INTERMEDIATE EXAMINATION

GROUP II

(SYLLABUS 2008)

SUGGESTED ANSWERS TO QUESTIONS

JUNE 2012

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.

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

Q. 1.(a) Match the statement in Column I with the appropriate statement in Column II : [1×5]

Column - I	Column - II
(i) Bad Debt is	(A) not a distinct method of Cost Accounting
(ii) Flexible Budget is	(B) a method used in Construction Industry
(iii) Transfer Price	(C) allows goal congruence
(iv) Uniform Costing is	(D) a selling overhead
(v) Contract Costing is	(E) prepared for different levels of capacity utilization

(b) State whether the following statements are True or False : [1×5]

(i) Standard Costing may not be suitable for small concerns.

(ii) Cost Accounting is a branch of Financial Accounting.

(iii) Labour Turnover is the movement of people out of the organisation.

(iv) Transfer Pricing has significance for the purpose of measurement of divisional performance.

(v) Bincard shows the value of a material at any movement of time.

(c) Fill up the blanks suitably : [1×5]

(i) ABC analysis is made on the basis _____ _____ .

(ii) The success of the _____ costing is based on mutual belief and understanding.

(iii) A Budget is a statement that is always prepared _____ to a defined period of time.

(iv) _____ is the difference between the actual sales and the break-even sales.

(v) Activity Based Costing is based on the identification of _____ .

(d) In the following cases one out of four answers is correct. You are required to indicate the correct answer (1 mark) and give brief workings (1 mark) : [2×5]

(i) After inviting tenders for supply of raw materials, two quotations are received as follows— Supplier A ₹ 2·20 per unit, Supplier B ₹ 2·10 per unit plus ₹ 2,000 fixed charges irrespective of the units ordered. The order quantity for which the purchase price per unit will be the same—

(a) 22,000 units (c) 20,000 units

(b) 21,000 units (d) None of the above.

(ii) Normal rate per hour for worker A in a factory is ₹ 5.40. Standard time per unit for the worker is one minute. Normal piece rate per unit for the worker is

(a) ₹ 0·90 (c) ₹ 0·11

(b) ₹ 0·09 (d) None of the above

(iii) In case of joint products, the main objective of accounting of the cost is to apportion the joint costs incurred up to the split off point. For cost apportionment one company has chosen Physical Quantity Method. Three joint products 'A', 'B' and 'C' are produced in the same process. Up to the point of split off the total production of A, B and C is 60,000 kg, out of which 'A' produces 30,000 kg and joint costs are ₹ 3,60,000. Joint costs allocated to product A is

(a) ₹ 1,20,000 (c) ₹ 60,000

(b) ₹ 1,80,000 (d) None of the these

(iv) A transport company is running five buses between two towns, which are 50 kms apart. Seating capacity of each bus is 50 passengers. Actually passengers carried by each bus were 75% of seating capacity. All buses ran on all days of the month. Each bus made one round trip per day. Passenger kms are

(a) 2,81,250 (c) 1,87,500

(b) 5,62,500 (d) None of the above

(v) The cost per unit of a product manufactured in a factory amounts to ₹ 160 (75% variable) when the production is 10,000 units. When production increases by 25%, the cost of production will be ₹ _____ per unit.

(a) ₹ 145 (c) ₹ 150

(b) ₹ 152 (d) ₹ 140

Answer 1. (a)

(i) — (D) a selling overhead

(ii) — (E) prepared for different levels of capacity utilization

(iii) — (C) allows goal congruence

(iv) — (A) not a distinct method of Cost Accounting

(v) — (B) a method used in construction industry.

Answer 1. (b)

(i) **True.** The process of setting standard is a difficult task, as it requires technical skills. The time and motion study is required to be undertaken for this purpose. These studies require a lot of time and money. Small concerns may not be able to afford.

(ii) **False.** Financial Accounting aims at finding the results of an accounting year in terms of profits or losses and assets and liabilities. Cost Accounting primarily deals with collection, analysis of relevant cost data for interpretation and presentation for various problems of management.

(iii) **False.** Labour turnover is the rate at which an employer gains and losses employees. It is the ratio of the number of employees that leave a company through attrition, dismissal, or resignation during a period to the number of employees on payroll during the same period.

