

## PROJECT FORMULATION AND CONTRACTS

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| <b>Course Code: 19CE2103</b> |  | <b>I Semester</b> |          |          |
|                              |  | <b>L</b>          | <b>P</b> | <b>C</b> |
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**Prerequisites:** Construction Management

### **Course Outcome:**

At the end of the course, the student will be able to:

- CO1 Illustrate the developmental needs and role of a Civil Engineer in the creation of various types of infrastructure
- CO2 Have adequate knowledge to assess project funding needs and budgeting requirements
- CO3 Assess the site survey and geotechnical investigations and work out realistic project estimates
- CO4 Equipped with the required knowledge to be able to call for bids, evaluate and award contracts following the standard procedures
- CO5 Apply basic knowledge on causes of disputes and dispute resolution to real situations

**UNIT-I: (10 Lectures)**

**DEVELOPMENT OF INFRASTRUCTURE:**

Historical overview of Infrastructure development in India, Infrastructure development needs of Government and local bodies, private organizations etc. Infrastructure organizations and systems.

**Learning outcomes:**

1. Discuss about various bodies role on InfraStructure(L2)
2. Illustrate development of Infrastructure(L4)
3. Appraise Infrastructure systems (L4)

**UNIT-II: (10 Lectures)**

**BUDGETING AND FINANCIAL MANAGEMENT:**

Project funding: Sources of funding, capital and revenue budgets of Govt. and local bodies, their importance, process and methods, International aid, grant, public-private participation mode.

Capital Budgeting Techniques: Traditional and discounted cash flow methods, Net Present Value method, Internal Rate of Return and Profitability Index. Simple numerical problems.

**Learning outcomes:**

1. Explain about various techniques of capital budgeting(L2)
2. Illustrate about Project Funding(L4)
3. Calculate IRR and profitability Index (L4)

**UNIT-III: (10 Lectures)**

**PROJECT FORMULATION:**

Justification for projects, site survey and geotechnical investigations, preparation of feasibility reports, budgetary provisions, preparation of

preliminary proposals and estimates for investment appraisal, preparation of detailed drawings and estimates.

Technical, financial and administrative approvals for final estimates, phasing of expenditure.

**Learning outcomes:**

1. Discuss about technical, financial and administrative approvals of project(L2)
2. Illustrate the justification for projects(L4)
3. Calculate estimates for detailed drawings

**UNIT-IV:**

**(10 Lectures)**

**FORMATION AND PERFORMANCE OF CONTRACTS:**

Contract Laws, Indian Contract Act 1872, types of engineering contracts, standard specifications, preparation of tender documents, invitation, receiving and processing of bids, single and two cover systems of tenders, approval of competent authority to award contract, issue of work order, performance of contract, time of performance, completion, discharge of contract, Annual Maintenance Contracts.

**Learning outcomes:**

1. Form contracts based various laws(L1)
2. Explain about performance of contract, time of performance and discharge of Contract(L2)
3. Appraise competent authorities to award contract (L4)

**UNIT-V:**

**(10 Lectures)**

**CAUSES OF DISPUTES AND ALTERNATIVE METHODS OF DISPUTE RESOLUTION:**

Mediation, Arbitration and conciliation, provisions of Indian Arbitration and Conciliation Act,

**Learning outcomes:**

1. Design alternate methods of dispute resolution(L2)
2. Illustrate the causes of disputes(L4)
3. Outline Indian Arbitration and Conciliation Act (L4)

**Text Books:**

1. Gajaria G.T., *Laws relating to Building and Engineer's Contracts*, 1<sup>st</sup> Edition, M.M. Tripathi Private Limited, Mumbai, 1985.
2. Vasavada B.J., *Engineering Contracts and Arbitration*, 2nd Edition, Jubilee Publications, 1996.
3. *Codes of Practice and Standard Specifications* of AP PWD, CPWD, MES etc.,

**References:**

1. Collex.K, *Managing Construction Contracts*, 5th Edition, Reston Publishing Company, Virginia, 1982.
2. OcHorgon,M., and Roulstion,F.,R., *Project Control of Engineering contracts E and FN*, SPON, NY, 2ndEdition, 1988.
3. Park, W.B, *Construction Bidding for Projects*, 1st Edition, John Wiley, Ny, 1978.
4. Roshan Namavat *Professional Practice*, 5th Edition, Anupbhai Publications, Mumbai, 1996.

