Activity One (1)

Bherl-San Ltd make and sell wall clock at an all-inclusive price of GH¢ 175 each (including VAT at 17.5%) with a profit margin of 25%. The material cost of this clock is 35% of its product cost. The latest rate of inflation released by Ghana Statistical Service department indicated that, the material price would increase by 12%.

Required:

Compute the new all-inclusive price of the clock if Bherl-San Ltd want to maintain the same profit margin.

A firm of financial advisors has established itself by providing high quality, personalized, financial strategy advice. The firm promotes itself by sponsoring local events, advertising, client newsletters, having attitude towards the times and locations of meetings with clients and seeking new and innovative ideas to discuss with its clients.

The senior manager of the firm has recently noticed that the firm's profitability has declined, with fewer clients being interested in the firm's new investment ideas. Indeed, many clients have admitted to not reading the firm's newsletters,

The senior manager seeks your help in restoring the firm's profitability to its former level and believes that the techniques of Value Analysis and Functional Analysis may be appropriate.

Required:

a. Explain the meanings of, and the difference between, Value Analysis and Functional Analysis.
b. Briefly explain the series of steps that you would take to implement Value Analysis for this organization.

Activity Two (2)

a) The Elmina Hospital serves a community with a population of about 20,000. For Out Patients Department (OPD) services, there are three basic stages to seeing the doctor which have been described below:

Stage 1

Records: This is where files of patients are kept. On arrival, a patient presents the identity card verification machines to confirm the validity of the card and recording of basic personal data work from 6:00 am to 4:00 pm. There are two biometric on the claim forms. The process takes approximately 10 minutes per machine. Workers here

Stage 2

Vitals: Here vital personal information about the patient's current health status are checked; i.e. nurses. It takes some 6 minutes for one patient to go through the process, the unit also works from 6:00 am to 4:00 pm. There is one machine with 5

Stage 3

Consultation: There are six doctors who run six-hour shift a day. Each doctor spends an average of 15 minutes to see a patient. The community has been complaining about the turnaround period and blame it on the incompetence of the nurses to the extent that sometimes patients stay in queues for long hours and return home unattended to.

Required:

i. With appropriate computations, evaluate and assess the bottleneck resource(s) at Elmina Hospital.
ii. Suggest three (3) ways by which the turnaround time can be reduced at the hospital.

b) FPI uses the Throughput Accounting technique for efficient allocation of scarce resources. In the second quarter of 2021, the throughput per bottleneck resource for its three products were given as follows: A-GH₵ 4, B-GH₵ 6 and C-GH₵ 9

The total factory cost was GH₵ 67,500 and the bottleneck resource was 15,000 machine hours.

Required:

a. Calculate and comment on the Throughput Accounting Ratios of the three products.

c) Standards are one of important quantitative tools that management use to control and measure performance of business operations. Most often than not, it is the wish of management that actual results equate to standards. However, this is often not the case.

Required:

Explain three (3) advantages and two (2) disadvantages of standard costing.

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Activity Three (3)

a) Axim (White Goods) Limited manufactures three items of domestic equipment – fridge/freezers (FFs), washing machines (WMs) and dishwashers (DWs). It has been manufacturing these products and selling them to retail organizations for many years. As production technology has advanced and production lines have become automated, the direct labour requirements for manufacturing these products have fallen considerably.

Data about annual sales and costs for the three products are as follows:

Product	Annual output and sales units	Annual direct labour hours	Raw materials and components per unit GH₵?
FF	5,000	40,000	90
WM	8,000	40,000	40
DW	4,000	20,000	20

The direct labour employees are paid GH₵ 10 per hour.

Axim uses a system of absorption costing for measuring output costs and the profitability of each product. It is now considering whether to replace the traditional absorption costing system, using a single factory-wide direct labour hour absorption rate, with a system of activity based costing (ABC).

It has been decided that there are four main cost drivers that generate overhead costs. These are:

Activity	Cost driver
Deliveries to retailers	The number of deliveries to major retail customers
Set-up costs	The number of times the production assembly line has to be set up for a batch of output units
Order processing	The combined number of sales orders and purchase orders
Sales returns handling	The number of sales returns from customers

The annual volumes for each of these cost drivers and for each of the three products are as follows:

Product	Number of deliveries to customers	Number of set-ups	Number of orders handled	Number of sales returns
FF	600	300	600	40
WM	300	150	240	160
DW	100	50	60	80

The annual overhead costs for these activities are as follows:

GH₵?	
Deliveries to retailers	2,400,000
Set-up cost	1,000,000
Order processing	1,500,000
Sales returns handling	700,000

Required:

a. Calculate the cost per unit for each product using traditional methods, absorbing overhead on the basis of labour hours
b. Calculate the cost per unit of each product using ABC principles.
c. Explain the reasons for the differences in costs calculated using absorption and activity based costing.
d. Briefly explain the benefits of switching to an ABC costing system for Axim with particular reference to the measurement of profit and pricing decisions.

