LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com. DEGREE EXAMINATION – **HONOURS**

THIRD SEMESTER – **NOVEMBER 2022**

UBH 3503 – PERFORMANCE MANAGEMENT

Date: 28-11-2022 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART – A

Answer all the questions: **(15x2=30 Marks)**

1. The following estimates have been produced for a new product with an expected life of four years.

	Year 1	*Year 2*	*Year 3*	*Year 4*
Units made and sold	5,000	10,000	25,000	10,000
	$	$	$	$
R&D costs	0.9 million	0.3 million		
Marketing costs	0.3 million	0.3 million	0.1 million	0.1 million
Production cost per unit	80	40	30	30
Customer service cost per unit	20	15	10	5
Disposal costs				0.2 million

What is the expected life cycle cost per unit?

A $48.00 B $57.50 C $88.00 D $92.00

2. A company is budgeting to sell 200,000 units of its product next year at a price of $15 per unit. Fixed costs will be $1,232,000 and the variable cost/sales ratio is 44%. What is the breakeven sales revenue figure and what is the margin of safety in the budget?

A Breakeven $2,200,000, margin of safety 26.7%

B Breakeven $2,200,000, margin of safety 36.4%

C Breakeven $2,800,000, margin of safety 6.7%

D Breakeven $2,800,000, margin of safety 7.1%

3. A company wishes to decide on a selling price for a new product. Weekly sales of each product will depend on the price charge and also on customers' response to the new product. The following pay-off table has been prepared.

	Probability	*Price P1*	*Price P2*	*Price P3*	*Price P4*
		$	$	$	$
Price		5.00	5.50	6.00	6.50
Unit contribution		3.00	3.50	4.00	4.50
Weekly demand		units	units	units	units
Best possible	0.3	10,000	9,000	8,000	7,000
Most likely	0.5	8,000	7,500	7,000	6,000
Worst possible	0.2	6,000	5,000	4,000	3,000

If the choice of selling price is based on a minimax regret decision rule, which price would be selected?

A P1 B P2 C P3 D P4

4. A company operating a standard costing system has the following direct labour standards per unit for one of its products: 4 hours at $12·50 per hour. Last month when 2,195 units of the product were manufactured, the actual direct labour cost for the 9,200 hours worked was $110,750. What was the direct labour rate variance for last month?

A $4,250 favourable B $4,250 adverse C $5,250 favourable D $5,250 adverse

5. For which one of the following reasons would the choice of penetration pricing be unsuitable for a product during the initial stage of its life cycle?
   A To discourage new entrants to the market
   B To increase the length of the initial stage of the life cycle
   C To achieve economies of scale
   D To set a price for a product that has a high price elasticity of demand

6. In a balanced scorecard system of performance measurement, which one of the following is most likely to be used as a measure of performance from the customer perspective?
   A Increase in size of product range
   B Percentage of customers making repeat orders
   C Number of orders won per sales representative
   D Speed of processing an order

7. In terms of performance measurement, 'divisionalisation' refers to:
   A The delegation of profit-making responsibility
   B Incentives for improving performance
   C Return on investment
   D Transfer pricing.

8. Long-term sales forecasts are an example of accounting information used at which level of control in an organisation?
   A Strategic planning B Management control
   C Tactical control D Operational control

9. Which of the following is NOT normally considered to be a feature of big data?
   A Volume B Velocity C Variety D Vicinity

10. Which of the following would show information on the frequency of machine breakdowns causing lost productions?
    A The fixed asset register
    B The machine maintenance schedule
    C Production output reports
    D The purchase ledger account for the supplier that provides replacement machine parts

11. The qualities of good information contained in reports are more easily remembered using the mnemonic ACCURATE. Which one of the following is NOT normally associated with a quality of good information?
    A Adaptable to the needs of the user
    B Acceptable to the user
    C Accurate
    D Understandable by the user

12. An airline wants to provide access to a select group of travel agents to real time information held by the airline regarding flights which may have the potential for passenger seat upgrades. Which of the following is likely to be used to achieve this?
    A Intranet B Extranet C Internet D Email

13. A small doctors' surgery is considering providing a wireless network for use by nurses to access patient data in real time. Which of the following is a disadvantage of using a wireless network in this way?
    A Access to the network cannot be limited
    B The network cannot match the coverage of a wired network
    C The network will be less stable than a wired network
    D It will be necessary to buy lots of new user devices

14. Which of the following methods would be LEAST effective in ensuring the security of confidential information?

A Monitoring emails | B Encryption of files
C Dial back facility | D Universal passwords

15. Local managers within organisations often use operational reports. Which of the following features of reports would be most true of an operational report?

