



**UNIVERSITY OF RUHUNA**  
**FACULTY OF MANAGEMENT AND FINANCE**

No. of Pages: 10  
No. of Questions: 06  
Total Marks :70

BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE

2000 LEVEL FIRST SEMESTER END EXAMINATION -AUGUST/SEPTEMBER 2023

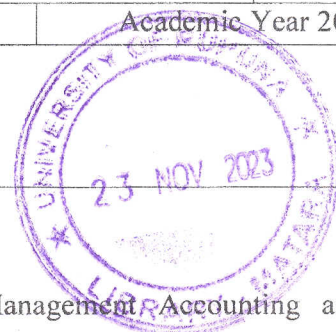
*Three Hours*

**BBA 21013 – Cost and Management Accounting**

Academic Year 2022/2023

**Instructions**

- Answer five questions (05) only.
- Calculators are permitted.
- Make appropriate assumption where necessary.



**Question No.01**

- A. Briefly explain two differentiates between Cost & Management Accounting and Financial Accounting. (01 Mark)
- B. Cost can be classified in a number of different ways. Briefly explain two different ways of cost classification. (01 Mark)
- C. Why should the cost accountant critically examine the bases and assumptions used to produce information from the cost accounting system? (01 Mark)
- D. A company uses 50,000 components annually to produce a product, which are bought in at a cost of Rs. 200 each from the supplier. The order cost per order is Rs.2, 500. The cost of holding a component in inventory for a year is 5% of the purchase price. The supplier offers a 12% discount on the purchase price for order quantities of 10,000 components or more.

**Required:**

Should the discount be accepted?

(02 Marks)

- E. A company currently pays its direct workers Rs.300 per hour based on time. In an effort to improve productivity, the company is introducing a bonus based on (time taken/time allowed) x time saved x rate per hour. The machine department has allowed a standard time of 50 minutes to complete one operation. An employee worked total of 240 hours and completed 432 operations in a month.

**Required:**

Calculate the gross wages for this employee.

(02 Marks)

- F. The following information relates to the manufacturing of a product in the month of August 2023.

Output (Units)	Total cost (Rs.)
1,600	350,000
2,400	400,000
3,200	430,000

For output volumes above 3,000 units, the variable cost per unit falls by 10%.

**Required:**

Estimate the total cost of producing 2,000 units and 4,000 units of the product in the month of August 2023.

(02 Marks)

G. A company produces a product using two production departments and two service departments and the budgeted overhead costs information related to the production of that product in month of September 2023 is as follows.

Cost	Rs.'000	Apportionment Basis
Rent	4,000	Areas
Rates	2,000	Areas
Electricity charges	6,000	Areas
Insurance for machineries	2,000	Value of machineries
Depreciation for machineries	20,000	Value of machineries
Supervisors' salaries	14,000	Number of employees

The following additional information is available:

	Production Departments		Service Departments	
	Machines	Assembly	Stores (S)	Cafeterias (C)
Areas (square feet)	1,800	1,560	440	200
Value of machineries (Rs. Million)	100	78	12	10
Number of employees	700	450	150	100

It has been estimated that each service cost center does work for the other cost centers in the following proportions.

	Machines	Assembly	Stores	Cafeterias
Percentage of service cost center S to:	50%	30%	-	20%
Percentage of service cost center C to:	40%	50%	10%	-

After the reapportionment of service cost center costs has been carried out using a method that fully recognizes the reciprocal service arrangements in the factory.

**Required:**

Calculate the total overhead cost of production departments using mathematical method for reapportionment of service departments' costs to the production departments.

(05 Marks)

(Total Marks 14)

**Question No.02**

A. A company uses a job costing system and uses the labour cost basis to absorb overhead costs. Three jobs were worked on during the month of August 2023, the information of which was as follows.

	Job 1 (Rs.)	Job 2 (Rs.)	Job 3 (Rs.)
Work-in-progress as at 01 <sup>st</sup> August 2023	85,000	-	460,000
Material cost for the month	171,000	290,000	-
Labour cost for the month	125,000	230,000	45,000

Job 1 and Job 2 were the only incomplete jobs at the end of the month. Job 3 was completed during the month. The budgeted overhead costs for the month is Rs. 1.2 million. Actual labour costs were also the same as budgeted. The company keeps 25% profit mark-up on cost.