Activity Four (4)

Sam plc is a food processing company that produces pre-prepared meals for sale to consumers through a number of different supermarkets. The company specializes in three particular pre-prepared meals and has invested significantly in modern manufacturing processes to ensure a high quality product. The company is very aware of the importance of training and retaining high quality staff in all areas of the company and, in order to ensure their production employees' commitment to the company, the employees are guaranteed a weekly salary that is equivalent to their normal working hours paid at their normal hourly rate of GH₵ 7 per hour.

The meals are produced in batches of 100 units. Costs and selling prices per batch are as follows:

Meal	TR (GH₵ /batch)	PN (GH₵ /batch)	BE (GH₵ /batch)
Selling Price	340	450	270
Ingredient K (GH₵ 5/kg)	150	120	90
Ingredient L (GH₵ 10/kg)	70	90	40
Ingredient M (GH₵ 15/kg)	30	75	45
Labour (GH₵ 7/hour)	21	28	42
Factory costs absorbed	20	80	40

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Sam plc has adopted throughput accounting for its short-term decisions

Required:

(a) State the principles of throughput accounting and the effects of using it for short-term decision making.

(b) Sam plc is preparing its production plans for the next three months and has estimated the maximum demand from its customers to be as follows:

TR 500 batches
PN 400 batches
BE 350 batches

These demand maximums are amended figures because a customer has just delayed its request for a large order and Sam has unusually got some spare capacity over the next three months. However, these demand maximums do include a contract for the delivery of 50 batches of each to an important customer. If this minimum contract is not satisfied then Sam plc will have to pay a substantial financial penalty for non-delivery.

The Production Director is concerned at hearing news that two of the ingredients used are expected to be in short supply for the next three months. Sam plc does not hold inventory of these ingredients and although there are no supply problems for ingredient K, the supplied of ingredient L and M are expected to be in limited to:

Ingredient L 7,000 kilos
Ingredient M 3,000 kilos

The Production Director has researched the problem and found that ingredient V can be used as direct substitute for ingredient M. it also costs the same as ingredient M. there is an unlimited supply of ingredient V.

Required:

Prepare calculations to determine the production mix that will maximize the profit of Sam plc during the next three months.

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Activity Five (5)

FPI plc is a marketing consultancy that provides marketing advice and support to small and medium sized enterprises. FPI plc employs 4 full time marketing consultants who each expect to deliver 1,500 chargeable hours per year and each receive a salary of GH¢ 60,000 per year. In addition, the company employs 6 marketing support/administration staff whose combined total salary cost is GH¢ 120,000 per year.

FPI plc has estimated its other costs for the coming year as follows:

	GH¢'000
Office premises: rent, rates, heating	50
Advertising	5
Travel to clients	15
Accommodation whilst visiting clients	11
Telephone, fax, communications	10

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FPI plc has been attributing costs to each client (and to the projects undertaken for them) by recording the chargeable hours spent on each client and using a single cost rate of GH¢ 75 per chargeable hour. The same basis has been used to estimate the costs of a project when preparing a quotation for new work.

FPI plc has reviewed its existing client database and determined the following three average profiles of typical clients:

Client profile	**D**	**E**	**F**
Chargeable hours per client	100	700	300
Distance (miles) to client	50	70	100

Number of visits per client	3	8	3
Number of clients in each profile	10	5	5

The senior consultant has been reviewing the company's costing and pricing procedures. He suggests that the use of a single cost rate should be abandoned and, where possible, activities should be costed individually. With this in mind he has obtained the following further information:

- It is FPI plc's policy that where a visit is made to a client and the distance to the client is more than 50 miles, the consultant will travel the day before the visit and stay in local accommodation so that the maximum time is available for meeting the client the following day.
- The cost of travel to the client is dependent on the number of miles travelled to visit the client.
- Other cost are facility costs – at present the senior consultant cannot identify an alternative basis to that currently being used to attribute costs to each client.

Required:

(a) Prepare calculations to show the cost attributed to each client group using an activity-based system of attributing costs.

(b) Discuss the differences between the costs attributed using activity-based costing and those attributed by the current system and adviser whether the senior consultant's suggestion should be adopted.

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Activity Six (6)

PBB is a toy manufacturer and retailer. PBB sells toys to consumers through its large network or retail outlets in its home country and via the company's website.

