

<b>Cost &amp; Management Accounting</b>	<b>Test No-19</b>	<b>CA R. K. Mehta</b>
<b>Time Allowed : 3 hours</b>		<b>Total Marks = 100 Marks</b>

**Note: Question no. 1 is compulsory. Attempt any 4 questions out of remaining 5 questions.**

**Q.1 (a):** An amount of ₹ 19,80,000 was incurred on a contract work upto 31-03-2004. Certificates have been received to date to the value of ₹ 24,00,000 against which ₹ 21,60,000 has been received in cash. The cost of work done but not certified amounted to ₹ 45,000. It is estimated that by spending an additional amount of ₹ 1,20,000 (including provision for contingencies), the work can be completed in all respects in another two months. The agreed contract price of the work is ₹ 25 lakhs. Compute the profit to be taken to the Profit and Loss account under different methods.

(5 Marks)

**(b):** A chemical producing factory uses ingredient P as the basic material at a cost of 30 per kg. Input output ratio with material P is 125%. A sudden shortage of the material has taken place. The producer is considering use of the following substitute materials: -

Material P1 P2 P3

Input output Ratio 150% 120% 140%

Material Price / Kg. 28 32 31

Recommend which of the above three substitutes is the best. By how much per unit of output material cost will increase if best substitute is used.

(5 Marks)

**(c):** Standard time for a job is 50 hours and guaranteed hourly time wage is 15. The worker Garry receives an effective hourly rate of 20 under Rowan Premium Plan due to efficiency in performance. Another worker Larry has performed the similar job in the same time but he gets wages according to Halsey premium Plan. Ascertain total wages for Larry and his effective hourly rate.

(5 Marks)

**(d):** For the year 2012 - 2013 an organization budgeted output of 50,000 units and overheads of 7,00,000. Actual output was equivalent to 60,000 units and actual overheads were 8,00,000. It was decided to absorb overheads on per unit of output basis. Of the total output 48,000 units were sold during the year. Unsold stock of finished output was 8,000 units and there was work-in-progress of 10,000 units, each unit approximately 40% complete. Calculate: (i) Overhead absorption rate, (ii) Extent of over or under absorption, (iii) Supplementary rate, (iv) Accounting entry for dealing over or under absorption.

(5 Marks)

**Q.2 (a):** From the following Information for the month ending October, 2005 prepare Process Cost accounts for Process III. Use First-out (FIFO) method to value equivalent production.

Opening WIP 2,000 units at ₹ 25,750 Units scrapped 2,000 units

Transfer from Process II 53,000 units at ₹ 4,11,500 Direct material added on Process III ₹ 1,97,600

Transferred to Process IV 48,000 Direct wages ₹ 97,600

Closing stock of Process III 5,000 units Production Overheads ₹ 48,800

The normal loss in the process was 5% of gross production and scrap and sold at ₹ 3 per unit. The degree of completion is: -

Particulars	Opening WIP	Closing WIP	Scrap
Material	80%	70%	100%
Labour	60%	50%	80%
Overheads	60%	50%	60%

(10 Marks)

**(b):** Calculate **Machine Hour Rate** from the following particulars: -

Cost of machine 25,00,000	Working hours (per annum) -3,000 hours
Salvage value 1,25,000	Hours required for maintenance -400 hours
Estimated Life of machines 25,000	hours Setting up time required - 8% of total working hours

**Additional information: -**

**(a)** Power 25 units @ 5 per unit per hour (No power is used during maintenance and set-up).

**(b)** Cost of repairs and maintenance 26,000 per annum.

**(c)** Chemicals required for operating the machine 2,600 per month.

**(d)** Overheads chargeable to the machine 18,000 per month.

**(e)** Insurance premium (per annum) 2% of the cost of machine

**(f)** No. of operators - 02 (looking after three other machines also)

**(g)** Salary per operator per month 18,500

(10 Marks)

**Q.3 (a):** ML Auto Ltd is a Manufacturer of auto components and the details of its expenses for the year 2014 are given below:

Opening Stock of Material ` 1,50,000	Direct Labour ` 9,50,000
Closing Stock of Material ` 2,00,000	2Factory Overhead ` 3,80,000
Purchase of Material ` 18,50,000	Administrative Overhead ` 2,50,400

During 2015, the Company has received an order from a Car Manufacturer where it estimates that the Cost of Material and Labour will be 8,00,000 and 4,50,000 respectively. ML Auto Ltd charges Factory Overhead as a Percentage of Direct Labour and Administrative Overhead as a Percentage of Factory Cost based on previous year's cost. Cost of Delivery of the components at Customer's Premises is estimated at ` 45,000.

