INTERMEDIATE EXAMINATION **GROUP II (SYLLABUS 2008)**

SUGGESTED ANSWERS TO QUESTIONS JUNE 2014

Paper- 8: COST AND MANAGEMENT ACCOUNTING

Time Allowed: 3 Hours Full Marks: 100

The figures in the margin on the right side indicate full marks.

Question No. 1 is compulsory and Answer any five from the rest.

Working notes should form part of your answer.

Where necessary, suitable assumptions may be made and disclosed by way of a Note.

1. (a) Match the statement in Column I with the appropriate statement in Column II: 1x5=5

Column I			Column II		
(i)	ABC Analysis	(A)	Management by Exception		
(ii)	Split-off Point	(B)	Supervisor's Salary		
(iii)	Flex Method	(C)	Selective Control of Inventory		
(iv)	Variance Analysis	(D)	Measurement of Labour Turn-over		
(v)	Stepped Cost	(E)	Tool in Finance Management		
		(F)	Joint Products		
		(G)	Decision Making		
		à	Franking of a lab		

(v)	Stepped Cost	(E) (F) (G) (H)	Tool in Finance Management Joint Products Decision Making Evaluation of a job	
	ether the following storm orm Costing is not a di			1x5=5

- (ii) Under the Integrated System, records are maintained separately for Cost and Financial accounts.
- (iii) The year-end inventory of Finished Goods under Absorption Costing is valued at
- Total Cost. (iv) Budgeting is one such technique that helps in Planning as well as in Controlling.
- (v) Standard Costing is determined even before the commencement of Production.
- (c) Fill in the blanks suitably: (i) The Objective of Wage Incentives is to improve _ (ii) Equivalent Production represents the Production of a process in terms of (iii) In order to protect the contractor from the risk of the rise in the price, an ___clause may be inserted in the contract. (iv) The term 'By-Products' is sometimes used synonymously with the term '_ (v) In 'make or buy' decisions, it is profitable to buy from outside only when the Supplier's price is below the firm's own

- (d) In the following cases, one out of the four answers is correct. You are required to indicate the correct answer (= 1 mark) and give brief workings (= 1 mark): 2x5=10
 - (i) The P/V ratio of Delta Ltd., is 50% and the MOS is 40%. The company sold 500 units for ₹ 5,00,000. Calculate BEP.

(a) 500 units

(c) 400 units

(b) 300 units

- (d) None of these
- (ii) When material used in production being 1,000 units @ ₹ 5 per unit of which 100 units scraped is sold @ ₹ 0.50 per unit after incurring additional cost of ₹ 200, the effective cost per unit will be

(a) ₹ 6.00

(c) ₹ 5.72

(b) ₹ 5.60

- (d) ₹ 5.90
- (iii) A company buys in lots of 6,250 units, which is a 3 months supply. The cost/unit is ₹ 2.40. Each order costs ₹ 45 and the inventory carrying cost is 15% of the average inventory value. Calculate the EOQ.

(a) 3,000 units

(c) 2,500 units

(b) 2,000 units

- (d) None of these
- (iv) Product Z has a P/V ratio of 28%. Fixed operating costs directly attributable to Product Z during the Quarter II of the financial year will be ₹ 2,80,000. Calculate the Sales Revenue required to achieve a quarterly profit of ₹ 70,000.

(a) ₹ 10 Lakhs

(c) ₹ 15 Lakhs

(b) ₹ 12.50 Lakhs

- (d) None of these
- (v) X executes a piece of work in 120 hrs. as against 150 hrs. allowed to him. His hourly rate is ₹ 10 and he gets a Dearness Allowance of ₹ 30 per day of 8 hrs. worked in addition to his wages. You are required to calculate the Total Wages Payable under the Rowan Premium Plan.

