

<b>FINC 7007</b>	<b>Accounting for Power Industry</b>	L	T	P	C
<b>Version 1.0</b>		3	1	0	4
<b>Pre-requisites/Exposure</b>	Basic knowledge of Fundamentals of Accounting such as calculation of Assets, Liabilities, Expenses				
<b>Co-requisites</b>	Knowledge of classification of data, data presentation				

**Document Creation Date 20-12-2017 – AUISC-Version 1.0**

## Course Objectives

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1. To help the students to develop cognizance of the importance of accounting in organization financial statements
2. To enable students to describe how people analyze the corporate financial under different conditions and understand why people describe the financial statements in different manner.
3. To provide the students to analyze specific characteristics of Infrastructure Industry and their future action for expenses and income
4. To enable students to synthesize related information and evaluate options for most logical and optimal solution such that they would be able to predict and control cost incurrence and improve results.

## Course Outcomes

On completion of this course, the students will be able to

- CO1. Demonstrate the applicability of the concept of Accounting to understand the managerial Decisions and financial statements
- CO2. Apply the Financial Statement Analysis associate with Financial Data in the organization.
- CO3. Analyse the complexities associated with management of cost of product and services in the Organization
- CO4. Demonstrate how the concepts of accounting and costing could integrate while identification and resolution of problems pertaining to Power Sector

## Catalog Description

The main objective of Accounting in Infrastructure Sector is to help students to acquire and develop skills to take rational decisions in the process of product mix and assessment of Earning per Share. Assets and Liabilities have always been regarded as important in financial analysis in organizations.

Leverage aspects are critical in each aspects of management and equally so for the effective management of Financial Resources. In view of this , Accounting and Management Accounting has assumed great importance. This course is designed primarily for students who are being exposed to Accounting, Asset Liability Management for the first time.

This course covers the explanations about the accounting concepts in the organizational context, it details the impact of assets,, liabilities , expenses , income on Financial Statement. The course also focuses on understanding of identification of Cost and framing of strategies and scenarios required to select and develop product line.

Classroom activities including lectures, discussions and case studies (topped up with role play) will be designed to encourage students to get involved, absorb and assimilate inputs. These activities will also be supplemented by group discussions, cooperative group solving problems, live projects, analysis of video cases and debates.



## Reference Books

1. Financial Accounting; Principles and Practices, J Lal and S Srivastava, S Chand, New Delhi
2. Financial Accounting, P C Tulsian, Tata McGraw, New Delhi
3. Management Accounting, I M Pandey, Vikas Publishing House (Pvt) Ltd.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination Examination Scheme:**

Components	Presentation/Assignment/ etc	ESE
Weightage (%)	50	50

## ASSESSMENT TOOLS:

CO 1	CO2	CO3	CO4
Discussion Assignment and Case Let Analysis	Discussion Assignment, Quiz and Case Let Analysis	Case Analysis, Project Analysis, Video Analysis Presentation	Case Analysis, Project Analysis, Video Analysis Presentation

### Mapping between COs and POs

	Course Outcomes (COs)	Mapped Programme Outcomes
CO1	Demonstrate the applicability of the concept of Accounting to understand the managerial Decisions and financial statements	PO1, PO2
CO2	Apply the Financial Statement Analysis associate with Financial Data in the organization	PO7,PO8, PO3
CO3	Analyse the complexities associated with management of cost of product and services in the Organization	P14, PO4
CO4	Demonstrate how the concepts of accounting and costing could integrate while identification and resolution of problems pertaining to Infrastructure Sector	PO8, PO13, PO6

Course Outcomes	CO 1	CO 2	CO 3	CO 4
PO 1	3	3	3	2
PO 2	3	3	3	2
PO 3	3	3	3	2
PO 4	3	1	1	3

