

# CA – INTER

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## **DISCOVER MATERIAL [ PART II ]**

(COVERS PAST EXAM QUESTION PAPERS UPTO MAY – 2019)

(IN THIS PART WE HAVE INCLUDED COST AND MANAGEMENT ACCOUNTING PAPER OF CA INTER)



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**DISCOVER\_2E / COST & MANAGEMENT ACCOUNTING**

WE HAVE INCLUDED THE PAST EXAM QUESTION PAPERS OF 7 RECENT ATTEMPTS UNDER IPCC & 3 RECENT ATTEMPTS UNDER CA INTER UPTO MAY 2019

**COST SHEET**

1. M/s Areeba Private Limited has a normal production capacity of 36,000 units of toys per annum . The estimated costs of production are as under: [M19 (N) – 10M]

- (i) Direct Material Rs. 40 per unit  
 (ii) Direct Labour Rs. 30 per unit ( subject to a minimum of Rs. 48,000 p.m)  
 (iii) Factory overheads  
     (a) Fixed 3,60,000 per annum  
     (b) Variable Rs. 10 per unit  
     (c) Semi- Variable Rs. 1,08,000 per annum up to 50% capacity and additional Rs.46,000 for every 20% increase in capacity or any part there off

(iv) Administrative Over Heads Rs. 5,18,400 per annum(fixed)

(v) Selling overheads are incurred at Rs. 8 per unit

(vi) Each unit of Raw material yields scrap which is sold at the rate of 5per unit

(vii) In year 2019, the factory at 50% capacity for the first three months but it is expected that it would work at 80% capacity for the remaining nine months

(viii) During the first three months the selling price per unit was Rs 145

You are required to:

- (i) Prepare a cost sheet showing Prime cost, Works cost, Cost of Production and cost of sales  
 (ii) Calculate the selling price per unit for remaining nine months to achieve the total annual profit of Rs. 8,76,600.
2. Following details are provided by M/s ZIA Private Limited for the quarter ending 30 September, 2018: [N18 (N) – 10M]

(i)	Direct expenses	1,80,000
(ii)	Direct wages being 175% of factory overheads	2,57,250
(iii)	Cost of goods sold	18,75,000
(iv)	Selling & distribution overheads	60,000
(v)	Sales	22,10,000
(vi)	Administration overheads are 10% of factory overheads	

Stock details as per Stock Register:

Particulars	30.06.2018 Rs.	30.09.2018. Rs.
Raw material	2,45,600	2,08,000
Work-in-progress	1,70,800	1,90,000
Finished goods	3,10,000	2,75,000

You are required to prepare a cost sheet showing:

- (i) Raw material consumed      ii) Prime cost      iii) Factory cost  
 vi) Cost of goods sold      (v) Cost of sales and profit

3. Following information relate to a manufacturing concern for the year ended 31<sup>st</sup> March, 2018:  
[M18 (N) – 10M]

Particulars	Rs.
Raw Material (opening)	2,28,000
Raw Material (closing)	3,05,000
Purchases of Raw Material	42,25,000
Freight Inwards	1,00,000
Direct wages paid	12,56,000
Direct wages-outstanding at the end of the year	1,50,000
Factory Overheads	20% of prime cost
Work-in-progress (opening)	1,92,500
Work-in-progress (closing)	1,40,700
Administrative Overheads (related to production)	1,73,000
Distribution Expenses	Rs. 16 per unit
Finished Stock (opening)-1217 Units	6,08,500
Sale of scrap of material	8,000

The firm produced 14000 units of output during the year. The stock of finished goods at the end of the year is valued at cost of production. The firm sold 14153 units at a price of Rs. 618 per unit during the year. Prepare cost sheet of the firm

## MATERIAL COST

1. The following are the details of receipt and issue of material CXE in a manufacturing company during the month of April 2019:  
[M19 (N) – 10M]

Date	Particulars	Quantity	Rate per KG
April 04	Purchase	3000	Rs.16
April 08	Issue	1000	
April 15	Purchase	1500	Rs.18
April 20	Issue	1200	
April 25	Return to supplier out of purchase made on April 15	300	
April 26	Issue	100	
April 28	Purchase	500	Rs.17

Opening stock as on 01-04-2009 is 1000 kg @ 15per Kg

On 30<sup>th</sup> April , 2019 it was found that 50 kg of material CXE was fraudently misappropriated by the store assistant and never be recovered by the company

Required:

- Prepare a store ledger account under each of the following method of pricing the issue
    - Weighted average method
    - LIFO
  - What would be the value of material consumed and value of closing stock as on 30.04.2019 as per these two methods
2. ACE Ltd. produces a product EMM using a material 'REX'. To produce one unit of EMM 0.80 kg of 'REX' is required. As per the sales forecast conducted by company it will be able to sell 45,600 units of product EMM in the coming year .There is an operating stock of 3150 units of product EMM and company desires to maintain closing stock equal to one months forecasted sale Following is the information regarding material 'REX': [M19 (O) – 8M]
- Purchase price per Kg Rs.25
  - Cost of placing order Rs.240 per order

➤ Storage cost	2% per annum
➤ Interest rate	10% per annum
➤ Average lead time	8 days
➤ Difference between minimum and Maximum lead time	6 days
➤ Maximum usage	150 kg
➤ Minimum usage	90 kg

Opening stock of material 'REX' is 2100kg and closing stock will be 10% more than opening stock

**Required:**

- Compute the EOQ and total cost as per EOQ.
  - Compute the re order level and maximum level
  - If the company places an order of 7500 kg of REX at a time, it gets 2% discount, should the offer accepted.
3. M/s. SJ Private Limited manufactures 20000 units of a product per month. The cost of placing an order is Rs. 1,500. The purchase price of the raw material is Rs. 100 per kg. The re-order period is 5 to 7 weeks. The consumption of raw materials varies from 200 kg to 300 kg per week, the average consumption being 250 kg. The carrying cost of inventory is 9.75% per annum.

**You are required to calculate:**

**[N18 (N) – 5M]**

- Re-order quantity
  - Re-order level
  - Maximum level
  - Average stock level
  - Minimum level
4. XYZ Ltd. has obtained an order to supply 48000 bearings per year from a concern. On a steady basis, it is estimated that it costs Rs. 0.20 as inventory holding cost per bearing per month and the set-up cost per run of bearing manufacture is Rs. 384.

**[N18 (N) – 10M]**

**You are required to:**

- compute the optimum run size and number of runs for bearing manufacture.
  - compute the interval between two consecutive runs.
  - find out the extra costs to be incurred if company adopts a policy to manufacture 8000 bearings per run as compared to optimum run size.
  - give your opinion regarding run size of bearing manufacture.
- Assume 365 days in a year.
5. M/s. X Private Limited is manufacturing a special product which requires a component "SKY BLUE". The following particulars are available for the year ended 31st March, 2018:

**[M18 (N) – 5M]**

Annual demand of "SKY BLUE"	12000 Units
Cost of placing an order	Rs. 1,800
Cost per unit of "SKY BLUE"	Rs. 640
Carrying cost per annum	18.75%

The company has been offered a quantity discount of 5 on the purchases of "SKY BLUE" provided the order size is 3000 components at a time.

**You are required to:**

- Compute the Economic Order Quantity.
  - Advise whether the quantity discount offer can be accepted.
6. ASJ manufacturer produces a product which requires a component costing Rs. 1,000 per unit. Other information related to the component are as under:

**[M18 (O) – 5M]**

Usage Of Component	1500 units per month
Ordering Cost	Rs. 75 per order

Storage Cost Rate	2 % per annum
Obsolescence Rate	1 % per annum
Maximum Usage	400 units per week
Lead Time	6 – 8 weeks

The firm has been offered a quantity discount of 5% by the supplier on the purchase of component, if the order size is 6,000 units at a time.

You are required to compute:

- (i) Economic Order Quantity (EOQ)  
(ii) Re-order Level and advise whether the discount offer be accepted by the firm or not.