**Required:**

- i. Calculate the value of closing work-in-progress for the Job 1 and Job 2
- ii. Calculate the total sales value of the Job 3.

(02 Marks)

B. The following information has been estimated for a batch of 10,000 flyers:

	Rs.
Artwork cost	5,000
Machine set up cost: 4 hours at Rs. 500 per hour	2,000
Paper cost: Rs.5,000 per 1,000 sheets	50,000
Ink and consumables cost (vary with volume)	3,000
Printer's wages: 10 hours at Rs. 500 per hour (vary with volume)	5,000

General fixed overhead costs are Rs. 01 million for the period and during the period a total of 2,500 labour hours are expected to be worked.

**Required:**

- i. Calculate the cost per flyer for batch of 10,000 flyers.
- ii. Calculate the cost per flyer for batch of 20,000 flyers.

(02 Marks)

C. A company operate a freight service using four (04) vehicles. The performance (freight) and estimated costs information for a week is as follows.

Journey	Tons carried	Kilometers (one way)
1	70	200
2	80	300
3	60	400
4	60	300
5	70	300
6	60	500

1. Fuel cost: Rs. 100 per kilometer.
2. Repair cost: Rs. 20 per kilometer.
3. Drivers' salaries: Rs. 25,000 per week per vehicle.

4. Administration cost: Rs. 250, 000 per week.
5. Loading cost: Rs. 1,000 per ton.
6. Depreciation: Rs. 20,000 per week per vehicle.

**Required:**

Calculate the average cost per ton-kilometer if all four vehicles will be used in the week.

(02 Marks)

D. A company produces a product through the manufacturing processes 1 and 2. At the beginning of process 1, raw materials are introduced and in process 2 after completion of 70% additional raw materials are added to the process. After completion of process 1, processed units are transferred to the process 2 and from them it is transferred to finished goods stock. The following are the details related to process 2 for the month of August 2023.

1. The opening work in progress (OWIP) stock consists of 2,000 units which are 80% completed.
2. The total cost of opening work in progress stock is Rs. 220,000.
3. 18,000 units are transferred to process 2 from process 1 at Rs. 45 per unit.
4. The cost of additional raw materials added in process 2 is Rs. 300,000.
5. The total labour cost and total overhead cost added to process 2 are Rs. 258,000 and Rs. 387,000 respectively.
6. The normal loss is 20% on active units.
7. The actual loss of process 2 is 1,000 units.
8. The closing work in progress (CWIP) stock consists of 5,000 units which are 50% completed.
9. A unit of scrap can be sold for Rs. 20 each.

**Required:**

Prepare the process 2 account and other relevant accounts.

(08 Marks)

(Total Marks 14)

**Question No.03**

A. A company manufactures a fertilizer in 10 kilogram bags. The company operates a standard costing system and has budgeted to manufacture and sell 10,000 bags of this fertilizer in the month of August 2023. The following standard costing information is relevant to 10 kilogram bag of this fertilizer.

Per 10 kilogram bag	Rs.
Nitrogen: 06 kilograms at Rs. 100 per kg	600
Phosphorus: 03 kilograms at Rs. 120 per kg	360
Potassium: 03 kilograms at Rs. 80 per kg	240
Standard material cost per bag	1,200

**The actual information for the month of August 2023 was as follows.**

1. The number of bags produced and sold during the month was 10,000.
2. The company had purchased and utilized 80,000 kilograms of Nitrogen during the month. 60% purchases were made at Rs. 120 per kg and the balance was bought at Rs. 130 per kg.
3. 32,000 kilograms of Phosphorus were purchased at Rs. 140 each and utilized during the month.
4. The company had purchased and utilized 28,000 kilograms of Potassium at Rs. 90 per kg during the month.

