INTERMEDIATE EXAMINATION
GROUP II
(SYLLABUS 2008)

SUGGESTED ANSWERS TO QUESTIONS
DECEMBER 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.

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

Column I		Column II	
(i)	Job Ticket	(A)	A Technique of Inventory Control
(ii)	Escalation Clause	(B)	BEP Chart
(iii)	VED Analysis	(C)	Contract Costing
(iv)	Angle of Incidence	(D)	Labour Cost Plus Factory Overhead
(v)	Conversion Cost	(E)	A Method of Time Booking
		(F)	No Matching Statement Found

(b) State whether the following statements are True' or 'False': 1x5=5
- **(i) Activity Based Costing is a traditional method of charging overhead.**
- **(ii) Stores Ledger shows quantity and value of stores/materials.**
- **(iii) Abnormal Costs are uncontrollable.**
- **(iv) Royalty based on units produced is considered as direct expenses.**
- **(v) Ideal standards are achievable in normal course.**

(c) Fill in the blanks suitably: 1x5=5
- **(i) Contribution earned on Break-even sales equals to _____ of the firm.**
- **(ii) A series of fixed budgets prepared for different levels of activity is known as _____ budget.**
- **(iii) Sum of material price variance and material usage variance is equal to _____ variance.**
- **(iv) The amount realized from sale of the abnormal wastage is credited to _____ account.**
- **(v) When time saved is equal to time taken then earnings of a worker under Halsey Plan and Rowan Plan are the _____.**

(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) Fixed cost is ₹ 2,25,000; Profit is ₹ 1,85,000; BEP is ₹ 9,00,000 then margin of safety will be**
  - **(a) ₹ 7,15,000** **(c) ₹ 4,90,000**
  - **(b) ₹ 6,75,000** **(d) ₹ 7,40,000**
- **(ii) A JBC machine was used on a contract site for the period of 7 months and depreciation on it was charged to the contract ₹ 78,750. If the working life of JBC Machine is 5 years and salvage value is ₹ 25,000 then cost of JBC Machine will be**
  - **(a) ₹ 7,00,000** **(c) ₹ 6,75,000**

(b) ₹ 4,18,750 **(d) ₹ 3,93,750**

(iii) In a factory the monthly requirement for a material is 20000 units; Ordering cost ₹ 225 per order, Purchase price ₹ 20 per unit and annual carrying cot is 15%, then economic order quantity will be

(a) 3,000 units **(c) 6,000 units**

(b) 2,683 units **(d) 1,732 units**

(iv) A worker has completed his job within 35 hours instead of 40 standard hours. The earnings under rowan bonus plan of the worker will be, if the wages rate per hour is ₹ 36:

(a) ₹ 1,350 **(c) ₹ 1,417.50**

(b) ₹ 1,440 **(d) ₹ 1,260**

(v) The standard wage rate is ₹ 40 per hour, Actual wage rate is ₹ 45 per hour, standard time is 500 hours and actual hours worked is 480 hours. If wages paid for 505 hours then labour idle time variance will be

(a) ₹ 200 (A) **(c) ₹ 1,125 (A)**

(b) ₹ 1,000 (A) **(d) ₹ 225 (F)**

Answer:

1. (a) Matching:

Column I		Column II	
(i)	Job Ticket	(E)	A method of Time Booking
(ii)	Escalation Clause	(C)	Contract Costing
(iii)	VED Analysis	(A)	A Technique of Inventory Control
(iv)	Angle of Incidence	(B)	BEP Chart
(v)	Conversion Cost	(D)	Labour cost plus Factory Overhead

(b) (i) False
(ii) True
(iii) False
(iv) True
(v) False

(c) (i) Fixed Costs
(ii) Flexible
(iii) Material Cost
(iv) Abnormal Wastage A/c
(v) Same