7. Supreme Limited is a manufacturer of energy saving bulbs. To manufacture the finished product one unit of component 'LED' is required. Annual requirement of component 'LED' is 72,000 units, the cost being Rs. 300 per unit. Other relevant details for the year 2015-2016 are: [N16 (O) – 5M]

Cost of placing an order	: Rs. 2,250
Carrying cost of inventory	: 12% per annum

**Lead time**

Maximum	: 20 days
Minimum	: 08 days
Average	: 14 days
Emergency purchase	: 05 days

**Consumption**

Maximum	: 400 units per day
Minimum	: 200 units per day
Average	: 300 units per day

You are required to calculate:

- (i) Re-order quantity  
(ii) Re-ordering level  
(iii) Minimum stock level  
(iv) Maximum stock level  
(v) Danger level

## EMPLOYEE COST AND DIRECT EXPENSES

Note: Except Premium Bonus Method & Halsey Scheme All Incentive Schemes are Removed

1. M/s. Zeba Private Limited allotted a standard time of 40 hours for a job and the rate per hour is Rs75.the actual time taken by a worker is 30 hours [M19 (N) – 5M]

You are required to calculate total earnings under the following plans

- (i) Halsey Premium plan rate (50%)  
(ii) Rowan plan  
(iii) Time Wage system  
(iv) Piece rate System  
(v) Emersion Plan

2. Following data have been extracted from the books of M/s. ABC Private Limited: [N18 (N) – 5M]

S.no	Particulars	
(i)	Salary (each employee, per month)	Rs. 30,000
(ii)	Bonus	25% of salary
(iii)	Employer's contribution to PF, ESI etc.	15% of salary
(iv)	Total cost at employees' welfare activities	Rs 6,61,500 per annum
(v)	Total leave permitted during the year	30 days
(v)	No. of employees	175



7. A skilled worker is paid a guaranteed wage rate of Rs. 150.00 per hour. The standard time allowed for a job is 50 hours. He gets an effective hourly rate of wages of Rs.180.00 under Rowan Incentive Plan due to saving in time. For the same saving in time, calculate the hourly rate of wages he will get, if he is placed under Halsey Premium Scheme (50%). [N17 (O) – 5M]
8. RST Company Ltd. has computed labour turnover rates for the quarter ended 31st March, 2017 as 20%, 10% and 5% under flux method, replacement method and separation method respectively. If the number of workers replaced during that quarter is 50, find out (i) Workers recruited and joined (ii) Workers left and discharged and (iii) Average number of workers on roll. [M17 (O) – 5M]

## OVERHEADS: ABSORPTION COSTING METHOD

1. M/s Zaian Private limited has purchased a machine costing Rs29,14,800 and it is expected to have a salvage value of Rs 1,50,000 at the end of its life of 15 years. Ordinarily the machine is expected to run for 4,500 hours per annum but it is estimated that 300 hours per annum will be lost for normal repair & Maintenance. The other details in respect of the machine are as follows [M19 (N) – 5M]
- (i) Repair and maintenance during the whole life of the machine are expected to be Rs 5,40,000
  - (ii) Insurance premium Per annum 2% of the cost of the machine
  - (iii) Oil and Lubricants required for operating the machine per annum Rs 87,384
  - (iv) Power consumption 10 units per hour @ 7 per unit. No power consumption during repair and maintenance
  - (v) Salary to operator per month Rs 24,000 The operator devotes one third of his time to the machine
2. A manufacturing company has added a new machine to its fleet of eleven existing machines. New machine is purchased for Rs.12,70,000 with installation cost of Rs.40,000. The Machine has an estimated life of 10 years and is expected to realize Rs.90,000 as scrap at the end of its useful life. Other relevant data are as follows: [M19 (O) – 5M]
- i) Budgeted annual working hours are 2400 based on 8 hours per day for 300 days. This includes 180 hours for plant maintenance and 120 hours of productive set –up time.
  - ii) Electricity used by the new machine is 12 units per hour at a cost of Rs.6.50 per unit .No current is drawn during maintenance and setup.
  - iii) Three operators control the operations of all the twelve machines and average rate of wages per operator par day is Rs.600 and production bonus is 10% of wages.
  - iv) Annual insurance premium for the new machine is Rs.12,600.
  - v) Annual Maintenance cost of new machine including consumable stores is Rs.32,500.
  - vi) Rent of factory is Rs.24,000 per month . Area occupied by new machine 200sq ft. and area occupied by other machines is 2800 sq.ft.
- Required:** Compute the comprehensive machine hour rate.
3. Following are the information given by the owner of M/s. Moonlight Co. running a hotel at Manali. You are requested to advise him regarding the rent to be charged from his customer per day so that he is able to earn 20% profit on cost other than interest. [M19 (O) – 8M]
- a) Staff salaries Rs 4,00,000.
  - b) The room Attendants salary is Rs.10 per day. The salary is paid on daily basis and the services of room attendant are needed only when the room is occupied .There is one room attendant for one room.
  - c) Lighting, heating and power:
    - (i) The normal lighting expenses for a room if it is occupied for the whole month is Rs.250.
    - (ii) Power is used only in winter and normal charge per month if occupied for a room is Rs.100.
  - d) Repairs to Building Rs.50,000 per annum
  - e) Linen etc.Rs.24,000 per annum

- f) Sundries Rs.70,770 per annum  
 g) Interior decoration and furnishing Rs.50,000 per annum  
 h) Cost of building Rs.20,00,000, rate of depreciation 5%  
 i) Other equipment's Rs.5,00,000, rate of depreciation 10%  
 j) Interest @ 5% may be charged on its investments of Rs.25, 00,000 in the building and equipment.  
 k) There are 200 rooms in the hotel and 90% of the rooms are normally occupied in summer and 40% of the rooms are occupied in winter .You may Assume that period of summer and winter is six months each. Normal working days in a month may be assumed to be 30.
4. M/s. NOP Limited has its own power plant and generates its own power. Information regarding power requirements and power used are as follows: [N18 (N) – 5M]

	Production Dept.		Service Dept.	
	A	B	X	Y
	(Horse power hours)			
Needed capacity production	20,000	25,000	15,000	10,000
Used during the quarter ended September 2018	16,000	20,000	12,000	8,000

During the quarter ended September 2018, costs for generating power amounted to Rs. 12.60 lakhs out of which Rs. 4.20 lakhs was considered as fixed cost.

Service department X renders services to departments A, B, and Y in the ratio of 6:4:2 whereas department Y renders services to department A and B in the ratio of 4: 1. The direct labour hours of department A and B are 67500 hours and 48750 hours respectively.

**Required:**

- Prepare overheads distribution sheet.
  - Calculate factory overhead per labour hour for the dept. A and dept. B.
5. RSJ produces a single product and absorbs production overheads at a pre-determined rate. Information relating to a period is as under: [N18 (O) – 8M]

Production overheads actually incurred	Rs 4,84,250
Overhead recovery rate at production	Rs 1.45 per hour
Actual hours worked	2,65,000 hours
<b>Production:</b>	
Finished goods	17,500 units
Works-in-progress (50% complete in all respect)	5,000 units
Sales of finished goods	12,500 units

At the end of the period, it was discovered that the actual production overheads incurred included Rs. 40,000 on account of 'written off obsolete stores' and wages paid for the strike period under an award.

It was also found that 30% of the under absorption of production overheads was due to factory inefficiency and the rest was attributable to normal increase in costs.

**Required to calculate:**

- The amount of under absorbed production overheads during the period.
  - Show the accounting treatment of under absorption of production overheads and pass journal entry.
6. Delta Ltd. is a manufacturing concern having two production departments P1 and P2 and two service departments S1 and S2. After making a primary distribution of factory overheads, the total overheads of all departments are as under: [M18 (O) – 8M]
- |    |          |
|----|----------|
| P1 | 4,02,000 |
| P2 | 2,93,000 |
| S1 | 3,52,000 |
| S2 | 33,000   |



Overheads of service departments are reapportioned as below :

	P1	P2	S1	S2
S1	40 %	50 %	-	10 %
S2	50 %	40 %	10 %	-

A product 'Z' passes through all the two production departments – P1 and P2 and each unit of product remain there in process for 2 and 3 hours respectively. The material and labour cost of one unit of product 'Z' is Rs 500 and Rs 350 respectively.

