A company manufacturing two products furnishes the following data for a year:

Product	Annual Output (units)	Total Machine Hours	Total number of purchase orders	Total number of set ups
A	5,000	20,000	160	20
B	60,000	1,20,000	384	44

The annual overheads are as under:

Volume related activity costs	₹ 5,50,000
Set up related costs	₹ 8,20,000
Purchase related costs	₹ 6,18,000

You are required to calculate the cost per unit of each Product A and B based on:

a) Traditional method of charging overheads.

b) Activity based costing method.

Q 2

ABC Ltd. is a multiproduct company, manufacturing three products A, B and C. The budgeted costs and production for the year ending 31st March, 2008 are as follows:

	A	B	C
Production Quantity (Units)	4,000	3,000	1,600
Resources per unit			
- Direct Materials (kg.)	4	6	3
- Direct Labour (Minutes)	30	45	60

The budgeted direct labour rate was ₹ 10 per hour, and the budgeted material cost are ₹ 2 per kg. Production overheads were budgeted at ₹ 99,450 and were absorbed to products using the direct labour hour rate. ABC Ltd. followed an Absorption Costing System.

ABC Ltd. is now considering to adopt an Activity Based Costing system. The following additional information is made available for this purpose.

Budgeted overheads were analyzed into the following:

	₹
Material handling	29,100
Storage costs	31,200
Electricity	39,150

The Cost Drivers identified were as follows:

Material Handling	Weight of material handled
Storage costs	Number of batches of material
Electricity	Number of Machine operations

Data on Cost Drivers was as follows:

	A	B	C
For Complete production:			
Batches of material	10	5	15
Per unit of production:			
Number of Machine operators	6	3	2

You are requested to:

1. Prepare a statement for management showing the unit costs and total costs of each product using the absorption costing method.
2. Prepare a statement for management showing the product costs of each product using the ABC approach.

Illustration 3

A company produces four products – P, Q, R and S. The data relating to production activity are as under :

Product	Quantity of Production	Material Cost / Unit ₹	Direct Labour Hours / Unit	Machine Hours / Unit	Direct Labour Cost / Unit ₹
P	1,000	10	1	0.50	6
Q	10,000	10	1	0.50	6
R	1,200	32	4	2.00	4
S	14,000	34	3	3.00	18

Production overheads are as under :

1. Overheads applicable to machine oriented activity : ₹ 1,49,700
2. Overheads relating to ordering materials : ₹ 7,680
3. Set up costs : ₹ 17,400
4. Administration overheads for spare parts : ₹ 34,380
5. Material handling costs : ₹ 30,294

The following further information have been compiled :

Product	No. of Set Ups	No. of Materials Orders	No. of times Materials handled	No. of Spare Parts
P	3	3	6	6
Q	18	12	30	15
R	5	3	9	3
S	24	12	36	12

Required :

1. Select a suitable cost driver for each item of overhead expense and calculate the cost per unit of cost driver.
2. Using the concept of activity based costing, compute the factory cost per unit of each product.

Illustration : 14

Pessimistic Ltd. manufactures three types of brands. The cost details are as under :

	Coco ₹	Strawberry ₹	Limca ₹
Direct Materials per Unit	50	40	40
Direct Labour ₹ 10 per hour	30	40	50
Production overheads per unit	30	40	50
Total Cost	110	120	140
Production (Units)	10,000	20,000	30,000

The company was absorbing overheads on the basis of direct labour hours.

Mr. Dhairya who has completed his CMA has been appointed as a Management Accountant. He suggested that the company should introduce ABC. He identified cost drivers and cost pools as follows :

	Activity	Cost Driver	Cost ₹
1.	Stores Receiving	Requisitions	2,96,000
2.	Inspection	Production Runs	8,94,000
3.	Dispatch	Orders executed	2,10,000
4.	Machine set up	No. of set ups	12,00,000

	Coco ₹	Strawberry ₹	Limca ₹
No of set ups	360	390	450
No of orders	180	270	300
Production Runs	750	1,050	1,200
Purchase requisitions	300	450	500
	1,590	2,160	2,450

Compute cost of the three products based on activity.

Illustration : 15

DK toys Ltd. produces two products Bolley and Holley. Both the products are produced with the same machinery and similar process. **Relevant information :**

	Bolley	Holley
Production (Units)	3,000	15,000
Machine hrs per unit	5	5
Direct Lab hrs per Unit	4	4
No. of purchase orders	60	90
Material cost per unit	₹ 10	10
Labour hour rate per unit	₹ 20	20
No. of setups	30	90
Cost of activities :		
	₹	
Volume related	1,80,000	
Purchase related	1,50,000	
Set up related	3,90,000	
	7,20,000	

Overheads are based on direct labour hours.

Prepare cost statement under Traditional method and ABC.

Illustration : 2

MST Limited has collected the following data for its two activities. It calculates activity cost rate based on cost driver capacity :

Activity	Cost Driver	Capacity	Cost
i) Power	Kilowatt hours	50,000 Kilowatt hrs.	₹ 2,00,000
ii) Quality inspection	Number of inspections	10,000 inspections	₹ 3,00,000

The company makes three products M, S and T. For the year ended on 31st March 2017, the following consumption of cost driver was reported :

Product	Kilowatt Hours	Number of Inspections
M	10,000	3,500
S	20,000	2.500
T	15,000	3,000

Required :

1. Compute the overheads allocated to each product from each activity;
2. Calculate the cost of unused capacity for each activity.

Illustration : 5

DEF Bank operated for years under the presumption that profitability can be increased by increasing Rupee volumes but that has not been the case. Cost analysis has revealed the following :

Activity	Cost ₹	Activity Driver	Activity Capacity
Providing ATM Services	1,00,000	No. of Transactions	2,00,000
Computer Processing	10,00,000	No. of Transactions	25,00,000
Issuing statements	8,00,000	No. of Statements	5,00,000
Customer Enquiries	3,60,000	Telephone Minutes	6,00,000

Following annual information on three products was available :

	Savings Accounts	Personal Loans	Credit Cards
Units of Products	30,000	5,000	10,000
ATM Transactions	1,80,000	0	20,000
Computer Transactions	20,00,000	2,00,000	3,00,000
No. of Statements	3,00,000	50,000	1,50,000
Telephone Minutes	3,50,000	90,000	1,60,000

Calculate

1. Rates for each activity
2. Calculate cost of each product

Illustration : 4

ABC Ltd. is following ABC. Budgeted overheads and cost driver volumes are as follows :

Cost Pool	Budgeted Overheads ₹	Cost Driver	Budgeted Volume
Material Procurement	11,60,000	No. of orders	2,200
Material Handling	5,00,000	No. of movements	1,360
Maintenance	19,40,000	Maintenance hrs	16,800
Set up	8,30,000	No. of setups	1,040
Quality Control	3,52,000	No. of Inspections	1,800
Machinery	14,40,000	No. of Machine hrs	48,000

The company has produced a batch of 5,200 components. Its material cost was ₹ 2,60,000 and Labour cost ₹ 4,90,000

Usage activities	
Material orders	52
Material movements	36
Set ups	50
Maintenance hrs.	1,380
Quality Control Inspection	56
Machine hours	3,600

Calculate

1. Cost driver rates
2. Cost of batch of components