You are **required** to: -

- (i) Calculate the Overhead Recovery Rates based on Actual Costs for 2014.
- (ii) Prepare a detailed Cost Statement for the order received in 2015 and the price to be quoted if the Company wants to earn a Profit of 10% on Sales.

**(10 Marks)**

**(b)** A contractor commenced a contract on 1-7-2011. The costing records concerning the said contract reveal the following information as on 31-3-2012:

Particulars	Amount of ( ` )
Material sent site	7,74,300
Labour paid	10,79,000
Labour outstanding as on 31-3-2012	1,02,500
Salary to engineer	20,500 per month
Cost of plant sent to site (1-7-2011)	9,000 per month
Salary to supervisor (¾ time devoted to contract)	7,71,000
Administration & other expenses	4,60,600
Prepaid administration expenses	10,000
Material in hand at site as on 31-3-2012	75,800

Plant used for the contract has an estimated life of 7 years with residual value at the end of life ` 50,000. Some of material costing ` 13,500 was found unsuitable and sold for ` 10,000. Contract price was ` 45,00,000. On 31-3-2013 two third of the contract was completed. The architect issued certificate covering 50% of contract price and contractor has been paid ` 20,00,000 on account. Depreciation on plant is charged on straight line basis. **Prepare** Contract Account.

**(10 Marks)**

**Q.4 (a):** The following account balances and distribution of indirect charges are taken from the accounts of a manufacturing concern for the year ending on 31st March, 2014: -

Item	Total amount	Production departments			Service department	
		X	Y	Z	A	B
Indirect materials	1,25,000	20,000	30,000	45,000	25,000	5,000
Indirect labour	2,60,000	45,000	50,000	70,000	60,000	35,000
Superintendents' salary	96000	---	---	96000	----	---
Fuel and heat	15,000	---	---	---	---	---
Power	1,80,000	---	---	---	---	---
Rent and rates	1,50,000	---	---	---	---	---
insurance	18,000	---	---	---	---	---
Meal charges	60,000	---	---	---	---	---
Deprecation	2,70,000	---	---	---	---	---

The following **department's data** are also available:-

Item	Production departments			Service department	
	X	Y	Z	A	B
Area (sq. ft.)	4,400	4,000	3,000	2,400	1,200
Capital value of assets ( ` )	4,00,000	6,00,000	5,00,000	1,00,000	2,00,000
Kilowatts hours	3,500	4,000	3,000	1,500	---
Radiators sections	20	40	60	50	30
No. of employees	60	70	120	30	20

Expenses charged to the service department are to be distributed to other department as below:-

Departments	X	Y	Z	A	B
A	30%	30%	20%	---	20%
A	25%	40%	25%	10%	---

Prepare an overhead distribution statement to show the total overheads of production departments after re-apportioning service department's overheads by using simultaneously equation method. Show all the calculations to the nearest rupee.

**(10 Marks)**

**(b):** Mr. Arun commence manufacture of toy trains on 1st January, 2009. His trading account for the first year is as follows:

Particulars	Units	Amount ( ` )	Amount ( ` )
Sales	1,00,000		4,50,00,000
Less: Cost of Sales:			
Opening stock of raw materials		NIL	
Add: Purchases		4,50,00,000	
Less: Closing Stock		(45,00,000)	
Raw material consumed		4,05,00,000	
Add: Labor		1,44,00,000	
Add: Production overhead		72,00,000	
Cost of production	1,60,000	6,21,00,000	
Less: closing stock	(60,000)	(2,16,00,000)	(4,05,00,000)
Gross profit	1,00,000		45,00,000

**Additional information:**

1. Stocks of both raw materials and finished goods have increased uniformly over the year;
2. The raw materials content of finished goods is 225 per unit;
3. Mr. Arun was ill during August 2009 when he received an order for 12,000 units which was held up by stock shortage and were subsequently cancelled. He had further orders for 8,000 units on his books at the year end.