The company run for all the 365 days of the year and 16 hours per day.

You are required:

(i) To make secondary distribution of overheads of service departments by applying Simultaneous Equation method and

(ii) Determine the total cost of one unit of product Z.

7. APP Limited is a manufacturing concern and recovers overheads at a pre-determined rate of Rs. 30 per man-day. [N17 (O) – 8M]

Total factory overheads incurred	51,00,000
Man-days actually worked	1,50,000
Sales (in units)	50,000
Stock at the end of the period:	
Completed units	5,000
in completed units (50% completed)	10,000

There was no opening stock of finished goods and works in progress.

On analyzing the situation, it was discovered that 60% of the unabsorbed overheads were due to defective planning and balance were attributable to increase in overhead costs.

8. Answer the following: [M16 (O) – 5M]

The following particulars refer to process used in the treatment of material subsequently incorporated in a component forming part of an electrical appliance:

(i) The original cost of the machine used (Purchased in June 2008) was Rs. 10,000. Its estimated life is 10 years, the estimated scrap value at the end of its life is Rs. 1,000, and the estimated working time per year (50 weeks of 44 hours) is 2,200 hours of which machine maintenance etc., is estimated to take up 200 hours.

No other loss of working time expected, setting up time, estimated at 100 hours, is regarded as productive time. (Holiday to be ignored).

(ii) Electricity used by the machine during production is 16 units per hour at cost of a 9 paisa per unit. No current is taken during maintenance or setting up.

(iii) The machine required a chemical solution which is replaced at the end of week at a cost of Rs. 20 each time.

(iv) The estimated cost of maintenance per year is Rs. 1,200.

(v) Two attendants control the operation of machine together with five other identical machines. Their combined weekly wages, insurance and the employer's contribution to holiday pay amount Rs. 120.

(vi) Departmental and general works overhead allocated to this machine for the current year amount to Rs. 2,000.

You are required to calculate the machine hour rate of operating the machine.



Compute:

- (i) Fixed overhead variance (ii) Fixed overhead expenditure variance  
(iii) Fixed overhead volume variance (iv) Fixed overhead efficiency variance

5. Beta Ltd. is manufacturing Product N. This is manufactured by mixing two materials namely Material P and Material Q. The Standard Cost of Mixture is as under: [M18 (N) – 5M]

Material P 150 ltrs. @ Rs. 40 per ltr.

Material Q 100 ltrs. @ Rs. 60 per ltr.

Standard loss @ 20 of total input is expected during production.

The cost records for the period exhibit following consumption:

Material P 140 ltrs. @ Rs. 42 per ltr,

Material Q 110 ltrs. @ Rs. 56 per ltr,

Quantity produced was 195 ltrs.

Calculate:

- (i) Material Cost Variance (ii) Material Usage Variance. (iii) Material Price Variance

6. XYZ Limited produces an article and uses a mixture of material X and Y. The standard quantity and price of materials for one unit of output is as under: [N17 (O) – 8M]

Material	Quantity	Price (Rs)
X	2000 KG	1.00 per kg.
Y	800 KG	1.50 per kg.

During a period, 1500 units were produced. The actual consumption of materials and prices are given below:

Material	Quantity	Price (Rs)
X	31,00,000 kg	1.10 per kg.
Y	12,50,000 kg	1.60 per kg.

Calculate:

- (i) Standard cost for actual output (ii) Material cost variance  
(iii) Material Price variance (iv) Material usage variance

7. AB Ltd. has furnished the following information: [M17 (O) – 5M]

	Budgeted	Actual 2016
Number of working days	25	27
Production (in units)	20,000	22,000
Fixed Overheads	Rs. 30,000	Rs. 31,000

Budgeted fixed overhead rate is Rs. 1.00 per hour. In July 2016, the actual hours worked were 31,500. In relation to fixed overheads, calculate:

- (i) Efficiency Variance (ii) Capacity Variance (iii) Calendar Variance  
(iv) Volume Variance (v) Expenditure Variance

8. The following information is available from the cost records of a Company for the month of July, 2016: [N16 (O) – 8M]

(1) Material purchased	22,000 pieces	Rs. 90,000
(2) Material consumed	21,000 pieces	
(3) Actual wages paid for	5,150 hours	Rs. 25,750
(4) Fixed Factory overhead incurred		Rs. 46,000

(5) Fixed Factory overhead budgeted		Rs. 42,000
(6) Units produced	1,900	
(7) Standard rates and prices are:		
Direct material	Rs. 4.50 per piece	
Standard input	10 pieces per unit	
Direct labour rate	Rs. 6 per hour	
Standard requirement	2.5 hours per unit	
Overheads	Rs. 8 per labour hour	

You are required to calculate the following variances:

- |                                        |                                        |                           |
|----------------------------------------|----------------------------------------|---------------------------|
| i) Material price variance             | ii) Material usage variance            | iii) Labour rate variance |
| iv) Labour efficiency variance         | v) Fixed overhead expenditure variance |                           |
| vi) Fixed overhead efficiency variance | vii) Fixed overhead capacity variance  |                           |

9. X Associates undertake to prepare income tax returns for individuals for a fee. They use the weighted average method and actual costs for the financial reporting purposes. However, for internal reporting, they use a standard costs system. The standards, based on equivalent performance, have been established as follows: [M16 (O) – 8M]

Labour per return 5 hrs. @ Rs. 40 per hour

Overhead per return 5 hrs. @ Rs. 20 per hour

For March 2015 performance, budgeted overhead is Rs.98,000 for standard labour hours allowed.

The following additional information pertains to the month of March 2015:

March 1	Return-in-process (25% complete)	200 No.
	Return started in March	825 No's
March 31	Return-in-process (80% complete)	125 No's

**Cost Data:**

March 1	Return-in-process labour	Rs. 12,000
	Overheads	Rs. 5,000
March 1 to 31	Labour : 4,000 hours	Rs. 1,78,000
	Overheads	Rs. 90,000

You are required to compute:

- For each element, equivalent units of performance and the actual cost per equivalent unit.
- Actual cost of return-in-process on March 31.
- The standard cost per return.
- The labour rate and labour efficiency variance as well as overhead volume and overhead expenditure variance.

## MARGINAL COSTING

1. MNO Ltd manufactures two types of equipment A and B and absorbs overheads on the basis of direct labour hours the budgeted overheads and direct labour hours for the month of march 2019 are Rs 15,00,000 and 25,000 hours respectively. The information about the companies product is as follows [M19 (N) – 10M]

	Equipment	
	A	B
Budgeted Production volume	3200 units	3850 units
Direct Material cost	Rs 350 per unit	Rs 400per unit
Direct Labour cost		
A : 3hours @ Rs 120 per hour	Rs 360	
B: 4hours @ 120 per hour		Rs 480

Overheads of Rs 15,00,000 can be identified with the following three major activities

Order processing: Rs. 3,00,000

Machine Processing: Rs.10,00,000

Product inspection: Rs. 2,00,000

These activities are driven by the number of orders processed , machine hours worked and inspection hours respectively.

The data relevant to these activities is as follows

	Orders processed	Machine hours worked	Inspection hours
A	400	22,500	5,000
B	200	27,500	15,000
<b>Total</b>	<b>600</b>	<b>50,000</b>	<b>20,000</b>

### Required

(i) Prepare a statement showing the manufacturing cost per units of each product using the absorption costing method assuming the budgeted manufacturing volume is attained

(ii) Determine cost driver rates and prepare a statement showing the manufacturing volume is attained

MNO Ltd's selling prices are based heavily on cost by using direct labour hour as an application base calculate the amount of cost of distortion (under costed or over costed ) for each equipment.