<b>PO 5</b>	2	2	1	3
<b>PO 6</b>	1	1	1	1
<b>PO 7</b>	3	3	1	2
<b>PO 8</b>	3	3	3	3
<b>PSO 9</b>	3	3	3	1
<b>PSO 10</b>	3	3	3	2
<b>PSO 11</b>	3	3	3	2
<b>PSO 12</b>	1	1	1	3
<b>PSO 13</b>	3	1	3	3

### Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

		Students will be able to develop and evaluate alternate managerial choices and identify optimal solutions.	Students will demonstrate effective application capabilities of their conceptual understanding to infrastructure planning, development and management	Students will be able to exhibit effective decision-making skills, employing analytical and critical thinking ability for planning, development and management of soft and hard infrastructure	Students will demonstrate effective oral and written communication skills in the professional context	Students will be able to work effectively in teams and demonstrate team-working capabilities	Students will exhibit leadership and networking skills	Students will demonstrate sensitivity towards ethical and moral issues and have ability to address them in the context of urban planning, development and management including cost effective financing and good governance	8. Students will demonstrate employability traits in line with the needs of changing hard and soft urban infrastructure sector	Students will demonstrate strong conceptual knowledge and execution in soft and hard infrastructure planning, development, management, financing, regulation and governance	Students will demonstrate analytical skills to understand issues with remedial solutions relating to urban infrastructure	Students will exhibit the ability to integrate planning, construction & development, operation & management, financing, regulation and governance of urban infrastructure projects and facilities	Students will exhibit the ability to integrate planning, construction & development, operation & management, financing, regulation and governance of urban infrastructure projects and facilities	Students will exhibit the ability to integrate technical, economic, social and regulatory frameworks for urban infrastructure sector planning and resource management
Course Code FINC-7007	Accounting in  Power Sector	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13
		2	3	2	3	2	3	2	3	3	2	1	2	3



3.	Gross Profit ratio is 20% on sales. Total gross profit is Rs. 1,00,000. Cash sales- Rs. 1,20,000. Average Debtors – Rs. 95,000. Debtors turnover ratio will be	[1]	CO2
4.	Mr. Rohan owner of PE Ltd. owns a personal car costing Rs. 10 lakh (Market Value Rs. 15 Lakh). During the preparation of Financial Statement for the business, the entire value of the Car was ignored and was not shown in the Financial Statements. The principle followed by him was	[1]	CO4
5.	Operating Activity and Financing Activity as per AS 3	[1]	CO3
6.	Prime Cost and Cost of Goods Sold	[1]	CO1
7.	P/E Ratio and Debt Equity Ratio	[1]	CO2
8.	Cost Center and Sub Cost Center	[1]	CO4
9.	AS 1 and AS 2	[1]	CO3
10.	Matching of Cost & Revenue and Revenue Realization Concept	[1]	CO1
11	Cost of sales of firm is Rs. 2,50,000 and the stock turnover ratio is 5 times. The value of stock is	[1]	CO2
12.	AS 6 describes that	[1]	CO4
13.	Activity Based Costing is defined as	[1]	CO3
14.	Payment of Loans is .....Activity	[1]	CO1
15.	Assumptions of AS 3 are	[1]	CO2
16.	The valuation procedure for stocks is cost or net realizable value, whichever is lower.  This procedure Follows the accounting concept	[1]	CO4
17.	Dividend Payout Ratio is equal to	[1]	CO3
18.	Entry for goods given as charity is	[1]	CO1
19.	Cost is defined as	[1]	CO2
20.	Transfer of Reserves Rules includes	[1]	CO4
<b>SECTION B (Attempt all questions)</b>			
21.	(a) Current Liabilities of a company are Rs. 3,00,000. Its Current Ratio is 3: 1 and Quick Ratio is 1: Calculate the value of stock in trade  (b) A firm has made credit purchases of Rs. 5,40,000. The amount payable to the creditors at the beginning and at the end of the year was Rs. 1,27,500 and Rs 1,42,500 respectively. Find out the creditors turnover ratio	[5]	CO1
22.	Explain the Following accounting Concepts with example:  a. Money Measurement Concept	[5]	CO4

