manufacturers' representatives, who bear all their own costs of travelling, entertaining customers, and so on. A patent royalty of FRW 200 per box manufactured is paid to an independent design firm. Salary increase that will become effective in October are FRW 1,200,000 per year for the production supervisor and FRW 1,500,000 per year for the sales manager. A 10% increase in direct materials prices is expected to become effective in October. No changes are expected in direct manufacturing labour wage rates or in the productivity of the direct manufacturing labour personnel. The company uses a normal costing system and does not have standard costs for its inputs.

Required

Prepare a flexible budget for October 2025, showing budgeted amount at each three output levels of production of 4,000 boxes, 5,000 boxes and 6,000 boxes. (12 Marks)

c) Prime Health Supplies Ltd (PHSL) is one of the largest distributors of pharmaceutical products and medical equipment in East Africa. The company supplies hospitals, pharmacies, clinics, and government health institutions across the country. Over the past five years, the company has experienced rapid growth in customer demand. However, its operational processes have remained largely unchanged and continue to rely on traditional management practices that were designed when the company was much smaller.

The company's order fulfilment process is highly fragmented. Customer orders pass through several independent departments, including Sales, Credit Control, Inventory, Procurement, Finance, Quality Assurance, Logistics, and Customer Service. Each department performs only a small part of the process before forwarding documents to the next department. Employees are only responsible for their individual tasks and must obtain approval from supervisors before making even minor decisions. This results in long delays whenever managers are unavailable.

Customers frequently complain that deliveries take between two and three weeks, even when products are available in the warehouse. Orders are often delayed because the same information is checked and verified repeatedly by different departments. Several forms require multiple signatures before processing can continue. Quality inspections are carried out only

after products have been packed, resulting in frequent rework whenever errors are discovered. Employees often blame other departments when mistakes occur because no single individual is responsible for the entire customer order. Communication between departments is poor, and customers receive conflicting information regarding the status of their orders because there is no single employee responsible for handling customer enquiries from beginning to end. Senior management has also noticed increasing operating costs, declining customer satisfaction, duplication of work, and reduced employee motivation. To remain competitive, the company has decided to undertake a comprehensive Business Process Re-engineering (BPR) programme aimed at redesigning its core operational processes.

Required:

As a Business Process Re-engineering consultant appointed by Prime Health Supplies Ltd, discuss how the adoption of BPR would improve the company's operations.

(5 Marks)

(Total: 25 Marks)

QUESTION THREE

a) Rwanda Community Health Services (RCHS) is a private healthcare organization that operates a network of hospitals and outpatient clinics across Rwanda. The organization provides medical consultations, laboratory services, maternity care, diagnostic imaging, pharmacy services, and emergency treatment. Its vision is to provide high-quality, patient-centered healthcare while maintaining affordable and efficient services.

Over the past year, RCHS has experienced a significant increase in patient complaints. Patients have reported long waiting times, delays in receiving laboratory results, incorrect billing, misplaced medical records, medication dispensing errors, and poor communication from some healthcare staff. Several patients have also raised concerns on social media about the quality of services, resulting in reputational damage and a decline in new patient registrations. An internal review revealed several operational weaknesses. New employees receive minimal orientation on quality standards, some medical equipment is not calibrated regularly, patient records are not consistently reviewed for accuracy, and quality audits are conducted infrequently. In addition, many service errors are only discovered after patients have been discharged, leading to costly corrective actions, refunds, legal claims, and additional medical treatment.

The Board of Directors believes that these problems stem from an organisational culture that focuses more on correcting mistakes than preventing them. Consequently, the Board has decided to introduce a Total Quality Management (TQM) programme throughout the organization. The programme will emphasize continuous improvement, employee participation, patient satisfaction, teamwork, process improvement, and prevention of service errors.

Required:

Discuss how RCHS can apply TQM principles to address the specific quality culture weaknesses identified in the case and explain, with examples from the case, the four categories of cost of quality, and comment on how the cost balance is likely to shift as RCHS moves from a correction to a prevention culture. (6 Marks)

b) Due to increasing demand for healthcare services, RCHS management is preparing its annual operating plan. However, the organisation is facing capacity constraints that limit its ability to increase the number of patients served and maximize profitability. The hospital's management is not sure of which is the limiting factor hindering the healthcare reaching its potential among the specialist or generalist doctors. Although demand for healthcare services is high, the number of available doctors limits the number of consultation hours that can be offered.

