

LSCM8001	Project Management & Contract Administration	L	T	P	C
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Pre-requisites/Exposure	Basic mathematical, analytical and comprehension skills.				
Co-requisites	Computer skills MS-Excel, Power Point, Internet applications				

Course Objectives

1. To understand Concepts of Project Management for Planning & Execution of projects.
2. To know and use various optimization tools / techniques applied in Project Management.
3. To introduce fundamentals of Contract Administration, Costing and Accounting of Projects.
4. To discuss, analyze and appreciate contemporary projects in Indian and international context

Course Outcomes

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

- CO1. Understanding issues & challenges in identification and selection of projects.
- CO2. To develop skills required for project planning & formulation.
- CO3. Apply optimization techniques in project management.
- CO4. Analyze processes for project execution, control and closing.
- CO5. Demonstrating the contracting process as applied in projects.

Catalog Description

India is one of the fast growing and promising economy, aiming for an ambitious double digit GDP growth rate. The fulfillment of this aspiration calls for rapid growth in the transportation, communication, housing, storage, energy and power infrastructure. The target growth in the infrastructure sector cannot be achieved merely by substantial funding but also requires the professional capabilities of the highest order, in several aspects of effective planning and efficient implementation of the projects. This program presents a comprehensive framework for planning, executing, controlling and closing projects in the context of issues and challenges faced by Indian economy. Project management involves understanding the cause-effect relationships and interactions among the socio-technical-economic-environmental dimensions of the projects. Students will be encouraged to indulge in teamwork through participating in group assignments and presentations. Students will be given exercises involving applications of modern tools, such as, MS-Excel, MSP, MS-Power Point.

Course Content

Module 1: THE PROJECT MANAGEMENT FRAMEWORK

(6 Hours)

- **Project Definition & Classification**
- **Project Management & its Relationship with Program Management and Portfolio Management**
- **Project Manager**
- **PMBOK (Project Management Body of Knowledge)**
- **Project Life Cycle**
- **Project Organization**
- **Project Stakeholders**
- **Project Feasibility Study**

Module 2: THE STANDARD FOR PROJECT MANAGEMENT OF A PROJECT

(6 Hours)

- **Project Management Processes for a Project**
- **Project Management Process Groups**
- **Planning Process Group**
- **Executive Process Group**
- **Monitoring & Controlling Process Group**
- **Closing process Group**

Module 3: THE PROJECT MANAGEMENT KNOWLEDGE AREAS

(8 Hours)

- **Project Integration Management**
- **Project Scope Management**
- **Project Time Management**
- **Project Cost Management**
- **Project Quality Management**
- **Project Human Resource Management**
- **Project Communications Management**
- **Project Risk Management**
- **Project Procurement Management**
- **Project Stakeholder Management**

Module 4: EXECUTING, MONITORING & CONTROLLING

(8 Hours)

- **Integrated Change Management**
- **Acquire, Direct & Manage Project Team**
- **Earned Value Management**

Module 5: CONTRACT ADMINISTRATION

(8 Hours)

- **Contracting Approach, Contractor's role**
- **Types of Contracts**
- **Contract Planning, Contracting Schedule**

- **Contracting Procedure, Performance Guarantee**
- **Force Majeure, Liquidated Damages and Penalty**

Text Books

1. Gray Clifford F., Larson Erik W.; Project Management – The Managerial Process, Tata McGraw Hill
2. Prasanna Chandra; Projects- Planning, Analysis, Selection, Financing, Implementation and Review', VI Edition, Tata Mc Graw Hill.
3. Chaudhary S.; Project Management, Tata Mc Graw Hill

Reference Books

1. PMBOK Guide to Project Management, V Edition
2. Kerzner H.; Project Management, II Edition, CBS Publishers
3. Meredith Jack R., Mantel Samuel J.; Project Management, IV Edition, John Wiley & Sons
4. Patel Bhavesh M.; Project Management- Strategic Financial Planning, Education & Control, Vikas Pub. House
5. Gopalakrishnan P., Ramamoorthy V.E.; Textbook of Project Management, Mac Millan Pub.
6. Maylor Harvey, Project Management, Mac Millan
7. Matheen A. Prof., Comprehensive Project Management, Laxmi Publications (P) Ltd.

