Mock Test Paper - Series II: December, 2024

Date of Paper: 12th December, 2024

Time of Paper: 2 P.M. to 5 P.M.

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Answers are to be given only in English except in the case of the candidates who have opted for Hindi medium. If a candidate has not opted for Hindi medium his/ her answer in Hindi will not be valued.

Working notes should form part of the answer.

Time Allowed – 3 Hours **Maximum Marks – 100**

1. *The question paper comprises two parts, Part I and Part II.*
2. *Part I comprises Case Scenario based Multiple Choice Questions (MCQs) for 30 marks*
3. *Part II comprises questions which require descriptive type answers for 70 marks.*

PART I – Case Scenario based MCQs

Part I is compulsory.

Write the most appropriate answer to each of the following multiple-choice questions by choosing one of the four options given. All questions are compulsory.

Case Scenario I

A truck driver, named Raju, owns a truck which can carry 5 tonne of material at a time. Raju has no other truck and he has listed himself with various carriage services agencies, to offer his services. He gets his work from these agencies and they pay him as per the load and the distance. Raju has one condition that he must be paid for at least 75% of his total capacity. Raju charges freight at ₹ 10 per tonne-km.

He received a work contract, from one of these agencies, where he has to take 4 tonne from Delhi in the morning and drop it off at Chandigarh. After that he will move to Ludhiana, where he again loads 3 tonne and come back to Delhi by evening. This contract is for nearly 3 months.

Raju is excited to accept the order but it is not physically possible for Raju to complete this project alone. He decides to hire a helper cum driver who will assist him in this work contract and will also drive in turns with Raju. Thus, such a long contract will be managed comfortably. This helper will take ₹ 15,000 per month.

The contract will start from 15th June, 2024 and will run till 14th September, 2024. Throughout this time period there are only 2 days holidays, both falling in August (1 for Independence Day and 1 for Raksha Bandhan).

Some information about the Truck and its associated costs:

- Truck was purchased on 1st April, 2021 by taking a loan of ₹ 20,00,000 @ 10% p.a. from Punjab national bank for 5 years. Raju mortgaged jewellery of his wife to get this loan.
- Every year-end he has to pay ₹ 5,27,595 as instalment.
- Scrap value after 10 years is expected to be ₹ 500,000.
- Depreciation is charged on straight-line method.
- Services and maintenance charges each month is ₹ 80,000.
- Truck runs on diesel and its running average is 8kms/ litre.
- Diesel cost per litre:

June	80.30
July	80.50
August	81.25
September	80.90

Yearly interest amount of loan and yearly depreciation is charged to a work contract on the basis of days worked in a year in the contract.

Distance between these places:

(1) Delhi to Chandigarh = 250 kms

(2) Chandigarh to Ludhiana = 100 kms

(3) Ludhiana to Delhi = 150 kms

Answer the following questions (MCQs 1 to 5):

1. What would be the amount of profit Raju would have earned if he had no minimum charges limit of 75% of total capacity on absolute Tonne-km basis? (If the vehicle runs empty then he would only charge for Diesel expenses).

   A. 3,34,249

   B. 4,43,249

   C. 5,96,977

   D. 4,34,249

2. If payment was made on commercial Tonne-km basis and Raju had no minimum charges limit of 75%, how much he would have lost due to no minimum requirement?

   A. ₹ 6,37,500

   B. ₹ 5,93,750

   C. ₹ 4,92,438

   D. ₹ 3,91,126

3. What should be the minimum amount charged on basis of absolute Tonne-km if Raju wants to earn ₹ 2,70,000?

   A. ₹ 4.58

   B. ₹ 6.13

   C. ₹ 8.39

   D. ₹ 3.21

4. Choose the correct amount of depreciation and interest that should be charged to this work contract.

   A. 56,983 & 22,588

   B. 36,986 & 22,578

   C. 63,963 & 12,568

   D. 63,953 & 12,558

5. What is the profit as per current rate charged by Raju? (Use absolute Tonne-Km).

   A. 7,34,249

   B. 9,44,863

   C. 5,96,977

   D. 4,34,249 **(5 x 2 Marks)**

Case Scenario II

eSalt is the biggest producer of sodium hydroxide in India. This main product of the company has a strong reactivity with other organic compounds. It is highly versatile and is alkaline in nature. However, the basic material required for the production of this product is salt along with the electricity.

The manufacturing process involve electrolysis which produces Halogen as co-product. Modern use of Halogen is widespread. However, the common use is in disinfection like for purifying drinking water or swimming pool water. It is also an important ingredient of toothpaste. Thus, the company's management affirmed the simultaneous production of Halogen.

During the previous financial year, the company purchased the base material of ₹ 5,34,000. For the current year, company decided to increase the production by 2 times. Due to increased production, the total conversion cost hiked to 3 times. Last year, the conversion cost accounted to ₹ 8,01,000 up to the point at which two products i.e. sodium hydroxide and Halogen are separated.

The production and sales information for current year is provided as below:

	Sodium hydroxide	Halogen
Production/ Sales(in tonne)	24,030	16,020
Selling price per tonne (₹)	100	150

During the current year, the management of the company pointed the extensive use of Vinyl which can be produced by further processing Halogen. Having selling

price of ₹ 250 per tonne higher than that of the Halogen, it was decided not to sell Halogen and further process it into Vinyl. The incremental processing cost took ₹ 8,01,000 producing 10,012.50 tonnes of Vinyl.

You are required to FIGURE OUT the following for managerial decision (MCQs 6 to 10):

6. For the current year, the amount of base material purchased and the conversion cost up to the point at which two products i.e. Sodium hydroxide and Halogen are separated would be:

   A. base material ₹ 10,68,000 and conversion cost ₹ 24,03,000

   B. base material ₹ 10,68,000 and conversion cost ₹ 16,02,000

   C. base material ₹ 16,02,000 and conversion cost ₹ 24,03,000

   D. base material ₹ 24,03,000 and conversion cost ₹ 16,02,000

7. Joint cost to be apportioned between Sodium hydroxide and Halogen as per the physical unit method would be:

   A. Sodium hydroxide ₹ 24,03,000 and Halogen ₹ 10,68,000

   B. Sodium hydroxide ₹ 10,68,000 and Halogen ₹ 16,02,000

   C. Sodium hydroxide ₹ 16,02,000 and Halogen ₹ 24,03,000

   D. Sodium hydroxide ₹ 24,03,000 and Halogen ₹ 16,02,000

8. Joint cost to be apportioned between Sodium hydroxide and Halogen as per the sales value at split- off point method would be:

   A. Sodium hydroxide ₹ 20,02,500 and Halogen ₹ 20,02,500

   B. Sodium hydroxide ₹ 16,02,000 and Halogen ₹ 24,03,000

   C. Sodium hydroxide ₹ 24,03,000 and Halogen ₹ 16,02,000

   D. Sodium hydroxide ₹ 10,68,000 and Halogen ₹ 20,02,500

9. Joint cost to be apportioned between Sodium hydroxide and Halogen as per the estimated net realisable value method would be:

   A. Sodium hydroxide ₹ 23,44,390 and Halogen ₹ 16,60,610

   B. Sodium hydroxide ₹ 17,16,429 and Halogen ₹ 22,88,571

   C. Sodium hydroxide ₹ 22,88,571 and Halogen ₹ 17,16,429

   D. Sodium hydroxide ₹ 16,60,610 and Halogen ₹ 23,44,390

10. Considering that the decision relating to further processing Halogen is not approved, suggest whether this would be in favour of the management by calculating incremental revenue /loss from further processing Halogen into Vinyl.