(d) (i) (d) ₹ 7,40,000;

$$\text{P/V Ratio} = \left(\frac{\text{Fixed Cost}}{\text{BEP}}\right) x\,100 = \left(\frac{₹2,25,000}{₹9,00,000}\right) x\,100 = 25\%$$

$$\text{Margin of safety} = \frac{\text{Profit}}{\frac{P}{V}\text{Ratio}} = ₹\frac{185000}{25\%} = ₹\,7,40,000$$

(ii) (a) ₹7,00,000;

Depreciation for one year $= 78,750 \times \frac{12}{7} = ₹\,1,35,000$

Total Depreciation for 5 years = ₹ 1,35,000 x 5 = 6,75,000
Cost of Machine = Total depreciation ₹ 6,75,000 + Salvage Value ₹ 25,000 = ₹ 7,00,000.

(iii) (c) 6000 units;

$$EOQ = \sqrt{\frac{200}{1}} = \sqrt{(2 \times 20000 \times 12 \times 225) / 15\% \text{ of } 20}$$

$$= \sqrt{\frac{108000000}{3}} = 6000 \text{ Units}$$

(iv) (c) ₹1,417.50;

Normal wages = 35 x ₹ 36	₹ 1260.00
Bonus under Rowan Plan	₹ 157.50
$(40 - 35) \times \frac{35}{40} \times$ ₹ 36	₹ 1417.50

(v) (b) ₹ 1000 (A);

Idle Time Variance = Idle Hours x standard Hourly wage Rate

= (505 – 480) x ₹ 40

= ₹ 1000 (A)

2. (a) M/s. Zenith Co. Ltd., engaged in manufacturing Computer spare parts utilizing 50% capacity and produces 15,000 units per month. The present cost break-up per unit is given below:

Material	**₹ 12**
Labour	**₹ 4**
Overhead	**₹ 6 (50% Fixed)**
Sale price	**₹ 25 per unit**

If it is decided to work at 60% capacity, the selling price falls by 5%. At 80% capacity, the selling price falls by 10% where as material price falls by 5% in both the cases. You are required to prepare a statement showing the profits/losses at 50%, 60% and 80% capacity utilization. 3+3+4

(b) Outline the steps involved in Activity Based Costing. 5

Answer:

2. (a)

FLEXIBLE BUDGET

At 50%, 60% and 80% capacity utilization

Particulars	50% Capacity utilization	60% Capacity utilization	80% Capacity utilization
Production Unit	15,000	18,000	24,000
Selling price Per Unit (₹)	25	23.75	22.50
Sales value (units x SP)	3,75,000	4,27,500	5,40,000
Variable Cost:			
*Material ₹ 12 P.U.	1,80,000	2,05,200	2,73,600
Labour – ₹ 4 P.U.	60,000	72,000	96,000
O/H ₹ 3 P.U.	45,000	54,000	72,000
Total Variable Cost	2,85,000	3,31,200	4,41,600
Fixed Cost	45,000	45,000	45,000
Total Cost	3,30,000	3,76,200	4,86,600
Profit / Loss (Sales – Total Cost)	45,000	51,300	53,400

*Note: Material – 18,000 x 11.40

24,000 x 11.40

(b) Outline of the steps involved in ABC System:

(i) To study the manufacturing process and various stages involved in the product or service to identify the activities involved.
(ii) To ascertain the resources and cost of each activity.
(iii) Tracing each cost with the cost objects.
(iv) Ascertaining the cost driver rate of each activity considering the cost of such activity and the related cost driver.
(v) Applying the cost driver rates to the product.

3. (a) Zupiter Transport Service Company is running four (4) buses between two cities, which are 40 kilometers apart. Seating capacity of each bus is 40 passengers. The following particulars are furnished by the company for April 2014:

Particulars	Amount (₹)
Salaries of Office Staff	**1,50,000**
Wages of drivers, conductors and cleaners	**3,60,000**
Diesel oil & other Lubricants	**3,50,000**
Repairs & Maintenance	**1,00,000**
Insurance, Taxation etc.	**2,60,000**
Depreciation	**2,50,000**
Interest & Other Expenses	**2,00,000**
Total	**16,70,000**

