INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR
PROGRAMME NAME: PGDM
AC 502: Cost & Management Accounting

CREDIT: Full (3 credits)
SESSION DURATION: 90 **TERM: II**
BATCH: 2014-2016

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Course Introduction: Being a part if MIS, cost accounting assumes much importance in decision making process. A deep knowledge of cost drivers is vital to long term sustainability of a business organization. The most difficult part is to identify cost drivers according to the type and nature of industry. The competitiveness of a product in the market depends not only upon its quality but also on the price in a price sensitive market. This course will enable the students to identify cost drivers and to take suitable decisions.

Course Objectives:

- To expose the students to the internal functioning of an organization
- To enable them to do costing of the products and services
- To enable them to take pricing decisions under different economic situations.

Course Readings

Text book: Sawyers, R.B., Jenkins, J.G. and Arora, R.K., Managerial ACCT, *Cengage Learning* (SJJA)

Reference book(s): 1. Cost Accounting – A Managerial Emphasis, Horngren, Datar, *Pearson Education*, 13e
2. Management Accounting, M.Y. Khan and P.K. Jain, *TMH*, 4e

Course Evaluation criteria:

Class Participation:	10%
Mid-Semester:	30%
End-Semester:	40%
Projects/ Assignments:	20%

Session Plan:

Session No.	Topic	Reading
1-2	➢ Introduction to Cost Terms ➢ Cost Drivers, Centres, (In)Direct Costs, COGS ➢ Preparation of Cost Sheet ➢ Financial and Cost accounting	Text Book: Chapter 1,5
3-5	➢ Understanding Cost Behaviour ➢ Activity Based Costing	Text Book: Chapter 6,8 Case: Richbru Coffee
6-7	➢ Product costing ➢ Job-order costing ➢ Process Costing	Text Book: Chapter 7 Cases: 1. Fiber Optics Ltd. 2. Bharat Leather Company
8-11	➢ Profit Planning and Budgeting ➢ CVP Analysis ➢ BE Point ➢ Pricing Decisions	Text Book: Chapter 9, 10 Case: Medicare Centre
12-14	Short run decision analysis and relevant costs	Text Book: Chapter 13
15-16	Standard Costing and variance analysis	Text Book Chapter 11 Case: Cosmo Fashions
17-20	Responsibility accounting, Performance evaluation of investment centres, Transfer Pricing	Text Book chapter 12

Cases:

Richbru Coffee

Richbru Coffee (RC) is a distributor and processor of different blends of coffee. The company buys coffee beans from around the world and roasts, blends and packages them for resale. RC currently has 15 different coffees that it offers to shops in one-kg bags. The major cost is raw materials; however there is a substantial amount of manufacturing overhead in the predominantly automated roasting and packing process. The company uses relatively little direct labour.

Some of the coffees are very popular and sell in large volumes, while a few of the newer blends have very low volumes. RC prices its coffee at full product cost, including allocated overheads, plus a markup of 30 percent. If prices for certain coffees are significantly higher than market, adjustments are made. The company competes primarily on the quality of its products, but customers are price conscious as well.

Data for the 2010 budget include manufacturing overhead of Rs.30, 00,000 which has been allocated on the basis of each product's direct labour cost. The budgeted direct labour cost for 2010 totals Rs.6, 00,000. Based on the sales budget and raw material budget, purchases and use of raw materials (mostly coffee beans) will total Rs.60, 00,000.

The expected prime costs of one kg bags of the two of the company's products are as follows:

	Esbru	Cabru
Direct Material	Rs. 84	Rs. 64
Direct Labour	Rs 6	Rs. 6

RC's controller believes the traditional product-costing system may be providing misleading cost information. She has developed an analysis of the 2010 budgeted manufacturing-overhead costs shown in the following chart.

Activity	Cost Driver	Budgeted Activity	Budgeted Cost
Purchasing	Purchase orders	1158	Rs. 5,79,000
Material Handling	Setups	1800	7,20,000
Quality Control	Batches	720	1,44,000
Roasting	Roasting hours	96100	9,61,000
Blending	Blending hours	33600	3,36,000
Packaging	Packaging hours	26000	2,60,000
Total Manufacturing Overhead cost			30,00,000

Data regarding the 2010 production of Esbru and Cabru Coffee are shown in the following table. There will be no raw-material inventory for either of these coffees at the beginning of the year.

	Esbru	Cabru
Budgeted sales	10,000 kg.	200 kg.
Batch size	1,000 kg.	50 kg.
Setups	3 per batch	3 per batch
Purchase order size	2,500 kg.	50 kg.
Roasting time	1 hr. per 10 kg.	1 hr. per 10 kg.
Blending time	5 hr. per 10 kg.	0.5 hr. per 10 kg.
Packaging time	1 hr. per 10 kg.	0.1 hr per 10 kg.

