INTERMEDIATE EXAMINATION

December 2023

P–12(MA)
Syllabus 2022

MANAGEMENT ACCOUNTING

Time Allowed: 3 Hours | Full Marks: 100

The figures in the margin on the right side indicate full marks.

Where considered necessary, suitable assumptions may be made and clearly indicated in the answer.

All working notes should form part of your answer.

SECTION-A (COMPULSORY)

1. Choose the correct option. 2×15=30

(i) Which of the following would decrease unit contribution margin the most?

(A) 10% decrease in selling price

(B) 10% increase in variable costs

(C) 10% decrease in variable costs

(D) 10% decrease in fixed costs

(ii) Which one of the following statements best demonstrates the concept of the learning curve?

(A) Learning curve is a linear cost behavior influenced by learning.

(B) Learning curve is a judgmental method of estimating costs when learning is present.

(C) A learning curve is a percentage by which average time per unit produced decreases as output doubles.

(D) A learning curve is a percentage by which average time falls as output increases by one unit.

(iii) AB Ltd. uses standard costing system. The following information pertains to direct labour for Product X for the month of March, 2023:

Standard rate per hour ₹ 8; Actual rate per hour ₹ 8.40

Standard hours allowed for actual production is 2000 hours

Labour Efficiency variance = ₹ 1,600 (Adverse)

What were the actual hours worked?

(A) 1,800 Hours

(B) 1,810 Hours

(C) 2,200 Hours

(D) 2,190 Hours

(iv) Economic value added (EVA) is a concept that is closely related to residual income. EVA is computed by

(A) subtracting the adjusted total cost of capital from the adjusted after-tax income.

(B) subtracting adjusted after-tax income from total divisional investment.

(C) dividing adjusted after-tax income by adjusted divisional investment.

(D) dividing adjusted after-tax income by adjusted total cost of capital.

(v) Expected value in decision analysis is

(A) a standard deviation using the probabilities as weights.

(B) the square root of the squared deviations.

(C) a measure of the difference between the best possible outcome and the outcome of the original decision.

(D) an arithmetic mean using the probabilities as weights.

(vi) M/s SP Limited sells Glucon P at a selling price of ₹ 100 per unit. Variable cost per unit is ₹ 80 and Fixed cost for the year is ₹ 3,00,000. Actual quantity sold during the year is 1,00,000 boxes of Glucon P. The Break Even Point (Units) and Margin of Safety (Units) will be

(A) BEP (Units) will be 20,000 units and MOS (Units) will be 80,000 units.

(B) BEP (Units) will be 10,000 units and MOS (Units) will be 90,000 units.

(C) BEP (Units) will be 15,000 units and MOS (Units) will be 85,000 units.

(D) BEP (Units) will be 50,000 units and MOS (Units) will be 50,000 units.

(vii) Standard output is 1,000 units and actual output is 800 units. Standard price per Kg is ₹ 2 and Actual price per Kg is ₹ 3. Standard quantity per unit is 4 Kg. If actual quantity is 4,000 kgs, the Material Cost Variance will be

(A) ₹ 1,600 (F)

(B) ₹ 1,600 (A)

(C) ₹ 5,600 (A)

(D) ₹ 3,200 (A)

(viii) _______________ is the budget which incorporates all functional budgets, which is finally approved, adopted & employed.

(A) Zero Base Budget

(B) Rolling Budget

(C) Master Budget

(D) Performance Budget

(ix) M/s Shibaji Limited has Capital Employed of ₹ 4,50,000 and its Operating Income for the year ended 31-03-2023 is ₹ 1,00,000. If the minimum expected rate of return is 14%, the Residual Income (RI) of the Company is

(A) ₹ 35,000

(B) ₹ 43,000

(C) ₹ 40,000

(D) ₹ 37,000

(x) M/s Dutta Rubber manufactured 10,000 units of Biodegradable disposable containers at the Material cost of ₹ 6 per unit. The Direct labour cost is ₹ 15 per unit out of which 2/3 is fixed. Factory overhead cost is ₹ 20 per unit of which 60% is fixed. The labour used for manufacturing Biodegradable disposable containers can be used to manufacture another product having selling price per unit of ₹ 40 and Material cost of ₹ 10 per unit. The Relevant Cost (RC) of manufacturing Biodegradable disposable containers is

(A) ₹ 66

(B) ₹ 44

(C) ₹ 36

(D) ₹ 32

(xi) Fixed cost is Relevant Cost if it is __________.