    A. Incremental loss would be ₹ 16,02,000, thus the decision of not further processing Halogen is correct.

    B. Incremental loss would be ₹ 8,01,000, thus the decision of not further processing Halogen is correct.

C. Incremental revenue would be ₹ 8,01,000, thus the decision relating to further processing Halogen needs to be approved.

D. Incremental revenue would be ₹ 16,02,000, thus the decision relating to further processing Halogen needs to be approved. **(5 x 2 Marks)**

11. Mr. Ben is paid higher wages than Mr. Akon. Though their normal wage rate is same, Mr. Ben gets higher payment as under Halsey system than that to Mr. Akon as under Rowan System.

The total time allowed to make the same product is 75 hours, however, Mr. Ben takes 60 hours while Mr. Akon takes 45 hours.

The production of the product also involve other costs that are not traced directly to the product like salary to quality assurance manager, factory rent, supplies, salary to production supervisor, electricity consumed, etc. which comes to ₹ 2,26,800 leading to factory overhead rate being ₹ 120 per man-hour actually worked.

The total factory cost for the product produced by Mr. Akon comes to ₹ 1,25,640 and by Mr. Ben comes to ₹ 1,29,600.

From the information given above, COMPUTE the normal wage rate along with the cost of material.

A. Normal wage rate- ₹ 63 per hour and cost of material- ₹ 1,20,240

B. Normal wage rate- ₹ 67.5 per hour and cost of material- ₹ 1,22,400

C. Normal wage rate- ₹ 480 per hour and cost of material- ₹ 90,000

D. Normal wage rate- ₹ 450 per hour and cost of material- ₹ 87,840

(2 Marks)

12. WHICH of the following is the correct journal entry as would appear in the cost books when there is under recovery of overheads?

A. Cost of Sales A/c..... Dr. xxx
To Administrative Overhead Control A/c xxx

B. Production Overhead Control A/c.....Dr. xxx
To Work-in-Process Ledger Control A/c xxx

C. Costing Profit & Loss A/c.....Dr. xxx
To Administrative Overhead Control A/c xxx

D. Work-in-Process Ledger Control A/c.....Dr. xxx
To Production Overhead Control A/c xxx

(2 Marks)

13. Due to sudden rise in demand of the product, the sales of Arrow Ltd. for current year enhanced to 3 times the average of last 4 years. The Break even point and the variable cost of the company for the current year is ₹ 1,17,00,000 and 93,60,000 respectively.

The sales data relating to past years is given below:

Year	Sales (₹)
Year 1 (latest)	62,00,000
Year 2	50,00,000
Year 3	52,00,000
Year 4	44,00,000
Year 5	66,00,000

CALCULATE the fixed cost to the company for the current year.

A. ₹ 64,35,000

B. ₹ 48,12,453

C. ₹ 65,34,340

D. ₹ 46,80,000 **(2 Marks)**

14. Due to technical and economical reasons, F8 Ltd. manufactures in batch. The latest contract requires the company to supply 9,000 bushings per month to G4 Ltd. The company has estimated that each set up for manufacturing the bushings will cost ₹ 16,002.25 and the inventory holding cost per bushing per annum will come to ₹ 60.

HOW many runs the company need to make throughout the year to complete the demand?

A. 5 runs

B. 10 runs

C. 15 runs

D. 20 runs **(2 Marks)**

15. The Budgeted fixed overhead for the month of August was ₹ 75,00,000 with the units of production estimated at 15,000. However, the actual units produced is 15,600 with no Fixed overhead cost variance.

CALCULATE the actual fixed overhead incurred.

A. ₹ 75,00,000

B. ₹ 72,11,538

C. ₹ 78,00,000

D. ₹ 79,00,000 **(2 Marks)**

PART-II – Descriptive Questions (70 Marks)

*Question No. **1** is compulsory.*

*Attempt any **four** questions out of the remaining **five** questions.*

1. (a) Shanu Ltd has calculated a predetermined overhead rate of ₹ 22 per machine hour for its Quality Check (QC) department. This rate has been calculated for the budgeted level of activity and is considered as appropriate for absorbing overheads. The following overhead expenditures at various activity levels had been estimated.

Total overheads	Number of machine hours
₹ 3,38,875	14,500
₹ 3,47,625	15,500
₹ 3,56,375	16,500

You are required to:

(i) CALCULATE the variable overhead absorption rate per machine hour.

(ii) CALCULATE the estimated total fixed overheads.

(iii) CALCULATE the budgeted level of activity in machine hours.

(iv) CALCULATE the amount of under/over absorption of overheads if the actual machine hours were 14,970 and actual overheads were ₹ 3,22,000.

(v) STATE the arguments for and against using departmental absorption rates as opposed to a single or blanket factory wide rate.

(5 Marks)

(b) Following standards have been set for manufacturing a product 'XYZ':

Direct Material:	(₹)
4 units of X @ ₹ 8 per unit	32.00
6 units of Y @ ₹ 6 per unit	36.00
30 units of Z @ ₹ 2 per unit	60.00
	128.00
Direct Labour:	
6 hrs @ ₹ 16 per hour	96.00
Total standard prime cost	224.00

The company actually manufactured and sold 12,000 units of the product 'XYZ' during the year.

Direct material costs were as follows:

50,000 units of X at ₹ 8.80 per unit

72,000 units of Y at ₹ 5.60 per unit

354,000 units of Z at ₹ 2.40 per unit

The company worked 70,000 direct labour hours during the year. For 10,000 of these hours, the company paid at ₹ 24 per hour while for the remaining, the wages were paid at standard rate.

You are required to CALCULATE the following:

(i) Material Price Variance

(ii) Material Usage Variance

(iii) Labour Rate Variance

(iv) Labour Efficiency Variance **(5 Marks)**

(c) Shivi is working by employing 10 skilled workers. It is considering the introduction of some incentive scheme – either Halsey scheme (with 50% bonus) or Rowan scheme of wage payment for increasing the labour productivity to cope with the increased demand for the product by 25%. She feels that, if the proposed incentive scheme could bring about an average 20% increase over the present earnings of the workers, it would act as sufficient incentive for them to produce more and she has accordingly given this assurance to the workers.