A Summarised information
B Mainly external information on local competition
C Accurate information on current position
D Infrequent

Part B

Answer all the question **(3x10=30 Marks)**

16. Pico makes two products – P1 and P2 – budgeted details of which are as follows:

	P1	*P2*
	$	$
Selling price	10·00	8·00
Cost per unit:		
Direct materials	3·50	4·00
Direct labour	1·50	1·00
Variable overhead	0·60	0·40
Fixed overhead	1·20	1·00
Profit per unit	3·20	1·60

Budgeted production and sales for the following year are:
Product P1 10,000 units
Product P2 8,000 units

16.1 The fixed overhead costs for P1 relate to apportionment of general overhead costs only. However the fixed overhead for P2 also includes specific fixed overheads totalling $2,500. 1 If only product P1 were to be made, how many units (to the nearest unit) would need to be sold in order to achieve a profit of $60,000 each year?

A 25,625 units B 19,205 units C 18,636 units D 26,406 units

16.2 If both products were sold in the budgeted mix, what would be the break-even revenue?

A $55,682 B $57,516 C $62,009 D $64,052

16.3 The production manager has reviewed the budgets above and suggested the following changes:
(1) Material cost per unit of P1 should be $4.00 per unit due to a change in supplier
(2) Fixed cost of P2 will be reduced by $2,500 due to a change in the production process
What impact would each of these changes have on the break-even revenue?

	Change 1	Change 2
A	Increase	Decrease
B	Decrease	Increase
C	Increase	Increase
D	Decrease	Decrease

16.4 Which of the following lines are drawn in a break even chart?

(1) Total revenue	(2) Total costs	(3) Total profit	(4) Total contribution
A 1 and 2 only	B 1, 2 and 3	C 2, 3 and 4	D 1, 3 and 4

16.5 The following statements have been made about cost volume profit analysis:
(1) As volume of sales changes, the increase in profits equals the increase in contribution provided that fixed costs do not change
(2) At break-even point, total contribution = total fixed costs
(3) An assumption has to be made that variable cost per unit remains constant
(4) If fixed costs increase when output exceeds a certain limit, then it is not possible to calculate the break-even point
Which of the above statements is true?

A 1 and 2 only B 1, 2 and 3 C 2, 3 and 4 D 1, 3 and 4

17. Cardale Industrial Metal Co (CIM Co) is a large supplier of industrial metals. The company is split into divisions: Division F and Division N. Each division operates separately as an investment centre, with each having full control over its non-current assets. In addition, both divisions are responsible for their own current assets, controlling their own levels of inventory and having full responsibility for the credit terms granted to customers and the collection of receivables. Similarly, each division has full responsibility for its current liabilities and deals directly with its own suppliers. All cash balances are automatically transferred to a company bank account at the end of each day and are not therefore included in the definition of divisional capital. The following figures relate to two of the divisions, Division F and Division N for the most recent financial year:

	Division F	*Division N*
	$000	$000
Sales	14,500	8,700
Controllable profit	2,645	1,970
Less apportionment of head office costs	(1,265)	(684)
Net profit	1,380	1,286
Non-current assets	9,760	14,980
Inventory and trade receivables	2,480	3,260
Trade payables	2,960	1,400

17.1 What is the return on investment of each division if the controllability principle is observed?

Division F	Division N
A 14.9%	7.6%
B 17.4%	10.0%
C 27.1%	13.2%
D 28.5%	11.7%

17.2 The management of CIM Co are considering introducing residual income as a divisional performance measure, charging divisions interest of 10% of capital employed. It has been agreed that controllable profit will be used as the basis the calculation of residual income. What is the residual income for each division for the most recent financial year?