5. The standard cost of raw material will have to be increased by 10% due to exchange rate changes.

**Required:**

- i. Calculate the actual material cost and revised standard material cost per 10 kilogram bag.
- ii. Calculate the material price, mix and yield variances using the revised standard material cost per bag.

(04 Marks)

- B. A company manufactures chemical "C" and sells it to local market. The management accountant has identified the following sales variances for chemical "C" for the last quarter.

Total sales value variance	Rs. 600,000 Favourable
Sales volume variance	Rs. 200,000 Favourable
Total sales margin variance	Rs. 150,000 Adverse
Sales price margin variance	Rs. 400,000 Favourable

**Required:**

- i. Calculate the sales volume margin variance.
- ii. Assume the standard price and actual price per unit of chemical "C" are Rs. 40 and Rs. 60 respectively; calculate actual sales units and budgeted sales units.

(03 Marks)

- C. A company manufactures PVC cables using standard costing system for cost control. The information related to labour cost, variable overhead cost and fixed overhead cost for producing PVC cables is as follows.

Standard/Budgeted data for a month		Actual data for the month of August 2023	
Normal working days	22 days	Working days	20
Labour hours per day	200 hours	Labour hours worked per day	230
Time required per unit	02 hours	Units Produced	2,400
Variable overheads per hour	Rs.150	Variable overheads	Rs. 840,000
Fixed overhead	Rs. 1,320,000	Fixed overheads	Rs. 1,200,000
Labour rate per hour	Rs. 200	Labour rate per hour	Rs. 220

Actual idle time for the month was 100 hours.

**Required:**

- i. Calculate labour rate, idle time and efficiency variances.
- ii. Calculate variable overhead expenditure and efficiency variances.
- iii. Calculate fixed overhead expenditure, capacity and efficiency variances for the month.

(04 Marks)

- D. The following information has been extracted from the books of manufacturing industry for the month of August 2023.

Budgeted sales	10,000 units
Actual sales	9,000 units
Standard margin	Rs. 400 per unit
Actual margin	Rs. 500 per unit

Material price variance	Rs. 190,000 Favourable
Material usage variance	Rs. 120,000 Adverse
Labour rate variance	Rs. 88,000 Adverse
Labour efficiency variance	Rs. 60,000 Favourable
Variable overhead expenditure variance	Rs. 3,000 Favourable
Variable overhead efficiency variance	Rs. 12,000 Favourable
Fixed overhead expenditure variance	Rs. 100,000 Adverse
Fixed overhead volume variance	Rs. 150,000 Adverse

**Required:**

If the actual total contribution was Rs. 4,557,000 for the month, prepare an operating statement reconciling the budgeted contribution with the actual contribution using marginal costing.

(03 Marks)

(Total Marks 14)

**Question No.04**

A. "Activity based costing is an alternative approach to product costing. It is a form of absorption costing, but rather than absorbing overheads on a production volume basis it firstly allocates them to cost pools before absorbing them into units using cost drivers." Briefly explain the statement.

(01 Mark)

B. A company produces three products named P, Q and R using the same type of raw material. Currently, the company uses the traditional absorption costing (TAC) to allocate overheads to its products based on labour hours. The Company is now considering an activity based costing (ABC) system in the hope that it will improve profitability. Information for the three products for the month of August 2023 is as follows:

	P	Q	R
Production and sales volume (units)	15,000	12,000	20,000
Selling price per unit (Rs.)	1,200	1,500	1,800
Raw material usage (kg) per unit	2	3	4
Direct labour hours per unit	2	2.5	2
Machine hours per unit	0.6	0.8	0.81
Number of production set up per annum	16	12	8
Number of purchase orders per annum	24	28	44
Number of deliveries to retailers per annum	48	30	62

The price of raw material was Rs. 200 per kg and the direct labour cost for the whole workforce was Rs.200 per hour. The annual overhead costs were as follows:

	Rs. '000
Machine set up costs	1,800
Machine running costs	3,480
Procurement costs	1,920
Delivery costs	2,800

**Required:**

Calculate the total profit for each product using TAC and ABC.