As a result of this assurance, the increase in productivity has been observed as revealed by the following figures for the current month:

Hourly rate of wages (guaranteed)	₹ 2.00
Average time for producing 1 piece by one worker at the previous performance (this may be taken as time allowed)	2 hours
Number of working days in the month	25
Number of working hours per day for each worker	8
Actual production during the month	1,250 units

Required:

(1) CALCULATE effective rate of earnings per hour under Halsey scheme and Rowan scheme.

(2) CALCULATE the savings of Navya in terms of direct labour cost per piece under the above schemes.

(3) ADVISE Navya about the selection of the scheme to fulfill her assurance **(4 Marks)**

2. (a) XYZ Constructions is a leading engineering and construction company providing a range of infrastructure and industrial services. Recently, they have been asked to quote for residential building construction (RBC) and industrial plant construction (IPC) projects. However, they are winning fewer RBC contracts than expected.

XYZ Constructions has a policy to price all jobs at budgeted total cost plus 50%. Overheads are currently absorbed on a labour-hour basis. The company believes that switching to activity-based costing (ABC)

to absorb overheads would reduce the costs associated with RBC and make them more competitive.

You are provided with the following data:

Overhead category	Annual Overhead (₹ Lakhs)	Activity driver	Total number of activities per year
Supervisors	₹120	Site visits	600
Project Planners	₹ 80	Planning documents	300
Property related	₹400	Labour hours	50,000
Total	**₹600**		

For a typical **RBC**: Material cost: ₹ 5 lakhs, Labour hours: 1,200 hours, Site visits: 2 visits, Planning documents: 2 documents

For a typical **IPC**: Material cost: ₹ 12 lakhs, Labour hours: 2,500 hours, Site visits: 10 visits, Planning documents: 8 documents

Labour is paid at **₹ 100 per hour**.

Required:

(a) CALCULATE the cost and quoted price of an RBC and an IPC using labour hours to absorb the overheads.

(b) CALCULATE the cost and quoted price of an RBC and an IPC using ABC to absorb the overheads.

(c) Assuming that the cost of an RBC falls by nearly 7% and the price of an IPC rises by about 2% as a result of the change to ABC, SUGGEST possible pricing strategies for the two services offered by XYZ Constructions. Additionally, suggest two reasons other than high prices for the current poor sales of RBC. **(10 Marks)**

(b) "Calculation of variances in standard costing is not an end in itself, but a means to an end." DISCUSS. **(4 Marks)**

3. (a) The following are the details in respect of Process A and Process B of a processing factory:

	Process A (₹)	Process B (₹)
Materials	40,000	--
Labour	40,000	56,000
Overheads	16,000	40,000

The output of Process A is transferred to Process B at a price calculated to give a profit of 20% on the transfer price and the output of Process B is charged to finished stock at a profit of 25% on the transfer price. The finished stock department realized ₹ 4,00,000 for the finished goods received from Process B.

You are asked to SHOW process accounts and total profit, assuming that there was no opening or closing work-in-progress. **(6 Marks)**

(b) From the following data CALCULATE (i) Administration cost, (ii) Selling cost and (iii) Distribution cost:

		Amount (₹)
(i)	Rent paid for factory building	96,000
(ii)	Salary paid to office staffs	8,20,000
(iii)	Fees paid to auditors	92,000
(iv)	Salary paid to sales manager	8,00,000
(v)	Vehicle hire charges paid for directors attending general meeting	10,200
(vi)	Wages paid to workers engaged in storing goods at sales depot	7,200
(vii)	Travelling allowance paid to sales staffs	9,600
(viii)	Cost paid for secondary packing	8,200
(ix)	Electricity bill paid for sales office	1,800
(x)	Depreciation on goods delivery vehicles	13,000
(xi)	Bonus paid to sales staffs for achieving targets	96,000
(xii)	Fees paid to independent directors	1,02,000

(6 Marks)

(c) STI is majorly providing education loan in its loan department. For the month of August, salary paid to the education loan processors is ₹ 21,60,000. W.r.t. overhead cost, 30% is applicable to the processing of education loan out of the total overhead cost of loan department.

The total overhead cost for the month of August is ₹ 16,40,000 which includes payment of ₹ 11,000 w.r.t. legal advice relating to one of the education loan processing.

The education loan applications processed during this month are 500. You are required to COMPUTE the cost of processing per education loan application. **(2 Marks)**

4. (a) Following information is available from the purchase books of a company:

Cost of placing a purchase order	₹ 10,000
Number of units to be purchased during the year	12,50,000
Purchase price per unit	₹ 125
Annual cost of storage per unit	₹ 62.50

Details of lead time:

Maximum	20 days
Minimum	10 days

Average	15 days
Emergency	3 days

Rate of consumption:

Average	1,500 units per day
Maximum	2,000 units per day

From the details given above, you are required to CALCULATE:

(i) Re-ordering level

(ii) Maximum level

(iii) Minimum level

(iv) Danger level **(6 Marks)**

(b) Idle time is the time during which no production is carried-out because the worker remains idle but are paid. It can be normal or abnormal. LIST OUT some of the causes/examples of normal and abnormal idle time. **(4 Marks)**

(c) Following information is available as per the cost accounts of a company for the year ended 31st March:

Particulars	**Amount (₹)**
Profit	7,77,150
Factory expenses under-charged	2,35,500
Administrative expenses under-charged	1,17,750
Selling & distribution expenses under-charged	31,400
Income from interest and dividends (not adjusted in cost statement)	2,35,500

You are required to PREPARE a reconciliation statement to ascertain Profit as per Financial Accounts. **(4 Marks)**

5. (a) A Korean beverage company plans to set up a subsidiary in India to manufacture fruit juice. Based on projected annual sales of 40,000 bottles, cost analysis has provided the following estimates for the Indian subsidiary:

	Total Annual Costs (₹)	**Percentage of Total Annual Cost which is Variable**
Material	3,15,000	100%
Labour	1,40,000	75%
Factory Overheads	1,35,000	50%
Administrative Overheads	50,000	35%

The fruit juice produced in India will be sold through manufacturer's representatives, who will earn a commission of 10% of the sales price.

Expenses from the Korean office will not be allocated to the Indian subsidiary.

Required

(i) COMPUTE the sale price per bottle to enable the management to realise an estimated 10% profit on sale proceeds in India.

