

QUANTITY SURVEYING

Lectures : 4 Periods/Week

Sessional marks : 40

Semester End Exam. : 3 Hours

Semester End Exam. marks: 60

Credits : 4

Course Objectives:

- Quantity estimation for different civil engineering works like single storey residential building, BT road, canal etc.
- Cost estimation for different civil engineering works like single storey residential building, BT road, canal etc.
- Rate analysis for different items of work
- Quantity estimation and preparing schedule of bars of different items of RC works using software like MS Excel
- To prepare project management report for different civil engineering projects like residential building, BT road, canal etc using software packages like Primavera/MS Project etc

Course Outcomes:

By the end of this course students will have the capability/knowledge of

- Estimating quantities required for different civil engineering works like single storey residential building, BT road, canal etc.
- Cost estimation of different civil engineering works like single storey residential building, BT road, canal etc.
- finding the unit rate of different items of work
- prepare schedule of reinforcement bars
- scheduling a project
- analysing a project and finding critical activities and hence allocate resources as per the schedule.

UNIT – I

Procedure of Estimating

Methods of estimating; Main items of work; Deduction for openings; Degree of accuracy; Units of measurement.

Methods of building estimates

Individual wall method; Centre line method; Arch masonry calculation; Estimate of steps.

Estimate of Buildings

Estimate of residential building; Estimate of a building from line plan.

UNIT – II

Estimate of RCC works

Standard hooks and cranks; Estimate of RCC slab; RCC beam; RCC T-beam slab and RCC column with foundation.

Road Estimating

Estimate of earthwork; Estimate of pitching of slopes; Estimate of earthwork of road from longitudinal sections; Estimate of earthwork in hill roads.

Canal estimate

Earthwork in canals–different cases; Estimate of earthwork in irrigation channels.

UNIT – III

Specifications

Purpose and method of writing specifications; General specifications. Detailed Specifications for Brick work; R.C.C; Plastering; Mosaic Flooring; R.R.Stone Masonary.

Analysis of Rates

Task or out – turn work; Labour and materials required for different works; Rates of materials and labour; Preparing analysis of rates for the following items of work: i) Concrete ii) RCC Works iii) Brick work in foundation and super structure iv) Plastering v) CC flooring vi) White washing.

UNIT – IV

PWD Accounts and Procedure of Works

Organization of Engineering department; Work charged establishment; Contract; Tender; Tender notice; Tender Schedule; Earnest money; Security money; Measurement book; Administrative approval; Technical sanction; Plinth area; Floor Area; Carpet area; Approximate Estimate; Plinth area estimate; Revised Estimate; Supplementary estimate.

Valuation

Cost; Price & value; Methods of valuation; Out goings; Depreciation; Methods for Estimating cost depreciation; Valuation of building.

Miscellaneous Topics

Gross income; Net income; Scrap value; Salvage value; Obsolescence; Annuity; Capitalized value; Years purchase; Life of structures; Sinking fund; Standard rent; Process of fixing standard rent; Mortgage.

NOTE

Two questions of 12 marks each will be given from each unit out of which one is to be answered. Twelve questions of one mark each will be given from entire syllabus which is a compulsory question.

TEXT BOOKS:

1. Estimating & Costing in Civil Engineering by B.N. Dutta; UBS Publishers & Distributors, 2010.
2. Valuation of Real properties by S. C. Rangwala, 8th Edition, Charotar Publishing House, 2011.