PBB purchases the materials and components that it needs to manufacture toys from a number of different suppliers. All of the purchases are delivered to PBB's raw material store at its factory and are held there until they are needed for production.

Finished toys are transported from the factory to PBB's retail outlets by PBB's fleet of vehicles. The vehicles follow the same schedule each week irrespective of the load they are carrying. Finished toys that are destined for sale via the company's website are transported to PBB's distribution centre.

PBB has recently won the contract to manufacture and sell a new toy. The new toy, Toy Z, is a doll based on a character from a very popular international children's film. PBB is free to set the selling price of Toy Z as it sees fit, but must pay a royalty fee of 15% of selling price to the film company. PBB intends to sell Toy Z through its network of retail outlets.

PBB plans to adopt a target costing approach for Toy Z. Market research has determined that the selling price will be GH¢ 25 per Toy Z. PBB requires a profit margin 25% of the selling price of Toy Z.

The forecast costs per Toy Z are:

	GH¢
Component A	2.15
Component B	1.75
Other materials	See note below for additional information
Labour (0.4 hours at GH¢ 15 per hour)	6.00
Product-specific production overhead cost	1.89

Product-specific selling and distribution cost	2.38

Note: Each Toy Z requires 0.6kg of 'other materials'. These 'other materials' are purchased from a supplier at a cost of GH¢ 4 per kg and 4% of all materials purchased are found to be substandard.

Required:

(a) Explain the main steps involved in developing a target price and target cost for a product in a typical market turning company.

(b) Calculate the cost gap that exists between the forecast total cost per unit and the target cost unit of Toy Z.

(c) Discuss how PBB could reduce costs in THREE primary activities in its value chain.

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Activity Seven (7)

You have been recently appointed as Management Accountant in Flourish Engineering Company which has been trading successfully for over fifty years. The company was originally started by two brothers who ran the business with a small skilled workforce growing steadily over the years.

In the last five years the original owners have retired and passed the business on to younger family members who have invested heavily in very sophisticated robotic equipment. The new equipment has meant a reduction in the labour intensive nature of the firm and has allowed a significant expansion in the range and type of products the company can produce.

The new Managing Director has given you the following quotation taken from Colin Drury's book entitled 'Management and Cost Accounting':

During the 1980s the limitations of traditional product costing systems began to be widely publicized. These systems were designed decades ago when most companies manufactured a narrow range of products, and direct labour and materials were the dominant factory costs. Overhead costs were relatively small and the distortions arising from inappropriate overhead allocations were not significant.

Required:

Prepare a memorandum for the new Managing Director in which you address the following concerns in the context of Flourish engineering company.

(a) An explanation of why activity-based costing (ABC) overcomes the limitations of the more traditional product costing systems.

(b) Outline the steps to be followed in implementing an ABC approach to overhead allocation. (8 marks)

(c) Identify two specific advantages and two specific disadvantages of introducing an ABC system into Engineering Company.

(d) Assess the applicability of ABC in the service sector. (In explaining your answer, identify four units in the health sector that ABC systems are applicable and appropriate cost drivers.

Activity Eight (8)

SUPREMO Company is currently developing a system of environmental management costing

Required:

(a) Explain the term - environmental management accounting? and the benefits that may accrue to SUPREMO if it adopts.
(b) Describe the key feature of an environmental management system.
(c) Explain the difference between internalized environmental costs and externalized environmental impacts and state two examples of each.
(d) Four major types of Environmental cost.

Activity Nine (9)

Required:

(a) Explain the term externalities
(b) With two examples each explain the difference between positive and negative externalities
(c) How do you solve positive externalities?
(d) What are Command and Control policies in addressing externalities?

Activity Ten (10)

Required:

(a) List the primary activities and secondary activities in a value chain.
(b) Explain the significance of the value chain for business strategy.
(c) Identify the primary activities in the value chain for a publisher of educational text books.
(d) Identify the primary activities in the value chain for a company selling insurance policies (such as car insurance) by telephone.

Activity Eleven (11)

BS is a medium-sized retailer of sports equipment and leisure clothing. BS was established in the 1987, and currently operates from three retail shops in town centre locations. The management's team of BS is very careful about how it recruits staff. In addition to the specific skills required to do the job, any applicant must also have a "passion" for sport. This has resulted in BS gaining a reputation for excellent customer service and enthusiastic staff.