(A) Discretionary

(B) Sunk

(C) Unavoidable

(D) Periodic

(xii) According to Norton and Kaplan, the balanced scorecard should be used as

(A) A Control system

(B) A Diagnostic system

(C) A Strategic system

(D) Both (A) & (C) above

(xiii) M/s NABARD Limited has provided you the following data for the financial year 2022-23. Break Even Point (in ₹) = 2,66,666·67. Selling price per unit is ₹ 100 and Variable Cost per unit is ₹ 70. Fixed Cost is ₹ 80,000. If the selling price per unit is reduced by 10% in the next year, what will the new Break Even Point (in ₹)?

(A) ₹ 3,56,058

(B) ₹ 3,60,000

(C) ₹ 3,88,556

(D) ₹ 3,57,548

(xiv) M/s Agartala Plastics Private Limited has provided you the information of its packaging division. Fixed Assets = ₹ 10,00,000 & Current Assets = ₹ 10,00,000. Annual Fixed Cost of the packaging division is ₹ 16,00,000, Variable Cost per unit is ₹ 10. If the budgeted volume per year = 8,00,000 units and Return on Investment is 18%, the Transfer Price of the packaging division will be

(A) ₹ 11.60

(B) ₹ 12.45

(C) ₹ 13.40

(D) ₹ 10.90

(xv) Under Marginal Costing, the Opening & Closing stock is valued at which of the following basis?

(A) Opening stock is valued at variable cost & closing stock is valued at total cost.

(B) Opening stock is valued at total cost & closing stock is valued at variable cost.

(C) Both Opening & Closing stock is valued at variable cost.

(D) Both Opening & Closing stock is valued at total cost.

SECTION-B

Answer *any five* questions out of seven questions given. Each question carries 14 marks.

14×5=70

2. (a) Briefly discuss the scope of Management Accounting. 7

(b) Following are the data of three product lines of a departmental store for the year 2022-23:

	Cake	Pizza	Soft Drinks
Revenues	₹ 30,24,750	₹ 52,51,500	₹ 19,83,750
Cost of goods sold	₹ 22,50,000	₹ 37,50,000	₹ 15,00,000
Cost of bottles returned	—	—	₹ 30,000
Number of purchase orders placed	360	840	360
Number of deliveries received	660	2,190	300
Hours of shelf-stocking time	2,700	5,400	540
Items sold	3,06,000	11,04,000	1,26,000

Additional information related to the store are as follows:

Activity	Description of activity	Total Cost	Cost-allocation base
Bottles Returns	Returning of empty bottles	₹ 30,000	Direct tracing to soft drink line
Ordering	Placing of orders for purchases	₹ 3,90,000	1,560 purchase orders
Delivery	Physical delivery and receipt of goods	₹ 6,30,000	3,150 deliveries
Shelf stocking	Stocking of goods on store shelves and on-going restocking	₹ 4,32,000	8,640 hours of shelf stocking time
Customer Support	Assistance provided to customers including check-out	₹ 7,68,000	15,36,000 items sold

Calculate the total cost and operating income using Activity Based Costing system. 7

3. M/s Bishalgarh Tiles Limited is manufacturing and selling 4 types of PVC Pavers Block which are used for laying in public parks. The Board of Directors of M/s Bishalgarh Tiles Limited is considering a proposal for product promotion campaign which would cost the company ₹ 2,50,000. The Business development department of M/s Bishalgarh Tiles Limited provides you the following two alternative Sales Budgets for the next financial year.

Alternative-1	Products (Units in Nos.)			
Without Product Promotion Campaign	AON	NEON	ZEON	PP
	2,00,000	3,50,000	3,20,000	1,90,000

Alternative-2	Products (Units in Nos.)			
With Product Promotion Campaign	AON	NEON	ZEON	PP
	2,40,000	3,80,000	3,50,000	2,00,000

Selling price and Variable Production Cost are budgeted as follows:

Particulars	Products (₹ Per Unit)			
	AON	NEON	ZEON	PP
Selling Price	12.00	14.00	16.00	22.00
Variable Production Cost:				
Direct Material	5.00	6.50	8.00	10.00
Direct Labour	2.00	2.50	3.50	4.50
Variable Production Overhead	0.84	0.72	1.20	1.20

M/s Bishalgarh Tiles Limited provides you the following additional details:

(i) The Variable production overhead is absorbed on a Machine Hour basis at a rate of ₹ 1.20 per Machine hour.