2. M/s Gaurav Private Limited is manufacturing and selling two products BLACK and WHITE at Rs 20 and Rs 30 respectively **[M19 (N) – 5M]**

The following sales strategy has been outlined for the financial year 2019-20

(i) Sales planned for the year will be Rs 81,00,000 in the case of BLACK and 54,00,000 in the case of WHITE

(ii) The selling price of BLACK will be reduced by 10% and that WHITE by 20%

(iii) Break-even is planned at 70% of the total sales of each product

(iv) Profit for the year to be maintained at Rs 8,26,200 in the case of BLACK and 7,45,200 in the case of WHITE. This would be possible by reducing the present annual fixed cost of Rs 42,00,000 allocated as 22,00,000 to BLACK and Rs 20,00,000 to WHITE.

You are required to calculate:

(1) Number of units to be sold BLACK and WHITE to Breakeven during financial tear 2019-20

(2) Amount of reduction in fixed cost product wise to achieve desired profit mentioned at (iv) above

3. Omega Manufacturing a product, Currently utilizing 75% capacity with a turnover of Rs.99,00,000 at Rs.275 per unit. The cost data is as under: **[M19 (O) – 5M]**

	Amount (Rs.)
Direct material per unit	96
Direct wages per unit	42
Variable overhead per unit	18
Semi variable overheads	7,32,000
P/V ratio	40%

Fixed overheads cost is Rs.28,81,000 upto 80%level of Activity ,beyond this level, an additional Rs.2,38,500 will be incurred.

(i) Break- even point in units and activity level at a break- even point.

(ii) Number of units to be sold to earn profit of RS.25 per unit.

4. A manufacturing company is producing a product 'A' which is sold in the market at Rs45 per unit. The company has the capacity to produce 40000 units per year. The budget for the year 2018-19 projects a sale of 30000 units. [N18 (N) – 10M]

The costs of each unit are expected as under:

	Rs.
Materials	12
Wages	9
Overheads	6

Margin of safety is Rs. 4,12,500.

You are required to:

- Calculate fixed cost and break-even point.
  - Calculate the volume of sales to earn profit of 20% on sales.
  - If management is willing to invest Rs.10,00,000 with an expected return of 20%, calculate units to be sold to earn this profit.
  - Management expects additional sales if the selling price is reduced to Rs. 44. Calculate units to be sold to achieve the same profit as desired in above (iii).
5. A manufacturing concern was operating at margin of safety of 40% in the year 2018 and was selling its product at Rs. 75 per unit. Variable cost ratio to sales was 80% and fixed costs amounted to Rs. 5,40,000. [N18 (O) – 5M]

In the year 2019, the concern anticipates an increase in the variable costs and fixed costs by 15% and 5% respectively.

You are required to:

Find out the selling price to be fixed in the year 2019 keeping in view that concern is willing to maintain the same P/V ratio as it was in the year 2018.

6. Following figures have been extracted from the books of M/s. RST Private Limited: [M18 (N) – 5M]

Financial year	Sales (Rs.)	Profit / Loss (Rs.)
2016 - 17	4,00,000	15,000 (loss)
2017 - 18	5,00,000	15,000 (Profit)

You are required to calculate:

- Profit Volume Ratio
  - Fixed Costs
  - Break Even Point
  - Sales required to earn a profit of Rs. 45,000.
  - Margin of Safety in Financial Year 2017-18.
7. PH Gems Ltd. is manufacturing readymade suits. It has annual production capacity of 2,000 pieces. The Cost Accountant has presented following information for the year to the management: [M18 (N) – 10M]

Particulars	Amount (Rs)	Amount (Rs)
Sales 1,500 pieces @ Rs 1,800 per piece		27,00,000
Direct Material	5,94,200	
Direct Labour	4,42,600	
Overheads (40% Fixed)	11,97,000	22,33,800
Net Profit		4,66,300

Evaluate following options:

- If selling price is increased by Rs. 200, the sales will come down to 60% of the total annual capacity. Should the company increase its selling price?.

(ii) The company can earn a profit of 20% on sales if the company provide TIEPIN with ready-made suit. The cost of each TIEPIN is Rs. 18. Calculate the sales to earn a profit of 20% on sales

8. A company is producing an identical product in two factories. The following are the details in respect of both factories: [M18 (O) – 8M]

	Factory X	Factory Y
Selling price per unit (Rs)	50	50
Variable cost per unit (Rs)	40	35
Fixed cost (Rs)	2,00,000	3,00,000
Depreciation included in above fixed cost (Rs)	40,000	30,000
Sales in units	30,000	20,000
Production capacity (units)	40,000	30,000

You are required to determine:

- Break Even Point (BEP) each factory individually.
  - Cash break-even point for each factory individually.
  - BEP for company as a whole, assuming the present product mix is in sales ratio.
  - Consequence on profit and BEP if product mix is changed to 2:3 and total demand remain same.
9. A company, with 90% Capacity utilization, is manufacturing a product and makes a sale of Rs. 9,45,000 at Rs. 30 per unit. The cost data is as under: [N17 (O) – 8M]

Materials Rs. 9 .00 per unit

Labour Rs. 7,00 per unit

Semi variable cost (including

Variable Cost of Rs. 4.25 per unit) Rs. 2,10,000

Fixed cost is Rs. 94,500 upto 90% level of output (capacity). Beyond this, an additional amount of Rs. 15,000 will be incurred.

You are required to calculate:

- Level of output at break-even point
  - Number of units to be sold to earn a net income of 10% of sales
  - Level of output needed to earn a profit of Rs. 1,41,375
10. The following information was obtained from the records of a manufacturing unit: [M17 (O) – 8M]

	Rs.	Rs.
Sales 80,000 units @ Rs 25		20,00,000
Material consumed	8,00,000	
Variable Overheads	2,00,000	
Labour Charges	4,00,000	
Fixed Overheads	3,60,000	17,60,000
Net Profit		2,40,000

Calculate:

- The number of units by selling which the company will neither lose nor gain anything.
- The sales needed to earn a profit of 20% on sales.
- The extra units which should be sold to obtain the present profit if it is proposed to reduce the selling price by 20% and 25%.
- The selling price to be fixed to bring down its Break-even Point to 10,000 units under present conditions.

11. The following figures are available from the records of ABC Company as at 31st March. [N16 (O) – 5M]

	2015 (Rs. Lakhs )	2016 ( Rs. Lakhs)
Sales	200	250
Profit	30	45

Calculate:

- (i) The P/V ratio and total fixed expenses.  
(ii) The break-even level of sales.  
(iii) Sales required to earn a profit of Rs. 70 lakhs.
12. A company has introduced a new product and marketed 20,000 units. Variable cost of the product is Rs. 20 per units and fixed overheads are Rs. 3,20,000. [N16 (O) – 8M]

You are required to:

- (i) Calculate selling price per unit to earn a profit of 10% on sales value, BEP and Margin of Safety?  
(ii) If the selling price is reduced by the company by 10%, demand is expected to increase by 5,000 units, then what will be its impact on Profit, BEP and Margin of Safety?  
(iii) Calculate Margin of Safety if profit is Rs. 64,000.
13. A dairy product company manufacturing baby food with a shelf life of one year furnishes the following information: [M16 (O) – 5M]

- (i) On 1st January, 2016, the company has an opening stock of 20,000 packets whose variable cost is Rs.180 per packet.  
(ii) In 2015, production was 1,20,000 packets and the expected production in 2016 is 1,50,000 packets. Expected sales for 2016 is 1,60,000 packets.  
(iii) In 2015, fixed cost per unit was Rs. 60 and it is expected to increase by 10% in 2016. The variable cost is expected to increase by 25%. Selling price for 2016 has been fixed at Rs. 300 per packet.

You are required to calculate the Break-even volume in units for 2016.

## PROCESS & OPERATION COSTING

- 1) KT Ltd Produces a product EMM which passes through two processes before it is completed and transformed to finished stock. The following data relate to may 2019: [M19 (N) – 10M]

Particulars	Process		Finished stock
	A Rs.	B Rs.	Rs.
Opening stock	5,000	5,500	10,000
Direct Material	9,000	9,500	
Direct Wages	5,000	6,000	
Factory overheads	4,600	2,030	
Closing Stock	2,000	2,490	5,000
Inter- process profit included in opening stock		1,000	4,000

Output of process A is transferred to Process B at 25% profit on the transfer price and output of process B is transferred to finished stock at 20% profit on the transfer price. Stock in process is valued at prime cost. Finished stock is valued at which it is received from process B. Sales during the period are Rs. 75,000

Prepare the process cost accounts and finished stock account showing the profit element at each stage.