	<p>b. Going Concern Concept</p> <p>c. Cost Concept</p> <p>d. Business Entity Concept</p>																				
23.	Briefly Discuss the Cost Sheet with example?	[5]	CO3																		
24.	<p>A limited company purchases on 1<sup>st</sup> July 2014 a second hand plant for Rs.. 80,000 and immediately spends Rs. 40,000 on its overhauling. On 31<sup>st</sup> July in the same year additional plant costing Rs. 90,000 is purchased. On 1<sup>st</sup> July 2016, the plant acquired on 1<sup>st</sup> July 2014 (1/4 the of the same) become obsolete is sold off for Rs. 8,000. On the same date fresh plant is purchased at a cost of Rs. 48,000</p> <p>Depreciation is provided at the rate of 10% per annum on Written Down Value on 31<sup>st</sup> March each year. Show the Plant account from 2014 to 2019</p>	[5]	CO2																		
<b>SECTION C ( Attempt any 3 questions)</b>																					
25.	<p>With the help of the following ratios regarding J Films, draw the Balance sheet of the Company for the year 2017</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Current Ratio</td> <td style="width: 40%;">3</td> </tr> <tr> <td>Liquidity Ratio</td> <td>2.5</td> </tr> <tr> <td>Net working Capital</td> <td>Rs. 8,00,000</td> </tr> <tr> <td>Stock Turnover Ratio( Cost of Sales/ Closing Stock)</td> <td>8 times</td> </tr> <tr> <td>Gross profit ratio</td> <td>40 %</td> </tr> <tr> <td>Fixed Assets Turnover Ratio ( on cost of sales)</td> <td>6 times</td> </tr> <tr> <td>Debtor Collection Period</td> <td>3 months</td> </tr> <tr> <td>Fixed Assets to Shareholder's Net worth</td> <td>0.75 : 1</td> </tr> <tr> <td>Reserves and Surplus to Capital</td> <td>0.50 : 1</td> </tr> </table>	Current Ratio	3	Liquidity Ratio	2.5	Net working Capital	Rs. 8,00,000	Stock Turnover Ratio( Cost of Sales/ Closing Stock)	8 times	Gross profit ratio	40 %	Fixed Assets Turnover Ratio ( on cost of sales)	6 times	Debtor Collection Period	3 months	Fixed Assets to Shareholder's Net worth	0.75 : 1	Reserves and Surplus to Capital	0.50 : 1	[10]	CO2
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26.	<p>From the Following data relating to two different vehicles C and D, Compute the cost per running kilometer.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 35%; text-align: center;">C(Rs.)</th> <th style="width: 30%; text-align: center;">D(Rs)</th> </tr> </thead> <tbody> <tr> <td>Kilometers Run (Annual)</td> <td style="text-align: center;">20000 km</td> <td style="text-align: center;">8000 km</td> </tr> <tr> <td>Cost of Vehicles</td> <td style="text-align: center;">23,00,000</td> <td style="text-align: center;">15,00,000</td> </tr> <tr> <td>Road License (Annual)</td> <td style="text-align: center;">1500</td> <td style="text-align: center;">2000</td> </tr> </tbody> </table>		C(Rs.)	D(Rs)	Kilometers Run (Annual)	20000 km	8000 km	Cost of Vehicles	23,00,000	15,00,000	Road License (Annual)	1500	2000	[10]	CO4						
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Insurance (Annual)	2000	1400			
Garage Rent (Annual)	1600	1500			
Salaries (Annual)	6000	7000			
Drivers Wages per hour	7	6			
Cost of petrol per litre	5	5			
Km. run per litre	30 km	40 km			
Repair Charges per km	2.7	3.00			
Tyre Cost per km	0.80	0.60			
Estimated life of Vehicle	10 years	12 years			
Vehicle run per hour	30 kms	40 kms			
Interest	7% p.a. of cost	8% p.a. of cost			
Scrap Value	5000	7000			