(a) ₹ 1,890

(c) ₹ 1,900

(b) ₹ 2,000

(d) None of these

Answer:

1. (a) Matching:

Column I			Column II		
(i)	ABC Analysis	(C) Selective Control of Inventory			
(ii)	Split-off Point	(F)	Joint Products		
(iii)	Flux Method	(D) Measurement of Labour Turn-over			
(i∨)	Variance Analysis	(A) Management by Exception			
(∨)	Stepped Cost	(B)	Supervisor's Salary		

- **(b) i. True.** It implies the use of same basic costing methods, principles and techniques.
 - **ii. False.** Under this system, both financial and costing transactions are recorded in one integrated set of books.
 - iii. True. They are absorbed in the product units.
 - **iv. True.** It is a technique of cost accounting with the twin objectives of facilitating planning and ensuring controlling.
 - v. True. Standard cost is a predetermined and preplanned cost.
- (c) i. Productivity
 - ii. Complete
 - iii. Escalation
 - iv. Minor Products
 - v. Variable cost

(d) i. (b). 300 units

Average sales price = 5,00,000/500 = ₹1,000/unit Given MOS = 40% BES = 100% - 40% = 60% of Sales of ₹5,00,000 = ₹3,00,000 BEQ = 3,00,000/1,000 = 300 units

ii. (c) ₹<u>5.72</u>

Particulars	₹	Units
Material 1,000 × 5=	5,000	1,000
Less Sales as scrap 0.50 × 100	50	100
	4,950	900
Add: rectification cost	200	_
	5,150	900

Cost per Unit
$$\frac{5,150}{900}$$
 = ₹5.72

iii. (c) 2,500 units

A = Annual consumption = 6,250 ×12/3 = 25,000 units, B= ordering cost = ₹45 C= Inventory carrying cost = ₹2.40 ×15% = ₹0.36 per unit per annum.

EOQ =
$$\sqrt{\frac{2AB}{C}} = \sqrt{\frac{2 \times 25,000 \times 45}{0.36}} = 2,500 \text{ units}$$

iv. (b) 12.5 lakhs

v. (a) ₹ 1,890

No. of days worked = 120 Hrs ÷ 8 Hrs./day = 15 days.

DA = 15 days × ₹30 = ₹450

Rowan Premium Plan Wages=

(Time Taken × Rate/ Hr) +
$$\left(\frac{\text{Time Saved}}{\text{Time Allowed}}\right)$$
 × Time Taken×Rate Per hour + DA

= (120 Hrs. × ₹10) + (30/150 ×120 ×₹10) + ₹450

= ₹1,200 + ₹240 + ₹450 = ₹1,890.

(a) M/s. J Stone & Co. Ltd. prepares budgets for a production and sales for 3,00,000 units.
 The variable cost is ₹ 28 per unit and fixed costs are ₹ 12,00,000. The company fixes its selling price to fetch a profit of 20% on sales.

You are required to find out the following:

- (i) Ascertain Break-even point in units.
- (ii) Ascertain P/V ratio.
- (iii) If the selling price is reduced by 10%, how will it effect the BEP?
- (iv) If the company wants to earn a profit of 10% more than the budgeted profit, what should be the sales at reduced price?

 3+2+2+3=10
- (b) What are the limitations of zero-based budgeting?

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Answer:

2. (a) Variable cost per unit = $\frac{7}{28}$ 28, Fixed Cost per Unit = $\frac{12,00,000}{3,00,000}$ = $\frac{7}{4}$

Total Cost = ₹(28+4) = ₹ 32

SP= ₹28 +₹4+ 25% Profit of 32 = 32+8 = ₹40

- (i) BEP = FC/Cont. per unit = 12,00,000/(40-28) = 12,00,000/12 = 1,00,000 units
- (ii) P/V Ratio = C/S 12/40 = 30%
- (iii) BEP at reduced price 40 10% of 40 = 40-4= ₹36

New cont. per unit = 36 - 28 = 8

New BEP = FC/New Cont. per unit = ₹12,00,000/8 = 1,50,000 units or ₹54,00,000 Hence BEP will be increased from 1,00,000 units to 1,50,000 units.

(iv) Budgeted profit at reduced price

Required to earn profit = 10% more than budgeted profit = $8 \times 3,00,000$ Units = $24,00,000 \times 110\% = 26,40,000$

Required Sales = Fixed Cost + Desired Profit / New Contribution per unit

- = (12,00,000 + 26,40,000) / ₹8
- = 38,40,000/₹8 = 4,80,000 units.

(b) Limitations of Zero based Budgeting. The following are the limitations of Zero Budgeting.