(iv) **True.** 'Transfer Price' is that notional value at which goods and services are transferred between divisions in a decentralized organization. Divisional profitability is measured by fixation of 'transfer price' for inter divisional transfers.

(v) **False.** Bin card is a record of receipt and issue of materials in quantity terms. It shows the balance of the stock at any moment of time.

Answer 1. (c)

(i) consumption value / value of usage.

(ii) uniform

(iii) prior

(iv) Margin of Safety

(v) activities.

Answer 1. (d)

(i) (c) — 20,000 units.

The difference between the prices quoted by suppliers (₹ 0.10) while the fixed cost is ₹ 2000.

So the desired order quantity will be – ₹ 2,000 ÷ ₹ 0.10 = 20,000 units

(ii) (b) — ₹ 0.09

Rate per hour – ₹ 5.40

Standard Time Per Unit – 1 minute

Standard Units Per Hour – 60

So, Normal piece rate per unit = ₹ 5.40 ÷ 60 = ₹ 0.09

(iii) (b) — ₹ 1,80,000

Product A produces 50% of total production (60000 kg ÷ 30000 kg.).

So according to physical quantity method, 50% of joint costs (₹ 1,80,000) to be allowed to product- A.

(iv) (b) — 5,62,500

Passenger – kms. are computed as :

Number of buses × Distance in one round trip × seating capacity × capacity used × number of days in a month × No. of trips = $5 \times 100 \times 50 \times \frac{75}{100} \times 30 \times 1 = 562500$ passenger kms.

(v) (b) — ₹ 152

Variable Cost per unit = ₹ 160 × 75/100 = ₹ 120

Fixed Cost per unit = (160 – 120) = ₹ 40

Total fixed cost ₹ 4,00,000

Cost per unit when production is 12500 unit = ₹ 120 + $\frac{4,00,000}{12,500}$ = 120+32 = 152

₹ 152 per unit

Q. 2. (a) Gupta Enterprise is operating at 60% capacity level producing and selling 60,000 units @ ₹ 50 per unit. Other relevant particulars are as follows :

	Cost per unit
Material	₹ 20
Conversion Cost (variable)	₹ 10
Dealer's margin (10% of sales)	₹ 5

Fixed cost for the period is ₹ 6,00,000

As there is a stiff competition it is not possible to sell all the products at the existing cost price structure. The following alternative proposals are considered :

(i) Decrease selling price by 20%

(ii) Increase dealer's margin from 10% to 20%

Select the better alternative. Also calculate the sales volume required to maintain the same amount of profit under the alternative which is considered better assuming that volume of sales will not be a limiting factor under such alternative. Also assume that fixed cost will remain constant. [3+2+3+2]

(b) State briefly the methods of segregating semi-valiable cost into fixed and variable. [5]

Answer 2. (a)

Computation under existing condition

Contribution per unit = unit selling price – unit variable cost = ₹ 50 – (₹ 20 + ₹ 10 + ₹ 5) = ₹ 15

Contribution from sale of 60000 units = 60000 × ₹ 15 = ₹ 900,000

Profit = Contribution – Fixed Cost = ₹ 900000 – ₹ 600000 = ₹ 300000

Computation under the first alternative
(i.e. when selling price is decreased by 20%)

Revised Selling price per unit. (₹ 50 – 20% of ₹ 50)		₹ 40
Variable Cost per Unit :		
Material	₹ 20	
Conversion Cost	₹ 10	
Dealer Margin (10% of Sales)	₹ 4	₹ 34
Revised Contribution per unit :		₹ 6

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{₹\ 6}{₹\ 40} \times 100 = 15\%$$

$$\text{BEP Sales (in ₹)} = \frac{\text{Fixed cost}}{\text{P/V Ratio}} = \frac{₹\ 6,00,000}{15\%} = ₹\ 40,00,000$$

Computation under the second alternative
(i.e. when dealer's margin is increased to 20%)

Selling price per unit		₹ 50
Material	₹ 20	
Conversion Cost	₹ 10	
Dealer Margin (20% of Sales)	₹ 10	₹ 40
Revised Contribution per unit :		₹ 10

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{₹\ 10}{₹\ 50} \times 100 = 20\%$$

$$\text{BEP Sales (in ₹)} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}} = \frac{₹\ 6,00,000}{20\%} = ₹\ 30,00,000$$

From the above results, it appears that P/V Ratio under the second alternative is higher than that under the first alternative. Also break even point under the second alternative sets at a lower level than the level under the first alternative. Therefore, second alternative i.e. increasing dealer's margin to 20% is better both in terms of profitability (as reflected from P/V Ratio) and risk (as reflected from BEP).