Required:

(a) Using Richbru's current product costing system:

(i) Determine the company's predetermined overhead rate using direct labour cost as the single cost driver.

(ii) Determine the full product costs and selling price of one kg of Esbru Coffee and one kg of Cabru Coffee.

(b) Develop a new product cost, using an activity-based costing approach for one kg of Esbru coffee and one kg of Cabru coffee.

FIBER OPTICS LIMITED

Fiber Optics Ltd., a manufacturer of fiber optic communication equipment, uses a job-order costing system. Since the production process is heavily automated, manufacturing overhead is applied on the basis of machine hours using a predetermined overhead rate. The current annual rate of Rs.30 per machine hour is based on budgeted manufacturing overhead cost of Rs. 24,00,000 and a budgeted activity level of 80,000 machine hours. Operations for the year have been completed, and all of the accounting entries have been made for the year except the application of manufacturing overhead to the jobs worked on in December, the transfer of costs from Work in Process to Finished Goods for the jobs completed in December, and the transfer of costs from Finished Goods to Cost of Goods Sold for the jobs that have been sold during December. Summarized data as of November 30 and for the month of December are presented in the following table. Jobs T11-007, N11-013 and N11-015 were completed during December. All completed jobs except job N11-013 had been turned over to customers by the close of business on December 31.

Work –in- Process		December Activity		
Job No.	Balance November 30	Direct Material	Direct Labour	Machine Hours
T11-007	1,74,000	3,000	9,000	300
N11-013	1,10,000	8,000	24,000	1,000
N11-015		51,200	53,400	1,400
D12-002		75,800	40,000	2,500
D12-003		52,000	33,600	800
Total	2,84,000	1,90,000	1,60,000	6,000

Operating Activity	Activity through November 30	December Activity
Actual manufacturing Overhead incurred		
Indirect material	2,50,000	18,000
Indirect labour	6,90,000	60,000
Utilities	4,90,000	44,000
Depreciation	7,70,000	70,000
Total overhead	22,00,000	1,92,000
Other Data		
Raw Material purchases*	19,30,000	1,96,000
Direct labour costs	16,90,000	1,60,000
Machine hours	73,000	6,000

Account Balances at the Beginning of year

Raw material inventory*	2,10,000
Work-in-process inventory	1,20,000
Finished goods inventory	2,50,000

*Raw material purchases and raw material inventory consist of both direct and indirect materials. The balance of the Raw Material Inventory account as of December 31 of the year just completed is Rs. 1,70,000.

Required:

1. Explain why manufacturers use a predetermined overhead rate to apply manufacturing overhead to their jobs.

2. How much manufacturing overhead would Fiber Optics have applied to jobs through November 30 of the year just completed?

3. How much manufacturing overhead would have been applied to jobs during December of the year just completed?

4. Determine the amount by which manufacturing overhead is applied or underapplied as of December 31 of the year just completed.

5. Determine the balance in the Finished Goods Inventory account on December 31 of the year just completed.

6. Prepare a schedule of the cost of goods manufactured for Fiber Optics for the year just completed.

BHARAT LEATHER COMPANY

Bharat Leather Company manufactures leather goods in central India. The company's profits have declined during the past nine months. In an attempt to isolate the causes of poor profit performance, management is investigating the manufacturing operations of each of its products.

One of the company's main products is a leather belt. The belts are produced in a single continuous process. During the process, leather strips are sewn, punched and dyed. The belts then enter a final finishing stage to conclude the process. Labour and overhead are applied continuously during the manufacturing process. All materials, leather strips and buckles are introduced at the beginning of the process. The firm uses the weighted average method to calculate its unit costs.

The belts produced by the company are sold wholesale for Rs. 345 each. Management wants to compare the current manufacturing costs per unit with the market prices for leather belts. Top management has asked the plant controller to submit data on the cost of manufacturing the leather belts for the month of October. These cost data will be used to determine whether modifications in the production process should be initiated or whether an increase in the selling price of the belts is justified. The cost per belt used for planning and control is Rs.170.

The work-in-process inventory consisted of 500 partially completed units on October 1. The belts were 30% complete as to conversion. The costs included in the inventory on October 1 were as follows:

Leather strips	Rs. 24,750
Buckles	5,250
Conversion costs	37,500

Total	67,500

During October 8,000 leather strips and buckles were placed into production. A total of 8,100 leather belts were completed. The work-in-process inventory on October 31 consisted of 400 belts, which were 40 percent complete as to conversion.