(ii) CALCULATE the break-even point in Rupee sales and also in number of bottles for the Indian subsidiary on the assumption that the sale price is ₹ 19 per bottle. **(8 Marks)**

(b) C Ltd. manufactures two products using two types of materials and one grade of labour. Shown below is an extract from the company's working papers for the next month's budget:

	Product-A	**Product-B**
Budgeted sales (in units)	2,400	3,600
Budgeted material consumption per unit (in kg):		
Material-X	5	3
Material-Y	4	6
Standard labour hours allowed per unit of product	3	5

Material-X and Material-Y cost ₹ 4 and ₹ 6 per kg and labours are paid ₹ 25 per hour. Overtime premium is 50% and is paid, if a worker works for more than 40 hours a week. There are 180 direct workers.

The target productivity ratio (or efficiency ratio) for the productive hours worked by the direct workers in actually manufacturing the products is 80%. In addition, the non-productive down-time is budgeted at 20% of the hours worked.

There are four 5-days weeks in the budgeted period and it is anticipated that sales and production will occur evenly throughout the whole period.

It is anticipated that stock at the beginning of the period will be:

Product-A	400 units
Product-B	200 units
Material-X	1,000 kg.
Material-Y	500 kg.

The anticipated closing stocks for budget period are as below:

Product-A	4 days sales
Product-B	5 days sales
Material-X	10 days consumption
Material-Y	6 days consumption

Required:

CALCULATE the Material Purchase Budget and the Wages Budget for the direct workers, showing the quantities and values, for the next month.

(6 Marks)

6. (a) As a consultant hired by a manufacturing company, HOW would you go about assessing the critical factors for designing and implementing a cost accounting system? **(5 Marks)**

(b) As a consultant, a client has approached you to set up a budgetary control system in their organization. WHAT sequential steps would you follow to design, implement, and monitor the system? **(5 Marks)**

(c) You are managing the inventory for a manufacturing company and notice that certain items in the store are not being utilized frequently, leading to increased holding costs. HOW would you identify slow-moving and non-moving items, and WHAT strategies would you implement to minimize such stocks effectively? **(4 Marks)**

OR

(d) DISCUSS in brief three main methods of allocating support departments costs to operating departments. **(4 Marks)**

Mock Test Paper - Series II: December, 2024

Date of Paper: 12th December, 2024

Time of Paper: 2 P.M. to 5 P.M.

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Suggested Answers/ Solution

PART I – Case Scenario based MCQs

1. C Profit if no minimum charges are there, on absolute tonne basis, but he will charge for diesel petrol when running empty

Absolute tonne-kms: (250 kms x 4 tonnes + 150 kms x 3 tonnes) x 90 days

= 1,30,500 tonne-kms

Vacant moving (Chandigarh to Ludhiana) = 100kms x 90 days = 9,000 kms

Charges for vacant running:

	(₹)
June (80.30 x 16 x 100)/8	16,060
July (80.50 x 31 x 100) /8	31,194
August (81.25 x 29 x 100) /8	29,453
September (80.90 x 14 x 100) /8	14,158
Total Charges	**90,864**

	(₹)
Total revenue (1,30,500 x 10)	13,05,000
Add: diesel recovery for vacant running	90,864
Less: service & maintenance (80,000 x 3)	(2,40,000)
Less: salary (15,000 x 3)	(45,000)
Less: diesel cost	(4,54,323)
Less: interest	(22,578)
Less: depreciation	(36,986)
Profit	**5,96,977**

Bifurcation of principal and interest

Years	Calculation of interest (₹)	Interest (₹)	Principal repayment (₹)	Loan balance (₹)
0	-	-	-	20,00,000
1	20,00,000 x 10%	2,00,000	3,27,595	16,72,405
2	16,72,405 x 10%	1,67,241	3,60,354	13,12,051
3	13,12,051 x 10%	1,31,205	3,96,390	9,15,661
4	9,15,661 x 10%	91,566	4,36,029	4,79,632
5	4,79,632 x 10%	47,963	4,79,632	-

Interest allocated to this job = 91,566 x 90 / 365 = 22,578

Depreciation = $\frac{20,00,000-5,00,000}{10} x \frac{90}{365}$ = 36,986

Diesel expenses:

	(₹)
June (80.30 x 16 x 500)/8	80,300
July (80.50 x 31 x 500)/8	1,55,969
August (81.25 x 29 x 500)/8	1,47,266
September (80.90 x 14 x 500)/8	70,788
Total diesel expenses	**4,54,322**

2. A

	With minimum limit (₹)	Without minimum limit (₹)
Commercial tonne kms	3.75 x 500 x 90 = 1,68,750	((4+0+3)/3) x 500 x 90 = 1,05,000
revenue	1,68,750 x 10 = 16,87,500	1,05,000 x 10 = 10,50,000
Less: costs	(7,98,887)	(7,98,887)
Profit/(loss)	8,88,613	2,51,113

Loss arising due to no minimum limit = 8,88,613-2,51,113 = 6,37,500

3. B **Total Revenue = Cost + Profit =** 7,98,887+ 2,70,000 = ₹ 10,68,887

Absolute Tonne-Kms = 1,74,375

Rate = 10,68,887/1,74,375 = ₹ 6.13

4. B

5. B Profit at current rate (based on minimum charges of 75%)

Absolute tonne-kms: (250 kms x 4 tonnes + 100 kms x 3.75 tonnes + 150 kms x 3.75 tonnes) x 90 days = 1,74,375 tonne-kms

	(₹)
Total revenue (1,74,375 x 10)	17,43,750
Less: service & maintenance (80,000 x 3)	(2,40,000)
Less: salary (15,000 x 3)	(45,000)
Less: diesel cost	(4,54,323)
Less: interest	(22,578)
Less: depreciation	(36,986)
Profit	**9,44,863**

6. C

Particulars	**Base Material**	**Conversion cost**
Previous year cost (₹)	5,34,000	8,01,000
Increased by	2 times	-
Increased to		3 times
Current year cost (₹)	5,34,000 + (5,34,000 x 2) = 16,02,000	8,01,000 x 3 = 24,03,000

7. D

Products	**Production/ Sales(in tonne)**	**Joint Cost Apportioned (₹)**
Sodium hydroxide	24,030	24,03,000
Halogen	16,020	16,02,000
Total	**40,050**	**40,05,000**

Joint cost = base material + conversion cost

= 16,02,000 + 24,03,000

= 40,05,000

Apportioned joint cost = $\frac{\text{Total joint cost}}{\text{Total physical value}}$ x Physical units of each product

For Sodium hydroxide = $\frac{₹\ 40,05,000}{40,050\ \text{tonnes}}$ x 24,030 tonnes

= ₹ 24,03,000

For Halogen = $\frac{₹\ 40,05,000}{40,050\ \text{tonnes}}$ x 16,020 tonnes

= ₹ 16,02,000

8. A

Products	Sales (in Tonne)	Selling Price per Tonne (₹)	Sales Revenue (₹)	Joint Cost Apportioned (₹)
Sodium hydroxide	24,030	100	24,03,000	20,02,500
Halogen	16,020	150	24,03,000	20,02,500
Total	**40,050**		**48,06,000**	**40,05,000**