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

Components	Continuous Evaluation			End Sem Exam	Total
	Case Study	Analytical Exercises	Group Presentation		
Weightage (%)	20	20	10	50	100

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

Mapping between COs and POs		
	Course Outcomes (COs)	Mapped Programme Outcomes
CO1	Analyze issues & challenges in identification and selection of projects.	POs 1,7,8,9,10,11,12
CO2	Develop skills required for project planning & formulation.	POs 2,3,4,6,9,11,13,14
CO3	Apply optimization techniques in project management.	POs 2,3,4,6,13,14
CO4	Learn processes for project execution & control and closing.	POs 2,5,6,10,13
CO5	Appreciate the contracting process as applied in projects.	POs 5,7,8,10,12,14

CourseOutcomes	CO 1	CO 2	CO 3	CO 4	CO5
PO 1	3	3	3	2	3
PO 2	3	3	3	2	3
PO 3	2	3	3	2	3
PO 4	3	2	2	3	3
PO 5	2	2	2	3	2
PO 6	2	2	2	3	2
PO 7	3	3	2	3	2
PO 8	3	3	3	3	3
PSO 9	3	3	3	2	2
PSO 10	3	3	3	2	3
PSO 11	3	3	3	2	3
PSO 12	3	2	3	3	2
PSO 13	3	2	3	3	2
PSO 14	2	3	3	3	2

Course Code	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
LSCM 8001	Project Mgmt. & Contract Administration	3	3	2	2	2	3	2	3	2	3	2	3	3	3
		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.	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 effective understanding of infrastructure planning and development, utility & energy management, urban transportation including metro rail, e-vehicle with charging and other modes of urban surface transportation, water supply and sewerage, smart city planning and effective financing urban infrastructure.	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 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.

1=weakly mapped

2= moderately mapped

3=strongly mapped

Model Question Paper

Name:	
Enrolment No:	

Course: LSCM 8001– Project Management & Contract Administration
Programme: MBA (UID) Semester: EVEN 2016-17
Time: 03 hrs. Max. Marks:100
Note: Use of Calculators & Graph papers allowed.

Section A (20 marks)

Fill in the blanks. Each blank carries 1 marks.

1.1	A _____ is a temporary endeavor to create a unique product, service or result.	1	CO1
1.2	_____ of the project is the degree to which a set of inherent characteristics fulfils the project requirements covering all phases & processes from the initiation to the closure of the project.	1	CO4
1.3	A _____ is a graphical model depicting the interrelationship between the various elements of the Project Work System.	1	CO2
1.4	_____ involves monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes.	1	CO4
1.5	WBS stands for _____.	1	CO2
1.6	_____ Reserves are not included in the project budget. (Choose the correct option: Management / Contingency)	1	CO2
1.7	PERT uses _____ cost estimates to define an approximate range of costs.	1	CO3
1.8	_____ models are used to estimate how much the product (or project) will cost based on physical attributes e.g. weight, volume, power, lines of code, price per sq. foot	1	CO2
1.9	The cost baseline is usually _____ shaped curve.	1	CO2
1.10	The overall project costs broken down into the various major heads like materials, labour, equipment etc. is known as _____.	1	CO2
1.11	_____ is acquiring of goods and services required for the project from outside the performing organization.	1	CO5
1.12	A _____ is an agreement between two or more parties that is binding on all the parties.	1	CO5
1.13	In Fixed Price contract also known as Fixed Price Incentive Fee (FPIF), the seller is given _____ by buyer for exceeding required performance.	1	CO5
1.14	The _____ is a structured log that maintains summary of all identified risks that can affect the project along with relevant information to manage the risk.	1	CO4
1.15	_____ risk analysis is aimed at prioritizing individual risks viewed one at a time. (Choose the correct option: Quantitative / Qualitative)	1	CO4
1.16	Project Risk is an uncertain event or condition that, if it occurs has a positive or negative effect on _____ projects	1	CO2
1.17	AACE stands for _____.	1	CO3
1.18	_____ integrates cost, schedule and scope and used to forecast future performance and project completion dates.	1	CO2
1.19	_____ plays a significant role in developing the initial scope statement and the project charter. (Choose the correct option: Project Sponsor / Project Manager)	1	CO1
1.20	The _____ is a thorough examination of the management of project, its methodology and procedures, its records, its budgets and expenditures and degree of completion.	1	CO4

SECTION B (20 marks)

Write short notes on any four of the following. Each carries 5 marks.