If the second alternative is selected, the required volume of sales to maintain the same profit.
(i.e. ₹ 3,00,000)

$$= \frac{\text{Fixed Cost} + \text{Profit}}{\text{P/V Ratio}}$$

$$= \frac{6,00,000 + 3,00,000}{20\%}$$

$$= ₹\ 45,00,000$$

Answer 2. (b)

To segregate semi variable cost into fixed cost and variable cost is necessary because with this, we can add fixed cost proportion in total fixed cost and variable cost proportion in total variable cost. So, with following method, we can carry out this.

1. Scattergraph Method

With graphical method, we draw the graphic line of semi variable cost by taking output on x axis and total semi variable cost at y axis and then applying statistical analysis to fit the best line through these points. This line shows the fixed cost which will not be changed after changing output.

2. High Points and Low Points Method

Under this method, we calculate total sales and total costs at highest level of production. Then we calculate total sales and total costs at lowest level of production. Because, semi variable cost have both variable and fixed cost. We first calculate variable rate with following formula:

= Excess of total cost / Excess Sale × 100

This rate shows variable cost of sale value. By using this rate, we also calculate variable cost of sale at highest level. Now, same variable cost will be deducted from total cost at the highest level of production. Remainder will be fixed cost.

For example :

Sale at highest level of production	1,40,000
Sale at lowest level of production	80,000
Excess sale =	60,000
Total cost at highest level of production	72,000
Total cost at lowest level of production	60,000
Excess cost =	12,000

Variable cost rate = 12000/60000 × 100 = 20% of sales

Variable cost at highest level of production = 140000 × 20% = 28000

Fixed cost = ₹ 72000 – ₹ 28000 = ₹ 44000

3. Level of Activity Method

In this method, we compare two level of production with the amount of expenses in these levels.

Variable cost will be calculated with following method :

Change in semi variable cost / Change in production volume

4. Least Square Method

This is statistical method in which we use the method for calculating a line of best fit. This method is based on the linear equation y = mx + c, y is total cost, x is volume of output and c is total fixed cost. By solving this equation mathematically, we can calculate variable cost(M) at different level of production.

Q. 3. (a) The budgeted overheads and cost driver volumes of Neptune Ltd. are as follows :

Cost Pool	Budgeted Overheads (₹)	Cost Driver	Budgeted Volume
Material Procurement	2,90,000	No. of Orders	550
Material Handling	1,25,000	No. of Movements	340
Set-up	2,07,500	No. of Set-ups	260
Maintenance	4,85,000	Maintenance Hours	4,200
Quality Control	88,000	No. of Inspection	450
Machinery	3,60,000	No. of M/c hours	12,000

The firm has produced a batch of 2,600 components of AXL-5, its Material cost was ₹ 1,30,000, and Labour cost ₹ 2,45,000.

The usage activities of the said batch are as follows :

Material Orders	— 26	Maintainance hours	— 690
Material Movements	— 18	Inspection	— 28
Set-ups	— 25	M/c hours	— 1,800

Required :

(i) Calculate Cost driver rates that are used for tracing appropriate amount of overheads to the said batch; and

(ii) Ascertain the cost of batch of components using Activity Based Costing. [5+5]

(b) What are the advantages of Target Costing? [5]

Answer 3. (a)

(i) Cost driver rates = $\frac{\text{Budgeted Overheads}}{\text{Budgeted Volume}}$

		Cost Driver Rate (₹)
Material Procurement = $\frac{₹\ 2,90,000}{550}$	=	527
Material handling = $\frac{₹\ 1,25,000}{340}$	=	368
Set up = $\frac{₹\ 2,07,500}{260}$	=	798
Maintenance = $\frac{₹\ 4,85,000}{4200}$	=	115
Quality Control = $\frac{₹\ 88,000}{450}$	=	195
Machinery = $\frac{₹\ 3,60,000}{12,000}$	=	30

