Roll No. .....

Total Number of Questions : 11

Total Number of Printed pages - 11

Time Alloted : 3 Hours

Maximum Marks - 100

EML

PAPER – 5: ADVANCED MANAGEMENT ACCOUNTING

[5 MARKS]

1.The following data relating a new product is given .

Material Iron 10 Kg at Rs 5/Kg Copper 5 Kg at Rs. 8/Kg
Wages Plant X 3 Hour @ Rs. 15/Hour Plant Y - 5 Hour @ Rs. 12 / Hour
Overhead Recovery - On the basis of Direct Labour Hours
Fixed Overhead Plant X - Rs. 8/Hour Plant Y - Rs. 5/ Hour
Variable Overhead Plant X - Rs. 8/Hr Plant Y - Rs. 5/Hr
Selling Overhead - Rs. 20/Unit

- Find out the minimum price if the product is new to the market?
- After the Alloy is well established.What should be the minimum price and why?

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[12 MARKS]

2. RST Ltd. Is a specialist in the manufacture of sports goods. They manufacture croquet mallets but purchase the wooden balls, iron arches and stakes required to complete a croquet set.

Mallets consist of a head and handle. Handles use 2.5 board feet per handle at Rs. 50 per board foot. Spoilage loss is negligible for the manufacture of handles. Heads frequently split and create considerable scrap.

A head requires 0.40 board feet of high quality lumber costing Rs. 60 per board foot. Spoilage normally works out to 20 % of the completed heads. 4% of the spoiled heads can be salvaged and sold as scrap at Rs. 10 per spoiled head.

In the department machining and assembling the mallets, 6 men work 8 hours per day for 25 days in a month. Each worker can machine and assemble 12 mallets per uninterrupted 40 minutes time frame. In each 8 hours working day, 15 minutes are allowed for coffee-brake, 8 minutes on an average for training and 9 minutes for supervisory instructions. Besides 10% of each day is booked as idle time to cover checking in and checking out changing operations, getting materials and other miscellaneous matters. Workers are paid at a comprehensive rate of 6 per hour.

The department is geared to produce 20,000 mallets per month and the monthly expenses of the department are as under:

PARTICULARS	AMOUNT
Finishing and Painting of Mallets	20000
Lubricating oil for cutting machines	600
Depreciation for cutting machines	1400
Repairs and Maintenance	200
Power to run the machines	400
Plant managers salary	9400

As the mallets are machined and assembled in lots of 250, prepare a total cost sheet for one lot and advise the management on the selling price to be fixed per mallet in order to ensure a minimum 33.33 % margin on the selling price.

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[8 Marks]

3. Humara Apna Bank offers three products. Deposits, Loans and Credit Cards. Bank Has selected four activities. Bank wants to know product wise total cost per unit so that price may be fixed accordingly. The following information is available

ACTIVITY		PRESENT COST	ESTIMATION FOR BUDGET PERIOD
ATM SERVICE	Machine Maintenance	400,000	All fixed. No change
	Rents	200,000	Fully fixed. No change
	Currency Replenishment Cost	100,000	Expected to double (This Activity is driven by number of ATM transactions)
	SUB TOTAL	700,000	
COMPUTER PROCESSING		500,000	* Half of this amount is fixed and No Change is expected. * The Variable portion is expected to increase three times the expected level * This activity is driven by no. of computer transactions
ISSUING STATEMENTS		1800,000	* Presently 3 Lac statements are made. In the budget period 5 Lac statements are expected. * For every increase of 1 Lac statement, One Lac rupees is the budgeted increase. * This activity is driven by no. of number of statements.
COMPUTER INQUIRIES		200,000	* Estimated to increase by 80% in the current budget period. * Thus activity is driven by telephone minutes.

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The activity drivers are given below.

ACTIVITY DRIVERS	DEPOSITS	LOANS	CASH CREDITS
No of ATM Transactions	1 , 50,000	--	50,000
No. Of Computer Processing Transactions	15,00,000	2,00,000	3,00,000
No. of Statements to be issued	3,50,000	50,000	1,00,000
Telephone Minutes	3,60,000	1,80,000	1,80,000

The bank budgets a volume of 58,600 deposit accounts, 13000 Loan accounts, and 14000 Credit Card accounts.

REQUIRED

a) Calculate the Budgeted Rate for each activity.

b) Prepare a Budgeted Cost statement Activity wise.

c) Find the budgeted product cost per account for each product for (a) and (b) above.

[12 marks]

4. BIML is Specialist in manufacturing Industrial products. They manufacture and market two types of Products. X and Y. Company produces these two products from basic three Raw materials. A,B and C. Company follows a 13 period reporting cycle for budgeting purpose. Each period is 4 weeks long and has 20 working days. Data is given below.