A large proportion of staff time is also devoted to training, both on the product range and customer service techniques. According to a recent survey conducted by the store managers, the customers believe that BS employee are "helpful and knowledgeable" The customers also praised the BS shops for being "well designed" and said that it was? very easy? to find what they were looking for. Another feature of BS that is appreciated by the customers is the range of goods stocked. By developing close relationships with the major manufacturers of sports goods stocked, BS is able to stock a far wider range of items than its rivals. goods clothing, BS is able to stock a far wider range of items than its rivals.

Control of this inventory was made easier, last year, by the development of a sophisticated computerized inventory control system. Using the system, any member of staff can locate any computerized inventory control system. Using the system, any member of staff can locate any item of stock in any of the shops or the warehouse. If the required item is not in stock at item of stock in any of the shops or the warehouse. If the required item is not in stock at? in stock? at any of the shops or the warehouse. If the required item is not in stock at the manufacturer. BS, it is also possible to automatically check the availability of stock with the manufacturer.

At a recent management meeting, one of the store managers suggested that BS could consider developing its very basic website into one capable of e-retailing. At present, the website only gives the location of stores and some very basic details of the range of inventory carried. Although the development of the website would be expensive, the managers have decided to give the suggestion serious consideration.

Required:

a) Using the value chain model, explain activities that add value in the BS organization, BEFORE the e-retail investment.
b) Identify those activities in the value chain of BS that may be affected by the e- retail investment, explaining whether the value added by each of them may increase or decrease as a result of the e-retail investment.

Activity Twelve (12)

a) List the key aspect of Total Quality management (TQM).
b) What is the TQM approach to quality-related costs, and how does this differ from the more traditional approach to these costs?
c) List the key aspects of just-in-time (JIT) management.
d) Briefly explain the nature of activity-based management (ABM).

Activity Thirteen (13)

Explain briefly how each of the following management accounting techniques can be used to analyse the relationship between cost and quality;

1. Total Quality Management (TQM).
2. Activity Based Costing (ABC).
3. Balance Scorecard.
4. Just-in-time management (JIT).
5. Value analysis

Activity Fourteen (14)

According to Global Reporting Initiative, and effective sustainability reporting cycle should benefit all reporting organization.

a) Explain "Sustainability reporting"
b) List internal and external benefits (three each) of sustainability reporting.

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Activity Fifteen (15)

FPI manufactures and sells solar panels for garden lights. Components are bought in and assembled into metal frames that are machine manufactured by FPI. There are a number of alternative suppliers of these solar panels. Some of FPI's competitors charge a lower price, but supply lower quality panels; whereas others supply higher quality panels than FPI but for a much higher price.

FPI is preparing its budgets for the coming year and has estimated that the market demand for its type of solar panels will be 100,000 units and that its share will be 20,000 units (i.e., 20% of the available market).

The standard cost details of each solar panel are as follows:

	GH₵ per unit
Selling price	60
Bought - in components (1 set)	15
Assembly & machining cost	25
Delivery cost	5
Contribution	15

An analysis of FPI's recent performance revealed that 2% of the solar panels supplied to customers were returned for free replacement, because the customer found that they were faulty.

Investigation of these returned items shows that the components had been damaged when they had been assembled into the metal frame. These returned panels cannot be repaired and have no scrap value. If the supply of faulty solar panels to customers could be eliminated then, due to improved customer perception, FPI's market share would increase to 25%.

Required:

a) Explain, with reference to FPI, quality conformance costs and quality non-conformance costs and the relationship between them.
b) Assuming that FPI continues with its present systems and that the percentage of quality failings is as stated above.
c) Calculate, based on the budgeted figures and sales returns rate, the total relevant costs of quality.

Activity Sixteen (16)

Kanta Cars (Kanta) is large national car manufacturing business. It is based in Essland, a country that has recently turned from state democratic capitalism. The car industry had been heavily supported and controlled by the bureaucracy of the old regime. The government had stipulated and employment targets for the business but had ignored profit as a performance measure.

Kanta is now run by a new generation of capitalist business people intent on rejuvenating the company's fortunes. The company has a strong position within Essland, which has a population of 200million and forms the majority of Kanta's market. However, the company has also traditionally achieved a good market share in six neighbouring countries due to historic links and shared culture between them and Essland.

All of these markets are experiencing growing car ownership as political and market reforms lead of greater wealth in large proportion of the population. Additionally, the new government in Essland is deregulating markets and opening the country to imports of foreign vehicles. Kanta's management recognizes that it needs to make fundamental changes to its production approach in order to combat increased competition from foreign manufactures. Kanta's cars

are now being seen as ugly, pollutive and with poor safety feature in comparison to the foreign competition.