(ii) **Cost of Batch of Components :**

Particulars			₹	**Amount** (₹)
1. Direct Materials (given)				1,30,000
2. Direct Labour (given)				2,45,000
3. Overheads :				
Material Procurement	= 26×₹ 527	=	13,702	
Material handling	= 18×₹ 368	=	6,624	
Set up	= 25×₹ 798	=	19,950	
Maintanance	= 690×₹ 115	=	79,350	
Quality Control	= 28 × ₹ 195	=	5,460	
Machinery	= 1800×₹ 30	=	54,000	1,79,086
Total Cost (1+2+3)				5,54,086
Of Batch of 2600 components.				

Answer 3. (b)

Advantages of Target Costing are :

- Target costing will provide management methods and analytical techniques for developing products and services whose costs support strategic objectives for market position and profit.
- Product costs will be defined from the customer's viewpoint; they will include functionality, cost of ownership and manner of delivery.
- Target costing is a critical component of product development teams and concurrent engineering.
- Target costing will incorporate as wide a range of costs and life cycle phases for the product or service as can be logically assigned and organizationally managed.
- Target costing will provide analytical techniques to indicate where cost reduction efforts on parts and processes will have most impact, and where commonality and simplification can be increased.
- The quality of cost data will be consistent with the responsiveness and level of detail required at various development phases: The system will use the logic and benefits of activity-based costing.
- The achievement of market-driven product attributes will be protected from cost reduction ambitions.
- Targets for product cost will be set for various life cycle phases in development and production.
- Target costing will aim for appropriate simplicity, relevance and ease of use byproduct development teams; it avoids unnecessary complexity of language and time consumption in cost assessments.

Q. 4. (a) A company produces three joint products in one common process. The three products can either be sold at split off point or can be separately processed further after split off point and sold separately. The estimated data for a particular month are as under :

	Product		
	X	Y	Z
Selling price at split off point (₹/kg)	100	90	150
Selling price after further processing (₹/kg)	200	190	260
Cost incurred on further processing (₹)	3,50,000	4,00,000	2,00,000
Output in kg	3,500	2,500	2,000

Joint costs incurred up to split off point are ₹ 2,40,000.

Such costs are apportioned to the three products according to quantity of production.

You are required to

(i) Prepare a statement of estimated profit or loss for each product individually and in total for the company for the month if all three products are (I) sold off at split off point and (2) further processed.

(ii) Also advice how profit could be maximised by selectively selling the products individually either at split off point or after further processing. [4+4+2]

(b) What are the problems associated with apportionment of joint cost? [5]

Answer 4. (a)

Profitability after Processing

	Product		
	X ₹	**Y** ₹	**Z** ₹
Sales Revenue	7,00,000	4,75,000	5,20,000
Costs :			
Pre separation	1,05,000	75,000	60,000
Post separation	3,50,000	4,00,000	2,00,000
Total	4,55,000	4,75,000	2,60,000
Profit / Loss	2,45,000	nil	2,60,000

Total Pre separation costs = $\frac{₹\ 2,40,000}{8,000}$ = ₹ 30 per kg.

Profitability without further processing

	Product		
	X ₹	**Y** ₹	**Z** ₹
Sales Revenue	3,50,000	2,25,000	3,00,000
Pre separation cost	1,05,000	75,000	60,000
Profit / Loss	2,45,000	1,50,000	2,40,000
			Total ₹ 6,35,000

Whether to further process or not (product wise position)

Product		**Incremental Revenue (₹)**	**Incremental Cost (₹)**	**Incremental Profit (₹)**
X	100 × ₹ 3500	3,50,000	3,50,000	nil
Y	100 × ₹ 2500	2,50,000	4,00,000	(1,50,000)
Z	110 × ₹ 2000	2,20,000	2,00,000	20,000

Only product Z should be further processed and sold.

Profit = ₹ 2,45,000 (X) + ₹ 1,50,000 (Y) + ₹ 2,60,000 (Z) = ₹ 6,55,000.

Answer 4. (b)

(i) Apportionment of joint costs are made on the basis of some assumed parameters. Therefore, the same need not necessarily be accurate.

(ii) As the apportioned costs do not necessarily relate to activities and use of resources, reliable decisions can not be made from them.