(ii) Fixed overhead to be ₹ 35,000 p.a.

(iii) Production capacity during the budgeted period is 8,90,000 Machine hours.

(iv) Product AON & ZEON could be bought from market at ₹ 10.50 per unit & ₹ 15.50 per unit respectively.

(v) The machine capacity will not increase after product promotion campaign.

Determine whether M/s Bishalgarh Tiles Limited should invest in product promotion campaign and advise how the production facilities would be best utilized. 14

4. (a) M/s BLB Industries provided you the following information for the year ended 31-03-2023:

Particulars	Amount (In ₹)
Sales	40,000
Raw Material Cost	20,000
Direct Wages	6,000
Fixed & Variable Overhead	10,000
Profit	4,000
Units Sold	200 units

In the next financial year M/s BLB Industries expects the following:

(i) Wage rate will increase by 50%.

(ii) Fixed Cost will decrease by ₹ 1,000.

(iii) No. of units to be sold in the next year is 300 units.

(iv) Total Fixed & Variable overhead in the next financial year will be ₹ 12,000.

How many units are required to be sold in the next year so that same amount of profit per unit as in 2023 can be achieved? 7

(b) Company XYZ produces two components (M and N) and is planning the allocation of its available resources for the next period. 750 units of component M and 600 units of component N are required to be produced but machine hour capacity is restricted to a total of 3,000 hours. Any deficit of components produced in-house can be made up by the purchase of any quantity of either component from an outside supplier. The objective of the company is to satisfy the requirement for components at minimum total cost.

The following information is available concerning each component.

Particulars	M	N
Cost (₹ per unit): Direct Materials	62.00	87.00
Direct Labour	51.00	75.00
Variable production overheads	12.00	13.00
Fixed production overheads	48.00	64.00
Total	173.00	239.00
Machine hours (per unit)	2.00	3.00
Price from outside supplier (₹ per unit)	185.00	259.00

Calculate the variable costs of producing each component in – house, extra costs of buying-in each component and determine which component should have production priority. 7

5. From the following data obtained from the Cost Records of M/s Palapalli Oil Limited, prepare a Cash Budget for the period of 3 months ending 31-03-2024.

Month	Direct Material (₹)	Direct Labour (₹)	Direct Expenses (₹)	Factory Overhead (₹)	Admin Overhead (₹)
Oct	70,000	25,000	13,000	30,000	48,000
Nov	80,000	30,000	16,000	35,000	56,000
Dec	75,000	35,000	17,000	42,500	68,000
Jan	65,000	30,000	14,000	37,500	53,000
Feb	90,000	45,000	25,000	50,000	72,000
March	1,10,000	50,000	28,000	55,000	75,000
Total	4,90,000	2,15,000	1,13,000	2,50,000	3,72,000

Additional Information:

(i) Cash in hand on 01-01-2024 is ₹ 1,35,000.

(ii) The Company produces two products - Lubricating Oil & Grease Oil and operates three sales offices at Kolkata, Delhi & Chennai for sale of their products. Actual and budgeted sales units from October, 2023 to March, 2024 are as under:

Month	**Lubricating Oil**			**Grease Oil**		
	Kolkata	**Delhi**	**Chennai**	**Kolkata**	**Delhi**	**Chennai**
	Qty (Units)	**Qty (Units)**	**Qty (Units)**	**Qty (Units)**	**Qty (Units)**	**Qty (Units)**
Oct	1,000	1,200	900	750	900	1,000
Nov	1,200	1,440	1,080	900	1,080	1,200
Dec	1,100	1,320	990	825	990	1,100
Jan	1,000	1,200	900	750	900	1,000
Feb	1,400	1,300	1,300	900	1,200	1,300
Mar	1,600	1,500	1,400	1,200	800	1,700

The sales price per unit of product Lubricating Oil is ₹ 90 and that of product Grease Oil is ₹ 75.There is an increase in sales price per unit by ₹ 3 & ₹ 2 for Lubricating Oil & Grease Oil respectively from Jan, 2024.

(iii) 20% of sales are on cash basis. Remaining 80% sales are on credit basis. 50% of credit sales are collected in the next month and remaining 50% are collected in the second month following.

(iv) Lag in payment to creditors for material – 1 Month

(v) Wages to the labours are paid between 1st to 5th of the month due.

(vi) Direct expenses are paid 1 month in lag.

(vii) Factory overheads and Admin overheads are paid 1½ months in lag.