Passengers carried were 80% of seating capacity. All buses run on all days of the month. Each bus made one round trip per day.
Find out the cost per passenger – Kilometer. 3+1+4+2=10

(b) What are the essentials of a good costing system? 5

Answer:

3. (a)

Operating Cost Statement
April 2014

	Particulars	Amount (₹)	Amount (₹)
(A)	Operating & Running Cost:		
	Diesel Oil & Other Lubricants	3,50,000	3,50,000
(B)	Maintenance Charges:		
	Repair & Maintenance	1,00,000	1,00,000
(C)	Fixed Charges:		
	Wages of Drivers, Conductors, and Cleaner	3,60,000	
	Investment & Taxation	2,60,000	
	Depreciation	2,50,000	
	Interest & Other exp.	2,00,000	
	Salaries & Office Staff	1,50,000	12,20,000
	Total (A+B+C)		16,70,000

*Cost per passenger kilometer:
= ₹ 16,70,000 ÷ 3,07,200
= ₹ 5.44

* Passengers kilometers are computed as below:
Number of buses x distance in one round trip x seating capacity available x percentage of seating capacity actually used x number of days in a month.
= 4 x 40 x 2 x 40 x 80% x 30 days = 3,07,200

(b) Essentials of a good costing system: - For availing of maximum benefits, a good

costing system should possess the following characteristics.

(i) Costing system adopted in any organization should be suitable to its nature and size of the business and its information needs.
(ii) A costing system should be such that it is economical and the benefits derived from the same should be more than the cost of operating of the same.
(iii) Costing system should be simple to operate and understand. Unnecessary complications should be avoided.
(iv) Costing system should ensure proper system of accounting for material, labour and overheads and there should be proper classification made at the time of recording of the transaction itself.
(v) Before designing a costing system, need and objectives of the system should be identified.
(vi) The costing system should ensure that the final aim of ascertaining of cost as accurately as possible should be achieved.

4. (a) M/s Northern Industries specialises in the manufacture of small capacity motors. The cost structure of a motor is given below:

Material	**₹ 100**
Labour	**₹ 160**
Variable overheads	**50% of labour cost**

Fixed overheads of the company ₹ 3,00,000 per annum. The sale price of the motor is ₹ 400 each.

(i) Determine the number of motors that have to be manufactured and sold in a year in order to break-even.
(ii) How many motors have to be made and sold to make a profit of ₹ 1,20,000 per year.
(iii) If the sale price is reduced by ₹ 20 each, how many motors have to be sold to break-even? 3+3+4=10

(b) Write short notes on treatment of abnormal loss & abnormal gain in process costing. 5

Answer:

4. Calculation of contribution per motor:

	(₹)
Selling Price	400
Variable Cost:	
Material	100
Labour	160
V Overhead (50% of Labour)	80
Total	340
Contribution	60

(a) Calculation of break even quantity

$$\frac{\text{Fixed over head}}{\text{Contribution per unit}} = \frac{3,00,000}{60} = 5000 \text{ Motors}$$

(b) Calculation of Motor to be sold to make a desired profit of ₹ 1,20,000:

$$\text{Desired Sales} = \frac{\text{Fixed over head} + \text{desired profit}}{\text{Contribution per unit}} = \frac{3,00,000 + 1,20,000}{60}$$

$$= \frac{4,20,000}{60} = 7000 \text{ Motors}$$

(c) Calculation of Break-even point of selling price is reduced by ₹ 20 each.
Contribution per motor = (400 – 20) – 340
= 380 – 340 = 40

$$\text{Break-even (R)} = \frac{3,00,000}{40} = 7,500 \text{ motors}$$

(b) **Treatment of abnormal loss & abnormal gain:**

Abnormal Loss: If the units lost in the production process are more than the normal loss, the difference between the two is the abnormal loss. The relevant process account is credited and abnormal loss account is debited with the abnormal loss valued at full cost of finished output. The amount realized from sale of scrap of abnormal loss unit is credited to the abnormal loss account and the balance in the abnormal loss account is transferred to costing profit and loss account.