- (i) It is a very detailed procedure and naturally time consuming and lot of paper work is involved in the same.
- (ii) Cost involved in preparation and implementation of this system is very high.
- (iii) Moral of staff may be very low as they might feel threatened if a particular activity is discontinued.
- (iv) Ranking of activities and decision making may become subjective at times.
- (v) It may not advisable to apply this method when there are non financial considerations, such as ethical and social responsibility because this will dictate rejecting a budget claim low ranking projects.

3. (a) Dynamic division of Star Co. Ltd. is a profit centre producing product X, Y and Z which have external market for sale. The following data are available in the year 2012.

Particulars	X	Y	Z
Market price	₹ 200	₹ 150	₹ 130
Variable cost per unit	₹ 150	₹ 130	₹ 120
Machine hour per unit required	5	5	5

Product X may be transferred to smart division of the concern and the maximum quantity is 1,000 units. Expected maximum demand in the external market is:

X 2,000 units Y 1,500 units Z 900 units

A total hour available in Dynamic division is 21,000. Product X is also available from outside market at $\overline{150}$. Compute the transfer price of product X and advice.

3+3+3+1=10

(b) State the objectives of Transfer Pricing.

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Answer:

3. (a) Statements showing ranking of Product on the basis of times being the key factor.

Particulars	Х	Υ	Z
	(₹)	(₹)	(₹)
Market price	200	150	130
Less: Variable cost	150	130	120
Contribution	50	20	10
Machines Hrs.	5	5	5
Contribution/Mach in Hr.	10	4	2
Ranking	I	II	III
Maximum Demand in units	2,000	1,500	900
Total number of Hour required	10,000 Hr.	7,500 Hr.	4,500 Hr.
Maximum Hr. allotted on the basis of			
Ranking (Note – 1)	10,000Hr.	7,500 Hr.	3,500 Hr.

Working No. 1

Particulars	Unit	Hrs.
X	2,000	10,000
Υ	1,500	7,500
Z	700	3,500
		(Bal. Fig)
		21,000 Hr.

Therefore with the maximum 21,000 available hours. Above units of the product can be produced.

Here in order to produce 1,000 units of X the sacrifice of product. Y and Z will be made which are shown below: - Since to produce 1,000 units of X the hour required = $5 \times 1,000 = 5,000$ Hrs. by sacrifing product of 700 unit of Z which require 700 hr. $\times 5 = 3,500$ Hr. i.e. 5,000 Hr. - 3,500 Hr. = 1,500 Hr. the balance hour may be obtained by way of sacrifice by product Y for 1,500 \div 300 unit

Thus transfer price of X will be

Variable cost + Opportunity cost

Or
$$150 + \frac{(700 (Z) \times 2 + 300(Y) \times 4)}{1,000}$$

$$= 150 + \frac{1,400 + 1,200}{1,000}$$

$$= 150 + 2.60$$

$$= 152.60$$

Decision: Since the transfer price is ₹152.60 of product but outside market rate is 1 ₹150 it is advisable to purchase from outside.

(b) Objectives of Transfer Pricing: -

- (i) To evaluate the current performance and profitability of each individual unit. This is necessary in order to determine whether a particular unit is competitive and can stand on its working.
- (ii) To improve the profit position of the company. Inter company transfer price will make the units competitive so that it may maximize profit and contribute to the overall profit of the organization.
- (iii) Correct inter-company transfer price will make the cost both units realistic in order to take decision relating to such problem as make or buy, sell or process further. Choice between alternative methods of production.
- (iv) For accurate estimation of earnings on proposed investment decisions. When

finance is scarce and it is required to determine the allocation of scarce resources between various divisions of the concern taking into consideration their competing claims, then this technique is useful.

4. (a) X Co. is currently selling three products A, B and C. Due to recession, the management is forced to lower selling price of all the three products. In a particular year, product B is sold below its total cost and the management wants not to manufacture product B. The following data are available for the year:

	Product A	Product B	Product C
Production and sale	20,000	16,000	12,000
	units	units	units
Selling price per unit	₹ 25	₹ 22	₹18
Total cost per units (₹):			
Direct materials	10	9	6
Direct labours	8	7	5
Variable overhead	5	5	3
Fixed overhead (total ₹ 53,400 apportioned on			
the basis of the total sales value)	1.25	1.10	0.9
	24.25	22.10	14.90

Advise: The management taking into account the following further information:

- (a) Discontinuance of the manufacture of product B will not affect the total fixed cost i.e. total fixed cost will remain the same.
- (b) The capacity released from discontinuance of product B cannot be used for any other purpose. 4+2+2=10
- (b) State the uses of Marginal Costing technique in decision making process.

