FINC7016	Financing Infrastructure Sector Projects	L	T	P	C
Version 1.0		2	1	0	3
Pre-requisites/Exposure	Basic knowledge of Fundamentals of Financing and Accounting such as calculation of cost, revenue and profit				
Co-requisites	Knowledge of classification of data, data presentation				

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Course Objectives

1. To help the students to develop cognizance of the importance of financing in Infrastructure projects costing
2. To enable students to describe how people analyze the Financing mix under different conditions and understand how people describe financial aspects of Infrastructure Sector including the financing & investment decision criteria
3. To provide the students to analyze specific risks involved in financing of projects and they are to be accounted while determining the cost benefit analysis of the projects
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 and to appraise the students on the various sources of finance and application of the right source

Course Outcomes

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

CO1. Demonstrate the applicability of the concept of Tariff Assessment and cost to Understand the Managerial Decisions and cost sheet

CO2. Apply the Cost and Risk Analysis associate with Financing Data of Infrastructure and Projects in the Organization.

CO3. Analyse the complexities associated with management of cost of infrastructure projects in the Organization

CO4. Demonstrate how the concepts of costing could integrate while identification and resolution of problems pertaining to Infrastructure and Smart City projects

Catalog Description

The main objective of Financing Infrastructure Sector Projects is to help students to acquire and develop skills to take rational decisions in the process of Financing Mix and assessment of fixed cost, variable cost , assessment of risk have always been regarded as important in cost analysis in organizations.

Costing aspects are critical in each aspects of management and equally so for the effective management of Resources. In view of this, Infrastructure Financing has assumed great importance. This course is designed primarily for students who are being exposed to cost classification, cost sheet and other aspects of assessment of cost pertaining to source of finance

This course covers the explanations about the cost concepts in the organizational context. 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.

Class participation is a fundamental aspect of this course. Students will be encouraged to actively take part in all group activities and to give an oral group presentation. Students will be expected to interact with media resources, such as, web sites, videos, DVDs, and newspapers etc.

Course Content

UNIT – I **6 Lecture Hours**

Nature, Scope of Project Finance Basics, Sourcing of projects, Cost of capital, Assessment of WACC, Financing of Projects

UNIT – II **6 Lecture Hours**

Investment Decisions – Projects, Capital Budgeting- Pay back, NPV, IRR, Profitability Index

UNIT – III **6 Lecture Hours**

Financing to Investment complete cycle analysis, Sources of Finance

UNIT – IV **6 Lecture Hours**

Lease Financing, Financial Planning, Forecasting & External Funds requirements

UNIT – V **6 Lecture Hours**

Venture Capital Funding, Risk Assessment, Decision Tree, Sensitivity, Certainty Equivalent Coefficient

UNIT – VI **6 Lecture Hours**

Break-Even Analysis in Projects, Assessment of Tariff for power plants

Text Books

1. Financial Management, M.Y.Khan; P.K.Jain, Tata McGraw, New Delhi
2. Financial Management, Prasana Chandra, Tata McGraw, New Delhi
3. Projects, P Chandra, Tata McGraw, New Delhi
4. Projects, B Patel, Vikas Publishing House

Reference Books

1. Financial Management, Pradeep Kumar Sinha. Excel books
2. Financial Management, R P Rustagi, Taxman
3. Financial Management, 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 Tariff Assessment and cost to Understand the Managerial Decisions and cost sheet	**PO1, PO2, PO9,PO10,**
CO2	Apply the Cost and Risk Analysis associate with Financing Data of Infrastructure and Projects in the Organization.	**PO7,PO8, PO3, PO11**
CO3	Analyse the complexities associated with management of cost of infrastructure projects in the Organization	**P14, PO4, PO, PO, PO12**
CO4	Demonstrate how the concepts of costing could integrate while identification and resolution of problems pertaining to Infrastructure and Smart City projects	**PO8, PO13, PO6, PO14**

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	Students will exhibit deployable skills pertinent to urban hard and soft infrastructure sector and smart city development and management
Course Code	Financing infrastructure sector Projects	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
FINC7016	CO1	2	3	2	3	2	3	2	3	3	2	1	2	3	3
	CO2	2	2	2	3	2	1	3	2	4	2	3	3	3	4
	CO3	2	2	1	3	3	2	3	3	3	3	2	2	2	3
	CO4	2	3	4	1	3	2	3	3	2	2	3	2	3	2