Abnormal Gain: If the actual production units are more than the anticipated units after deducting the normal loss, the difference between the two is known as abnormal gain. The valuation of abnormal gain is done in the same manner like that of the abnormal loss. The units and the amount is debited to the relevant process account and credited to the Abnormal Gain Account.

5. (a) A work order of M/s Sky Ltd. has to pass through four different machines (work order for 300 units) of which the machine hour rates are:
Machine A – ₹ 1.50, Machine B – ₹ 2.50, Machine C – ₹ 3 and Machine D – ₹ 3.50.
The following expenses have been incurred on the work order:
Materials – ₹ 9,000 and wages ₹ 2,600.
Machine A has been engaged for 250 hours. Machine B for 150 hours. Machine C for 240 hours and Machine D for 140 hours.
After the work order has been completed, material for ₹ 1,000 was found to be surplus and returned to stores.
Office-overheads used to be 40% of works cost but due to increase in cost of administration, there has been a 50% rise in the office overhead expenditure.
Further, it is known that 10% of the production will have to be scrapped as not being upto the specification and the sale proceeds of the scrapped out put will be only 5% of the cost of sales.
If the Company wants make a profit of 25% on the total cost, find out selling price of an unit of the product. 2+4+3+1=10

(b) Define the concept of Integrated Accounting System with its advantages. 5

Answer:

5. (a) Calculation of selling price per unit:

Particulars	**Amount (₹)**	**Amount (₹)**
Materials used (9000 - 1000)		8,000
Direct wages		2,600
Prime cost		10,600
Work over head at machine hour rate		
Machine A for 250 hr. @ ₹ 1.50	375	
Machine B for 150 hr. @ ₹ 2.50	375	
Machine C for 240 hr. @ ₹ 3.00	720	

Machine D for 140 hr. @ ₹ 3.50	490	1,960
		12,560
Works cost:		
Office overhead (40% of work cost + 50% thereof)		7,536
		20,096
Less: Processing scrap (5% of 10% of 20,096)		100
Total cost of work order		19,996
Add: Profit 25% of total cost		4,999
Selling price of 300 units		24,995
Selling price per unit = 24,995 ÷ 300 = ₹ 83		

(b) **Integrated Accounting System**:

It is such system of accounting whereby cost and financial accounting are kept in the same set of books. Obviously, then there will be no separate set of books for costing and financial records. Integrated accounts provide all the information required for costing as well as financial accounts.

The main advantages of Integrated Accounting System as follows:

(i) The question of reconciling of costing and financial profits does not arise, as such there is one figure of profit only.

(ii) Due to use of one set of books, there is significant extent of saving in efforts made.

(iii) No delay is caused in obtaining information as it is provided from books of original entry.

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

6. (a) M/s Goodworth Works, engaged 120 employees in the manufacture of product 'A' at standard rate of ₹ 1 per hour. A 45 hours working week is in operation. During the 4 (four) weeks in February 2013, 13500 units were produced. The standard performance is set at 90 units per hour. Abnormal idle time due to power failure in each week amounted to 5 (five) hours per employee.

During the month 100 employees were paid at the standard rate but 20 employees were paid @ ₹ 1.20 per hour.

Calculate: (i) wage rate variance;
(ii) labour efficiency variance;
(iii) idle-time variance. 2+3+3+2=10

(b) Both cost reduction and cost control are efficient tools of management, but their concepts and procedures are widely different, Explain in short. 5

Answer:

6. (a) Actual hours worked:

4 x (45 – 5) x 120 = 19,200 hours.

$$\text{Standard hours} = \text{No. of employees} \times \frac{\text{Quantity Produced}}{\text{Std. quantity per hour}}$$

$$= 120 \times \frac{13,500}{90} = 18,000 \text{ hrs.}$$

Wages Rate variance = Actual hours paid x (Standard rate – Actual rate)

= 4 x 45 x 100 (₹ 1 – ₹ 1) = Nil

$$4 \times 45 \times 20 \text{ (₹ 1 – ₹ 1.20)} = \frac{720A}{720A}$$

Labour efficiency variance = Standard rate x (Standard hours – Actual Hours. Paid)
= ₹ 1 (18000 – 19200) = 1200 A

Idle Time variance = Standard rate x idle hours
= ₹ 1 x 5 x 4 x 120 = 2400A.