(07 Marks)

- C. A Company which manufactures and sells single product is currently operating at 85% of full capacity, producing 102,000 units per month. The current monthly costs of production amount to Rs. 3.3 million, of which Rs. 750,000 are fixed costs and are expected to remain unchanged for all levels of activity up to full capacity. A new potential customer has expressed interest in taking regular monthly delivery of 12,000 units at a price of Rs. 28 per unit. All existing production is sold each at a price of Rs. 32.50 per unit. If the new order is accepted, existing are expected to fall by 2 units for every 15 units sold to the new customer.

**Required:**

Calculate the impact on total monthly profit if the new order is accepted.

(02 Marks)

- D. A company has received a special order for a product manufactured by its company and if the order is accepted, the following raw materials are required.

Material	Quantity required and current cost per kg
A	2,000 kilograms at Rs. 100 per kg
B	1,000 kilograms at Rs. 150 per kg
C	500 kilogram at Rs. 400 per kg
D	50 liters at Rs. 120 per liter

**The following additional information also available.**

- Material A:** 1, 000 kilograms of this material is in stock at a cost of Rs. 50 per kg. Finance manager has no alternative use for this material and intends selling it for Rs. 20 per kg. However, if Company sold any it would have to pay a fixed sum of Rs. 3,000 to cover delivery costs.
- Material B:** There is plenty of material B in stock and it cost Rs. 180 per kg. The material is constantly used by Company in its business.
- Material C:** The total amount in stock of 500 kilograms was bought for Rs. 100,000 some time ago for another one-off contract that never happened. Finance manager is considering selling it for Rs. 60,000 in total or using it as a substitute for another material, constantly used in normal production. If used in this latter manner it would save Rs. 80,000 of the other material.
- Material D:** There are 100 liters of this material in stock. It is dangerous and if not used in this contract will have to be disposed of at a cost of Rs. 500 per liter.

**Required:**

Calculate the relevant raw materials cost for the decision on accepting the special order.

(02 Marks)

- E. A company is short of labour for a new one-off project needing 1,000 hours of labour and has choices as to where to source this. The company could hire new people temporarily from an agency at a cost of Rs. 270 per hour. Alternatively the company could recruit new temporary staff at a fixed cost of advertising of Rs. 60,000 but then only pay Rs. 180 per hour for the time. The company could also redirect some staff from existing work who are currently paid Rs, 210 per hour and who make sandals that generate a contribution of Rs. 90 per hour.

**Required:**

Calculate the relevant labour cost for the new project.

(02 Marks)

(Total Marks 14)

**Question No.05**

A. A company wishes to manufacture and sell four products. Below is the budgeted information regarding these four products in the month of September 2023.

	A	B	C	D
Variable cost per unit (Rs)	50	100	22	80
Machine hours required produce one unit	02	05	01	02
Allocated fixed cost (Rs.'000)	125	50	50	100

The pricing policy of the company is to keep 100% mark up on its variable cost. The company has entered a new contract with another company recently. According to this contract, the company should supply 2,500 units of product A to that company. Apart from this special order, product A and B can only be sold together. The expected maximum demand of products A and B is 1,500 units. The company expects that the maximum contribution possible from product D would be Rs. 400,000.

**Required:**

- Determine the optimum product mix if the annual machine capacity is limited to 22,000 machine hours.
- Calculate the profit, based on the optimum product mix arrived at in part i above.
- If the rate of machine hour is Rs. 30, determine the maximum rate that can be paid per machine hour if the required additional machine hours can be obtained from outside.

(06 Marks)

B. A company produces product "U", and the cost structure of its unit is as follows.

	Rs.
Direct material cost	300
Direct labour cost	200
Variable overhead cost	100
Fixed overhead cost	150
Total cost per unit	750

Annual production capacity of product U is 1,000 units. An external company agreed to continuously provide product U at Rs. 625 per unit to the purchasing manager.

