COST ACCOUNTING – SEMESTER -2

Marks

Q. 2 (a)   **Companies in the same industry**

	SIK	IGG	BNI	
			Rs.	
Revenues	4,000,000	2,000,000	**40,000,000**	01
Income	4,00,000	200,000	**200,000**	01
Investment	2,000,000	**20,000,000**	20,000,000	01
Income as % of revenues	**10%**	**10%**	0.5%	0.5+0.5
Investment turn over	**2**	**0.1**	2	0.5+0.5
Return on investment(ROI)	**20%**	**1%**	**1%**	0.5+0.5

Comment on the relative performance:

Comparison of SIK and IGG:
Company IGG does as well as Company SIK in terms of income margin, for both companies earn 10% on revenues. But Company IGG has a much lower turnover of investment than does Company SIK. Whereas a rupee of investment in Company SIK supports two rupees in revenue each period, a rupee investment in Company IGG supports only ten paisas in revenue each period. This suggests that the analyst should took carefully at Company IGG's investment. Is the company keeping an inventory larger than necessary for its revenue level? Are receivable being collected promptly? Or did Company SIK acquire its fixed assets at a price level that was much lower that at Company IGG purchased its plant?

01

Comparison of SIK and BNI:

01

On the other hand, BNI's investment turnover is as high as SIK's, but BNI's income as a percentage of revenue is much lower. Why? Are its operations inefficient, are its material costs high, or does its location entail high transportation costs?

Comparison of IGG and BNI:
The companies IGG and BNI have identical income and investment may suggest that the same conditions underlie the low Return on Investment. IGG has higher margins but a lower investment turnover. BNI has very small margins (1/20th of IGG) but turns over investment 20 times faster.

01

In Company IGG's case, it is apparent that the emphasis will have to be on increasing turnover by reducing investment or increasing revenues. In contrast, Company BNI's management should concentrate on increasing the present of income on revenue.

(b) (i)

		Rs.
Activity Level	Qty Produced	Total Cost
High	8,000	60,000
Low	2,000	30,000
Difference	**6,000**	**30,000**

$$\text{Variable cost per unit} = \frac{\text{Difference In Total Cost}}{\text{Difference is quantity}} = \frac{30,000}{6,000}$$

01

$$= \text{Rs.5 per unit}$$

01

(ii)

	Rs.
Total cost for 8,000 units	60,000
Variable cost for 8,000 units (8,000 x 5)	(40,000)
Fixed cost	20,000

02

Marks

(iii) Cost – Function = Rs. 20,000 + 5x   **02**

(iv) Total cost for 15,000 units = 20,000 + 5(15,000) = Rs. 95,000   **02**

Q. 3 (a)   **Journal Entries**

	Rs.		
FOH Control A/C	3,200,000		**01**
A/P – for Exp.		3,200,000	
(To record actual FOH)			
Work In Process	3,000,000		**01**
Applied FOH		3,000,000	
(To record Applied FOH)			
Applied FOH	3,000,000		
Under absorbed FOH	200,000		**01**
FOH control		3,200,000	
(To record Under absorbed FOH)			
Cost of goods sold	200,000		
Under absorbed overhead		200,000	**01**
(To close under absorbed overhead)			

(b)

(1)   **2**

$$EOQ = \sqrt{\frac{2 \times (1000 \times 280) \times 50}{2}} = \sqrt{14,000,000} = 3,742 units$$

(2) Maximum use per day   1200   unit   **0.5**

Normal use per day   1000   **0.5**

Safety stock (maximum)   200   units x 3 days of lead time = 600 units   **1**

(3) Normal use per day (1000) x days of lead time (3)   3,000   units   **0.5**

Safety stock   600   **0.5**

Order point   3,600   units   **1**

(4) Order point   3,600   units

Less : Normal use during lead time (1000 x 3)   3,000

On hand at time order received   600   units   **1**

Add : Economic Order Quantity   3,742   **0.5**

Normal maximum inventory   4,342   units   **0.5**

(5) Economic order quantity ÷ 2   1,871   units   **0.5**

Safety stock   600   **0.5**

Average inventory assuming lead time and usage   2,471   units   **1**

(c) (i) Blanket Overhead Rate:

It is a single factory overhead rate used throughout the factory for all jobs and units of output irrespective of departments in which they were produced.