(iii) Product profitability will vary according to the basis chosen for apportioning joint costs.

Q. 5. (a) Richa Industries engaged in manufacturing Lunch Boxes is working to 50% capacity and produces 15,000 Lunch Boxes per annum. The present cost break up for one Lunch Box is as under :

Material ₹ 25; Labour ₹ 20 and Overhead ₹ 15 (60% variable).

The selling price is ₹ 75 per Lunch Box.

If it is decided to work at 60% capacity, the selling price falls by 2%. At 80% capacity, the selling price falls by 10% accompanied by a similar fall in the price of material but labour rate increases by 10%.

You are required to find out the most profitable capacity level amongst 50%, 60% and 80% capacity levels and also calculate the Break-even Point (in units) at above said levels. [3+2+5]

(b) Explain briefly to classification of overheads according to behavior. [5]

Answer 5. (a)

Working Notes :

(i) Fixed overheads per unit = 100 – 60 variable = 40% of ₹ 15= ₹ 6.
Total fixed overhead = ₹ 6 ×15,000 units = ₹ 90,000

(ii) Variable cost per unit:
At 50 % capacity - ₹ (25 + 20 + 60% of 15) = ₹ (25 + 20 + 9) = ₹ 54
At 60% capacity = Same at 50% capacity = ₹ 54
At 80% capacity = ₹ (90% of 25 + 110% of 20 + 60% of 15) = ₹ (22.50 + 22 + 9) = ₹ 53.50

(iii) Selling price :
At 50% capacity = ₹ 75
At 60% capacity = ₹ (98% of 75) = ₹ 73.50
At 80% capacity = ₹ (90% of 75) = ₹ 67.50

Statement showing profit at 50%, 60% & 80% capacity levels

	50%	60%	80%
Output and sales (units)	15000	18000	24000
	₹	₹	₹
Selling price per unit	75	73.50	67.50
Less: variable cost	54	54.00	53.50
Contribution per unit	21	19.50	14.00
Total contribution (units × cost per unit)	315000	351000	336000
Less: Fixed Cost	90000	90000	90000
Profit	225000	261000	246000

Hence, on the basis of above calculations the 60% capacity is most profitable capacity level.

$$\text{BEP (in units)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}}$$

	50% capacity	60% capacity	80% capacity
	$\frac{₹\ 90,000}{₹\ 21}$	$\frac{₹\ 90,000}{₹\ 19.50}$	$\frac{₹\ 90,000}{₹\ 14}$
	4286 units (approx)	4615 units (approx)	6429 units (approx)

Answer 5. (b)

Classification of Overheads Based on Behaviour :

This classification is based on the behavior or variability of overheads. Such a classification of overheads is based on change in the amount of overheads with the change in output. According to this classification, there are three types of overheads

1. Fixed Overheads

Fixed overheads are also called period costs or capacity costs. Fixed overheads are incurred for creating an output capacity of the concern for a fixed period of time. They are the costs which remain fixed or constant in total despite changes in the volume of production or sales. Fixed overheads remain fixed in total up to a certain level of activity which is known as *relevant range of activity* but fixed overheads per unit always vary with the production or sales volume in an opposite direction. For example per unit fixed overheads decrease with an increase in the production or sales volume and vice verse. Examples of fixed overheads are rent, salaries, depreciation, interest and legal expenses.

2. Variable Overheads

Variable overheads are those type of overheads which vary positively with the production and sales volume. Hence they vary directly in proportion to the volume. Variable overheads increase in total with the increase in volume and vice versa. They, however, remain constant in per unit. Examples of variable overheads are indirect materials, indirect wages and power expenses.

3. Semi-variable overheads

Semi-variable overheads are neither completely fixed nor variable. Therefore, they are also called semi-fixed costs. Semi-variable overheads comprise the quantity of both the fixed and variable costs. They vary disproportionately with the change in the volume of output. They do not vary directly proportion to the volume. They are the mixed type of overheads. The semi-variable overheads increase with the increase in output units but not at the same rate. Telephone, electricity, repair and maintenance, heating, lighting, supervision and inspection, salesmen remuneration are some of the examples of semi-variable or semi-fixed overheads.