**(i) Calculate** the following ratios:

- (1) Inventory turnover for raw material      (2) Inventory turnover for finished goods;  
 (3) Input-output ratio for raw materials;      (4) Stock-out ratio,

**(ii)** Comment briefly on the above ratios.

**(10 Marks)**

**Q.5 (a):** EPS is a Public School having 25 buses each plying in different directions for the transport of its school students. In view of large number of students availing of the bus service, the buses work two shifts daily both in the morning and in the afternoon. The buses are garaged in the school. The workload of the students has been so arranged that in the morning, the first trip picks up senior students and the second trip plying an hour later picks up junior students.

Similarly, in the afternoon, the first trip takes the junior students and an hour later the second trip takes the senior students home. The distance travelled by each bus, one way is 16 kilometers. The school works 24 days in a month and remains closed for vacation in May and June the bus fee, however, is payable by the students for all the 12 months in a year. The details of expenses for the year 2003 - 2004 are under:

Driver's salary payable for all the 12 months - ` 5,000 per month per driver	
Cleaner's salary payable for all the 12 months - ` 3,000 per month per cleaner (one cleaner has been employed for every five buses)	
License Fees, Taxes etc. - ` 2,300 per bus per annum	Life of the bus - 16 years
Insurance Premium - ` 15,600 per bus per annum	Scrap value - ` 1,50,000
Purchase price of the bus - ` 16,50,000 each	Diesel Cost - ` 18.50 per litre
Repairs and Maintenance - ` 16,400 per bus per annum	

Each bus gives an average of 10 kilometers per litre of diesel. The seating capacity of each bus is 60 students. The seating capacity is fully occupied during the whole year. The school follows differential bus fees based on distance travelled as under:

Students picked up and dropped within the range of distance from the School	Bus Fee	Percentage of Students availing this facility
4 kilometers	25% of full	15%
8 kilometers	50% of full	30%
16 kilometers	Full	55%

Ignore interest. Since the bus fee has to be based on average cost, you are required to:

(i) Prepare a statement showing the expenses of operating a single bus & the fleet of 25 buses for a year.

(ii) Work out average cost per student per month in respect of :-

(a) Students cost per student per month in respect of,

(b) Students coming from a distance of upto 8 kilometers from the school,

(c) Students coming from a distance of upto 16 kilometers from the school,

**(10 Marks)**

(a): X Ltd. manufacturing three products, has the following direct labour requirements for the products: -

Direct Labour time per unit (in minutes)

Product	1	2	3
Operation I	18	42	30
Operation II	----	12	24
Operation III	9	6	----

The factory works 8 hours per day, 6 days in a week. Each budget quarter has 13 weeks and in terms of

leave, holidays and other causes, 124 hours are lost in each quarter. Operations I, II and III have the

budgeted hourly rates for workers at 16, 20 & 24 respectively. The budgeted sales of the products

during the quarter are: - Product 1: 9,000 units, Product 2: 15,000 units, Product 3: 12,000 units

There were opening stocks of 5,000 units of Product 2 and 4,000 units of Product 3 and it is proposed to

have closing stock at the end of the budget quarter as follows: -

Product 1: 1,000 units, Product 3: 2,000 units.

**Required: -**      1. Production Budget      2. Direct Labour Hours Budget      3. Available Labour Hours per worker per quarter

4. Number of workers required      5. Direct Labour Cost Budget

**(10 Marks)**

**Q.6**      (a): Explain Sub- contracting along with its advantages.      **(5 Marks)**

(b): Explain Centralized and Decentralized purchasing of raw material.      **(5 Marks)**

(c): Traditional Method v/s Activity Based Costing.      **(5 Marks)**

(d): Explain Inter Process Profits.      **(5 Marks)**