(viii) Mr. R. Rajendran, Principal Director of the company will get superannuation from the company on 31-03-2024 after serving the company for 24 years. His superannuation benefits comprise of Gratuity of ₹ 7,00,000 and Benevolent fund of ₹ 1,00,000. It is the general practice of the Company to release the gratuity amount and Benevolent fund on the last day of service.

(ix) On 1st April, 2023, the company purchased a vehicle for its directors at a cost of ₹ 14,00,000 by taking 2 years' loan from Bank. EMI for the bank loan is auto debited by bank @ ₹ 75,000 per month. 14

6. (a) M/s Gems Limited provided you the following data for the month of March, 2023.

Particulars	Standard	Actual
Fixed Overhead	₹ 30,000	₹ 35,000
Units Produced	1,000	1,200
Hours Per Unit	1	1.1
No. of days	20	23

You are required to calculate the following Fixed Overhead Variances:

(i) Efficiency Variance

(ii) Capacity Variance

(iii) Idle Time Variance

(iv) Volume Variance

(v) Budget/Expenditure Variance

(vi) Fixed Overhead Cost Variance 7

(b) XCell Chemical Ltd. manufactures two products AB+ and CD+ by mixing the raw materials in the proportion shown:

Raw Material	Product AB+	Product CD+
A	80%	
B	20%	
C		50%
D		50%

The finished weight of products AB+ and CD+ are equal to the weight of ingredients. During the month of June, it is expected that 60 tons of AB+ and 200 tons of CD+ will be sold.

Actual and budgeted inventories for the month of June are as follows:

	Actual Inventory (1st June) Quantity (Tons)	Budgeted Inventory (30th June) Quantity (Tons)
A	15	20
B	10	40
C	200	300
D	250	200
Product AB+	10	5
Product CD+	50	60

The purchase prices of materials for June are expected to be as follows:

Material	Cost per ton (₹)
A	500
B	400
C	100
D	200

All materials will be purchased on 3rd of June.

Prepare Production Budget and Material Requirement Budget for the month of June and the Material Purchase Budget indicating the total expenditure for material for the month of June. 7

7. (a) M/s Srilok Polymer has provided you the following data for the year ended 31-03-2023.

Particulars	Value
Total Capital Employed (₹)	45,00,000
Debt-Equity Ratio	1:4
Interest rate of debt	12%
Effective Income Tax Rate	31·2%
Risk free rate of return	10%
Long term market rate of return (based on BSE Sensex)	15%
Degree of Financial Leverage	1.1 times
The beta (β) factor	1.40

Calculate the Economic Value Added (EVA) and comment on your answer. Approximate up to 2 decimal places. 7

(b) M/s Keshav Industries received a Work Order to make 64 pieces of logo engraving work on MS End fittings which involves intricate labour operations. The logo engraving is done in a specialized machine which processes two logo engraving at a time. The first 2 engraving work were completed in 10 minutes' time. The operation is subject to 80% learning rate. The direct labour rate per hour is ₹ 100.

Determine total time and labour cost required to execute the Work Order.

If a repeat work order of 100% of original quantity is also received from the same customer, what will be the total time & labour cost necessary for the repeat Work Order? 7

8. (a) The following information has been obtained from the books of M/s Das & Kumars for the year ended 31-03-2023.

Units sold	2,00,000	Fixed Cost (₹)
Selling Price per unit (₹)	10	
Particulars	**Variable Cost per unit: (₹)**	
Works overhead	4·00	2,00,000
Administrative overhead	1·00	50,000
Selling & distribution overhead	0.50	1,30,000

Income Tax rate (including education cess) is 31.2%.

The firm predicts variable works overhead at different sales level as under:

₹ 5.50 when sales are 1,80,000 units

₹ 4.00 when sales are 2,00,000 units

₹ 3.50 when sales are 2,40,000 units

The Sales team has forecasted the sales as follows:

Probability 0.3 – 1,80,000 units

Probability 0.5 – 2,00,000 units

Probability 0.2 – 2,40,000 units

The Works Manager has indicated the variable works overhead as follows:

Probability 0.2 – ₹ 5.50 per unit

Probability 0.6 – ₹ 4.00 per unit

Probability 0.2 – ₹ 3.50 per unit.

Prepare a Probabilistic Budget and calculate the Expected Value. Comment on your answer. 7

(b) What do you mean by Cost Centre? How is it different from Profit Centre? 7