- Determine whether product U should be produced within a firm or should be purchased from the supplier.
- If the annual fixed cost is increased by Rs.15, 000 due to the manufacturing of product U, is there a change in your decision?
- If the annual fixed cost is increased by Rs.25 000 due to the manufacturing of product U and there are capabilities to produce and sale of product V in utilizing the resources required to product U. The selling price of a unit of product V is Rs. 650 and the variable cost per unit is Rs. 575 and an extra fixed cost of Rs. 40,000 is also to be incurred in producing 1,000 units of products V.

**Required:**

Indicate your decision under these circumstances.

(02 Marks)



C. A company produces and sells two products named product "Y" and "K". The company has forecasted the following information for the month of September 2023.

	Product Y (Rs.)	Product K (Rs.)
Selling price per unit	200	100
Contribution per unit	120	60

It is estimated that the total fixed cost and the profit for the month of September 2023 to be Rs. 1.8 million and Rs. 2.4 million respectively. Further it is expected to sell one unit of product Y for every three units of product K.

**Required:**

- Compute the weighted average profit volume ratio.
- Calculate the breakeven point (BEP) in units for each product.
- Assess the quantity of each product to be sold to achieve the target profit.

(03 Marks)

D. A company manufactures a product and sells it for Rs. 100 each. Some information related to this product for the last two months of the year 2023 is as follows.

Month	Sales (Units)	Total Profit (Rs.)
July	25,000	200,000
August	35,000	600,000

**Required:**

- Calculate the profit volume ratio.
- Calculate fixed cost for the month.
- Calculate the breakeven point (BEP) in units and values.
- If current sales volume is 35,000 units, calculate the margin of safety in units and value.
- If expected sales value in the month of September 2023 is Rs. 05 million, calculate the total profit for the month of September.

(03 Marks)

(Total Marks 14)

**Question No. 06**

A. A company produces three products named R, S and T by using same type of machines. It is expected to produce 4,000 units of each product and sell in month of the September 2023. The information related to a unit for each product is as follows.

	R	S	T
Machine hours	3	2	4
Variable cost (Rs.)	20	36	24
Purchase price from outside supplier (Rs.)	29	40	34
Selling price (Rs.)	35	45	40

The number of machine hours during the next year is restricted to 20,000. Therefore another company has agreed to supply each product in accordance with the above purchase prices.

**Required:**

- i. Determine the production plan which maximizes the profit of the company.
- ii. If the fixed cost of the month is Rs. 50,000, compute the maximum profit for the month

(03 Marks)

B. A company forecasted the following information for the next six months start from month of September in the year 2023.

1. 40% of the sales are on cash basis and balance 60% of the sales are on credit cards. The company has to pay 5% commission on credit card sales to the banks holding the credit cards. Cash is collected for the credit card sales in the following month. The selling price per unit is Rs.200 and the sales volume (units) for the next six months is given below.

September 2023	October 2023	November 2023	December 2023	January 2024	February 2024
8,000	10,000	12,000	10,000	12,000	14,000

2. To produce a unit of product, 04 kilograms of raw materials at Rs. 15 per kg, labour cost of Rs. 40 and variable cost of Rs.20 have to be incurred.
3. 50% of the next month's sales will be maintained in closing finished goods stock of previous month.
4. The practice of the Company has been to purchase 50% direct materials required for budgeted production, one month in advance. A period of one month is allowed for the payment of direct materials by the suppliers.
5. Annual total fixed overheads are estimated to be Rs.4.8 million. Fixed overhead is paid same month and which is including monthly depreciation of Rs. 100,000. Fixed overheads are to be charged equally in every month.
6. Direct labour cost is paid same month and variable overheads are to be paid with one month arrears.
7. 10% of the sales should be paid to the Inland Revenue Department being the value added tax (VAT). VAT liability of each month should be paid on or before 25<sup>th</sup> of the following month.
8. On 01<sup>st</sup> October 2023 trade creditors, payable variable cost and cash at bank were Rs. 500,000, Rs. 300,000 and Rs. 900,000 respectively.

**Required:**

Prepare the following budgets for the month of October, November and December in the year 2023 on a monthly basis.

- i. Sales budget, production budget and direct material purchase budget.
- ii. Cash budget (the total column is not necessary).

(11 Marks)

(Total Marks 14)