                                                                                                                                    02

Marks

(ii) Residual Income:

It is the excess of net income over the return required on investment. It is used as a
basis for performance measurement of an investment centre.   **02**

Q. 4 (a) (i)

Total production	1,200,000 gallons.
Chemical 1 (1,200,000 x 5/12)	500,000
Chemical 2 (1,200,000 x 4/12)	400,000
Chemical 3 (1,200,000 x 3/12)	300,000
	1,200,000

0.5
0.5
0.5

Joint cost allocation

Product	Qty produced	Sale price at Split off (Rs)	Total Sales Value (Rs)	Joint Cost Allocation (Rs)
Chemical 1	500,000	40.00	20,000,000	13,636,364
Chemical 2	400,000	30.00	12,000,000	8,181,818
Chemical 3	300,000	40.00	12,000,000	8,181,818
			44,000,000	30,000,000

0.5
0.5
0.5

$$\text{Joint cost as \% of market value} = \frac{\text{Joint cost}}{\text{Market value}} \times 100 \quad \frac{30,000,000}{44,000,000} \times 100$$

$$= 68.1818\%$$ **01**

(ii) Joint cost allocation on the basis of net realizable value.

Product	Qty Produced	Final Sales Price	Final Sales value	Additional Process cost	Net realizable value
Chemical 1	500,000	50.00	25,000,000	1,500,000	23,500,000
Chemical 2	400,000	35.00	14,000,000	1,000,000	13,000,000
Chemical 3	300,000	30.00	9,000,000	500,000	8,500,000
Total	1,200,000		48,000,000	3,000,000	45,000,000

0.5
0.5
0.5

Joint cost – as % of net realizable value = Joint cost x 100 30m/ 45 m x 100=66.67%   **01**
                                             NRV

Joint Cost Allocation:

Chemical 1 (1,200,000 x 5/12)	15,666,667	
Chemical 2 (1,200,000 x 4/12)	8,666,666	
Chemical 3 (1,200,000 x 3/12)	5,666,667	
	30,000,000	

0.5
0.5
0.5

(b) (i) Treatment of by product: (any four points 1 mark for each)   **04**

A joint production cost is not allocated to the by product. Any revenue resulting from sales
of the by product is credited either to income or to cost of the main product. In some
cases, costs subsequent to split-off may be offset against the by-product revenue. For
inventory costing, an independent value may be assigned to the by product. The methods
most commonly used in industry are:

Method 1.   Revenue from sales of the by product is listed on the income statement as:

      (i) Other income.
      (ii) Additional sales revenue.
      (iii) A deduction from the cost of goods sold of the main product.

Marks

(iv) A deduction from the total manufacturing cost of the main product.

Method 2.   Revenue from sales of the by product less the costs of placing the by product on the market (marketing and administrative expenses) and less any additional processing cost of the by product is shown on the income statement in a manner similar to that indicated in Method 1.

Method 3.   The replacement cost method.

(ii) Possible reasons for High Labour Turnover : (any four points 0.5 mark for each)   **02**

Possible reasons for high labour turnover are as follows:

(i)   poor conditions of work

(ii)   poor management

(iii)   bad initial selection

(iv)   dissatisfaction over pay and advancement

(v)   redundancy

(vi)   move from locality

(vii)   lack of training

(viii) lack of career structure, etc.

Cost of Labour Turnover: (any three points 1 mark for each)   **03**

These costs can be substantial, yet to some extent are avoidable through enlightened personnel policies and good management. The costs arise in the following areas:

(i)   Leaving costs, i.e., interviews, preparation of documentation, disruption of output.

(ii)   Replacement costs, i.e., advertising, selection, personnel department procedures.

(iii)   Training costs, i.e., costs of required internal and external courses.