Q. 6. (a) The following information is available from the financial accounts of Madhu Limited for the year ended 31 st March, 2012 :

		₹
Direct Material Consumption	. .	5,00,000
Direct Wages	. .	2,00,000
Factory Expenses	. .	7,60,000
Administration Expenses	. .	5,00,000
Selling and Distribution Expenses	. .	9,60,000
Bad Debts	. .	40,000
Preliminary Expenses (Written off)	. .	20,000
Legal Charges	. .	10,000
Dividend Received	. .	1,00,000
Interest on Deposit Received	. .	20,000
Sales — 1,20,000 Units	. .	14,00,000
Valuation of Closing Stock in financial accounts :		
Finished Stock 40,000 Units	. .	4,40,000
Work-in-Progress (Valued at factory cost) both in cost and financial accounts	. .	1,60,000

The Cost Accounts reveal :

Direct Material Consumption ₹ 5,60,000;

Factory overhead recovered at 20% on prime cost;

Administrative overhead at ₹ 6 per unit of production;

Selling and Distribution overhead at ₹ 8 per unit sold.

You are required to prepare :

(i) A statement showing costing profit or loss.

(ii) Profit & Loss Account showing profit or loss in Financial Books.

(iii) A statement reconciling the profits disclosed as per cost accounts and as per financial accounts. [3+3+4]

(b) Explain briefly benefits of Integrated Accounting System. [5]

Answer 6. (a)

(i) **Statement showing Costing Profit or Loss.**
For the year ending 31st March, 2012

		₹
Direct Material consumed		5,60,000
Direct Wages		2,00,000
	Prime Cost	7,60,000
Add: Factory overhead : @ 20% of prime cost		1,52,000
		9,12,000
Less: Work – in – progress		1,60,000
	Factory Cost	7,52,000
Add: Administrative overhead: @ ₹ 6 per unit of production (Sales 120000 + Finished Stock 40000 = Production 160000 units)		9,60,000
	Cost of production	17,12,000
Less: Closing Stock of finished goods. $\frac{1712000}{160000} \times 40000$ units		4,28,000
	Cost of goods sold	12,84,000
Add: Selling & Distribution overhead @ ₹ 8 per unit sold: 120000 × 8		9,60,000
	Cost of sales	22,44,000
Sales: 120000 units		14,00,000
Loss		8,44,000

(ii) Profit and Loss Account for the year ending 31st March, 2012
(Financial Accounts)

Dr. Cr.

Particulars	₹	Particulars	₹
To Direct Material consumption	500000	By Sales : 120000 units	1400000
To Direct Wages	200000	By Dividend Received	100000
To Factory Expenses	760000	By Interest Received	20000
To Administrative Expenses	500000		
To Selling & Distribution Exp.	960000	By Work-in-progress	160000
To Bad debts	40000	By Closing stock:	
To Preliminary Exp (written off)	20000	40000 units	440000
To Legal charges	10000	By Net loss	870000
	2990000		2990000

(iii) **Reconciliation Statement as on 31st March, 2012**

	₹	₹
Profit as per Cost Accounts		(-) 8,44,000
Add: Direct Material charged in excess in costs	60,000	
- Administrative overhead over-recovered in Cost Accounts	4,60,000	
- Dividend received included in financial books	1,00,000	
- Interest received included in financial books	20,000	
- Under valuation of closing stock in cost Accounts	12,000	(+) 6,52,000
		(-) 1,92,000
Less: Factory overhead under recovered in cost	6,08,000	
- Bad debts included only in Financial Books	40,000	
- Preliminary exp. included only in Financial Books	20,000	
- Legal charges included only in Financial Books	10,000	(-) 6,78,000
Profit as per Financial Accounts		(-) 8,70,000

Answer 6. (b)

Benefits from Integrated Accounting System

(i) As only one set of accounting records is kept, the need for reconciliation between the profits shown by the two records is eliminated.

(ii) The duplication of work is eliminated, thus the operating cost is reduced.

(iii) This system is simple to understand and easy to operate. Unnecessary complications are eliminated.

(iv) Cost data can be available promptly and regularly.

(v) There is a cross checking of various figures in cost as well as financial accounts. This ensures accuracy of figures of cost and financial data.

(vi) Use of mechanized accounting methods can be made.