Apportioned joint cost = $\frac{\text{Total joint cost}}{\text{Total sale revenue}}$ x Sale revenue of each product

For Sodium hydroxide = $\frac{₹\ 40,05,000}{₹\ 48,06,000}$ x 24,03,000 = ₹ 20,02,500

For Halogen = $\frac{₹\ 40,05,000}{₹\ 48,06,000}$ x 24,03,000 = ₹ 20,02,500

9. B

Products	Sales (in Tonne)	Selling Price per Tonne (₹)	Sales Value (₹)	Post split-off cost (₹)	Net Realisable Value (₹)	Joint Cost Apportioned (₹)
Sodium hydroxide	24,030	100	24,03,000	-	24,03,000	17,16,429
Halogen (Vinyl after further processing)	10,012.50	150 + 250 = 400	40,05,000	8,01,000	32,04,000	22,88,571
Total					**56,07,000**	**40,05,000**

Apportioned joint cost = $\frac{\text{Total joint cost}}{\text{Total Net Realisable Value}}$ x Net Realisable Value of each product

For Sodium hydroxide = $\frac{₹\ 40,05,000}{₹\ 56,07,000}$ x 24,03,000

= ₹ 17,16,429

For Halogen = $\frac{₹\ 40,05,000}{₹\ 56,07,000}$ x 32,04,000

= ₹ 22,88,571

10. C

Particulars	**Amount (in ₹)**
Revenue from sales of Vinyl if Halogen further processed (10,012.50 tonnes × ₹ 400) (A)	40,05,000
Revenue from sales of Halogen if no further processing done (16,020 tonnes × ₹ 150)(B)	24,03,000
Incremental revenue from further processing of Halogen into Vinyl (A-B)	**16,02,000**
Incremental cost of further processing Halogen into Vinyl	8,01,000
Incremental operating income from further processing	**8,01,000**

Incremental revenue would be ₹ 8,01,000, thus the decision relating to further processing Halogen needs to be approved.

11. C Let X be the cost of material and Y be the normal rate of wages per hour.

Factory Cost of Mr. Akon (Rowan System) = $X + 45Y + \frac{45}{75} \times (75 - 45)\ Y +$ (45 x ₹ 120)

₹ 1,25,640 = X + 63Y + ₹ 5,400

X + 63Y = ₹ 1,20,240 … (i)

Factory Cost of Mr. Ben (Halsey System) = X + 60Y + 50% (75 - 60) Y + (60 x ₹ 120)

₹ 1,29,600 = X + 67.5Y + ₹ 7,200

X + 67.5Y = ₹ 1,22,400 … (ii)

From subtracting (i) from (ii), we get,

4.5Y = ₹ 2,160

Y = ₹ 480 per hour

Or, **normal wage rate = ₹ 480 per hour**

Therefore, X = ₹ 1,20,240 - 63Y

X = ₹ 1,20,240 - (63 x ₹ 480)

X = ₹ 90,000

Or, **cost of material = ₹ 90,000**

12. C

13. D Sales for current year $= 3 \times \left(\frac{62,00,000 + 50,00,000 + 52,00,000 + 44,00,000}{4}\right)$

$= ₹\ 1,56,00,000$

P/V ratio $= \frac{\text{Sales - Variable Cost}}{\text{Sales}}$

$= \frac{₹\ 1,56,00,000 - 93,60,000}{₹\ 1,56,00,000}$

$= 40\%$

Now, Break even point $= \frac{\text{Fixed Cost}}{\text{P/V ratio}}$

Therefore, **Fixed Cost** = Break even point x P/V ratio

$= ₹\ 1,17,00,000 \times 40\%$

= ₹ 46,80,000

14. C Annual demand = 9,000 x 12 = 1,08,000

Economic Batch Quantity (EBQ):

$$EBQ = \sqrt{\frac{2DS}{C}}$$

$$= \sqrt{\frac{2 \times 1,08,000 \times 16,002.25}{60}}$$

= 7,590 bushings

Number of runs $= \frac{1,08,000}{7,590} = 14.23 =$ **15 runs**

15. C Fixed Overhead Cost Variance = Absorbed Fixed Overheads - Actual Fixed Overheads

$0 = \left(\frac{₹\ 75,00,000}{15,000} \times 15,600\right)$ - Actual Fixed Overheads

Actual Fixed Overheads = ₹ 78,00,000

PART-II Descriptive Questions

1. (a) (i) Variable overhead absorption rate: $= \frac{\text{Difference in Total Overheads}}{\text{Difference in levels in terms of machine hours}}$

$= \frac{₹3,47,625 - ₹3,38,875}{15,500\text{ hours} - 14,500\text{ hours}} =$ ₹ 8.75 per machine hour.

(ii) Calculation of Total fixed overheads:

	(₹)
Total overheads at 14,500 hours	3,38,875
Variable overheads = ₹ 8.75 × 14,500	1,26,875
Total fixed overheads	2,12,000

(iii) Calculation of Budgeted level of activity in machine hours:

Let budgeted level of activity = X

Then, $\frac{(₹\,8.75\,X + ₹\,2,12,000)}{X} = ₹\ 22$

8.75X + ₹ 2,12,000 = 22X

13.25X = 2,12,000

X =16,000

Thus, budgeted level of activity = 16,000 machine hours.

(iv) Calculation of Under / Over absorption of overheads:

	(₹)
Actual overheads	3,22,000
Absorbed overheads = 14,970 hours × ₹ 22 per hour	3,29,340
Over-absorption (3,29,340 – 3,22,000)	7,340

(v) Departmental absorption rates provide costs which are more precise than those provided by the use of blanket absorption rates. Departmental absorption rates facilitate variance analysis and cost control. The application of these rates makes the task of stock and work-in-process (WIP) valuation easier and more precise. However, the setting up and monitoring of these rates can be time-consuming and expensive.

