

4/4 B.Tech. SEVENTH SEMESTER

CE7T3

ESTIMATION AND COSTING

Credits: 3

Lecture: 3 periods/week

Internal assessment: 30 marks

Practice: 1 periods/week

Semester end examination: 70 marks

Pre-requisites: Building planning and drawing

Learning objectives:

- To prepare estimates of buildings including R.C.C. members, roads and canals.
- To gain knowledge of rate analysis, contracts, valuation and reports.
- To get an exposure to field problems associated with roads / canals marking and estimation of roadwork quantities.

Course outcomes:

At the end of course the student will be able to

1. Understand drawings, principles of different works in civil engineering, approximate methods of estimating and standard specifications for different items of works in buildings.
2. Prepare detailed estimates for buildings using a long wall short wall method and centre line method
3. Develop the preparation of rate analysis for different works in civil engineering and understand the reinforcement bar bending schedules.
4. Understand procedures of contracts and valuation.
5. Calculate earthwork for roads & canals and prepare reports on estimates for the construction of buildings and roads

UNIT – I

INTRODUCTION TO ESTIMATION

General items of work in Building – Standard Units Principles of working out quantities for detailed and abstract estimates – Approximate method of Estimating.

STANDARD SPECIFICATIONS

Standard specifications for different items of building construction

UNIT – II

LONGWALL & SHORTWALL METHOD

Detailed Estimates of Buildings using Long wall and short wall method

CENTRE LINE METHOD

Detailed Estimates of Buildings using Centre line method.

UNIT-III

STEEL ESTIMATION

Reinforcement bar bending and bar requirement schedules.

RATE ANALYSIS

Rate Analysis – Working out data for various items of work over head and contingent charges.

UNIT – IV

CONTRACTS

Contracts – Types of contracts – Contract Documents – Conditions of contract

VALUATION

Valuation of buildings.

UNIT-V

EARTH WORK FOR ROADS AND CANALS

Earthwork for Roads and Canals.

REPORTS

Reports on estimates for the construction of buildings and roads

Learning resources:

Text books:

1. Estimating and Costing, (23rd edition) by Dutta, B.N., UBS Publishers, 2010.
2. Estimating and Costing, (6th edition) by Birdie, G.S., Jain Book Depot. 2012.

Reference books:

1. Standard Schedule of rates and standard data book by Public Works Department, 2/3/2009 adopted from 1/7/2009.
2. IS:1200, Parts I to XXV – 1974 / method of measurement of building and Civil Engineering works, B.I.S.
3. Estimation, Costing and Specifications, (25th edition) by Chakraborti M., Laxmi Publications, National Building Code, 2012.

e-learning resources:

<http://nptel.ac.in/courses.php>

<http://jntuk-coerd.in/>