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Answer:

4. (a)

It appears that total cost of production per unit of product B is ₹22.10 while its selling price per unit is ₹22, thereby incurring a loss ₹0.10 per unit. On the basis of such results the management wants to close down the manufacture of product B.

The marginal cost of production per unit of product B is ₹21 while the selling price per unit is ₹22. Thus it contributes ₹1 per unit towards fixed cost. As fixed cost will not change on discontinuance of product B, its production should not be discontinued, A portion of the fixed cost can be recovered by selling product B which in turn will reduce loss or increase the profit as is evident from the following results:-

Particulars	Product			Total
	Α	В	U	
Sales(in units)	20,000	16,000	12000	48000
	(₹)	(₹)	(₹)	(₹)
Variable Cost :				
Direct Materials	2,00,000	1,44,000	72,000	4,16,000
Direct Labours	1,60,000	1,12,000	60,000	3,32,000
variable overhead	1,00,000	80,000	36,000	2,16,000
Total variable cost	4,60,000	3,36,000	1,68,000	9,64,000
Sales	5,00,000	3,52,000	2,16,000	10,68,000
Total Contribution	40,000	16,000	48,000	1,04,000
Less: Fixed Cost				53,400
Total profit				50,600

Total profit if product B is discontinued: -

	Particulars	(₹)
Contribution	n from product A	40,000
Contribution	n from Product C	48,000
		88,000
Less: Fixed o	cost	53,400
Total Profit		34,600

It is clear from the above that the total profit will be reduced if product B is discontinued. Therefore continuance of manufacture of product B is suggested.

(b) Uses of marginal costing in decision making: -

Marginal costing is an important technique of costing. Cost - Volume — Profit helps to determine the effect of change of volume on profit under the assumption of a linear cost process relationship . Marginal costing technique helps in forecasting short term decision e.g.

- (i) Fixation of selling price.
- (ii) Diversification of products.
- (iii) Problems on limiting factors.
- (iv) Selection of profitable mix;
- (v) Make or buy;
- (vi) Alternative method of manufacture;
- (vii) Exploring new market
- (viii) Shutting down or suspending activities.
- 5. (a) The unit X of P. Co. Ltd. having a strength of 20 workers, planned for 290 working days per year of 8 hours per day with half an hour break. Based on the earlier year's trend, it is forecasted that average absenteeism per worker would be 10 days, in addition to the eligibility of 30 days annual leave. The budgeted overhead related to the unit for the year amounted of ₹75,000 and the units follows a system of recovering overhead on the basis of direct labour hours.

The actual overhead during the year amounted to ₹71,200 and the following details regarding actual working of the unit are available:

- (i) The factory worked 3 extra days to meet the production target but one additional paid holiday had to be declared.
- (ii) There was a severe break down of a major equipment leading to a loss of 350 man-hours.
- (iii) The total overtime hours (in addition to 3 extra working days) amounted to 680 hours.
- (iv) The actual average absenteeism per worker was 12 days.

 From the above data relating to production unit X, work out the under or over recovery of overhead during the period under review.

 2+2+4+2= 10
- (b) State the circumstances when direct or chargeable expenses are treated as overhead.

Answer:

5. (a) Computation of predetermined overhead Recovery rate -

Hrs. 7.5hrs.
42 E00bra
43,500hrs.
6,000hrs.
37,500hrs.
₹75,000 ₹2 per hr.

B. computation of actual labour hour for the year

Particulars	Hours	Hours
Normal labour Hours per year (as above)	-	43,500
Add: Hours for 3 extra days (3 days × 20 × 7.5)	450	
Overtime hours (given)	680	1,130
		44,630
Less: Annual level hours (30 days ×20 × 7.5)	4,500	
Less: Absenteeism hours (12 days ×20 ×7.5)	1,800	
Less: Loss of hours due to breakdown of equipment.	350	
Less: Extra holiday hours (1 days ×20 ×7.5)	150	6,800
Actual Labour Hours worked		37,830

Statement showing over – absorption of overhead:

Actual overhead	71,200
Overhead absorbed (Actual Hours × Predetermined labour hours rate	
i.e. 37,830 × ₹2	75,660
Over – absorbed overhead	₹4,460

(b) When direct expenses treated as overhead:

If an item of Direct Expenses does not meet the test of materiality, it can be treated as part of overheads.