(b) Cost Control vs. Cost Reduction: Both Cost Reduction and Cost Control are efficient tools of management but their concepts and procedure are widely different. The differences are summarized below:

Cost Control	Cost Reduction
(a) cost Control represents efforts made towards achieving target or goal.	(a) Cost Reduction represents the achievement in reduction of cost.
(b) The process of Cost control is to set up a target, ascertain the actual performance and compare it with the target, investigate the variances, and take remedial measures.	(b) Cost Reduction is not concerned with maintenance of performance according to standard.
(c) Cost Control assumes the existence of standards of norms which are not challenged.	(c) Cost Reduction assumes the existence of concealed potential savings in standards or norms which are therefore subjected to an improvement by bringing out savings.
(d) Cost Control is preventive function. Costs are optimized before they are incurred.	(d) Cost Reduction is a corrective function. It operates even when an efficient cost control system exists. There is room for reduction in the achieved costs under controlled conditions.
(e) Cost Control lacks dynamic approach	(e) Cost Reduction is a continuous process of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main stress is upon the why of a thing and the aim is to have continual economy in costs.

7. (a) M/s Shram Engineering Ltd. has just received an export order for its product which will require use of 50% of the factory's total capacity, which is estimated at 5,00,000 units. The condition of export order is that it has to be accepted in full only.

The factory is currently operating at 60% level to meet the demand of domestic market where sale price per unit is ₹ 6. The export offer is at ₹ 4.70 per unit, which is less than the total cost of current production per unit as follows:

	₹
Direct Material	**2.00**
Direct Labour	**1.50**
Variable Expenses	**0.50**
Fixed overhead	**1.00**
Total cost	**5.00**

The company has the following options:

(i) Accept the export order and cut back domestic sales as necessary.

(ii) Remove the capacity constraint by installing necessary balancing equipment

and also by working overtime to meet both domestic and export demand. This decision will increase fixed overhead by ₹ 20,000 and additional cost for overtime work will be for ₹ 35,000.

You are required to prepare a statement of costs & profits under each of above two options and advise the management suitably. 2+3+4+1=10

(b) The profit shown by financial accounts and cost accounts differ on account of certain reasons. State these clearly. 5

Answer:

7. (a) Fixed overhead @ ₹ 1 per unit
So, Fixed overhead : 60% of 5,00,000 x 1 = ₹ 3,00,000

Option – I

	₹
Sales: Export 2,50,000 @ ₹ 4.70	11,75,000
Domestic 2,50,000 @ ₹ 6.00	15,00,000
Total Sales Value	26,75,000
Less: Variable cost of sales 5,00,000 x 4	20,00,000
Contribution (S – VC)	6,75,000
Less: Fixed overhead cost	3,00,000
Profit	3,75,000

Option – II

	₹
Sales: Export 2,50,000 @ ₹ 4.70	11,75,000
Domestic 3,00,000 @ ₹ 6.00	18,00,000
Total Sales Value	29,75,000
Less: Variable cost of sales 5,50,000 x 4	22,00,000
Add: Overtime	35,000
	22,35,000
Contribution (S – VC)	7,40,000
Less: Fixed overhead 3,00,000	
Add: Incremental cost 20,000	3,20,000
Profit	4,20,000

Option – II may be accepted since profit is more. But if the export order is not repeated in future it may create under utilization of capacity.

(b) **Reasons for difference in profits of cost and financial accounts:**

1. Items shown in Financial Accounts:
There are a number of items which are included in financial accounts but do not find place in cost accounts. They may be items of income or expenses, the former increases the profit and latter reduces the profit.

(i) <u>Purely Financial Charges</u>

- Loss arising from the sale of fixed assets.
- Loss on sale of investments, discount on debentures, etc.
- Interest on bank loan, mortgage and debentures.