- 2) Following details have been provided by M/s AR Enterprises: [N18 (N) – 5M]
- (i) Opening work in progress 3000 units (70% complete)



- (ii) Units introduced during the year 17000 units  
 (iii) Cost of the process (for the period) Rs. 33,12,720  
 (iv) Transferred to next process 15000 units  
 (v) Closing works-in-progress 2200 units (80% complete)  
 (vi) Normal loss is estimated at 12% of total input (including units in process in the beginning). Scraps realise Rs. 50 per unit. Scraps are 100% complete.

Using FIFO method, compute:

- (i) Equivalent production (ii) Cost per equivalent unit

3) A Company manufacturing chemical solution that passes through a number of processes uses FIFO method to value Work-in-Process and Finished Goods. At the end of month of September, a fire occurred in the factory and some papers containing records of the process 'operations for the month were destroyed. The Company desires to prepare process accounts for the month during which the fire occurred. Some information could be gathered as to operating activities as under: [N18 (O) – 8M]

- Opening Work-in-Process at the beginning of the month of 1,100 litres - 40% complete for labour and 60% complete for Overheads. Opening Work-in-Process was valued at Rs. 48,260.
- Closing Work-in-Process at the end of the month was 220 litres, 40% complete for Labour and 30% complete for Overheads.
- Normal loss is 10% of input and total losses during the month were 2,200 litres partly due to fire, damage. Assume degree of completion of abnormal losses is 100%.
- Output sent to Finished Goods Warehouse was 5,900 litres.
- Losses have a scrap value of Rs. 20 per litre.
- All Raw Materials are added at the commencement of the process.
- The Cost per equivalent Unit (litre) is Rs. 53 for the month consisting :

Particulars	Rs.
Raw Material	35
Labour	8
Overheads	10
<b>Total</b>	<b>53</b>

You are required to:

- (i) Calculate the quantity (in litres) of Raw Material input during the month.  
 (ii) Calculate the quantity (in litres) of Normal Loss and Abnormal loss/Gain experienced in the month.  
 (iii) Calculate the values of Raw Materials, Labour and Overheads added to the process during the month.  
 (iv) Prepare the Process Account for the month.

4) Alpha Ltd. is engaged in the production of a product A which passes through 3 different process - Process P, Process Q and Process R. The following data relating to cost and output is obtained from the books of accounts for the month of April 2017: [M18 (N) – 10M]

Particulars	Process P	Process Q	Process R
Direct Material	38,000	42,500	42,880
Direct Labour	30,000	40,000	50,000

Production overheads of Rs. 90,000 were recovered as percentage of direct labour.

10,000 kg of raw material @ Rs. 5 per kg. was issued to Process P. There was no stock of materials or work in process. The entire output of each process passes directly to the next process and finally to warehouse. There is normal wastage, in processing, of 10%. The scrap value of wastage is Rs. 1 per kg. The output of each process transferred to next process and finally to warehouse are as under:

Process P = 9,000 kg

Process Q = 8,200 kg

Process R = 7,300 kg

The company fixes selling price of the end product in such a way so as to yield a profit of 25% selling price.

Prepare Process P, Q and R accounts. Also calculate selling price per unit of end product.

- 5) ABC Ltd. produces an item which is completed in three processes - X, Y and Z. The following information is furnished for process X for the month of March, 2018: [M18 (O) – 8M]

Opening work-in-progress (5,000 units):

Materials	Rs. 35,000
Labour	Rs. 13,000
Overheads	Rs. 25,000

Units introduced into process X (55,000 units):

Materials	Rs. 20,20,000
Labour	Rs. 8,00,000
Overheads	Rs. 13,30,000

Units scrapped: 5,000 units

Degree of completion:

Materials	100%
Labour & Overheads	60%

Closing work-in-progress (5,000 units):

Degree of completion:

Materials	100%
Labour & Overheads	60%

Units finished and transferred to Process Y: 50,000 units

Normal loss: 5% of total input (including opening works-in progress) Scrapped units fetch Rs. 20 per unit.

Presuming that average method of inventory is used, prepare:

- (i) Statement of Equivalent production      (iii) Statement of Cost for each element  
(ii) Statement of distribution of cost      (iv) Abnormal loss account

- 6) KMR Ltd. produces product AY, which passes through three processes 'XM', 'YM' and 'ZM'. The output of process 'XM' and 'YM' is transferred to next process at cost plus 20 percent each on transfer price and the output of process 'ZM' is transferred to finished stock at a profit of 25 percent on transfer price. The following information are available in respect of the year ending 31st March, 2017: [M17 (O) – 8M]

	Process- XM (Rs.)	Process- YM (Rs.)	Process- ZM (Rs.)	Finished Stock (Rs.)
Opening Stock	30,000	54,000	80,000	90,000
Material	1,60,000	1,30,000	1,00,000	-
Wages	2,50,000	2,16,000	1,84,000	-
Manufacturing Overheads	1,92,000	1,44,000	1,33,000	-
Closing Stock	40,000	64,000	78,000	1,00,000
Inter process profit included in	Nil	8,000	20,000	40,000
Opening Stock				

Stock in processes is valued at prime cost. The finished stock is valued at the price at which it is received from process 'ZM'. Sales of the finished stock during the period was Rs. 28,00,000.

You are required to prepare:

- (i) All process accounts &      (ii) Finished stock account showing profit element at each stage

**CONTRACT COSTING**

1. A contractor prepares his accounts for the year ending 31<sup>st</sup> March each year. He commenced a contract on 1<sup>st</sup> September, 2018. The following information to contract as on 31<sup>st</sup> March 2019.

[M19 (N) – 5M]

Material sent to the site	Rs. 18,75,000
Wages paid	Rs. 9,28,500
Wages outstanding at year end	Rs. 84,800
Sundry expenses	Rs. 33,825
Material returned to supplier	Rs. 15,000
Plant purchased	Rs. 3,75,000
Salary of super wiser ( devotes 1/3 <sup>rd</sup> of his time on contract)	Rs. 15,000 per month
Material at site on 31.03.2019	Rs. 2,16,000

Some of material costing Rs 10,000 was found unsuitable and was sold for Rs 11,200. On 3.12.2018 plant which costs 25,000 was transferred to some other contract and on 31.01.2019 plant which costs Rs. 32,000 was returned to stores. The plant is subjected to annual depreciation @ 15% on WDV method

The contract price is Rs. 45,00,000. On 31<sup>st</sup> March 2019 two-third of the project was completed. The architect issued certificate covering 50% of the contract price

Prepare contract account and show the notional profit or loss as on 31.03.2019

2. M/s. SD Private Limited commenced a contract on 1<sup>st</sup> July 2017 and the company closes its account for the year on 31<sup>st</sup> March every year. The following information relates to the contract as on 31<sup>st</sup> March 2018.

[N18 (N) – 5M]

- (i) Material issued Rs. 9,48,000  
(ii) Direct wages Rs. 4,57,200  
(iii) Prepaid direct wages as on 31.3.2018 Rs. 1,08,000  
(iv) Administration charges Rs. 7,20,000  
(v) A supervisor, who is paid Rs. 50,000 per month, has devoted two-third of his time to this contract  
(vi) A plant costing Rs. 7,85,270 has been on the site for 185 days, its working life is estimated at 9 years and its scrap value is Rs. 75,000

The contract price is Rs. 42 lakhs. On 31<sup>st</sup> March 2018 two-third of the contract was completed. The Architect issued certificate covering 50% of the contract price and the contractor had been paid Rs. 15.75 lakhs on account.