Q. 7. (a) From the following particulars furnished by M/s. Starlight Co. Ltd. find out (i) Material cost variance; (ii) Material usage variance and (iii) Material price variance.

Value of Material purchased	.. ₹ 9,000
Quantity of Material purchased	.. 3,000 units
Standard quantity of materials required per tonne of finished product	.. 25 units
Standard rate of material	.. ₹ 2 per unit
Opening Stock	.. Nil
Closing Stock of material	.. 500 units
Finished production during the period	.. 80 tonnes.

[4+3+3]

(b) How is profit on incomplete contract considered? [5]

Answer 7. (a)

Standard quantity of materials required = 80 × 25 = 2000 units

Standard Price = ₹ 2 per Unit

Actual Price = $\frac{₹\,9000}{3000}$ = ₹ 3 per unit

Actual quantity of materials used = (3,000 – 500) units = 2,500 units

Cost variance = Total Standard cost – Total Actual cost.
= (Std Price × Std Qty) – (Actual price × Actual quantity)
= (₹ 2 × 2000) – (₹ 3 × 2500)
= ₹ 4000 – ₹ 7500
= ₹ 3500 (Adv)

Usage variance = Std price × (Std Qty – Actual Qty)
= ₹ 2 × (2000 – 2500)
= ₹ 2 × (500)
= ₹ 1000 (Adv)

Price variance = Actual Qty × (Std Price – Actual Price)
= 2500 × (₹ 2 – ₹ 3)
= ₹ 2500 (Adv)

Answer 7. (b)

Profit on incomplete contract :

Notional profit is computed on partly completed contract duly certified and a portion of that profit is included in the Profit & Loss Account at the year end. The extent of profit to be taken will depend upon the stage of completion of the contract in the following manner : -

(i) When the contract is not completed beyond 25 % - no profit is considered.

(ii) For contracts completed beyond 50% to 70%
- the following formula is used to compute the profit

(a) Notional profit × $\frac{\text{Work Certified}}{\text{Total value of Contract}}$

Or

(b) Notional profit × $\frac{\text{Cash Received}}{\text{Work Certicified}}$

Or

(c) Notional profit × $\frac{\text{Cash Received}}{\text{Value of the Contract}}$

Out of the computed profit only $\frac{1}{3}^{rd}$ or $\frac{2}{3}^{rd}$ amount is credited to Profit and Loss Account depending upon stage of completion.

(iii) When the contract is nearing completion, an estimated profit is computed by deducting from the contract price, the cost of work to date and the estimated cost to complete the contract. The amount so derived to be adjusted for ratio of cash received by the value of the contract.

Q. 8. Write short notes on *any three* of the following : [5×3]

(a) Absorption Costing;
(b) Cost Control and Cost Reduction;
(c) Zero-Base Budgeting;
(d) Uniform Costing;
(e) Activity Based Costing.

Answer 8. (a)

Absorption Costing : It is defined as the practice of charging all costs, both, variable and fixed, to operations, processes or products. Under absorption costing, cost of finished goods and work in progress include both fixed and variable costs. In absorption costing costs are classified as direct and indirect, direct costs are identifiable with a particular product and hence charged directly. Current year costs to some extent are carried forward to the subsequent period through closing inventory. In absorption costing, selling price is fixed on the basis of total costs.

Limitations of Absorption Costing :

(i) A portion of fixed cost is carried over to the subsequent accounting period as part of closing stock. This is an unsound practice because costs pertaining to a period should not be allowed to be vitiated by the inclusion of costs pertaining to the previous and vice versa.

(ii) Absorption costing is dependent on the levels of output which may vary from period to period, and consequently cost per unit changes due to the existence of fixed overhead. Unless fixed overhead rate is based on normal capaicity, such changed costs are not helpful for the purposes of comparison and control.

Answer 8. (b)

Cost Control	Cost Reduction
(i) It is regulation of costs of operating a business and is concerned with keeping costs within acceptable limits.	(i) It is a planned and positive approach to reducing expenditure. It starts with an assumption that current or planned costs levels are too high and looks ways of reducing them without reducing effectiveness.
(ii) It is preventive function	(ii) It is corrective function.
(iii) Emphasis is on present and past behaviour of cost.	(iii) Emphasis is on present and future cost.
(iv) Involves setting standards, analyzing variances and taking corrective actions.	(iv) Challenges the cost standards itself and tries to reduce cost on continuous basis.
(v) Limited to areas where standards can be set.	(v) Can be applied to each and every area of business.
(vi) Aims at lowest possible cost under given conditions.	(vi) Calls for change in conditions if that leads to lowering in cost.
(vii) It is on going or never ending process	(vii) The programme can be finished.