The costs charged to production during October were as follows:

Leather strips	Rs. 6,15,000
Buckles	1,20,000
Conversion costs	8,29,800

Total	15,64,800

Required: In order to provide cost data regarding the manufacture of leather belts to the top management, compute the following amounts for the month of October.

1. The equivalent units for material and conversion.
2. The cost per equivalent unit of material and conversion.
3. The assignment of production costs to the October 31 work-in-process inventory and to goods transferred out.

4. The weighted-average unit cost of leather belts completed and transferred to finished goods.
5. Comment on the company's cost per belt used for planning and control

MEDICARE CENTER

Medicare Center operate a general hospital in Delhi. The center also rents space and beds to separately owned entities rendering specialized services, such as Pediatrics and Psychiatric Care. Medicare Center charges each separate entity for common services such as patients' meals and laundry, and for administrative services such as billings and collections. Space and bed rentals are fixed charges for the year, based on bed capacity rented to each entity. Medicare Center charged the following costs to Pediatrics for the year ended 31st March 2005:

	Patient Days (variable) Rs.	Bed Capacity (fixed) Rs.
Dietary	72,00,000	-
Janitorial	-	8,40,000
Laundry	36,00,000	
Laboratory	54,00,000	
Pharmacy	42,00,000	
Repairs and maintenance		3,60,000
General and administrative		1,56,00,000
Rent		1,80,00,000
Billings and collections	36,00,000	
Total	2,40,00,000	3,48,00,000

During the year ended March 31,2005, Pediatrics charged each patient an average of Rs. 3,600 per day , had a capacity of 60 beds, and had revenue of Rs. 720 lakh for 365 days. In addition, Pediatrics directly employed personnel with the following annual salary costs per employee: supervising nurses Rs. 3,00,000; nurses Rs. 2,40,000 and aides Rs. 1,08,000.

Medicare Center has the following minimum departmental personnel requirements based on total annual budgeted patient days:

Annual Patient Days	Supervising Nurses	Nurses	Aides
Up to 22,000	4	10	20
22,001 to 26,000	5	14	25
26,001 to 29,000	5	16	31

Pediatrics always employs only the minimum number of required personnel. Salaries of supervising nurses, nurses and aides are therefore fixed within ranges of annual patient days.

Pediatrics operated at 100 percent capacity on 90 days during the year ended March31, 2005. Administrators estimate that on these 90 days, Pediatrics could have filled another 20 beds above capacity. Medicare Center has an additional 20 beds available for rent for the year ending on March 31, 2006. Such additional rental would increase Pediatrics' fixed charges based on bed capacity.

Required:

1. Calculate the minimum number of patient days required for Pediatrics to break even for the year ending March 31, 2006, if the additional beds are not rented. Patient demand is unknown, but assume

that revenue per patient day, cost per patient day, cost per bed and salary rates will remain the same as for the year ended March 31,2005.
2. Assume that patient demand, revenue per patient day, cost per patient day, cost per bed and salary rates for the year ending March 31,2006l remain the same as for the year ended March 31,2005.

Prepare a schedule of Pediatrics' increase in revenue and increase in costs for the year ending March 31,2006. Determine the net increase or decrease in Pediatrics earnings from the additional 20 beds if Pediatrics rents this extra capacity from Medicare Center.

COSMO FASHIONS

Cosmo Fashions manufactures women's blouses of one quality, which are produced in lots to fill each special order. Its customers are department stores in various cities. Cosmo Fashions sews the particular stores' labels on the blouses. During November the company worked on three orders, for which the month's job-cost records disclose the following data.

Lot Number	Boxes in Lot	Material Used (metres)	Hours Worked
N42	2,000	12,050	5,960
N43	3,400	20,220	10,260
N44	2,400	14,413	5,760

The following additional information is available:

1. The firm purchased 1,90,000 metres of material during November at a cost of Rs.85,12,000.

2. Direct labour during November amounted to Rs. 33,00,000. According to payroll records, production employees were paid Rs.48.20 per hour.

3. There was no work-in-process on November 1. During November lots N42 and N43 were completed. All material was issued for lot N44, which was 80 percent completed as to conversion (direct labour and overhead).

4. The standard costs for a box of six blouses are as follows:

Direct material	6 metres at Rs. 44	Rs. 264	
Direct labour	3 hours at Rs. 47		141
Manufacturing overhead	3 hours at Rs. 120		360

			765

Required:

1. Prepare a schedule computing the standard cost of lots N42, N43 and N44 for November.
2. Prepare a schedule showing, for each lot produced during November:

   a. Direct material price variance
   b. Direct material usage variance
   c. Direct labour efficiency variance
   d. Direct labour rate variance