Model Question Paper

Name: **Enrolment No:**	

Course: FINC7016– Financing Infrastructure Sector Project
Programme: MBA UID
Semester: ODD- 2017-18
Time: 03 hrs.
Max. Marks: 100

Instructions:
Attempt all questions from **Section A** (each carrying 1 marks); all Questions from **Section B** (each carrying 15 5marks)**;** all questions from **Section C** (each carrying 10 marks)**;** all questions from **Section D** (each carrying 30 marks)

SECTION A (Attempt all questions)

1.	Amex Corporation finances with an equal mix of debt and equity. In consideration of new projects proposed, the company can issue 8% debt and estimate that their required rate of return on common equity is 20%. With a 40% tax rate, what is the WACC for Amex?	**[1]**	**CO3**
2.	……………….. the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participation satisfaction	**[1]**	**CO1**
3.	Monitoring resources, cost and quality is the integral part of	**[1]**	**CO2**
4.	CERC and SERC	**[1]**	**CO4**
5.	Upfront Fees and Lead Fees	**[1]**	**CO3**
6.	NPV and IRR	**[1]**	**CO1**
7.	A project is a ……………shot, time consuming, …………….oriented major undertaking, requiring the commitment of varied skills and	**[1]**	**CO2**
8.	Risk is defined as	**[1]**	**CO4**
9.	Return is calculated by	**[1]**	**CO3**
10.	Fixed and Variable cost in Tariff Assessment consist of	**[1]**	**CO1**
11	Cost of Capital is	**[1]**	**CO2**
12.	Type of Risk are	**[1]**	**CO4**
13.	Delayed Draw Down Charges is	**[1]**	**CO3**
14.	IRR is	**[1]**	**CO1**
15.	Evolution of Power Grid consist of	**[1]**	**CO2**

16.	Features of Electricity Act 2003 are	**[1]**	**CO4**
17.	BEE is	**[1]**	**CO3**
18.	Challenges currently faced by the Power Sector are	**[1]**	**CO1**
19.	Payback period is	**[1]**	**CO2**
20.	Role of SEB's	**[1]**	**CO4**
	SECTION B (Attempt all questions)		
21.	Briefly Discuss Project Life Cycle- Clean Up and Implementation Phase?	**[5]**	**CO1**
22.	The Jeevan Kalyan Yojana at Rural and Semi Urban branches of UGB is a scheme open to all individuals/firms. A lump sum deposit is remitted and the principal is received with interest at ye rate of 13% p.a. in 12 or 24 monthly installments. The Interest is compounded at quarterly intervals. The investor would receive a monthly Installment of Rs. 200 for 12 months. You are required to calculate 1. What is effective rate of Interest per annum 2. What is effective rate of interest per month 3. What is amount of Initial Deposit to be made to receive Rs. 200 monthly for 12 months?	**[5]**	**CO4**
23.	Write Short Notes any two of the following a. Global Energy Scenario b. Indian Energy Scenario c. Cost of Debentures	**[5]**	**CO3**
24.	Explain the Following Terminology: a. BOO b. BOOT c. BOT d. Preliminary Evaluation of Idea e. MW to MU	**[5]**	**CO2**
	SECTION C (Attempt all questions)		
25.	The following information of FlipKart Ltd is available to you for your perusal: The present book value capital structure is as follows: Debenture (Rs 100 per Debenture) Rs 4,50,000 Preference Shares (Rs 100 per Share) Rs 3,50,000 Equity Shares (Rs 100 per Share) Rs 6,50,000	**[10]**	**CO2**

	Anticipated external financing opportunities are: i. Rs 100 per debenture redeemable at par; 5 year maturity,15% coupon rate , 2.5% flotation cost, 6% discount on Issue ii Rs 100, 12% preference shares redeemable at par: 15 years maturity, 4% flotation cost, Premium 3% on issue iii Equity shares Rs 100; Rs 5 per share of flotation cost, selling price in primary market is Rs 125. In addition, the dividend expected on the equity shares at the end of the year is Rs 8 per share; the anticipated growth rate in dividends is 8% and the company has the practice of paying all its earnings in the form of dividends. The corporate tax rate is 30%. You are required to determine the weighted average cost of capital using the book value weights		
26.	(a) What are the Financing norms for Indian Renewable Energy Development Agency Limited in Energy Efficiency Projects? b) Calculate the Tariff for a Coal Based Thermal Power Plant a) Capacity of Plant 500 MW b) Capital Cost 4 Cr/MW c) Debt Equity Ratio 70:30 d) Return on Equity 15.5% e) Interest on Loan 10% f) Working Capital (10% of Total Capital) g) Interest on working Capital 10% h) Depreciation Rate 5.28% i) Operation and Maintenance cost 13 Lakh/MW j) Plant Load Factor (PLF) 80% k) Plant Availability Factor 85% l) Specific Oil Consumption 10 ml/MW m) Price of Oil Rs. 10,000/Kl n) Gross Calorific value of Oil 10,000 Kcal/Lit o) Station Heat Rate 2,425 Kcal/Lit p) Cost of Coal Rs. 1000 / Tonnes q) Auxiliary Power Consumption 6.50% r) Plant Life (For thermal plant based on Coal) 25 Years s) Gross Calorific value of coal 4000 Kcal/Kg	**[10]**	**CO4**