Division F	Division N
A 1,125	6
B 1,380	1,286
C 1,669	480
D 1,717	286

17.3 Each divisional manager is paid a salary plus an annual performance-related bonus, based on the return on investment (ROI) achieved by their division for the year. For each whole percentage point above 10% which the division achieves for the year, a bonus equivalent to 2% of annual salary is paid. The manager of division F has taken the following actions during the year:

(1) Delayed payments to suppliers because of limited cash

(2) Delayed an investment in a new computer system

What impact would each of these decisions have on the bonus that the manager of Division F receives?

Action 1	Action 2
A Increase	Increase
B Increase	Decrease
C Decrease	Increase
D Decrease	Decrease

17.4 Cim Co has two other divisions, A and B. Each division is currently considering the following separate projects:

	Division A	*Division B*
Capital required for the project	\$32·6 million	\$22·2 million
Sales generated by project	\$14·4 million	\$8·8 million
Operating profit margin	30%	24%
Cost of capital	10%	10%
Current return on investment of division	15%	9%

If residual income is used as the basis for the investment decision, which Division(s) would choose to invest in the project?

A Division A only

B Division B only

C Both Division A and Division B

D Neither Division A nor Division B

17.5 Which of the following measures would be appropriate for assessing the performance of the managers of a profit centre?

(1) % of products returned for warranty repairs each year

(2) Sales price and volume variances

(3) Operating profit after deducting depreciation

(4) Residual income

A 1 and 2 only B 1, 2 and 3 C 2, 3 and 4 D 1, 3 and 4

18. Lesting Regional Authority (LRA) is responsible for the provision of a wide range of services in the Lesting region, which is based in the south of the country ‘Alaia’. These services include, amongst other things, responsibility for residents’ welfare, schools, housing, hospitals, roads and waste management. Over recent months the Lesting region experienced the hottest temperatures on record, resulting in several forest fires, which caused damage to several schools and some local roads. Unfortunately, these hot temperatures were then followed by flooding, which left a number of residents without homes and saw higher than usual numbers of admissions to hospitals due to the outbreak of disease. These hospitals were full and some patients were treated in tents. Residents have been complaining for some years that a new hospital is needed in the area. Prior to these events, the LRA was proudly leading the way in a new approach to waste management, with the introduction of its new ‘Waste Recycling Scheme.’ Two years ago, it began phase 1 of the scheme and half of its residents were issued with different coloured waste bins for different types of waste. The final phase was due to begin in one month’s time. The cost of providing the new waste bins is significant but LRA’s focus has always been on the long-term savings both to the environment and in terms of reduced waste disposal costs. The LRA is about to begin preparing its budget for the coming financial year, which starts in one month’s time. Over recent years, zero-based budgeting (ZBB) has been introduced at a number of regional authorities in Alaia and, given the demand on resources which LRA faces this year, it is considering whether now would be a good time to introduce it.

18.1 What are the main steps involved in preparing a zero-based budget?

A Identifying previous inefficiencies, using adaptative management processes and avoiding wasteful expenditure in planning.

B Recognising different cost behaviour patterns, planning on a rolling basis and ignoring wasteful expenditure.

C Analysing the cost of each activity, identifying alternative methods and assessing the consequences of performing the activity at different levels.

D Updating the budget continually, setting performance standards and controlling performance monthly with the use of variance analysis.

18.2 Which TWO of the following statements are true?

(1) Now is a good time to introduce ZBB in LRA.

(2) The introduction of ZBB in any organisation is relatively straightforward.

(3) The introduction of ZBB in LRA would be lengthy and costly.

(4) A conflict situation may arise if ZBB is introduced in LRA.

A (1) and (2) B (1) and (3) C (3) and (4) D (2) and (4)

18.3 Which of the following correctly describes a ‘decision package’ within the context of zero-based budgeting?

A A method of budgeting that requires each cost element to be specifically justified, as though the activities to which the budget relates were being undertaken for the first time.

B The decision or choice between making a product in-house or outsourcing and buying in.

C A method of budgeting based on an activity framework and utilising cost driver data in the budget-setting and variance feedback processes.