(iv)   Learning costs, i.e., slower initial production, increased scrap, tool breakages, increased accident rate, poorer service.

Q. 5   (a)

(i)   Number of Miles:

Travelling of coach	650	miles per week	
Number of weeks per year	40	weeks	
Total Number of miles- per coach	26,000		**01**
Total number of miles -all coaches (26,000x20)	520,000		**01**

(ii)   Number of Gallons:

Fuel consumption	16	miles per gallon	
Total number of gallons consumed- per coach	1,625		**01**
Total number of gallons consumed- all coaches	32,500		**01**

Marks

(iii) 35 Seater Coach

	Total Coaches	Per Coach	
Number of Miles	520,000	26,000	
Gallons of fuel	32,500	1,625	
	Rs.	Rs.	
Cost of fuel	6,825,000	341,250	**0.5+0.5**
Driver's wages 42 x 1500	1,260,000	63,000	**0.5+0.5**
Insurance	50,000	2,500	**0.5+0.5**
Repairs and maintenance	13,000,000	650,000	**0.5+0.5**
Admin expenses	35,000	1,750	**0.5+0.5**
Depreciation	1,000,000	50,000	**0.5+0.5**
	22,170,000	**1,108,500**	**01+01**

(iv) Cost per mile:

$$\text{Cost per mile} = \frac{1,108,500}{26,000} = \textbf{42.6346}$$ **02**

(v) Calculation of Depreciation of each coach

Cost of Coach	900,000	
Salvage value	(250,000)	
	650,000	**01**
Number of years	13	
Depreciation per year for each coach	650,000 = **50,000**	**01**
	13	

(b) Calculation of tender price:

	35 Seater Coach	
Passenger miles per week (5x12)	60	**0.5**
Miles per year (60x50)	3,000	**0.5**
Cost per mile	42.6346	**0.5**
Cost per coach	127,904	**0.5**
Total Coaches required	5	
Total cost	639,520	**01**
Profit (30% of selling price)*	274,080	**01**
Tender Price	913,600	**01**

This gives a total contract price of Rs.913,600

* A profit of 30% of selling price means that costs are 70% of selling price.

COST ACCOUNTING – SEMESTER -2

Marks

Q. 6 (a)

	Rs.	
I- Actual Output:		
Total direct-labor cost	180,000	
Adjust for variances:		
Labor rate variance	20,000	0.5
Labor efficiency variance	(40,000)	0.5
Total standard labour cost	200,000	01
Actual output (total standard cost / unit standard cost) 200,000 / 200 =	1,000 units	02
II- Actual Hours Worked:		
Total direct-labor cost	Rs. 180,000	
Less Labor rate variance	(20,000)	01
Standard labor cost for actual hours worked	160,000	
Standard Labor rate per hour	Rs. 50	01
Actual hours worked	3,200	02
III- Average Actual Wage Rate Per Hour:		
Average actual wage rate per hour (180,000 / 3,200)=	Rs. 56.25	01
IV- Actual Number of Kilogram Purchased and Used:		
Number of Kilograms purchased & used standard purchase price of material=	Rs. 10	
Actual purchase price	Rs. 11	
Unfavorable price variance per Kg	Rs. 1	01
Unfavorable price variance	Rs. 20,000	
Material purchased & used	20,000 KG	01

(b) The causes for material price variance could be many:

(i) A favorable variance may indicate that:

- The purchasing department was efficient to secure a cheaper source of supply for the materials; — 01

- It could also be due to the purchase of inferior quality of materials: or — 01

- Generally declining price of materials in the market. — 01

(ii) An 'unfavorable' variance may be due to:

- The failure of the purchasing department to secure the most advantageous source of supply; — 01

- General price rise in the market (economic conditions) beyond the control of the purchasing; — 01

- Purchase of materials at short notice resulting in incurring higher or additional freight and handling charges and sometimes even paying higher price for the materials due to a bad stock management by the stores department and / or inability of the sales/ marketing department to predict demand accurately etc. — 01

THE END