T.H.K. JAIN COLLEGE (MORNING SESSION)
MODEL QUESTION PAPER
SUBJECT -COST & MANAGEMENT ACCOUNTING II
PAPER – CC4.2CH
SEMESTER – B.COM 4TH
TEACHER – PREETY PATEL & PAMPA JANA

Time - 3 hrs **Full Marks -80**

Group – A

1. Explain the nature of the following expenses with detail workings:

Particulars	Production (units)	
	6,000	10,000
Raw Materials(Rs.)	18000	30000
Adiministration Overhead(Rs.)	60000	60000
Factory Overhead(Rs.)	6500	7500

(5)

Or,

Rainbow Ltd. sold goods for Rs. 3000000 in a year. In that year, the variable costs were Rs. 600000 and fixed costs were Rs. 800000. Find out:

(i) P/V Ratio
(ii) Break even sales
(iii) Break even Sales, if the selling price was reduced by 10%, and fixed costs were increased by Rs. 100000.

(1+2+2)

2. Distinguish between Standard Costing and Budgetary Control. Discuss the utility of Variance Analysis.

(5)

Group - B

3. Prepare cash Budgets for three months ending 31.10.2019 from the following information:

Month	Sales (Rs.)	Purchases (Rs.)	Wages (Rs.)	Expenses(Rs.)
June	28,000	20,000	3,000	2,000
July	30,000	21,000	4,000	2,400
August	32,000	22,000	5,000	2,800
September	34,000	23,000	6,000	3,200
October	36,000	24,000	7,000	3,600

(i) 20% of sales will be in cash & 60% of Purchases can be made on credit.
(ii) Debtors are normally allowed one month's credit. 90% of the debtors usually clear their dues within the Stipulated period & the rest after another one month.
(iii) 80% of the credit purchase is paid in the immediately following month of purchase & the balance is paid after two months from the date of purchase.
(iv) Wages of every month are paid on the 1st day of the following month.
(v) Expenses are paid within the month itself.
(vi) Any deficiency in cash at the end of any month may be met by taking short term loan for two months from bank @ 12% rate of interest per annum.
(vii) Opening cash balance on 01.08.2019 is Rs. 5,000 (10)

4. A Factory is running at 50% capacity due to trade recession. The following details are available:

Cost Per Unit	Rs.
Direct Material	10.00
Direct Wages	3.00
Variable Overhead	2.00
Fixed Overhead	5.00
	20.00

Current Production per year	Rs.
Total Cost	2, 40,000
Sales	1, 80,000
Loss	60,000

A customer offers to buy 10,000 units at the rate of Rs. 17.00 per unit & managing director hesitates to accept the offer.

Advise whether the company should accept or decline the offer, clearly showing the reasons in support of your answer. (10)

Or

A radio manufacturing company produces a component "X" at Rs. 6.25 per unit. The component is available in the market at Rs. 5.75 per unit with an assurance of continued supply. The break-up of costs are:

Materials	Rs. 2.75 each
Labour	Rs. 1.75 each
Other Variable costs	Rs. 0.50 each
Depreciation & other Fixed Costs	Rs. 1.25 each
	Rs.6.25 each

(i) Should the company make the component or buy?

(ii) What would be your decision if the supplier offers the component at Rs. 4.85 each?

(10)

5. A Manufacturing Company produces two products i.e., X & Y. The particulars relating to two products are given below:

	Product X	Product Y
Direct Material cost per unit	Rs. 10	Rs. 12
Direct wages per unit	Rs. 10	Rs. 8
Units produced	200	200
Direct Labour hours per unit	12	12
Materials moves per product line	10	14

Budgeted material handling cost (overhead cost) Rs. 24,000

(i) Determine cost per unit of the products using Volume – based allocation method (Direct Labour hour rate)

(ii) Determine cost per unit of the products using Activity – based costing.

(5+5)

Or

(a) Distinguish between Traditional Absorption costing system & Activity based costing system.

(b) Write short notes on (i) Cost Pool (ii) Cost driver.

6+(2+2)

6. In a manufacturing process, in the course of manufacture of the product X, the by products P & Q also emerge. The pre- separation expenses amounting to Rs. 1, 19,550. All the three products are processed further & sold in the market (details given below).