Whether an item of expense is to be treated as Direct expense or indirect expense, is to be determined in terms of materiality of an item. Materiality has not been defined in the standard. Materiality depends on the size and nature of item judged in particular circumstances. An item of expense is considered material if its omission could influence the economic decisions of users of the cost statement. For example Royalty is a material item of cost. It is to be indicated in the cost statement as a separate item under the Companies (Cost Audit Report) Rules, 2011 and not aggregated with production overhead even though it may not be significant in term of the total cost of the product. In another case, job charges can be identified with the cost object but not being material and significant in value, it may be treated as Production overhead.

6. (a) A transport service operated by M/s. Sky Transport Limited with four buses between two towns which are 50 kilometers apart. Seating capacity of each bus is for 50 passengers. The following details are obtained from their books for March 2014:

Particulars	Amount (₹)
Drivers Wages	1,50,000
Wages of Conductors and Cleaners	1,10,000
Diesel Oil Expenses	3,50,000
Lubricant and Other Oil	40,000
Repairs and maintenance	1,00,000
Taxes and Insurance etc.	1,60,000
Depreciation	2,00,000
Interest and Other Expenses	1,50,000
Salaries of Office Staff	1,00,000

Passengers carried were 75% of seating capacity. All four buses ran on all days of the month. Each bus made one trip per day.

Find out the cost per passenger kilometer.

3+3+2+2=10

- (b) Classify the following overhead items according to function:
 - (i) Drawing office salaries, (ii) Rent of warehouse, (iii) Remuneration of legal advice, (iv) Depreciation of delivery van, (v) Salary of Production Manager, (vi) Uniforms of sanitary workers, (vii) Secondary packing with the name of the company, (viii) Establishment expenses, (ix) Depreciation of patterns and dies, (x) Wages of normal idle time.

Answer:

6. (a) Computation of Cost per Passengers Kilometer

	Particulars	Amount (₹)	Amount (₹)
(A)	Standing Charges:		
	Drivers Wages	1,50,000	
	Wages of Conductors & cleaners	1,10,000	
	Salaries of Office Staff	1,00,000	
	Taxes & Insurance etc.	1,60,000	
	Interest & Other expenses	1,50,000_	
			6,70,000
(B)	Running and Maintenance Charges:	1,00,000	
	Repair & Maintenance	3,50,000	
	Diesel Oil Expenses	40,000	
	Lubricant and other oil	2,00,000	
	Depreciation		6,90,000
(C)	Total Cost (A+B)		13,60,000
(D)	Cost per passenger Kilometer (13,60,000 ÷ 4,50,000)		₹3.02

Workings:

Passenger Km. is calculated as below

Number of buses \times distance in one round Trip \times seating capacity available \times percentage of seating capacity actually used \times number of days in a month. 4 business \times 50 Km. \times 2 \times 50 passenger \times 75% \times 30 days =4,50,000 Passengers km.

- (b) (i) Office and administration overhead
 - (iii) Office and administration overhead,
 - (v) Factory overhead,
 - (vii) Selling & distribution overhead
 - (ix) Factory overhead,

- (ii) Selling & Distribution overhead
- (iv) Selling & Distribution overhead,
- (vi) Factory overhead,
- (viii) Office and administration overhead
- (x) Factory overhead.

7. (a) From the following particulars furnished by M/s. Young & Co. Ltd., find out the (i) Material Cost Variance, (ii) Material Usage Variance, and (iii) Material Price Variance.

Malerial Cost Variance, (ii) Malerial osage Variance, and (iii) Malerial Thee Variance.			
3000 units			
₹ 12,000			
25 units			
₹2 per unit			
Nil			
500 units			
80 tonnes			

4+4+2=10

(b) What are the advantages of cost plus contract?

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Answer:

7. (a) standard quantity of materials required = $80 \times 25 = 2,000$ units

Actual Quantity of -

Actual quantity material used = material purchased + Op. Stock - Cl. Stock

= 3,000 + Nil - 500 = 2,500 units.