27.	<p>Following balances appear in the books of HTC Limited as on 1<sup>st</sup> Feb 2017</p> <p><b>Assets</b> Cash Rs. 16,000; Cash at Bank Rs. 14,000; Stock Rs. 60,000; Furniture Rs. 10,000; Building Rs 5,000, Debtors: Rishab Rs. 10,000; Rakesh Rs. 12,000; Dinesh Rs. 14,000</p> <p><b>Liabilities: Creditors-</b> G Rs. 5,000; Y Rs. 6,000</p> <p>Give the Journal Entries for the following transactions in the books of PTC Limited</p> <table border="1"> <tr> <td>2017</td> <td></td> </tr> <tr> <td>Feb 2</td> <td>Bought goods of the list price of Rs. 10,000 from Shiv Traders less 10% trade discount and 2% cash discount and 40% amount is paid immediately</td> </tr> <tr> <td>Feb 3</td> <td>Received a Cheque from Rishab in full settlement and deposited in to the bank</td> </tr> <tr> <td>Feb 5</td> <td>Purchased goods from Kirti of the list price of Rs. 10,000 at 20% trade discount and paid him by Cheque</td> </tr> <tr> <td>Feb 8</td> <td>Sold goods for cash and received a Cheque- Rs. 25,000</td> </tr> <tr> <td>Feb 10</td> <td>Deposited the above Cheque in to the bank</td> </tr> <tr> <td>Feb 12</td> <td>Rakesh deposited in to our bank account Rs. 8000</td> </tr> </table>	2017		Feb 2	Bought goods of the list price of Rs. 10,000 from Shiv Traders less 10% trade discount and 2% cash discount and 40% amount is paid immediately	Feb 3	Received a Cheque from Rishab in full settlement and deposited in to the bank	Feb 5	Purchased goods from Kirti of the list price of Rs. 10,000 at 20% trade discount and paid him by Cheque	Feb 8	Sold goods for cash and received a Cheque- Rs. 25,000	Feb 10	Deposited the above Cheque in to the bank	Feb 12	Rakesh deposited in to our bank account Rs. 8000	[10]	CO2
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	Feb 16	Paid Income Tax 7000		9,600	
	Feb 20	Received a Cheque from Rakesh and sent to the bank Rs. 7000 Discount allowed		3,800 1,200	
	Feb 21	Withdrew from bank for office use Rs. 2000 For private use Rs. 1000		4,000 9,000	
	Feb 23	Sent a Cheque to G in full settlement of his account		4,900	
	Feb 26	Cheque of Rakesh returned by bank as dishonored			
	Feb 28	Dinesh was declared insolvent and 60 paise in a rupee could be recovered from his estate			
28.	From the following figures taken from the books of Pioneer Ltd. , Prepare the Profit and Loss Account, Profit and Loss Appropriation Account for the year ended on 31 <sup>st</sup> March 2017 and the Balance Sheet as on that date.			[10]	CO4
	(Rs. in '000)		(Rs. in '000)		
	<b>Particulars</b>	<b>Amount (Rs.)</b>	<b>Particulars</b>		