2.1	Project Life Cycle	5	CO1																																																										
2.2	CPM vs. PERT	5	CO2																																																										
2.3	Cost of Quality Non-conformance	5	CO4																																																										
2.4	Cost Engineering	5	CO3																																																										
2.5	Project Audit Report	5	CO4																																																										
SECTION C (30 marks)																																																													
<i>Attempt any 2 questions. Each question carries 15 marks.</i>																																																													
3.1	What are the different knowledge areas applied to project management? Also, enumerate different process groups in project management.	15	CO1																																																										
3.2	Explain the steps of project risk management process in detail. What are the various risk response strategies suited for positive and negative risks?	15	CO3																																																										
3.3	Mention the names of some Quality Gurus along with their contributions. List various quality tools & techniques and describe any two of them.	15	CO4																																																										
SECTION D (30 Marks)																																																													
<i>Attempt any 2 questions. Each question carries 15 marks.</i>																																																													
3.1	<p>A project has a budget of Rs.1,20,000 and is planned to be completed in 1 year. The following table shows the cumulative values (in Rs.) for each at the end of indicated month.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Month</th> <th>Earned Value</th> <th>Actual Cost</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>6,000</td> <td>8,000</td> </tr> <tr> <td>2</td> <td>13,000</td> <td>17,000</td> </tr> <tr> <td>3</td> <td>21,000</td> <td>26,000</td> </tr> <tr> <td>4</td> <td>30,000</td> <td>36,000</td> </tr> </tbody> </table> <p>(a) Calculate schedule & cost variance at the end of 4th month. Estimate the likely time & cost of completion of project if efficiency remains the same.</p> <p>(b) Estimate likely time & cost of completion of project if efficiency becomes 100% from the next month.</p> <p>(c) What should be the targeted efficiency to complete the project in time and budget?</p>	Month	Earned Value	Actual Cost	1	6,000	8,000	2	13,000	17,000	3	21,000	26,000	4	30,000	36,000	15	CO4																																											
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3.2	<p>Consider the data of a project shown in the following table.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Activity</th> <th rowspan="2">Immediate predecessor(s)</th> <th colspan="2">Time (days)</th> <th colspan="2">Cost (Rs. '000)</th> </tr> <tr> <th>Normal</th> <th>Crash</th> <th>Normal</th> <th>Crash</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>-</td> <td>6</td> <td>4</td> <td>60</td> <td>78</td> </tr> <tr> <td>B</td> <td>-</td> <td>7</td> <td>4</td> <td>30</td> <td>42</td> </tr> <tr> <td>C</td> <td>A</td> <td>4</td> <td>1</td> <td>50</td> <td>92</td> </tr> <tr> <td>D</td> <td>A</td> <td>6</td> <td>5</td> <td>60</td> <td>75</td> </tr> <tr> <td>E</td> <td>B,C</td> <td>7</td> <td>3</td> <td>20</td> <td>68</td> </tr> <tr> <td>F</td> <td>E</td> <td>3</td> <td>1</td> <td>20</td> <td>40</td> </tr> <tr> <td>G</td> <td>E</td> <td>7</td> <td>3</td> <td>40</td> <td>56</td> </tr> <tr> <td>H</td> <td>D,F</td> <td>5</td> <td>4</td> <td>30</td> <td>41</td> </tr> </tbody> </table> <p>If the indirect cost per day is Rs. 15,000, find the optimal crashed project completion time.</p>	Activity	Immediate predecessor(s)	Time (days)		Cost (Rs. '000)		Normal	Crash	Normal	Crash	A	-	6	4	60	78	B	-	7	4	30	42	C	A	4	1	50	92	D	A	6	5	60	75	E	B,C	7	3	20	68	F	E	3	1	20	40	G	E	7	3	40	56	H	D,F	5	4	30	41	15	CO2, CO3
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3.3	A project consists of seven activities whose details are shown in following table including immediate predecessor(s), optimistic estimate (a), most likely estimate (m), pessimistic estimate (b) and manpower requirement.	15	CO2, CO3																																																										

Activity	1-2	1-3	2-6	3-4	4-5	4-6	5-6
Optimistic Time Estimate (a)	2	3	3	1	3	4	5
Most Likely Time Estimate (m)	3	3	5	4	6	7	6
Pessimistic Time Estimate (b)	4	3	7	7	9	10	7
Manpower Requirement	7	8	5	15	11	5	10

(a) Find the critical path and the expected completion time of the project.

(b) Perform resource-levelling and obtain the schedule of the activities and the corresponding manpower requirement diagram such that the peak manpower requirement is minimized.