RAW MATERIAL	PURCHASE PRICE PER KG	STD PURCHASE LOT IN K	REORDER POINT IN KG	INVENTORY STATUS IN HAND AT THE END OF 5TH PERIOD	INVENTORY STATUS ORDERED PENDING DELIVERY AT THE END OF 5TH PERIOD	LEAD TIME IN WORKING DAYS
A	1.00	90000	72000	96000	90000	10
B	2.00	30000	45000	54000	-	25
C	1.00	60000	60000	84000	60000	20

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Past experience has shown that adequate inventory levels for X and Y can be maintained if 40% of next period projected sales are on hand at the end of the reporting period. Other relevant information is as follows.

Product	Raw Material Specifications			Projected Inventory Levels	Projected Sales		
	A	B	C	At the end of current (5th) period	6th Period	7th Period	8th Period
	Kg	Kg	Kg	Units	Units	Units	Units
X	1.25	0.50	-	18,000	45,000	52,500	57,000
Y	2.00	-	1.50	16,800	42,000	27,000	24,000

The Sales of X and Y do not vary significantly from month to month. Consequently the safety stock incorporated into the reorder point for each of the raw materials in adequate to compensate for variations in the Sales of the finished product.

Raw material orders are placed the day the quantity on hand falls below the re order point. BIML suppliers are very trust worthy so that the given lead times are reliable.

The outstanding orders for raw material A and C are due to arrive on the 10th and 4th working day of the 6th period respectively. Payment for all raw material orders are remitted by the 10th day of delivery.

You are required to determine the following items for Raw Materials A, B and C for inclusion in the 6th period report to management.

A. Projected Quantities to be issued to production.

B. Projected Quantities ordered and the date (In terms of Working days), the order is to be placed.

C. The projected Inventory Balance (In kg at the end of the period)

D. Payment for purchase with due date.

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[12 marks]

5. DHARA LTD is engaged in the manufacture of edible oil. It has three divisions viz.

* Harvesting whose function is production of oilseeds & transportation thereof to the oil mill,

* Oil Mill , which processes oil seeds and manufactures edible oil,

* Marketing Division, which packs the edible oil in 2 kg, containers for sale at Rs. 150 per container.

The oil mill has a yield of 1,000 kg of oil from 2,000 kg of oil seeds during a period. The marketing Division has a yield of 500 cans of edible oil of 2 kg each from every 1,000 kg of oil. The net weight per can is 2 kg of oil. The cost data for each division for the period are as under –

Harvesting Division

Variable cost per kg. of oil seed	Rs. 2.50
Fixed cost per kg. of oil seed	Rs. 5.00

Oil Mill Division

Variable cost of processed edible oil	Rs. 10.00 per kg
Fixed cost of processed edible oil	Rs. 7.50per kg

Marketing Division

Variable cost per can of 2 kg of oil	Rs. 3.75
Fixed cost per can of 2 kg of oil	Rs. 8.75

Fixed costs are calculated on the basis of the estimated quantity of 2,000 kg of oil seeds harvested, 1,000 kg of processed oil and 500 cans of edible oil packed by the aforesaid divisions respectively during the period under review. The other oil mills buy the oil seeds of same quality at Rs. 12.50 per kg in the market. The market price of edible oil processed by the oil mill, if sold without being packed in the marketing division is Rs. 62.50 per kg.

**** Compute the overall profit of the company of harvesting 2,000 kg of oil seeds, processing it into edible oil and selling the same in 2 kg cans as estimated for the period under review.***

**** Compute the transfer Prices that will be used for internal transfers from – (1) Harvesting Division to Oil Mill Division and (2) From oil Mill Division to Marketing Division under the following pricing methods – (a) Shared contribution in relation to variable costs and (b) Market Price.***

**** Which transfer pricing method will each divisional manager prefer to use? (M 01)***

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[12 marks]

6. A company had nearly completed a job relating to construction of a specialised equipment, when it discovered that the customer had gone out of business. At this stage, the position if the job was as under:

Original cost estimate	1,75,200
Costs incurred so far	1,48,500
Costs to be incurred	29,700
Progress payment received from original customer	1,00,000

After searches, a new customer for the equipment has been found. He is interested to take the equipment, if certain modifications are carried out. The new customer wanted the equipment in its original condition, but without its control device and with certain other modifications. The costs of these additions and modifications are estimated as under:

Direct materials (at cost)	Rs.1,050
Direct Wages Dept A	15 man days
Dept. : B	25 man days
Variable overheads	25% of direct wages in each dept.
Delivery costs	Rs.1,350

Fixed overheads will be absorbed at 50% of direct wages in each department.

The following additional information is available :

* The direct materials required for the modification are in stock and if not used for modification of this order, they will be used in another job in place of materials that will now cost Rs.2,250.

* Department A is working normally and hence any engagement of labour will have to be paid at the direct wage rate of Rs.120 per man day.

* Department B is extremely busy. Its direct wages rate is Rs.100 per man day and it is currently yielding a contribution of Rs.3.20 per rupee of direct wages.

* Supervisory overtime payable for the modification is Rs.1,050.