Cash in Hand	2.5	Miscellaneous Receipts	2
Machinery	4463.5	Loose Tools	21
Unclaimed Dividends	8.5	14% Debentures redeemed on March 31, 2015	1000
Free Hold Land	752	Prov. For Bad and Doubtful Debts	25
Preliminary Expenses	41.5	Interest on Govt. Investment	4917.5
Sinking fund for redemption of Debentures	1250	Sales	48
Sundry Debtors	275	P& L a/c Balance (Cr.)	23.5
Depreciation on Machinery	375	Returns from customers	
Wages	104.5	Depreciation Provision :	775
Salaries	3235	Machinery	237
Purchases	19.5	Buildings	0.5
Repairs	10.5	Bank Charges	6.5
Postage and Stationary	31	Discount on Sales	650
Rent, Rates and Taxes	10	Stock( 1 <sup>st</sup> April 2007)	7
Carriage	5	General Expenses	
Travelling Expenses	6250		
Subscribed and Called up Share Capital	25		
Discount on Issue of Debentures	72		
Interest on sinking Fund Investment	1250		
Sinking Fund Investments	1018		
Sundry Creditors	250		
Goodwill	17		
Bad Debts	37		
Directors Remuneration	12.5		
Auditors Fees	63		
Interest on Debentures less tax @10%	15		
Insurance	75		
Depreciation on Buildings	70		
Cash at Bank	238		
General Reserve	17.5		
Returns from Purchases	500		
10% Free of Tax Govt. Investment	95		
Motive Power	37.5		
Bills Payable	2253		
Buildings			
In addition the following information is also given			
i. Stock on 31 <sup>st</sup> March 2017 was valued at Rs 6,85,000 (Market Value Rs. 7.50,000) including goods worth Rs. 15,000 purchased (credit) on the last day and for which entries have not yet been passed.			
ii Prov. for bad and doubtful debts is to be maintained at 5 % on sundry debtors			
iii Write off Preliminary Expenses in full			
iv Write off 1/5 <sup>th</sup> of the balance of discount on issue of debentures			
v Rs. 1,00,000 transfer to Sinking Fund for Redemption of Debentures			
vi Prov for tax has to be made @50% of net profits			
vii Transfer Rs. 50,000 to General Reserve			

	<b>SECTION D</b> (Attempt all questions)		
29.	<b>ACTIVITY-BASED COSTING AND MANAGEMENT</b>	<b>[30]</b>	<b>CO4</b>
	<p>The CFO at the Rubrics Corporation, a midsize hardware manufacturing firm, had become aware of the ongoing imbalance between the product’s budgeted and actual costs. The Rubrics Corporation normally allocated overhead to products using a single direct cost driver, usually direct labor hours or direct labor dollars. This practice sometimes led to inaccuracies, since indirect costs were not incurred equally across products. For example, Rubrics’ CFO had forecasted \$10,000,000 in direct labor costs and \$15,000,000 in overhead for a particular project last year, resulting in an overhead rate of 150 per cent. For each dollar of direct labor charged, \$1.50 of overhead had been allocated. The shortcoming of this costing method was that overhead costs failed to reflect varying manufacturing intensity between products.</p> <p>Often referred to as smoothing, traditional costing allocates overhead costs evenly per direct labor hours or dollars. Unfortunately, direct costing can result in a discrepancy between the budgeted overhead and the actual overhead used. Often, certain products require more maintenance or floor space. Traditional costing allocates overhead based on direct expenses without compensating for a product’s greater or lesser use of overhead costs.</p> <p>Activity-based costing (ABC) was first introduced in the United States during the 1970s. Since then, ABC had enjoyed wide acceptance as a more accurate alternative to traditional costing, especially in manufacturing. Instead of budgeting overhead using direct cost drivers, ABC splits overhead into activity cost drivers, leading to a more tangible assignment of costs.</p> <p>Calculating ABC is more complicated than calculating traditional costing. Once management identifies the activity cost drivers, overhead rates are assigned per cost driver. The rates are estimated by dividing budgeted costs per driver by the anticipated resource requirements for each cost driver. For instance, rent could be allocated based on the square footage occupied by inventory in producing a given product or service. Say X Company estimates next year’s rental costs to be \$30,000 for its 15,000-square-foot factory. X Company can calculate the rental overhead rate by dividing \$30,000 by 15,000 to get 2. After</p> <p>calculating the overhead rates for each activity driver (rent, depreciation, maintenance, etc), the rates are applied to the individual requirements of each product. Continuing the previous example, suppose X Company manufactures two products, Y and Z, requiring 10,000 and 5,000 square feet of factory space, respectively. X Company can calculate each product’s individual use of factory rent by multiplying 10,000 and 5,000 by 2, resulting in \$20,000 for Y and \$10,000 for Z.</p> <p>The objective of ABC is to align actual consumption with specific product/service costs. The ABC approach is normally associated with multiple products or services using shared and often common indirect resources. A benefit of ABC is that products requiring higher concentrations of overhead costs are revealed, allowing management to focus attention on opportunities for reducing those costs or to price more appropriately.</p> <p>Activity-based costing allocates overhead to a product based on the actual amount of overhead used by that product. Whenever common resources are expended in different ways across products, a weighting mechanism is required for accurate allocation. ABC can be equally valuable</p>		