	Main Product	By – Product	
	X	P	Q
Sales Value (Rs.)	90,000	60,000	40,000
Pre- separation costs (Rs.)	6,000	5,000	4,000
Profit as a % of sales	25	20	15

Total fixed selling & distribution expenses are 10 % of the total cost of sales & are apportioned to the three products in the ratio of 20:40:40.

(i) Prepare a statement showing the apportionment of Pre – separation costs to the main product & the two by products.

(ii) If the by product P is not processed further & can be sold just after separation at Rs. 58,500 without incurring any selling & distribution expenses, would you advise its disposal at that stage?

(5+5)

Group – C

7. DB Ltd. furnished the following information:

	2018-2019(Rs.)	2019-2020(Rs.)
Sales(Rs. 10 per unit)	200000	250000
Profit	30000	50000

(i) P/V Ratio
(ii) Break even point
(iii) Total Variable cost for 2018-2019 & 2019-2020
(iv) Sales required to earn a profit of Rs. 60000
(v) Profit or loss when sales are Rs. 100000
(vi) Margin of Safety when profit id Rs. 80000
(vii) During 2020-2021, due to increase in cost, variable cost is expected to rise to Rs. 7 per unit and fixed cost to Rs. 55000. If the selling price can not be increased, what will be the amount of sale to maintain the profit of 2019-2020.

(2+2+2+2+2+2+3)

8. a) Define Basic or Static Standard and Ideal Standard. (1.5+1.5)

b) BB Ltd. furnished the following standard cost data per unit of production:

Materials	10 kg @ Rs. 10 per Kg
Labour	6 hrs @ Rs. 5.50 per hour
Variable Overhead	6 hrs @ Rs. 10 per hour

Fixed Overhead	Rs. 450000 per month
	(based on normal volume of 30000 labour hours)

The actual cost data for the month of Jan 2020 are as follows:

Materials Used	50000 at a Cost of Rs. 525000
Labour Expenses paid	Rs 155000 for 31000 hours
Variable Overhead	Rs 293000
Fixed Overhead	Rs. 470000
Actual Production	4800 units

Calculate (i) Material Cost Variance, (ii) Labour Cost Variance, (iii) Variable Overhead Cost Variance, (iv) Fixed Overhead Cost Variance.

(3+3+3+3)

SOLUTION:

GROUP A

Q1.SOLUTION

In case of 6000 units, the per unit raw materials cost = Rs. 18000 / 6000

= Rs. 3

In case of 10000 units, the per unit raw materials cost = Rs. 30000 / 10000

= Rs. 3

We know that Variable cost is the cost where per unit Cost remains fixed irrespective of any level of production. Here we can see that per unit cost is Rs. 3 for both the levels of production. Thus cost of raw materials is a variable cost.

Here the administrative overhead is in the nature of fixed cost because irrespective of any level of production the overhead is pegged at Rs. 60000.

If we analyse the factory overhead, we can see that it is neither in the nature of fixed overhead, for the amount varies with production, nor in the nature of variable cost for the per unit cost of production is different for both the levels of production. Thus it is in the nature of Semi Variable Cost.

To differentiate the Factory overhead into its variable and fixed elements we use simultaneous equation method.

Let the variable cost per unit be Rs. X and fixed cost be Rs. Y

Then the factory overhead for 6000 units is

$6000X + Y = 6500$ ..... (i)

The factory overhead for 10000 units is

$10000X + Y = 7500$ ..... (ii)

Now, Eq (ii) – Eq (i), we get

$10000X + Y = 7500$

$6000X + Y = 6500$

(-) (-) (-)

$4000X = 1000$

Or, $X = 0.25$

Thus the variable cost is Rs. 0.25 per unit. If we put this value in Eq (i) we get,

Or, $6000 \times X + Y = 6500$

Or, $Y = 1500$

Thus the Fixed cost is Rs. 1500.