The following information has been prepared for three major services provided by RCHS:

Particulars	**Cardiology Consultation**	**Maternity Care Package**	**Diagnostic Imaging**
Selling price per service (FRW)	120,000	250,000	80,000
Variable costs per service (FRW)	50,000	150,000	30,000
Specialist doctor hours required per services	2 hours	5 hours	1 hour
Generalist doctor hours required per service	1 hour	6 hours	2 hours
Maximum annual demand (services)	2,000	1,200	4,000

RCHS expects that during the next financial year specialist and generalist doctors will be available for a maximum of 8,000 hours and 20,000 hours respectively. The healthcare expects the total fixed operating costs to remain unchanged at FRW 250 million**.** Management wants to allocate doctor hours to services that maximize total contribution. The healthcare is of the view to hire part time doctors to fill in the gap who would work in night shift, unfortunately they are being charged FRW 30,000 per labour hour. Rwanda Community Health Services (RCHS) is planning to expand its healthcare services by introducing a new specialist telemedicine platform that will allow patients in rural areas to access medical consultations remotely. Management believes that the project could increase patient access and generate additional revenue, but there is uncertainty regarding market acceptance and implementation costs. The Board of Directors is considering two possible options:
Option A: Develop an in-house telemedicine platform**,** RCHS would invest in developing its own platform. This option requires a significant initial investment but would provide greater control and higher potential returns if successful.
Option B: Partner with an existing technology provider**,** RCHS would collaborate with an external technology company. This option requires a lower investment but would generate lower returns because revenue would be shared with the technology partner.

The Finance Department has estimated the possible outcomes over the first three years of operation as follows:

Option	Possible Outcome	Probability	Net Cash Benefit (FRW)
Option A	High patient adoption	0.4	600,000,000
	Moderate patient adoption	0.35	250,000,000
	Low patient adoption	0.25	(100,000,000)
Option B	High patient adoption	0.4	350,000,000
	Moderate patient adoption	0.35	200,000,000
	Low patient adoption	0.25	50,000,000

The Managing Director has asked the Finance Manager to use expected value analysis to support the decision on which option should be selected.

Required:

i) **Determine the optimal allocation of the available doctor hours among the three services and calculate the maximum total profit that RCHS can achieve. Advise the management of healthcare on the appropriate labour rate to pay the part time doctors.** (13 Marks)

ii) **Evaluate the two proposed options and recommend which option RCHS should select** (4 Marks)

iii) **Explain two limitations of using expected value analysis when making decisions under uncertainty.** (2 Marks)

(Total: 25 Marks)

QUESTION FOUR

a) Makanika Incorporation Limited is a multinational corporation operating in ten different countries, headquartered in Rwanda, and manufactures cordless telephones. The company is planning to implement a Just-In-Time (JIT) production system, which requires annual tooling costs of FRW 52,500,000. Makanika Incorporation Limited estimates that the following annual benefits would arise from JIT production:

1. Average stock will decline by FRW 7 million, from FRW 9 million.
2. Insurance, space, materials handling and set-up costs, which currently total FRW 2 million, would decline by 30%.
3. The emphasis on quality inherent in JIT systems would reduce rework costs by 20%; the company currently incurs FRW 3.5 million on rework.
4. Better quality would enable the company to raise the prices of its products by FRW 3,000 per unit. The company sells 30,000 units each year.
5. The company's required rate of return on stock investment is 12% per annum.