<table>
<tr><td>27.</td><td>A company has the following estimates of the present values of the future cash flows after taxes associated with the investment proposal concerned with expanding the plant capacity. It intends to use a decision tree approach to get a clear picture of the possible outcomes of this investment. The Power Plant expansion is expected to cost Rs. 3,00,000 . The respective PV of Future CFAT and probabilities is given below:

<table>
<tr><td>With Expansion (Rs.)</td><td>Without Expansion (Rs.)</td><td>Probabilities</td></tr>
<tr><td>3,00,000</td><td>2,00,000</td><td>0.2</td></tr>
<tr><td>5,00,000</td><td>2,00,000</td><td>0.4</td></tr>
<tr><td>9,00,000</td><td>3,50,000</td><td>0.2</td></tr>
<tr><td></td><td></td><td></td></tr>
</table>
Advise the company regarding the Financial Feasibility of the Project with the return and Risk?</td><td>[10]</td><td>CO2</td></tr>
<tr><td></td><td>SECTION D(Attempt all questions)</td><td></td><td></td></tr>
<tr><td>28.</td><td>Read the case and answer the following questions

Dabhol- The Dangers of Direct Negotiation

The Government of India, apprehending that there will be shortage of electricity in the near future launched reforms in 1991. Under the reforms, the private power generating plants were permitted to have 100% foreign ownership. Despite such sweeping reforms, no headway could be made in attracting foreign equity participation. One of the reasons cited for such a poor show in attracting foreign equity participation was inordinate time taken both by central and state governments to process the applications. As a sequel to this, the government introduced a fast track program to facilitate the implementation of the urgent projects.

Under the new provisions, the US company , ENRON approached the state government of Maharashtra on June 1992 with an offer to build a 2.015 MW power plant at a cost of US $2.84 billion on a BOO Basis. The same was approved by the state government and accordingly a MOU was signed by the company with the Mumbai State Electricity Board to develop the project. A 20- year power purchase agreement was signed with the state electricity board that enabled the ENRON float DABHOL Company to sell power @ 7.5 US cents per kWh. The company accomplished financial closure in Feb 1995 and commenced construction at this site.

Meanwhile, elections were held in the state in March 1995 and a new political regime came into power, which was highly critical of the project right from day one. As anticipated, once the regime came into power, the govt, reviewed the contract and unilaterally cancelled the contract citing the excessive costs and potential corruption as the main reasons. The company stopped construction and initiated arbitration proceedings. However after intensive deliberations both the parties have agreed to continue the project with DABHOL reducing the power tariff by about 22% to 5.9 US cents per KWh, while the govt. granted permission to expand the capacity of the plant to 2184 MW. Intriguingly, the new govt. dropped all the accusations of potential illegitimacies in the</td><td>[30]</td><td>CO2, CO3</td></tr>
</table>

original transaction which were said to have emanated primarily by the secrecy that surrounded the contractual arrangements.

The fallout of this international dispute is embarrassment to the country and writing of international investor’s interest in Indian Projects, while the country benefited significantly with power purchase tariff followed by re- negotiation.

In retrospect, the government officials felt: If competitive bidding had been used from the beginning it may have resulted in some delays, Yet that would cause less damage to the power policy than the criticism over the lack of transparency”

Q 1: Discuss the offer of US company , ENRON to the state government of Maharashtra?

Q 2: What is the impact of New Political Regime on Power Plant Project?

Q 3: What is the impact of International Investment in Power Projects on DABHOL Power Projects?

Q 4: Discuss the Power Plant Project Cycle in reference to the case?