(b) For Material Cost Variances:

	SQ × SP	**AQ × AP**	**AQ × SP**
X	12,000 x 4 x ₹ 8 = ₹ 3,84,000	50,000 x ₹ 8.80 = ₹ 4,40,000	50,000 x ₹ 8 = ₹ 4,00,000
Y	12,000 x 6 x ₹ 6 = ₹ 4,32,000	72,000 x ₹ 5.60 = ₹ 4,03,200	72,000 x ₹ 6 = ₹ 4,32,000
Z	12,000 x 30 x ₹ 2 = ₹ 7,20,000	3,54,000 x ₹ 2.40 = ₹ 8,49,600	3,54,000 x ₹ 2 = ₹ 7,08,000
Total	₹ 15,36,000	₹ 16,92,800	₹ 15,40,000

Material Price Variance = Actual quantity (Std. price – Actual price)

= (AQ x SP) – (AQ x AP)

= ₹ 15,40,000 – ₹ 16,92,800

= ₹ 1,52,800 (A)

Material Usage Variance = Standard Price (Std. Quantity – Actual Quantity)

= (SP x SQ) – (SP x AQ)

= ₹ 15,36,000 – ₹ 15,40,000

= ₹ 4,000 (A)

For Labour Cost Variance:

	SH × SR	**AH × AR**	**AH × SR**
Labour	(12,000 x 6) x ₹ 16 = ₹ 11,52,000	10,000 x ₹ 24 = ₹ 2,40,000 60,000 x ₹ 16 = ₹ 9,60,000	70,000 x ₹ 16 = ₹ 11,20,000
Total	₹ 11,52,000	₹ 12,00,000	₹ 11,20,000

Labour Rate Variance = Actual Hours (Std. Rate – Actual Rate)

= (AH x SR) – (AH x AR)

= ₹ 11,20,000 – ₹ 12,00,000

= ₹ 80,000 (A)

Labour Efficiency Variance = Standard Rate (Std. Hours – Actual Hours)

= (SR x SH) – (SR x AH)

= ₹ 11,52,000 – ₹ 11,20,000

= ₹ 32,000 (F)

(c) Production during the month 1,250 units

Time allowed for 1,250 units @ 2 hours per unit (1,250 x 2 hours) 2,500 hours

Actual time taken 25 days x 8 hours x 10 workers 2,000 hours

Time saved 500 hours

Labour cost per piece under time rate scheme: 2 hours x ₹ 2 = ₹ 4

Calculation of effective hourly rate under:

Halsey Scheme:

(₹)

Basic wages of 10 workers: 2,000 hours @ ₹ 2 per hour	4,000
Bonus 50% x (500 hours x ₹ 2)	500
Total wages for 2,000 hours	4,500

Effective hourly rate of earning = $\frac{₹\ 4,500}{2,000\ \text{hours}}$ = ₹ 2.25

Labour cost per piece = $\frac{₹\ 4,500}{1,250\ \text{units}}$ = ₹ 3.60

Saving in terms of direct labour cost per piece (₹ 4.00 – ₹ 3.60) = ₹ 0.40

Rowan Scheme:

	(₹)
Basic wages (as calculated under Halsey scheme)	4,000
Bonus: $500\ \text{hours} \times \frac{2,000\ \text{hours}}{2,500\ \text{hours}} \times ₹\ 2$	800
Total wages for 2,000 hours	4,800

Effective hourly rate of earnings $\frac{₹\ 4,800}{2,000\ \text{hours}}$ = ₹ 2.40

Labour cost per piece $\frac{₹\ 4,800}{1,250\ \text{units}}$ = ₹ 3.84

Saving in terms of direct labour cost per piece (₹ 4.00 – ₹ 3.84) = ₹ 0.16

Advise: Shivi should introduce Halsey incentive scheme, as it gives more saving than the Rowan incentive scheme.

2. (a) (a) Cost and Quoted Price Using Labour Hours to Absorb Overheads

		RBC (₹ in lakhs)	IPC (₹ in lakhs)
Materials		5.00	12.00
Labour	1200 x ₹ 100; 2500 x ₹ 100	1.20	2.50
Overheads	1200 x ₹ 1200; 2500 x ₹ 1200	14.40	30.00
Total cost		20.60	44.50
Add: Profit	50% of Total Cost	10.30	22.25
Quoted Price		**30.90**	**66.75**

(b) Cost and Quoted Price Using ABC

Step 1: Calculate Overhead Rates for Each Activity

Overhead Category	Total Overhead (₹ Lakhs)	Activity Driver	Activity Rate
Site Engineers	₹120	Site Visits	₹ 120 / 600 = ₹ 20,000 per site visit
Project Planners	₹80	Planning Documents	₹ 80 / 300 = ₹ 26,667 per planning document
Equipment Depreciation	₹400	Labour Hours	₹ 400 / 50,000 = ₹ 800 per labour hour

Step 2: Allocate Overheads Using ABC

		RBC (in lakhs)	IPC (in lakhs)
Materials		5.00	12.00
Labour	1200 x ₹100; 2500 x ₹100	1.20	2.50
Overheads			
Site Engineers	2 x ₹ 20,000; 10 x ₹ 20,000	0.40	2.00
Project Planners	2 x ₹ 26,667; 8 x ₹ 26,667	0.53	2.13
Equipment Depreciation	1200 x ₹ 800; 2500 x ₹ 800	9.60	20.00
Total cost		16.73	38.63
Add: Profit	50% of Total Cost	8.37	19.32
Quoted Price		**25.10**	**57.95**

(c) Possible pricing strategies for the two services offered by XYZ Constructions

- The pricing policy is a matter for XYZ Constructions to decide. They could elect to maintain the current 50% mark-up on cost and if they did the price of the RBC would fall by around 7% in line with the costs. This should make them more competitive in the market.
- They could also reduce the prices by a little less than 7% (say 5%) in order to increase internal margins a little.

Reasons other than high prices for the current poor sales of RBC:

- If the quality of work or the reputation and reliability of the builder are questionable, lowering prices is unlikely to boost sales.

While it is possible that XYZ Constructions has a strong reputation for IPC but not for RBC, it is more likely that a poor reputation would impact all their products. Poor service or inflexibility in meeting customer needs may also hurt sales and can't be fixed by lowering prices.

- Poor marketing strategies also discourage customers from selecting XYZ Constructions.
- XYZ Constructions faces competition and may need to adopt a more competitive pricing strategy, such as 'going rate pricing,' instead of simply adding a markup to costs.
- XYZ Constructions could enter the market by pricing some projects competitively to establish a foothold. Completed projects could then be leveraged to attract new customers.

(b) The crux of standard costing lies in variance analysis. Standard costing is the technique whereby standard costs are predetermined and subsequently compared with the recorded actual costs. It is a technique of cost ascertainment and cost control. It establishes predetermined estimates of the cost of products and services based on management's standards of efficient operation. It thus lays emphasis on "what the cost should be". These should be costs are when compared with the actual costs. The difference between standard cost and actual cost of actual output is defined as the variance.

The variance in other words in the difference between the actual performance and the standard performance. The calculations of variances are simple. A variance may be favourable or unfavourable. If the actual cost is less than the standard cost, the variance is favourable but if the actual cost is more than the standard cost, the variance will be unfavourable. They are easily expressible and do not provide detailed analysis to enable management of exercise control over them. It is not enough to know the figures of these variances from month to month. We in fact are required to trace their origin and causes of occurrence for taking necessary remedial steps to reduce / eliminate them.