Or,

Here, Contribution = Sales – Variable Cost

= Rs. 3000000- Rs. 600000 = Rs. 2400000

1) Profit volume (P/V) Ratio = $\frac{\text{Contribution (C)}}{\text{Sales (S)}}$ x 100

$= \frac{\text{Rs. 2400000}}{\text{Rs. 3000000}}$ x 100 = 80 %

2) At Break – even Point, Contribution = Fixed Cost= Rs. 800000
   Therefore, BEP Sales = $\frac{\text{Fixed Cost}}{\text{P/V ratio}} = \frac{\text{Rs. 800000}}{80\%}$ = Rs 1000000
3) If selling price reduced by 10%,
   Revised Sales= Rs 3000000- Rs. 3000000 X 10% = Rs. 2700000
   Revised Contribution = Rs. 2700000 – Rs. 600000 = Rs. 2100000
   Revised fixed cost = Rs. 800000+ Rs. 100000 = Rs. 900000
   Therefore, Revised P/V Ratio = C/S x 100= Rs. 2100000/RS. 2700000 X 100 = 77.77%

Q2. – **SOLUTION**

In both standard costing and budgetary control there are predetermined standards and actual results are compared with standards to measure efficiency or inefficiency. Thus, along both are valuable aids to management in planning and controlling costs, they differ in many respects.

(i) Budgetary control deals with the operation of department or business as a whole while Standard Costing is mainly applied to manufacturing of a product or providing a service. In other words, Budgetary Control is extensive whereas Standard Costing is intensive in its application. For instance, budgets may be prepared for Capital Expenditure , administraton Expenses, Selling and Distribution Expenses, Production, Sales, Etc. In Standard Costing, Standards are set for various elements of costs and sales.

(ii) In Standard Costing, variences are analysed in detail according to their originating causes. But such analysis of variences is not possible in Budgetary Control unless flexible budgetary control is operated along with standard costing.

(iii) Budgetary Control can be applied in parts, such as for Capital Expenditure, Research and Development expenses, etc., but there can be no partial application of standard costing.

In Standard Costing, greatest emphasis is laid on cost control and cost reduction by means of varience analysis. The management need not trouble itself with respect to items proceeding according to plan. It is only on the points of exception that they have to concentrate. That is why, this technique is known as “management through exception”. This analysis of varience will help to pinpoint responsibilities. For example, the Purchase Manager will be held responsible for unfavourable material price varience, the Production Manager will be held responsible for unfavourable material usage varience, the Sales Manager for unfavourable sales volume varience, etc

Group - B

Q.3) SOLUTION –

Cash Budget for the month of August, September & October 2019

Particulars	Note	August (Rs.)	September (Rs.)	October (Rs.)
Opening Cash Balance		5,000	7,160	8,920
Receipts				
(i) Cash Sales	(1)	6,400	6,800	7,200
(ii) Collection from Debtors	(2)	23,840	25,440	27,040
Total Cash Available(A)		**35,240**	**39,400**	**43,160**
Disbursements				
(i) Cash Purchases	(3)	8,800	9,200	9,600
(ii) Cash Paid to suppliers	(4)	1,2480	13,080	13,680
(iii) Payment of Wages (Previous Month)		4,000	5,000	6,000
(iv) Payment of Expenses (Current Month)		2,800	3,200	3,600
Total Disbursement (B)		**28,080**	**30,480**	**32,880**
Closing Cash Balance (A-B)		**7,160**	**8,920**	**10,280**

Working Notes :-

(1) Calculation of cash sales & credit Sales.

Particulars	June (Rs.)	July (Rs.)	August (Rs.)	September (Rs.)	October (Rs.)
Total Sales	28,000	30,000	32,000	34,000	36,000
Less: Cash Sales (20%)	5,600	6,000	6,400	6,800	7,200
Credit Sales	**22,400**	**24,000**	**25,600**	**27,200**	**28,800**

(2) Collection from Debtors

Debtors are allowed one month credit. 90% of debtors are paying in time. The balance is paying after one month.