in service industries. Financial institutions have diverse products and customers, resulting in cross-product, cross-customer subsidies. Often, personnel expenses represent the largest single component of non-interest expense in financial institutions. Accordingly, these costs must also be attributed more accurately to products and customers via activity-based accounting.

The ABC methodology is an involved process with many steps, including: identifying direct product costs, identifying cost activities, selecting cost-allocation basis (CAB), identifying indirect costs per CAB, computing overhead rate per cost activity, calculating overhead costs based upon each product's use of the various cost activities, and then adding direct expenses and indirect expenses to yield total product costs. Despite the complexity, the benefits of ABC can be significant: management can distinguish profitable from unprofitable products, cost controls can be established to eliminate unnecessary costs, and products can be better priced. However, prior to implementing ABC, management should consider whether the cost savings from more accurate budgeting are greater than the research costs of identifying overhead cost drivers and each product's individual resource requirements.

**RUBRICS' SITUATION**

The Rubrics Corporation made four products: widgets, gadgets, smidgets, and smadgets. Exhibit 1 summarizes the direct labor, overhead, and direct material costs associated with these products. Rubrics' CFO was considering implementing an activity-based costing system as a means of improving product pricing. Exhibit 2 presents the cost allocation bases for the three main overhead cost drivers (depreciation, set-up, and rent). Exhibit 3 shows the product resource requirements by cost driver. Notice, for example, that the set-up requirement for widgets is 200 hours.

**Among other things, the CFO wanted to compare the overhead estimates per product based on the traditional costing and ABC methods. In addition, the CFO wanted to understand, computer or calculate the following:**

1. Using the traditional costing method, compute the total costs per product.
2. Under ABC:
  - a. Calculate the activity-based overhead rates per activity cost driver.
  - b. For each product, compute the overhead costs per activity cost driver.
  - c. Using the overhead costs from b., calculate the total costs per product.
3. What were two circumstances where traditional and ABC costing would likely yield similar or equal overhead costs?

**Exhibit 1**

**DIRECT LABOR, OVERHEAD, AND DIRECT MATERIALS COSTS**

Total direct labor \$1,000,000

Total overhead \$2,000,000

Overhead rate 200% of direct labor

Widgets direct labor \$100,000			
Gadgets direct labor \$300,000			
Smidgets direct labor \$400,000			
Smadgets direct labor \$200,000			
Widgets direct material \$100,000			
Gadgets direct material \$200,000			
Smidgets direct material \$150,000			
Smadgets direct material \$250,000			
Units built 1,000 of each product			
<b>Exhibit 2 OVERHEAD COST DRIVERS</b>			
<b>Cost allocation bases</b>	<b>Total costs</b>	<b>Quantity of CAB</b>	
Depreciation	\$300,000	3,000 machine hours	
Set-up	\$700,000	1,000 set-up hours	
Rent	\$1,000,000	100,000 square feet	
<b>Exhibit 3</b>			
<b>PRODUCT RESOURCE REQUIREMENTS BY COST DRIVER</b>			
<b>Widgets</b>	<b>Gadgets</b>	<b>Smidgets</b>	<b>Smadgets</b>
500 machine hours	900 machine hours	400 machine hours	1,200 machine hours
200 set-up hours	300 set-up hours	100 set-up hours	400 set-up hours
20,000 square feet	30,000 square feet	10,000 square feet	40,000 square feet