Assuming 365 days in a year, you are required to:

- (i) Prepare a Contract Account showing work cost  
(ii) Calculate Notional Profit or Loss as on 31<sup>st</sup> March 2018
3. MKS Ltd. is engaged in construction sector. It took a contract to build a house for Rs. 45 lakhs. The contract commenced on 1<sup>st</sup> April, 2018. Following information, relating to contract, for the year ending on 31<sup>st</sup> March, 2019 are as under:

[N18 (O) – 8M]

Particulars	Rs.
Materials purchased	8,52,000
Wages	10,48,000
Indirect expenses	92,000
Administrative charges	1,18,000
Materials at site at the end of the year	38,000

A plant was purchased for the contract on 1st April, 2018 which, after charging depreciation @ 15% p.a. on the cost, appeared at Rs. 6,12,000 at the end of the year.

A supervisor who is paid Rs. 10,000 per month has devoted two-third of his time to this contract. Two-third of the contract was completed. The architect issued certificate covering 50% of the contract price and contractor has been paid 90% of the work certified on account. The books of accounts are closed on 31<sup>st</sup> March every year.

Prepare contract account showing following:

- (i) Works cost of the contract                      (ii) Value of works uncertified  
(iii) Notional profit and                              (iv) Amount to be carried to profit and loss account.

4. XYZ Construction Company took a contract for construction of a stadium on 1<sup>st</sup> April, 2017 at a price of Rs. 160 lakhs. The relevant information for the year ended 31<sup>st</sup> March, 2018 are as under:

[M18 (N) – 10M]

	Amount (Rs In '000)
Material purchased for the contract	6,800
Direct wages paid	3,450
Salaries	200
Direct wages prepaid at the end of the year	50
Salaries outstanding at the end of the year	100
Material returned to stores	150
Material at site as on 31 <sup>st</sup> March, 2018	175
Payment received from the contractee (80% of work certified)	9,440
Work done but not certified	500

A plant was purchased for Rs. 12,00,000 on 1<sup>st</sup> November, 2017 and was in use at the site upto 31<sup>st</sup> March, 2018. Depreciation is to be charged on plant @ 15% per annum on straight line basis. Material costing Rs. 50,000 was stolen from the site.

You are required to:

- (i) Prepare contract account for the year ended 31<sup>st</sup> March, 2018 showing the profit to be taken to Profit & Loss Account.  
(ii) Prepare Balance Sheet showing the relevant items.

5. Premier Construction Company undertook a contract for Rs. 5,00,000 on 1<sup>st</sup> August, 2016. On 31<sup>st</sup> March, 2017 when the accounts were closed, the following information was available: [N17 (O) – 5M]

Cost of work uncertified	Rs 1,20,000
Cash received	Rs 2,50,000 (80 of work certified)
Profit transferred to costing Profit and Loss account at the end of the year on Incomplete contract	Rs 80,000

Calculate:

- (i) The value of work in progress certified                      (ii) Degree of completion of contract  
(iii) Notional Profit and                                              (iv) Cost of contract as on 31-03-2017

## SERVICE COSTING

1. X Ltd distributes its goods to a regional dealer using a single lorry the dealer premises are 40 Kms away by the road the capacity of lorry is 10 tonnes. The lorry makes the journey twice a day fully loaded on the outward journey and empty on return journey. The following information is available [M19 (N) – 10M]

Diesel consumption	8Kms per litre
Diesel cost	Rs. 60per litre
Engine Oil	Rs. 200per week
Drivers Wages (fixed)	Rs. 2,500

Repairs	Rs. 600per week
Garage Tank	800per week
Cost of lorry (excluding cost of tyres)	Rs.9,50,000
Life of lorry	1,60,000 Kms
Insurance	18,200 per annum
Cost of tyres	52,500
Life of tyres	25,000Kms
Estimated sale value of lorry at end of its life	1,50,000
Vehicle license cost	7,800 per annum
Other overhead cost	Rs. 41,600 per annum

The Lorry operates 5 days a week

**Required:**

(i) A statement to show the total cost of operating the vehicles for the four week period analysed into Running cost and fixed cost

(ii) Calculate the vehicle operating cost per km and per tonne km

(Assume 52 weeks in a year)

2. M/s XY Travels has been given a 25 km. long route to run an air- conditioned Mini Bus. The cost of bus is Rs. 20,00,000. It has been insured @3% premium per annum while annual road tax amounts to Rs. 36,000. Annual repairs will be Rs. 50,000 and the bus is likely to last for 5 years. The driver's salary will be Rs. 2,40,000 per annum and the conductor's salary will be Rs. 1,80,000 per annum in addition to 10% of the takings as commission (to be shared by the driver and the conductor equally). Office and administration overheads will be Rs. 18,000 per annum. Diesel and oil will be Rs. 1,500 per 100 km. The bus will make 4 round trips carrying on an average 40 passengers on each trip. **[N18 (N) – 10M]**

Assuming 25% profit on takings and considering that the bus will run on an average 25 days in a month, you are required to:

(i) prepare operating cost sheet (for the month).

(ii) calculate fare to be charged per passenger km.

3. A group of 'Health Care Services' has decided to establish a Critical Care Unit in a metro city with an investment of Rs. 85 lakhs in hospital equipments. The unit's capacity shall be of 50 beds and 10 more beds, if required, can be added. **[M18 (N) – 10M]**

Other information for a year are as under:

Particulars	(Rs.)
Building Rent	2,25,000 per month
Manager Salary (Number of Manager-03)	50,000 per month to each one
Nurses Salary (Number of Nurses-24)	18,000 per month to each Nurse
Ward boy's Salary (Number of ward boys' – 24)	9,000 per month per person
Doctor's payment (Paid on the basis of number of patients attended and time spent by them)	5,50,000 per month
Food and laundry services (variable)	39,53,000
Medicines to patients (variable)	22,75,000 per year
Administrative Overheads	28,00,000 per year
Depreciation on equipments	15% per annum on original cost

It was reported that for 200 days in a year 50 beds were occupied, for 105 days 30 beds were occupied and for 60 days 20 beds were occupied.

The hospital hired 250 beds at a charge of Rs. 950 per bed to accommodate the flow of patients. However, this never exceeded the normal capacity of 50 beds on any day.

Find out:

- (i) Profit per patient day, if hospital charges on an average Rs. 2,500 per day from each patient.
- (ii) Break-even point per patient day (Make calculation on annual basis)

4. A company wants to outsource the operation of its canteen to a contractor. The company will provide space for cooking, free electricity and furniture in the canteen. The contractor will have to provide lunch to 300 workers of which 180 are vegetarian (Veg) and the rest are non-vegetarian (Non-Veg). In the case of non-veg meals, there will be a non-veg item in addition to the veg items. A contractor who is interested in the contract has analysed the costs likely to be incurred. His analysis is given below: [M18 (O) - 8M]

Cereals	Rs. 8 per plate
Veg items	Rs. 5 per plate
Non-veg items	Rs. 15 per plate
Spices	Rs. 1 per plate
Cooking oil	Rs. 4 per plate
One cook	Salary Rs. 13,000 per month
Three helpers	Salary Rs. 7,000 per month per head
Fuel	Two commercial cylinders per month, price Rs. 1000 each.

On an average the canteen will remain open for 25 days in a month. The contractor wants to charge the non-veg meals at 1.50 times of the veg meals.