Answer 8. (c)

Zero Base Budgeting : Zero-based budgeting is an approach to planning and decision-making which reverses the working process of traditional budgeting. In traditional incremental budgeting, departmental managers justify only variances versus past years, based on the assumption that the "baseline" is automatically approved. By contrast, in zero-based budgeting, every line item of the budget must be approved, rather than only changes. During the review process, no reference is made to the previous level of expenditure. Zero-based budgeting requires the budget request be re-evaluated thoroughly, starting from the zero-base. This process is independent on whether the total budget or specific line items are increasing or decreasing.

Zero-based budgeting starts from a "zero base" and every function within an organization is analyzed for its needs and costs. Budgets are then built around what is needed for the upcoming period, regardless of whether the budget is higher or lower than the previous one.

ZBB allows top-level strategic goals to be implemented into the budgeting process by tying them to specific functional areas of the organization, where costs can be first grouped, then measured against previous results and current expectations.

Zero-based budgeting can lower costs by avoiding blanket increases or decreases to a prior period's budget. It is, however, a time-consuming process that takes much longer than traditional, cost-based budgeting. The practice also favours areas that achieve direct revenues or production; their contributions are more easily justified than in departments such as client service and research and development.

Answer 8. (d)

Uniform Costing : It has been defined by the Institute of Cost and Works Accountants of England as "The use by several undertaking of the same costing principles and/or practices". Thus when a number of undertaking, whether under the same management or not, decide to adhere to one set of accepted costing principles especially in matters where there can be two opinions — they are said to be following uniform costing. It makes inter firm comparison easy and, of course, one of the aims of uniform costing is to introduce inter-firm comparison. Use of uniform costing is comparatively easy among concerns manufacturing the same type of products.

A great deal of spade work is required to be done before the introduction of uniform costing in an industry. Its introduction helps the firms to submit reliable cost data to price fixing bodies to determine the average cost and fixing the fair selling prices of various products. It serves as a pre-requisite to cost audit.

The essential requisites for the installation of uniform costing system

A successful system of uniform costing requires the following essential requisites for its installation :

1. The firms in the industry should be willing to share /furnish relevant data /information.
2. A spirit of co-operation and mutual trust should prevail among the participating firms.
3. Mutual exchange of ideas, methods used, special achievements made, research and know-how etc. should be frequent.
4. Bigger firms should take the lead towards sharing their experience and know-how with the smaller firms to enable the latter to improve their performance.
5. Uniformity must be established with regard to several points before the introduction of uniform costing in an industry. In fact, uniformity should be with regard to following points :
   (a) Size of the various units covered by uniform costing.

(b) Production methods.

(c) Accounting methods, principles and procedures used.

Answer 8. (e)

Activity Based Costing :

CIMA defines Activity Based Costing as, 'cost attribution to cost units on the basis of benefit received from indirect activities e.g. ordering, setting up, assuring quality.' Activity Based Costing is, thus 'the collection of financial and operational performance information tracing the significant activities of the firm to product costs.'

The following are the objectives of Activities Based Costing.

- To remove the distortions in computation of total costs as seen in the traditional costing system and bring more accuracy in the computation of costs of products and servies.
- To help in decision making by accurately computing the costs of products and services.
- To identify various activities in the production process and further identify the value adding activities.
- To distribute overheads on the basis of activities.
- To focus on high cost activities.
- To identify the opportunities for improvement and reduction of costs.
- To eliminate non value adding activities.

The following steps are required to implement Activity Based costing.

(i) Understanding and analyzing manufacturing process.

(ii) Study of activities involved.

(iii) To assign total costs to an activity in Activity cost pool.

(iv) To ascertain Cost Driver to ascertain which activity generates what cost.

(v) To identify costs to products.

As noted from above, Activity Based costing is a complex system and requires lot of records and calculation.