- Expenses of companies 'Share Transfer Office'.

(ii) Appropriation of Profits
- Donations and Charities
- Income Tax
- Dividend Paid
- Transfer to Reserves

(iii) Writing off Intangible and Fictitious Assets
- Goodwill
- Patents & Copyrights
- Advertisement
- Preliminary Expenses

(iv) Pure Financial Incomes
- Rent received or Profit on Sale of Fixed Assets
- Share transfer fee received
- Interest received on Bank Deposits
- Dividend received etc.

2. Items shown only in Cost Accounts:
There are certain items which are included in cost accounts and not in financial accounts. Such items are very few.
E.g. Interest on capital employed, rent for own premises etc.

3. Over or Under Absorption of Overheads.
Overheads are absorbed in Cost Accounts on a certain predetermined estimated basis and in Financial Accounts, actual amounts incurred are recorded. If there is any over or under absorption it leads to difference in the profits of both sets of books.

4. Differences due to different basis of stock valuation and depreciation methods.

8. Write short notes on any three of the following: 5x3=15
(i) VED Analysis
(ii) Non-monetary incentives
(iii) Advantages of job costing.
(iv) Profit planning.
(i) Budget Manual.

Answer:

8. (i) **VED Analysis**
It is one of the techniques of selective stores control and used suitably in case of controlling spare parts. Here items are classified into three categories.

'V' is the vital items, greatest degree of control is required for these items of materials. Lack of control of these items may cause heavy loss due to stoppage of production.

'E' means essential items. Such items are considered essential for smooth running but without these the system will not fail.

'D' stands for desirable items which do not affect production immediately but availability of these items will lead to more efficiency and less fatigue.

(ii) Non-monetary Incentive:

These incentive are given in addition to monetary incentive for boosting the moral of the employees though these incentives do not result in additional remuneration, but help to improve productivity by boosting the moral of the employees. Some of the non-monetary incentives are given hereunder:

(a) Free education and training.
(b) Medical benefits.
(c) Superannuation benefits like, pension, gratuity, life assurance scheme.
(d) Sports and recreational facilities, housing facilities, long service awards.
(e) Job security and promotion schemes.
(f) Benevolent fund and welfare fund.

(iii) Advantages of Job costing:

The following are the advantage of job costing:

(a) Accurate information is available regarding the cost of the job completed and profit generated from the same.
(b) Proper records are maintained regarding the material labour and overhead so that the costing system is builtup.
(c) Useful cost data is generated from the point of view of management for proper control and analysis.
(d) Performance analysis with other jobs is possible by comparing the data of various jobs. But, each job completed may be different from the other.
(e) If standard costing system is in use, the actual cost of job can be compared with the standard to find out any deviation between the two.
(f) Some jobs are priced on the basis of cost – plus basis. In such cases a profit margin is added in the cost of the job.

In such situation, a customer will be willing to pay the price, if the cost-data is reliable job costing helps in maintaining this reliability and the data made available becomes credible.

(iv) **Profit Planning:**

Profit planning generally known as budget or plan of operation and may be defined as the planning of future operations to achieve a defined profit goal. The marginal costing technique helps to generate data required for profit planning and decision making. e.g. computation of profit, if there is a change in product mix, impact of profit if there is a change in the selling price, change in profit if use of the products is discountinued or if there is an introduction of new product, decision regarding change in the sale mix are some of the areas of profit planning in which necessary information can be generated by marginal costing for decision making. The segregation of costs between fixed and variable is very much useful in profit planning.

(v) **Budget Manual**

A budget manual as defined by I.C.M.A., 'a document which sets out the responsibilities of the person engaged in the routine of and the forms and records required for budgetary control'.

(a) Objectives and organizational policies.
(b) Internal lines and authorities and responsibilities.
(c) Functions of the budget committee and role of budget officer.
(d) Budget period.
(e) Principal budget factor.
(f) Detailed program of budget preparation
(g) Accounting code and numbering.
(h) Follow-up procedures.