D A list of costs that will not result in an outflow of cash either now or in the future or result in a ‘real’ cash expenditure.

18.4 Which ONE of the following statements is true?

A If any of the activities or operations at LRA are wasteful, ZBB will not be able to identify these and remove them.

B With the implementation of ZBB, managers may become less motivated as they have had a key role in putting the budget together.

C ZBB would discourage a more questioning attitude and lead managers to just the status quo.

D Overall, ZBB at LRA will lead to a more efficient allocation of resources.

18.5 Which of the following describe difficulties in assessing performance in not-for profit organisations?

(i) Benefits and costs are not always easy to quantify.

(ii) These organisations often have multiple stakeholders and therefore multiple objectives.

(iii) These organisations often have unlimited funds and are therefore not motivated to measure performance.

A (i) only B (i) and (ii) C (ii) only D (ii) and (iii)

Part C

Answer all the question **(2x20=40 Marks)**

19. Abkaber Co assembles three models of motorcycle at the same factory: the 50 cc Sunshine, the 250 cc Roadster and the 1000 cc Fireball. It sells the motorcycles throughout the world. In response to market pressures Abkaber has invested heavily in new manufacturing technology in recent years and, as a result, has significantly reduced the size of its workforce. Historically, the company has allocated all overhead costs using total direct labour hours, but is now considering introducing Activity Based Costing (ABC). Abkaber's accountant has produced the following analysis:

	Annual output (units)	*Annual direct labour hours*	*Selling price* ($ per unit)	*Raw material cost* ($ per unit)
Sunshine	2,000	200,000	4,000	400
Roadster	1,600	220,000	6,000	600
Fireball	400	80,000	8,000	900

The three cost drivers that generate overheads are:
Deliveries to retailers – the number of deliveries of motorcycles to retail showrooms;
Set-ups – the number of times the assembly line process is re-set to accommodate a production run of a different model of motorcycle;
Purchase orders – the number of purchase orders.
The annual cost driver volumes relating to each activity and for each model of motorcycle are as follows:

	Number of deliveries to retailers	*Number of set-ups*	*Number of purchase orders*
Sunshine	100	35	400
Roadster	80	40	300
Fireball	70	25	100

The annual overhead costs relating to these activities are as follows:

	$000
Deliveries to retailers	2,400
Set-up costs	6,000
Purchase orders	3,600

All direct labour is paid at $5 per hour. The company holds no inventory.

Required:

(a) Calculate the total profit on each of Abkaber Co.'s three models using the existing method of allocating overheads based on labour hours. **(5 marks)**

(b) Recalculate the total profit on each of Abkaber Co's three models using activity based costing. **(10 marks)**

(c) Evaluate the labour hours and the activity based costing methods in the circumstances of Abkaber Co. **(5 marks)**

20. NN Ltd manufactures and markets a range of electronic office equipment. The company currently has a turnover of $40 million per annum. The company has a functional structure and currently operates an incremental budgeting system. The company has a budget committee that is comprised entirely of members of the senior management team. No other personnel are involved in the budget-setting

process. Each member of the senior management team has enjoyed an annual bonus of between 10% and 20% of their annual salary for each of the past five years. The annual bonuses are calculated by comparing the actual costs attributed to a particular function with budgeted costs for that function during the twelve month period ended 31 December in each year. A new Finance Director, who previously held a senior management position in a 'not for profit' health organisation, has recently been appointed. Whilst employed by the health service organisation, the new Finance Director had been the manager responsible for the implementation of a zero-based budgeting system which proved highly successful. **Required:**

(a) Identify and discuss the factors to be considered when implementing a system of zero-based budgeting within NN Ltd. Include, as part of your discussion, a definition of the existing incremental budgeting system and a zero-based budgeting system. : **(5 marks)**

(b) Identify and discuss the behavioural problems that the management of NN Ltd might encounter in implementing a system of zero-based budgeting, recommending how best to address such problems in order that they are overcome. : **(10 marks)**

(c) Explain how the implementation of a zero-based budgeting system in NN Ltd may differ from the implementation of such a system in a 'not for profit' health organisation. : (5 marks)

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