You are required to calculate:

- (i) The price per meal (veg and non-veg separately) that contractor should quote if he wants a profit of 20% on his takings.
  - (ii) The price per meal (separately for veg and non-veg) that a worker will be required to pay if the company provides 60% subsidy for meals out of welfare fund.
5. Royal transport company has been given a 50 kilometer long route to run 6 buses. The cost of each bus is Rs. 7,50,000. The buses will make 3 round trips per day carrying on an average 75 percent passengers of their seating capacity. The seating capacity of each bus is 48 passengers. The buses will run on an average 25 days in a month. The other information for the year 2016-17 is given below: [N16 (O) - 8M]

Garage Rent	Rs. 6,000 Per Month
Annual Repairs & Maintenance	Rs. 24,000 Per Bus
Salaries of 6 drivers	Rs. 4,000 Per Month
Wages of 6 conductors	Rs. 1,600 Per Month
Wages of 6 cleaners	Rs. 1,000 Per Month
Manager's Salary	Rs. 10,000 Per Month
Road Tax, Permit fee , etc.	Rs. 6,000 Per Month
Office expenses	Rs. 2,500 Per Month
Cost of Diesel per litre	Rs. 66
Km run Per litre for each bus	6 kms
Annual Depreciation	20% of cost
Annual Insurance	4 % of cost
Engine Oils & Lubricants ( for 1,000 Kms)	Rs. 2,000

You are required to calculate the bus fare to be charged from each passenger per kilometer (upto four decimal points), if the company wants to earn profit of 33 1/3 percent on taking (total receipts from passengers).

## COST ACCOUNTING SYSTEMS

1. M/s Abid Private Limited disclosed a net profit of Rs. 48,408 as per cost books for the year ending 31<sup>st</sup> march 2019. however, financial accounts disclosed net loss of Rs. 15,000 for the same period. On scrutinizing both the books of accounts following information was revealed: [M19 (N) – 5M]

Works Overheads under recovered in Cost books	48,600
Office Overheads over recovered in Cost books	11,500
Dividend received on shares	17,475
Interest on fixed deposits	21,650
Provision for Doubtful debts	17,800
Obsolescence loss not charged in Cost Accounts	17,200
Stores adjustments (debited in Financial Accounts)	35,433
Depreciation charged in Financial accounts	30,000
Depreciation recovered in cost books	35,000
Prepare Memorandum Reconciliation Account	

2. The net loss of Way well Ltd. appeared at Rs. 1,18,500 as per cost records for the year ending 31-03-2019. The following information was revealed as a result of scrutiny of the figures of financial and cost records: [M19 (O) – 8M]

Particulars	Amount Rs.
Factory overheads over absorbed in cost accounts	32,500
Administrative overheads under absorbed in cost accounts	38,250
Depreciation charged in financial accounts	4,55,800
Depreciation recovered in cost accounts	4,99,700
Loss due to obsolescence charged in financial accounts	11,400
Income tax provision made in financial accounts	32,650
Interest on investments not included in cost accounts	96,000
Store adjustment (Credit) to financial accounts	12,800
Value of opening stock in Cost accounts	18,85,600
Financial accounts	19,62,500
Value of closing stock in Cost accounts	21,15,800
Financial accounts	21,98,000
Imputed rent charged in cost accounts	1,80,000
Selling and distribution expenses not charged in cost accounts	72,450
Donation to Prime Minister Relief Fund	11,000
Loss on sale of furniture	7,250
Bad debts written off	18,300
Required: prepare a reconciliation statement and arrive at the profit or loss as per financial accounts	

3. The following balances were extracted from a Company's ledger as on 30<sup>th</sup> June, 2018: [N18 (N) – 10M]

Particulars	Debit (Rs.)	Credit (Rs.)
Raw material control a/c	2,82,450	
Work-in-progress control a/c	2,38,300	
Finished stock control a/c	3,92,500	
General ledger adjustment a/c		9,13,250
<b>Total</b>	<b>9,13,250</b>	<b>9,13,250</b>

The following transactions took place during the quarter ended 30<sup>th</sup> September, 2018:

S.no	Particulars	Rs.
(i)	Factory overheads - allocated to work-in-progress	1,36,350
(ii)	Goods furnished - at cost	13,76,200
(iii)	Raw materials purchased	12,43,810
(iv)	Direct wages - allocated to work-in-progress	2,56,800
(v)	Cost of goods sold	14,56,500
(vi)	Raw materials - issued to production	13,60,430
(vii)	Raw materials - credited by suppliers	27,200
(viii)	Raw materials losses - inventory audit	6,000
(ix)	Work-in-progress rejected (with no scrap value)	12,300
(x)	Customer's returns (at cost) of finished goods	45,900

You are required to prepare:

- (i) Raw material control a/c  
(ii) Work-in-progress control a/c  
(iii) Finished stock control a/c  
(iv) General ledger adjustment a/c

4. GK Ltd. showed net loss of Rs. 2,43,300 as per their financial accounts for the year ended 31<sup>st</sup> March, 2018. However, cost accounts disclosed net loss of Rs. 2,48,300 for the same period. On scrutinizing both the set of books of accounts, the following information were revealed: [M18 (N) – 5M]

S.no	Particulars	Rs.
(i)	Works overheads over recovered 30,400	30,000
(ii)	Selling overheads under recovered	20,300
(iii)	Administrative overheads under recovered	27,700
(iv)	Depreciation over charged in cost accounts	35,100
(v)	Bad debts w/off in financial accounts	15,000
(vi)	Preliminary Exp. w/off in financial accounts	5,000
(vii)	Interest credited during the year in financial accounts	7,500

Prepare a reconciliation statement reconciling losses shown by financial and cost accounts by taking costing net loss as base.

5. The following information have been extracted from the cost records of JKL Manufacturing Company Ltd: [M17 (O) – 8M]

Particulars	Rs.
<b>Stores:</b>	
Opening Balance	90,000
Purchases	4,80,000
Transfer from WIP	2,40,000
Issue to WIP	4,80,000
Issue for repairs	60,000
Deficiency found in stock	18,000
<b>Work-in-Progress:</b>	
Opening Balance	1,80,000
Direct wages applied	1,80,000
Overhead charged	7,20,000
Closing Balance	1,20,000
<b>Finished Production:</b>	
Entire production is sold at a profit of 10% on cost from work-in- progress	-
Wages Paid	2,10,000
Overhead Incurred	7,50,000

Prepare Stores Ledger Control A/c., Work-in-Progress Control A/c., Overheads Control A/c. and Costing Profit & Loss A/c.



6. The Trading and Profit and Loss Account of a company for the year ended 31-03-2016 is as under: [N16 (O) – 8M]

**Trading and Profit and Loss Account**

Particulars	Rs.	Particulars	Rs.
To Materials	26,80,000	By Sales (50,000 units)	62,00,000
To Wages	17,80,000	By Closing Stock (2,000 units)	1,50,000
To Factory Expenses	9,50,000	By Dividend received	20,000
To Administrative Expenses	4,80,200		
To Selling Expenses	2,50,000		
To Preliminary Expenses Written off	50,000		
To Net Profit	1,79,800		
	63,70,000		63,70,000

**In the Cost Accounts:**

- (i) Factory expenses have been allocated to production at 20% of Prime Cost.  
(ii) Administrative expenses absorbed at 10% of factory cost.  
(iii) Selling expenses charged at Rs. 10 per unit sold.

Prepare the Costing Profit and Loss Account of the company and reconcile the Profit/Loss with the profit as shown in the Financial Accounts.

7. The following information is available from a company's records for March, 2016: [M16 (O) – 8M]
- (a) Opening Balance of Creditors Account Rs. 25,000  
(b) Closing Balance of Creditors Account Rs. 40,000  
(c) Payment made to Creditors Rs. 5,80,000  
(d) Opening Balance of Stores Ledger Control Account Rs. 40,000  
(e) Closing Balance of Stores Ledger Control Account Rs. 65,000  
(f) Wages paid (for 8000 hours) 20% relate to indirect workers Rs. 4,00,000  
(g) Various indirect expenses incurred Rs. 60,000  
(h) Opening balance of WIP control account Rs. 50,000  
(i) Inventory of WIP at the end of the month includes material worth Rs. 35,000 on which 400 labour hours have been booked.  
(j) Factory overhead is charged to production at budgeted rate based on direct labour hours.  
(k) Budgeted overhead cost is Rs. 20,80,000 for budgeted direct labour hours 1,04,000.
- You are required to prepare Creditors A/c, Stores Ledger Control A/c, WIP Control A/c, Wages Control A/c and Factory Overhead Control A/c.