Management plans to address this by improving the quality of its cars through the use of quality of its cars through the use of quality management techniques. It plans to improve financial performance through the use of Kaizen costing and just-in-time purchasing and production. Kanta's existing performance reporting system uses standard costing and budgetary variance analysis in order to monitor and control production activities. The chief Financial Officer (CFO) of Kanta has commented that he is confused by the terminology associated with quality management and needs a clearer understanding of the different costs associated with quality management. The CFO also wants to know the impact of including quality costs and using the Kaizen costing approach on the traditional standard costing approach at Kanta.

Required:

In response to the CFO's comments:

a) Discuss the impact of the collection and use of quality costs on the current costing systems at Kanta.
b) Discuss and evaluate the impact of the Kaizen costing approach on the costing systems and employee.

c) Briefly evaluate the effect of moving to just-in-time purchasing and production, noting the impact on performance measures at Kanta.
d) Explain why the adoption to TQM is particularly important within a just-in-time (JIT) production environment.

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Activity Seventeen (17)

Bherl-San Company manufactures and distribute generic paper-based products and currently has an annual turnover of GH₵ 10 million. At present, the management of Bherl-San Company is uncertain whether the purchasing department is maximizing its potential in terms of purchasing efficiency and effectiveness. The management is currently considering the introduction of a system of benchmarking to measure the performance of the purchasing department.

Required:

a) Explain the term "benchmarking" and briefly discuss the potential benefits that can be obtained as a result of undertaking.
b) Describe how a system of benchmarking could be introduced to measure the performance of the purchasing department.
c) Discuss the problems that the management of Bherl-San Company might encounter in implementing a system of benchmarking and recommend how such problems should be successfully addressed.
d) Explain four (4) factors that can contribute to effective benchmarking.

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Activity Eighteen (18)

Flourish, a company that manufactures a range of timber products, is considering changing to a just-in-time (JIT) production system. Currently Flourish employs staff who are contracted to work and be paid for a total of hours per month. Their labour efficiency ratio is 96% and, as a result, they are able to produce 3,780 standard hours of output each month in normal working hours.

Overtime working is used to meet additional demand, though the management of Flourish try to avoid the need for this because it is paid at a 50% premium to the normal hourly rate of ¢10 per hour. Instead, Flourish plan production so that in months of lower demand inventory levels increase to enable sales demand to be met in other months. Flourish has determined that the cost of holding inventory is ¢6 per month for each standard hour of output that is held in inventory.

Flourish has forecast the demand for its products for the next six months as follows:

Month	Demand (Standard Hours)
1	3,100
2	3,700
3	4,000
4	3,300
5	3,600
6	4,980

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You may assume that all production costs (other than labour) are either fixed or are not driven by labour hours worked, and that there is zero inventory at the start of month 1 and at the end of month 6. Assume also that production and sales occur evenly during each month at present, and that the minimum contracted hours will remain the same with the JIT system.

Required:

a) With the current production system,

i. Calculate for each of the six months and the period in total, the total inventory holding costs.

ii. Calculate the total production cost savings made by changing to a JIT.

c) Explain two (2) other factors that should be considered by Flourish before changing to a JIT production system.

Activity Nineteen (19)

FPI is one of several insurance companies which offer insurance policies covering general risks relating to individuals and families, cost efficiency is major factor in the success of the companies in this industry, because competition within the industry is fierce. Over the past three years FPI has been the volume of business increase, but profits have remained static due to declining margins. Although some of the processes within FPI are computerized, most of the processes which involve communication with customers are still paper – based. Responses to telephone enquiries from customers involve paper - based communications, both with the enquirers and internally within FPI.

Additionally, sales staff visits potential customers in their homes to try to sell them insurance policies for their homes and their possessions. These transactions are again paper – based. This process is often slow and has led to complaints from both customers and the company's sales staff.

FPI has also been receiving a regular, and increasing, number of complaints from current and potential customers about errors in the paperwork that they receive.

The board of Directors of FPI has announced that there is need for a business process reengineering programme to be conducted, with the intention of modernizing the business, and has asked the management accountant to help with the planning and implementation of the programme. The intention is to streamline the business model as much as possible, and to increase the profitability of the company. FPI intends to computerize almost all of the work done within the company. However, while some of the staff are enthusiastic about the BPR programme, a number have expressed concern about business process re- engineering and its implications for them.

Required:

a) Briefly explain the principles of business process re-engineering (BPR).

i. Discuss the improvements that the Board of Directors might except from introducing BPR to FPI's business model.

ii. Recommend, with reasons, two (2) performance targets which FPI could introduce to help ensure that the re-engineered processes enable it to achieve its business objective.

b) Explain why FPI's staff might be concerned about BPR and its implications for them.