(a) **Credit sales of June** = 80% of Rs. 28,000 = Rs. 22,400
- (i) 90% of Rs. 22,400 = Rs. 20,160 is collected in the month of July
- (ii) 10% of Rs. 22,400 = Rs. 2,240 is collected in the month of August

(b) **Credit sales of July** = 80% of Rs. 30,000 = Rs. 24,000
- (i) 90% of Rs. 24,000 = Rs. 21,160 is collected in the month of August
- (ii) 10% of Rs. 24,000 = Rs. 2,400 is collected in the month of September

(c) **Credit sales of August**= 80% of Rs. 32,000 = Rs. 25,600
- (i) 90% of Rs. 25,600 = Rs. 23,040 is collected in the month of September
- (ii) 10% of Rs. 25,600 = Rs. 2,560 is collected in the month of October

(d) **Credit sales of September** = 80% of Rs. 34,000 = Rs. 27,200
- (i) 90% of Rs. 27,000 = Rs. 24,480 is collected in the month of October
- (ii) 10% of Rs. 27,000 = Rs. 2,720 is collected in the month of November

(e) **Credit sales of October** = 80% of Rs. 36,000 = Rs. 28,800
- (i) 90% of Rs. 28,800 = Rs. 25,920 is collected in the month of November
- (ii) 10% of Rs. 28,800 = Rs. 2,880 is collected in the month of December

Summary of collection from Debtors

August = Rs. 2,240+Rs. 21,160 = Rs. 23,840
September = Rs. 2,400 + Rs. 23,040 = Rs. 25,440
October = Rs. 2,560+ Rs. 24,480 = Rs. 27,040

(3) Calculation of Cash Purchases

Particulars	**June (Rs.)**	**July (Rs.)**	**August (Rs.)**	**September (Rs.)**	**October (Rs.)**
Total Purchases	20,000	21,000	22,000	23,000	24,000
Less: Cash Purchases (40%)	8,000	8,400	8,800	9,200	9,600
Credit Purchases	**12,000**	**12,600**	**13,200**	**13,800**	**14,400**

(4) Payment to suppliers

80% of the credit purchases are paid in the following month & balance after two months from the date of purchase.

(a) **Credit Purchase of June** = Rs. 12,000
- (i) 80% of Rs. 12,000 = Rs. 9,600 is paid in the month of July
- (ii) 20% of Rs. 12,000 = Rs. 2,400 is paid in the month of August

(b) **Credit Purchase of July** = Rs. 12,600
- (i) 80% of Rs. 12,600 = Rs. 10,080 is paid in the month of August
- (ii) 20% of Rs. 12,600 = Rs. 2,520 is paid in the month of September

(c) **Credit Purchase of August** = Rs. 13,200
- (i) 80% of Rs. 13,200 = Rs. 10,560 is paid in the month of September
- (ii) 20% of Rs. 13,200 = Rs. 2,640 is paid in the month of October

(d) **Credit Purchase of September** = Rs. 13,800
- (i) 80% of Rs. 13,800 = Rs. 11,040 is paid in the month of October
- (ii) 20% of Rs. 13,800 = Rs. 2,760 is paid in the month of November

(e) **Credit Purchase of October** = Rs. 14,400
- (i) 80% of Rs. 14,400 = Rs. 11,520 is paid in the month of November
- (ii) 20% of Rs. 14,400 = Rs. 2,880 is paid in the month of December

Summary of Payment to supplier

August = Rs. 2,400+Rs. 10,080 = Rs. 12,480
September = Rs. 2,520 + Rs. 10,560 = Rs. 13,080
October = Rs. 2,640 + Rs. 11,040 = Rs. 13,680

Q.4) SOLUTION –

Calculation of Variable cost per Unit

Particulars	**Rs.**
Direct Materials	10.00
Direct Wages	3.00
Variable overhead	2.00
Total Variable cost per unit	**15.00**
Offer Price per unit	17.00
Less: Variable cost per unit	15.00
Contribution Per unit	**2.00**

The company should accept the offer. By accepting the offer, the Company can earn Rs. 20,000 [10,000 units * Rs. 2 per unit] extra revenue. Loss will be reduced by Rs. 20,000.

OR

Solution –

Variable cost of manufacturing the Component In- house

Particulars	Rs.
Materials	2.75
Labour	1.75
Other Variable cost	0.50
Total Variable cost	**5.00**

(i) Since the total variable cost of manufacturing the component is Rs. 5 & the market price is Rs. 5.75, it is economical to manufacture in – house.

(ii) If the supplier is offering the component at a price of Rs. 4.85, then it is economical to buy it from the supplier. The company can save Rs. 0.15 per unit.