A detailed probe into the variance particularly the controllable variances helps the management to ascertain:

(i) the amount of variance

(ii) the factors or causes of their occurrence

(iii) the responsibility to be laid on executives and departments and

(iv) corrective actions which should be taken to obviate or reduce the variances.

Mere calculation and analysis of variances is of no use. The success of variance analysis depends upon how quickly and effectively the corrective actions can be taken on the analysed variances. In fact variance gives information. The manager needs to act on the information provided for taking corrective action. Information is the means and action taken on it is the end. In other words, the calculation of variances in standard costing is not an end in itself, but a means to an end.

3. (a) Dr. **Process A Account** Cr.

	₹		₹
To Materials	40,000	By Transfer to Process B A/c	1,20,000
To Labour	40,000		
To Overheads	16,000		
	96,000		
To Profit (20% of transfer price, i.e., 25% of cost)	24,000		
	1,20,000		1,20,000

Dr. **Process B Account** Cr.

	₹		₹
To Transferred from Process A A/c	1,20,000	By Transfer to Finished Stock A/c	2,88,000
To Labour	56,000		
To Overhead	40,000		
	2,16,000		
To Profit (25% of transfer price i.e., 33.33% of cost)	72,000		
	2,88,000		2,88,000

Statement of Total Profit

	₹
Profit from Process A	24,000
Profit from Process B	72,000
Profit on Sales (₹ 4,00,000 – ₹ 2,88,000)	1,12,000
Total Profit	2,08,000

(b) (i) Calculation of Administration cost:

Particulars	Amount (₹)
Salary paid to office staffs	8,20,000
Fees paid to auditors	92,000
Vehicle hire charges paid for directors attending general meeting	10,200
Fees paid to independent directors	1,02,000
	10,24,200

(ii) Calculation of Selling cost:

Particulars	Amount (₹)
Salary paid to sales manager	8,00,000
Wages paid to workers engaged in storing goods at sales depot	7,200
Travelling allowance paid to sales staffs	9,600
Electricity bill paid for sales office	1,800
Bonus paid to sales staffs for achieving targets	96,000
	9,14,600

(iii) Calculation of Distribution cost:

Particulars	Amount (₹)
Cost paid for secondary packing	8,200
Depreciation on goods delivery vehicles	13,000
	21,200

(c) Statement showing computation of the cost of processing an education loan application

Particulars	(₹)
Salary paid to the education loan processors	21,60,000
Legal advice cost relating to education loan	11,000
Overhead cost (30% of (₹ 16,40,000 - ₹ 11,000)]	4,88,700
Total processing cost per month	26,59,700
No. of applications processed per month	500
Total processing cost per education loan application	**5,319.40**

4. (a) (i) Re-ordering level = Maximum usage per period × Maximum lead time

(ROL) = 2,000 units per day × 20 days

= 40,000 units

(ii) Maximum level= ROL+ROQ–[Min. rate of consumption× Min. lead time] (Refer to working notes 1 and 2)

= 40,000 units + 20,000 units – [1,000 units per day x 10 days]

= 50,000 units

(iii) Minimum level = ROL – Average rate of consumption × Average re-order-period

= 40,000 units – (1,500 units per day × 15 days)

= 17,500 units

(iv) Danger level = Average consumption × Lead time for emergency purchases

= 1,500 units per day × 3 days

= 4,500 units

Working Notes:

1. Minimum rate of consumption per day

Average rate of consumption = $\left(\frac{\text{Minimum rate of consumption + Maximum rate of consumption}}{2}\right)$

1,500 units per day = $\left(\frac{\text{X units per day + 2,000 units per day}}{2}\right)$

Or, X = 1,000 units per day

2. Re-order Quantity (ROQ) = $\sqrt{\frac{2 \times 12,50,000 \text{units} \times ₹10,000}{62.50}}$

= 20,000 units

(b) Causes/examples of normal idle time:

1. The time lost between factory gate and the place of work.
2. The interval between one job and another.
3. The setting up time for the machine.
4. Normal rest time, **break for lunch etc.**

Causes/examples of abnormal idle time:

1. Lack of coordination.
2. Power failure, Breakdown of machines.
3. Non-availability of raw materials, strikes, lockouts, poor supervision, fire, flood etc.

(c) Statement of Reconciliation

(to ascertain Profit as per Financial Accounts)

Particulars	**(₹)**	**(₹)**
Profit as per Cost Account		7,77,150
Add: Income from interest and dividends		2,35,500
		10,12,650
Less: Factory expenses under-charged in Cost Accounts	2,35,500	
Administrative expenses under-charged in Cost Accounts	1,17,750	
Selling & distribution expenses under-charged in Cost Accounts	31,400	(3,84,650)
Profit as per Financial Accounts		**6,28,000**

5. (a) (i) Computation of Sale Price *Per Bottle*

Output: 40,000 Bottles

	(₹)
Variable Cost:	
Material	3,15,000
Labour (₹ 1,40,000 × 75%)	1,05,000
Factory Overheads (₹ 1,35,000 × 50%)	67,500
Administrative Overheads (₹ 50,000 × 35%)	17,500
Commission (10% on ₹ 8,00,000) (W.N.-1)	80,000
Fixed Cost:	
Labour (₹ 1,40,000 × 25%)	35,000
Factory Overheads (₹ 1,35,000 × 50%)	67,500
Administrative Overheads (₹ 50,000 × 65%)	32,500
Total Cost	7,20,000
Profit (W.N.-1)	80,000
Sales Proceeds (W.N.-1)	8,00,000
Sales Price per bottle $\left(\frac{₹\ 8,00,000}{40,000 \text{Bottles}}\right)$	20

(ii) Calculation of Break-even Point

Sales Price per Bottle = ₹19

Variable Cost per Bottle = $\frac{`\ 5,85,000\ (W.N.-2)}{40,000\ Bottles}$

= ₹ 14.625

Contribution per Bottle = ₹ 19 − ₹14.625

= ₹ 4.375

Break -even Point

(in number of Bottles) = $\frac{\text{Fixed Costs}}{\text{Contribution per Bottle}}$

= $\frac{₹1,35,000}{₹\ 4.375}$ = 30,857 Bottles

Break- even Point

(in Sales Value) = 30,857 Bottles × ₹ 19

= ₹ 5,86,285/-

Working Note

W.N.-1

Let the Sales Price be 'x'

Commission = $\frac{10x}{100}$

Profit = $\frac{10x}{100}$

x = $6,40,000 + \frac{10x}{100} + \frac{10x}{100}$

100x - 10x - 10x = 6,40,00,000

80x = 6,40,00,000

x = 6,40,00,000 / 80

= ₹ 8,00,000

W.N.-2

Total Variable Cost

	(₹)
Material	3,15,000
Labour	1,05,000
Factory Overheads	67,500
Administrative Overheads	17,500
Commission [(40,000 Bottles x ₹20) x 10%]	80,000
Total	5,85,000