Required:

Advise the board of Makanika Incorporation Limited on whether the company should proceed with implementing a Just-In-Time (JIT) production system, discussing the key features of JIT and supporting your advice with a calculation of the expected net benefit or cost of implementation. (6 Marks)

b) Makanika Incorporation Limited is also planning to replace one of its production lines, which has a remaining useful life of 10 years, a book value of FRW 9 million, a current disposal value of FRW 5 million, and a negligible terminal disposal value 10 years from now. The average investment in working capital under the current line is FRW 6 million.
Makanika Incorporation Limited plans to replace the production line with a computer-integrated manufacturing (CIM) system at a cost of FRW 45 million. Mr Mugemana, the Production Manager, estimates the following annual cash-flow effects of implementing the CIM:
1. Cost of maintaining software programs and CIM equipment: FRW 1.5 million.
2. Reduction in lease payments due to reduced floor-space requirements: FRW 1 million.
3. Fewer product defects and reduced rework: FRW 4.5 million.
4. Mr Mugemana estimates the average investment in working capital will decrease to FRW 2 million. The estimated disposal value of the CIM equipment is FRW 14 million at the end of 10 years. The company uses a required rate of return of 14%.
Management is uncertain whether the cash flow from additional revenues will occur.

Required:

Advise management on the minimum annual cash flow from additional revenues that would be required to justify Makanika Incorporation Limited's investment in the CIM, applying the Net Present Value criterion to support your advice. (5 Marks)

c) Kayonza Rice PLC is a wholly owned subsidiary of Makanika Incorporation Limited. While the parent company's core business remains the manufacture of cordless telephones, Kayonza Rice PLC processes and packages rice for sale across Rwanda as part of the group's diversification strategy. As part of its ongoing group-wide treasury oversight, Makanika's finance team is reviewing Kayonza Rice PLC's short-term cash position. The company's bank balance on 1 January 2025 was FRW 15,000,000.

The following information relates to the three months ending 31 March 2025. Of KRP's total monthly sales, 20% are for cash and 80% are on credit. Total budgeted monthly sales are FRW 60,000,000 for Oct-24, FRW 65,000,000 for Nov-24, FRW 70,000,000 for Dec-24, FRW 75,000,000 for Jan-25, FRW 80,000,000 for Feb-25 and FRW 85,000,000 for Mar-25.

Additional information:
1. Cash sales customers are given a 3% discount for immediate settlement, and the discounted amount is received in the same month as the sale.
2. 50% of each month's credit sales are collected in the month following the sale. Customers settling in this month are given a 2% discount for prompt payment.
3. 30% of each month's credit sales are collected in the second month following the sale.
4. 15% of each month's credit sales are collected in the third month following the sale.
5. The remaining 5% of each month's credit sales is expected to be written off as bad debts and will never be collected.
6. Separately, in March 2025, KRP expects to recover FRW 1,200,000 in cash from a customer whose debt was written off as irrecoverable in a prior financial year. This amount is unrelated to any of the sales figures given above.

7. KRP holds one month's sales requirement of inventory in stock at all times. As a result, purchases in any given month are made to meet the following month's sales requirement, and cost of sales is 55% of the sales value of the month for which the inventory is purchased.
8. Suppliers are paid in full one month after the month in which the purchase is made.
9. Running expenses (excluding depreciation) are budgeted at a fixed FRW 7,000,000 per month.
10. Depreciation on factory machinery is budgeted at FRW 2,500,000 per month.
11. A new delivery van costing FRW 20,000,000 will be purchased in January 2025, to be paid in two equal instalments: one in January 2025 and one in March 2025.
12. KRP will sell an old delivery van in February 2025 for cash proceeds of FRW 3,500,000. The van's net book value at the date of sale will be FRW 2,800,000, resulting in a profit on disposal of FRW 700,000 to be recognised in the statement of profit or loss.
13. KRP will receive a bank loan with a face value of FRW 30,000,000 on 1 February 2025. The bank deducts an arrangement fee of 2% of the face value of the loan at source, so KRP will receive the net proceeds only. The loan is repayable in equal monthly instalments of FRW 5,000,000 of capital, together with interest at 1.5% per month calculated on the outstanding gross loan balance at the start of each month. The first repayment instalment is due in March 2025.

Required:

Advise the finance director of Kayonza Rice PLC on the company's projected cash position for the three months ending 31 March 2025, supporting your advice with a cash budget showing clearly the closing cash balance for each month. (14 Marks)

(Total: 25 Marks)

End of Question Paper.