Q.5) Solution –

(1) Calculation of overhead cost per unit under Volume – Based Allocation of Overhead

Total Overheads = Rs. 24,000

Total Labour Hours = (12* 200) + (12*200) = Rs. 4,800

Direct Labour Hour Rate = $\frac{\text{Total Overheads}}{\text{Total Labour Hours}}$

$= \frac{24,000}{4,800}$

= Rs. 5

Statement showing cost per unit under Volume Based Allocation Method

Particulars	X (Rs.)	Y (Rs.)
Direct Materials	10	12
Direct Wages	10	8
Prime Cost	**20**	**20**
Production Overhead @ Rs. 5 per direct labour hour	60	60
Cost per Unit	**80**	**80**

(2) Calculation of overhead cost per unit under Activity Based Costing

Cost per Material Moves = $\frac{\text{Total Overheads}}{\text{Total Number of Material Moves}}$

$= \frac{24,000}{(10+14)}$

= Rs. 1,000

Share of Overheads

X – Rs. 1,000*10 = Rs. 10,000

Y – Rs.1, 000*14 = Rs. 14,000

Rs. 24,000

Overhead per unit of "X" = Rs.10, 000/200 = Rs. 50

Overhead per unit of "Y" = Rs.14, 000/200 = Rs. 70

Statement showing Cost per unit under Activity Based Costing Method

Particulars	X (Rs.)	Y (Rs.)
Direct Materials	10	12
Direct Wages	10	8
Prime cost	20	20
Production Overhead	50	70
Cost per Unit	70	90

OR

a) Difference between Traditional Absorption costing system & Activity based costing system

Point Of Difference	Traditional Absorption costing system	Activity based costing system
1. Identification of Overheads	Here overhead costs are identified to each Department.	Each Activity is considered as the basis for identification of overheads
2. Basis	Departments are taken as bases	Activities are considered as bases
3. Use of Different terms	Cost " Allocation " & cost " Apportionment" are the main terms used here.	It uses special terms like " Cost Pool " , " Cost Driver"
4. Treatments made	Here cost of service departments are allocated to production departments.	Under it, Separate rates are used for separate activity centres.
5. Applicability	It may be applied to any concern – whether single product or multiple product organisation	It is designed for concerns having a wide product range.

b) (i) **Cost Pool**- An organisation incurs a cost when it uses some resources for maintaining a product. For Example, a company producing T- shirts has cost of materials (Such as cloth, buttons, threads, etc.) , Labour cost for stitching the T- shirts & other costs (Such as rent of the Factory, Electricity, salary of the supervisors. Etc). For Costing purpose, often costs are accumulated into meaningful groups. These groups are called "Cost Pool".

(ii)**Cost Driver** – Activity Based costing recognises that activities cause cost, not the product themselves. Products, however, consume activities. Overhead costs to be charges to a product depend upon the consumption of the activity. The more activities consumed by a product or a service the greater the proportion of overhead costs to be borne by that product or service. ABC attempts to relate overhead costs to the activities that cause or drive them. Those are referred to as "Cost Driver".

Q.6) SOLUTION –

(i) Statementshowing the Apportionment of the Separation costs to the Main Product & the By – Product.

Particulars	Main Product X (Rs.)	By Product		Total (RS.)
		P (Rs.)	Q (Rs.)	
Sales	90,000	60,000	40,000	1,90,000
Less - Profit	22,500	12,000	6,000	40,500
Cost of Sales	**67,500**	**48,000**	**34,000**	**1,49,500**
Less – Total Fixed selling & distribution Expenses [Note 1]	2,990	5,980	5,980	14,950
Cost of Production	**64,510**	**42,020**	**28,020**	**1,34,550**
Less – Post separation cost [Given]	6,000	5,000	4,000	15,000

Pre- Separation Cost Apportioned	**58,510**	**37,020**	**24,020**	**1,19,550**

(ii) If the By – Product P, is sold at the Split off Point, the profits will be as follows:-

Sales Value	Rs. 58,500
Less – Share of Pre – Separation cost	Rs. 37,020
Profits	Rs. 21,480

If P is processed further, the profits will be Rs. 12,000 but if it is sold at spilt off point; the profits will be Rs. 21,480. Apparently, profits will increase by Rs. [Rs. 21,480- Rs. 12,000] . Therefore, it is advisable to sell P at spilt off Point. However before taking final decision other non – cost factor are to be taken into consideration.