## JOB COSTING

NIL

## JOINT & BY PRODUCTS

1. A Factory is engaged in the production of chemical bomex and in the course of its manufacture a by-product Cromex is produced which after further processing has a commercial value. For the month of April 2019 the following are the summarized cost data: [M19 (N) – 5M]

	Joint Expenses Rs.	Separate expenses Rs.	
		Bomex	Cromex
Materials	1,00,000	6,000	4,000
Labour	50,000	20,000	18,000
Overheads	30,000	10,000	6,000

Selling price per unit		100	40
Estimated profit per unit on sale of Cromex			5
Number of units produced		2000units	2000units

The factory uses net realizable value method for apportionment of joint cost to by-products

You are required to prepare statement showing:

- (i) Joint cost allocable to Cromex
  - (ii) Product wise and overall profitability of the factory for April 2019.
2. A Ltd. produces 'M' as a main product and gets two by products - 'P' and 'Q' in the course of processing. [N17 (O) – 8M]

Following information are available for the month of October, 2017:

	M	P	Q
Cost after separation	-	Rs. 60,000	Rs. 30,000
No. of units produced	4500	2500	1500
Selling price (per unit)	Rs 170	Rs 80	Rs 50
Estimated Net profit to sales	-	30%	25%

The joint cost of manufacture upto separation point amounts to Rs. 2,50,000.

Selling expenses amounting to Rs. 85,000 are to be apportioned to the three products in the ratio of sales units.

There is no opening and closing stock.

Prepare the statement showing:

- (i) Allocation of joint cost.
  - (ii) Product wise over all profitability and
  - (iii) Advise the company regarding results if the by-product 'P' is not further processed and is sold at the point of separation at Rs.60 per unit without incurring selling expenses.
3. A factory producing article A also produces a by-product B which is further processed into finished product. The joint cost of manufacture is given below: [M16 (O) – 8M]

Material	Rs. 5,000
Labour	Rs. 3,000
Overhead	<u>Rs. 2,000</u>
	<u>Rs. 10,000</u>

Subsequent cost in Rs. are given below:

	A	B
Material	3,000	1,500
Labour	1,400	1,000
Overhead	600	500
	5,000	3000

Selling prices are           A Rs.16,000

                                          B Rs. 8,000

Estimated profit on selling prices is 25% for A and 20% for B.

Assume that selling and distribution expenses are in proportion of sales prices. Show how you would apportion joint costs of manufacture and prepare a statement showing cost of production of A and B.

## UNIT & BATCH COSTING

NIL

**BUDGET & BUDGETARY CONTROL**

1. An electronic gadget manufacturer has prepared sales budget for the next few months. In this respect, following figures are available: [N18 (N) – 10M]

Months	Electronic gadgets' sales
January	5000 units
February	6000 units
March	7000 units
April	7500 units
May	8000 units

To manufacture an electronic gadget, a standard cost of Rs. 1,500 is incurred and it is sold through dealers at an uniform price of Rs. 2,000 per gadget to customers. Dealers are given a discount of 15% on selling price.

Apart from other materials, two units of batteries are required to manufacture a gadget. The company wants to hold stock of batteries at the end of each month to cover 30% of next month's production and to hold stock of manufactured gadgets to cover 25% of the next month's sale.

3250 units of batteries and 1200 units of manufactured gadgets were in stock on 1st January.

**Required:**

- Prepare production budget (in units) for the month of January, February, March and April.
  - Prepare purchase budget for batteries (in units) for the month of January, February and March and calculate profit for the quarter ending on March.
2. AB manufacturing Company manufactures two products A and B. Both Products use a common Raw Material "C". The Raw Material "C" is purchased at the rate of Rs. 45 per kg. from the Market. The Company has made estimates for the year ended 31st March, 2018 (the budget period) as under: [N18 (O) – 8M]

	Products	
	A	B
Sales in Units	36,000	16,700
Finished Goods Stock Increase by year-end (in Units)	860	400
Post-production Rejection Rate (%)	3	5
Material "C" per completed Unit, net of wastage	4 kg	5 kg
Material "C" wastage in %	5	4

**Additional information available is as under:**

- Usage of Raw Material "C" is expected to be at a constant rate over the period.
- Annual cost of holding one unit of Raw Material "C" in Stock is 9% of the Material Cost.
- The cost of placing an order is Rs. 250 per order.

**You are required to:**

- Prepare Functional Budgets for the year ended 31st March, 2018 under the following categories:
    - Production Budget for Products A and B in Units.
    - Purchase Budget for Raw Material "C" in kg and value.
  - Calculate the Economic Order Quantity (EOQ) in kg for Raw Material "C".
3. You are given the following data of a manufacturing concern: [M17 (O) – 8M]

Particulars	Rs.
<b>Variable Expenses (at 50% capacity):</b>	
Materials	48,00,000
Labour	51,20,000

Others	7,60,000
<b>Semi variable expenses (at 50% capacity):</b>	
Maintenance and Repairs	5,00,000
Indirect Labour	19,80,000
Sales Dept. Salaries	5,80,000
Sundry Administrative Expenses	5,20,000
<b>Fixed Expenses:</b>	
Wages & Salaries	16,80,000
Rent, Rates and Taxes	11,20,000
Depreciation	14,00,000
Sundry Administrative Exp.	17,80,000

The fixed expenses remain constant for all levels of production. Semi variable expenses remain constant between 45% and 65% of capacity whereas it increases by 10% between 65% and 80% capacity of 20% between 80% and 100 % capacity.

Sales at various levels are as under:

<b>capacity</b>	<b>Sales (Rs)</b>
75%	2,40,00,000
100%	3,20,00,000

Prepare flexible budget at 75% and 100% capacity.

4. The M-Tech Manufacturing Company is presently evaluating two possible processes for the manufacture of a toy. The following information is available: [M16 (O) - 4M]

Particulars	Process A	Process B
Variable cost p.u	12	14
Sales price p.u	20	20
Total fixed cost per year	30,00,000	21,00,000
Capacity ( in units)	4,30,000	5,00,000
Anticipated sales (Next years in units)	4,00,000	4,00,000

**Suggest:**

- Which process should be chosen?
- Would you change your answer as given above, if you were informed that the capacities of the two processes are as follows:  
A - 6,00,000 units; B - 5,00,000 units? Why?

## ACTIVITY BASED COSTING

- 1) M/s. HMB Limited is producing a product in 10 batches each of 15000 units in a year and incurring following overheads their on: [N18 (N) – 10M]

	Amount (Rs)
Material procurement	22,50,000
Maintenance	17,30,000
Set-up	6,84,500
Quality control	5,14,800

The prime costs for the year amounted to Rs.3,01,39,000.

The company is using currently the method of absorbing overheads on the basis of prime cost. Now it wants to shift to activity-based costing. Information relevant to Activity drivers for a year are as under:

Activity Driver	Activity Volume
No. of purchase orders	1500
Maintenance hours	9080
No. of set-ups	2250
No. of inspections	2710

The company has produced a batch of 15000 units and has incurred Rs. 26,38,700 and Rs. 3,75,200 on materials and wages respectively.

The usage of activities of the said batch are as follows:

Materials orders	48 orders
Maintenance hours	810 hours
No. of set-ups	40
No. of inspections	25

You are required to:

- (i) find out cost of product per unit on absorption costing basis for the said batch.
  - (ii) determine cost driver rate, total cost and cost per unit of output of the said batch on the basis of activity based costing.
- 2) PQR Pens Ltd. manufactures two products - 'Gel Pen' and 'Ball Pen'. It furnishes the following data for the year 2017: [M18 (N) – 10M]

Product	Annual Output (Units)	Total Machine Hours	Total number of Purchase orders	Total number of set-ups
Gel Pen	5,500	24,000	240	30
Ball Pen	24,000	54,000	448	56

The annual overheads are as under:

Particulars	Rs
Volume related activity costs	4,75,020
Set up related costs	5,79,988
Purchase related costs	5,04,992

Calculate the overhead cost per unit of each Product - Gel Pen and Ball Pen on the basis of:

- (i) Traditional method of charging overheads
- (ii) Activity based costing method and
- (iii) Find out the difference in cost per unit between both the methods.

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**THE END**