Standard price = ₹2 per unit.

Actual Price =
$$\frac{₹12,000}{3,000}$$
 = ₹4 per unit

Cost Variance = Total Standard cost – Total Actual Cost

= (Std. price × Std. Quantity) - (Actual Price × Actual Quantity)

=₹2 ×2,000 – ₹4 ×2,500

= ₹4,000 - ₹10,000 = ₹6,000 (Adverse)

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

= ₹2 × (2,000 – 2,500)

= ₹2 × (-500) = ₹1,000 (Adverse)

Price Variance = Actual Quantity × (Std. Price – Actual Price)

= 2,500 × (₹2 – ₹4) = ₹5,000 (Adverse)

(b) Advantages of Cost Plus contract: -

The advantages of cost plus contract are discussed below: -

- (a) It protects the contractor from the risk of fluctuation of price of factor of production.
- (b) Reasonable profit of the contractor is ensured as such profit is added to the actual cost incurred by him to determine the price of the contract.
- (c) The contractor pay a fair price for the work as price is based on actual cost which can be verified by the contractee from the books and documents of the contractor.
- (d) At the time of unstable conditions this type of contract is most advantageous both to the contractor and the contractee.

8. Write short notes on any three of the following:

5x3=15

- (i) Just-in-Time Inventory.
- (ii) Retention money in contract costing.
- (iii) Limitations of Inter-firm comparison.
- (iv) Objectives of uniform costing.
- (v) Benefits of Time and Motion study.

Answer:

8. (i) Just – in Time Inventory:

This is the latest trend in Inventory management. This principle envisage that there should not be any intermediate stage like store-keeping. Material purchased from supplier should directly go to the assembly line, i.e. to the production department. There should not be any need of storing the material. The storing cost can be saved to a great extent by using this technique.

The benefits of just-in time system are as follows:-

- (a) Right quantities are purchased at right time.
- (b) Cost effective production or operation of correct services is possible.
- (c) Inventory carrying costs are eliminated totally.
- (d) The stores function is eliminated and hence there is considerable saving in the stores cost.
- (e) Lossess due to breaking, wastage, pilferage etc. are avoided.

(ii) Retention Money in contract costing:

Usually the contractee stipulates in the contract deed that he would withhold a part of the contract price to be paid at a later stage after completion of the contract. This is to make sure that the contractor has performed all work relating to contract on the most satisfactory manner and that no repair work arises within a prescribed time limit. The amount so withheld by the contractee is known as retention money. It safeguards the interest of the contractee against the contractor, who may at time perform substandard work and gain there from. This is done on the value of contract completed and certified by the architect/surveyor appointed by the contractee. The retention money will be paid once the contract is completed to the customer's satisfaction.

The main advantage of Retention Money is safe-guarding the contractee against the default risk of contract.

(iii) The important limitations of Inter- firm comparison can be listed below:

- 1) Any misuse of the collected information by any influential firm may be possible.
- 2) Participant members donot provide timely and accurate data.
- 3) It is difficult to find out basis of comparison as there are differences in the size of the firms, their productivity, financial conditions etc. so, many times it renders meaningless comparison.
- 4) Lack of uniform costing renders difficulty in comparison.
- 5) The top management feels secrecy of absolute date as the top preference and may not render full co-operation.

(iv) Objective of uniform costing:

The important objectives of the uniform costing are:

- 1) To help for meaningful and valid cost comparison among the members.
- 2) To locate and eliminate in efficiencies in the firm by measuring own efficiency in terms of industry in general and in terms of close rivals in particular.
- 3) To stop cut-throat competition and create healthy competition.
- 4) To improve the productivity of men, machine, production technology and methodology.
- 5) To provide uniform data and information to government for different purposes like tax policy, subsidies, concessions, restrictions etc.

(v) The following are the benefits of Time and Motion study:

- (i) Effective utilisation of resources like men, materials, machine and time.
- (ii) Helps in assessment of labour.
- (iii) Helps in designing incentive system as many of the incentive systems are based on standard time.
- (iv) Preparation of labour budget.
- (v) Proper planning of production for preparation of production budget.
- (vi) Helps in improving labour productivity by designing best method for performing a job or process.
- (vii) Improvement of work methods.