Working Note –

(1) Total fixed selling & distribution Expenses is 10% of Rs. 1, 49,500 = Rs. 14,950. It is to be apportioned in the ratio of 2:4:4,
X's share of Selling & distribution expenses = Rs. 14,950 *2/10 = Rs. 2,990
P's share of Selling & distribution expenses = Rs. 14,950 *4/10 = Rs. 5,980
Q's share of Selling & distribution expenses = Rs. 14,950 *4/10 = Rs. 5,980

GROUP- C

Q7) SOLUTION

1) Here, change in sales = Rs. 250000 - Rs. 200000 = Rs. 50000
Change in profit = Rs. 50000 – Rs. 30000 = Rs. 20000
Therefore, Profit Volume (P/V) Ratio = $\frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100$
$= \frac{\text{Rs. 20000}}{\text{Rs. 50000}} \times 100$
= 40%

2) P/V Ratio = $\frac{\text{Contribution}}{\text{Sales}}$
Or, 40 % = $\frac{\text{Contribution}}{\text{Rs. 250000}}$
Or, Contribution = Rs. 100000
Again, Contribution(C) = Fixed Cost(F) + Profit(P)
So, F = C – P = Rs. 100000 – Rs. 50000 = Rs. 50000

Break even Sales (in value) = $\frac{\text{Fixed Cost}}{\text{P/V Ratio}}$

$= \frac{\text{Rs. 50000}}{40\%} = \text{Rs. } 125000$

Break even Sales (in units) = Rs. 125000/ Rs. 10 = 12500 units

3) P/V Ratio 40 %

Therefore, variable cost = 60% of sales

In 2018-2019 = 60% of Rs. 200000 = Rs. 120000

In 2019-2020 = 60% of Rs. 250000 = Rs. 150000

4) Desired C = F + Desired P = Rs. 50000 + Rs. 60000 = Rs. 110000

P/V Ratio = C/S

Or,40% = Rs 110000/S

Or, S= 275000

So, the required sales to earn a profit of Rs. 60000 should be Rs. 275000 or 27500 units sold at Rs. 10 each.

5) Profit or loss if Sales are Rs. 100000

Contribution = 40% of Rs. 100000 = Rs. 40000

As, C = F + P

Or, Rs. 40000 = Rs. 50000 + P

Or, Loss = Rs. 10000

6) MOS for a profit of Rs. 80000 =(Profit)/ (P/ V Ratio)

= Rs. 80000/40% = Rs. 200000

7) Sales volume in 2020-2021

S.P.per unit = Rs. 10 (not to be changed)

Variable Cost Per Unit = Rs. 7

Contribution per unit = Rs. 3

P/V Ratio = 3/10*100 = 30%

C needed to maintain total profit unchanged should be = F + P

= Rs. 55000 +Rs. 50000

= Rs. 105000

Desired Sales = C/(P/V ratio)

= Rs. 105000/30% = Rs 350000

Q8) SOLUTION

a) Basic Standard is a standard which is established for use over a long period, from which a current Standard can be developed. The principal in setting the basic standard is similar to that of index number in statistics.

Ideal Standard is that standard which can be attained under the most favourable conditions possible. In other word, this standard is fixed with a very high degree of efficiency which is impossible to attain. The result is that when actual costs are compared with such standard costs, large variances are shown which do not show true and fair picture. In such circumstancs, employees cannot be held responsible for all variences in as much as it is difficult to ascertain

controllable portion of the variences. In effect, therefore, ideal standard becomes only theoretical standard.

b) <u>Calculation of different cost variences</u>

1) Material cost varience = Standard Material cost for actual production – Actual material cost incurred

= (4800 X 10 x 10) – 525000

= Rs. 45000(Adverse)

2) Labour Cost Varience = (Standard hours for actual production X Standard rate per hour) – (Actual hours worked X Actual Rate)

= (4800 X 6 X 5.5) – 155000
= Rs. 3400 (Favourable)

3) Variable overhead cost varience = Standard overhead cost for actual production – Actual variable overhead

= (4800 X 6 X 10) – 293000

= Rs. 5000(Adverse)

4) Fixed overhead varience = standard Rate X Standard time for actual production – Actual fixed overhead

= (450000/30000 X 31000) – 470000

= Rs. 5000 (Adverse)