* The cost of the control device that the new customer does not require is Rs.13,500. If it is taken out, it can be used in another job in place of a different mechanism. The latter mechanism has otherwise to be bought for Rs.10,500. The dismantling and removal of the control mechanism will take one man day in department A.

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* If the convertion is not carried out, some of the materials in the original equipment can be used in another contract in place of materials that would have cost Rs.12,000. It would have taken 2 man days of work in department A to make them suitable for this purpose. The remaining materials will realize Rs.11,400 as scrap. The drawings, which are included as part for the job can he sold for Rs.1,500.

You are required to calculate the minimum price, which the company can afford to quote for the new customer as staled above. (May 2001)

7. Zed company manufacturers two types of flooring rolls. Budgeted and actual data for 2015 are-

	Static Budget			*Actual Result*		
	Industrial	*Domestic*	*Total*	*Industrial*	*Domestic*	*Total*
Unit Sales in Rolls ('000)	200	600	800	252	588	840
Sale Value (In Lacs)	100.00	240.00	340.00	119.70	246.96	366.66

In late 2014, a marketing research estimated industrial volume for industrial and domestic flooring at 80 lacs Rolls. Actual industry volume for 2015 was 70 lacs Rolls.

Compute

(i) Sales Mix Variance and Sales Quantity Variance by type of flooring rolls and in total.

(ii) Market Share Variance and Market Size Variance. *[8marks]*

8. REVERSE WORKING A single product Company operates a system of standard costing. The following data relate to actual output, sales, costs and variances for a month-

Actual output	18,000 units
Actual sales and costs incurred	Rs.
Sales	Rs. 12,15,000
Direct Materials purchased and used 63,000 kg	2,04,750
Direct Wages	2,12,040
Variable overheads	2,77,020
Fixed overheads	3,25,000
Total costs	***10,18,810***
Profit	1,96,190

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[5 Marks]

VARIANCES ARE

Direct Materials	Price variance- 15,750- A, Usage Variance – 27,000 A
Direct Labour	Rate variance – 6,840 A, Efficiency variance – 10,800 F
Variable overheads	Efficiency variance – 14,400 F, Expense variance – 3,420 A
Fixed overheads	Expense variance – 25,000 A
Sales	Price variance – 45,000 F

1. Present the original budget along with cost sheet showing the standard cost and profit per unit.
2. Calculate the sales gross margin volume and fixed overheads volume variances
3. Prepare an operating statement reconciling the budgeted profit with actual profit.

[8 marks]

9. Shashidhar Ltd manufactures a semi-conductor for which the cost and price structure is given below –

Particulars	Rs. Per unit
Selling price	500
Direct Material	150
Direct Labour	100
Variable Overhead	50
Fixed cost	2 Lakhs

The product is manufactured by a machine, whose spare part costing Rs.2,000 needs replacement after every 100 pieces of output. This is in addition to the above costs. Assume that no defectives are produced and that the spare part is readily in the market at all times at Rs. 2,000

1. What is the Breakeven point (BEP) for the above data?

10. An electronics firm which has developed a new type of fire-alarm system has been asked to quote for a prospective contract. The customer requires separate price quotations for each of the following possible orders:

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Order Number of fire-alarm systems

First	100
Second	60
Third	40

The firm estimates the following cost per unit for the first order:

Direct materials	Rs. 500
Direct labour	
Deptt. A (Highly automatic)	20 hours at Rs. 10 per hour
Deptt. B (Skilled labour)	40 hours at Rs. 15 per hour
Variable overheads	20% of direct labour

Fixed overheads absorbed:

Dept. A	Rs. 8 per hour
Dept. B	Rs. 5 per hour

Determine a price per unit for each of the three orders, assuming the firm uses a mark up of 25% on total costs and allows for an 80% learning curve. Extract from 80% Learning curve table:

X	1.0	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Y (%)	100	91.7	89.5	87.6	86.1	84.4	83.0	81.5	80.0

X represents the cumulative total volume produced to date expressed as a multiple of the initial order.

Y is the learning curve factor, for a given X value, expressed as a percentage of the cost of the initial order.

[5 Marks]

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[12 Marks]

11. A small project is composed of 7 activities whose time estimates are listed in the table below.

Activity	1-2	1-3	1-4	2-5	3-5	4-6	5-6
Optimistic(to)	1	1	2	1	2	2	3
Likely (tm)	1	4	2	1	5	5	6
Pessimistic(tp)	7	7	8	1	14	8	15

Draw the project network and identify all the paths.

* *Find the expected duration and variance for each activity.*

* *What is the expected project length?*

* *Calculate the variance and standard deviation of the project length.*

* *What is the probability that the project will be completed i) at least 3 weeks earlier than expected?*
  ii) No more than 3 weeks later than expected?

* *If the project due date is 18 weeks what is the probability of not meeting the due date?*

* *What duration has about 90% chance of being met?*

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