(b) Number of days in budget period = 4 weeks × 5 days = 20 days

Number of units to be produced

	Product-A (units)	Product-B (units)
Budgeted Sales	2,400	3,600
Add: Closing stock	480 $\left(\frac{2,400\ \text{units}}{20\ \text{days}} \times 4\ \text{days}\right)$	900 $\left(\frac{3,600\ \text{units}}{20\ \text{days}} \times 5\ \text{days}\right)$
Less: Opening stock	(400)	(200)
	2,480	4,300

(i) Material Purchase Budget

	Material-X (Kg.)	Material-Y (Kg.)
Material required:		
- Product-A	12,400 (2,480 units × 5 kg.)	9,920 (2,480 units × 4 kg.)
- Product-B	12,900 (4,300 units × 3 kg.)	25,800 (4,300 units × 6 kg.)
	25,300	35,720
Add: Closing stock	12,650 $\left(\frac{25,300\text{kgs.}}{20\text{days}} \times 10\text{days}\right)$	10,716 $\left(\frac{35,720\text{kgs.}}{20\text{days}} \times 6\text{days}\right)$
Less: Opening stock	(1,000)	(500)
Quantity to be purchased	36,950	45,936
Rate per kg. of Material	₹ 4	₹ 6
Total Cost	₹ 1,47,800	₹ 2,75,616

(ii) Wages Budget

	Product-A (Hours)	Product-B (Hours)
Units to be produced	2,480 units	4,300 units
Standard hours allowed per unit	3	5
Total Standard Hours allowed	7,440	21,500
Productive hours required for production	$\frac{7,440\text{hours}}{80\%} = 9,300$	$\frac{21,500\text{hours}}{80\%} = 26,875$
Add: Non-Productive down time	1,860 hours. (20% of 9,300 hours)	5,375 hours. (20% of 26,875 hours)
Hours to be paid	11,160	32,250

Total Hours to be paid	= 43,410 hours (11,160 + 32,250)
Hours to be paid at normal rate	= 4 weeks × 40 hours × 180 workers = 28,800 hours
Hours to be paid at premium rate	= 43,410 hours – 28,800 hours = 14,610 hours
Total wages to be paid	= 28,800 hours × ₹ 25 + 14,610 hours × ₹ 37.5 = ₹ 7,20,000 + ₹ 5,47,875 = ₹ 12,67,875

6. (a) Before installation of a system of cost accounting in a manufacturing organisation the under mentioned factors should be studied:

(a) Objective: The objective of costing system, for example whether it is being introduced for fixing prices or for insisting a system of cost control.

(b) Nature of Business or Industry: The Industry in which business is operating. Every business industry has its own peculiar feature and costing objectives. According to its cost information requirement cost accounting methods are followed. For example Indian Oil Corporation Ltd. has to maintain process wise cost accounts to find out cost incurred on a particular process say in crude refinement process etc.

(c) Organisational Hierarchy: Costing system should fulfill the requirement of different level of management. Top management is concerned with the corporate strategy, strategic level management is concerned with marketing strategy, product diversification, product pricing etc. Operational level management needs the information on standard quantity to be consumed, report on idle time etc.

(d) Knowing the product: Nature of product determines the type of costing system to be implemented. The product which has by-products requires costing system which account for by-products as well. In case of perishable or short self- life, marginal costing method is required to know the contribution and minimum price at which it can be sold.

(e) Knowing the production process: A good costing system can never be established without the complete knowledge of the production process. Cost apportionment can be done on the most appropriate and scientific basis if a cost accountant can identify degree of effort or resources consumed in a particular process. This also includes some basic technical know-how and process peculiarity.

(f) Information synchronisation: Establishment of a department or a system requires substantial amount of organisational resources. While drafting a costing system, information needs of various other departments should be taken into account. For example in a typical business organisation accounts department needs to submit monthly stock statement to its lender bank, quantity wise stock details at the time filing returns to tax authorities etc.

(g) Method of maintenance of cost records: The manner in which Cost and Financial accounts could be inter-locked into a single integral accounting system and in which results of separate sets of accounts, cost and financial, could be reconciled by means of control accounts.

(h) **Statutory compliances and audit**: Records are to be maintained to comply with statutory requirements, standards to be followed (Cost Accounting Standards and Accounting Standards).

(i) **Information Attributes**: Information generated from the Costing system should be possess all the attributes of an information i.e. complete, accurate, timeliness, confidentiality etc. This also meets the requirements of management information system.

(b) The following steps are necessary for establishing a good budgetary control system:

1. Determining the objectives to be achieved, over the budget period, and the policy or policies that might be adopted for the achievement of these objectives.
2. Determining the activities that should be undertaken for the achievement of the objectives.
3. Drawing up a plan or a scheme of operation in respect of each class of activity, in quantitative as well as monetary terms for the budget period.
4. Laying out a system of comparison of actual performance by each person, or department with the relevant budget and determination of causes for the variation, if any.
5. Ensuring that corrective action will be taken where the plan has not been achieved and, if that is not possible, for the revision of the plan.

(c) Detection of slow moving and non-moving item of stores:

The existence of slow moving and non-moving item of stores can be detected in the following ways.

(i) By preparing and *perusing periodic reports* showing the status of different items or stores.

(ii) By calculating the *inventory turnover period* of various items in terms of number of days/ months of consumption.

(iii) By computing *inventory turnover ratio* periodically, relating to the issues as a percentage of average stock held.

(iv) By implementing the use of a well-designed information system.

Necessary steps to reduce stock of slow moving and non-moving item of stores:

(i) Proper procedure and guidelines should be laid down for the disposal of non-moving items, before they further deteriorate in value.

(ii) Diversify production to use up such materials.

(iii) Use these materials as substitute, in place of other materials.

OR

(c) The three main methods of allocating support departments costs to operating departments are:

(i) ***Direct re-distribution method:*** Under this method, support department costs are directly apportioned to various production departments only. This method does not consider the service provided by one support department to another support department.

(ii) ***Step method:*** Under this method the cost of the support departments that serves the maximum numbers of departments is first apportioned to other support departments and production departments. After this the cost of support department serving the next largest number of departments is apportioned. In this manner we finally arrive on the cost of production departments only.

(iii) ***Reciprocal service method:*** This method recognises the fact that where there are two or more support departments they may render services to each other and, therefore, these inter-departmental services are to be given due weight while re-distributing the expenses of the support departments. The methods available for dealing with reciprocal services are:

(a) Simultaneous equation method

(b) Repeated distribution method

(c) Trial and error method.