

Estimating and Costing

UNIT I 1.1 INTRODUCTION

Estimation – Definition of Estimate - Types of Estimates – Approximate Estimate – Detailed Estimate – Revised Estimate – Supplementary Estimate – Sub Estimate – Annual maintenance Estimate – Repair Estimate – Complete Estimate.

1.2 APPROXIMATE ESTIMATES

Approximate estimate – Types – Plinth area method – Cubical content method – Service unit method – Typical bay method – Simple problems on preliminary estimate of a building project.

UNIT II 2.1 Specification & Report Writing

Specification – Necessity – Types of Specification – Essential requirements of Specification - Steps involved in Standard Specification – Detailed Specifications for the following items of works

- clearing and levelling site
- Excavation of Trenches for foundations.
- Laying plain cement concrete bed, Footings and Plinth with R.R.

Masonry and Brick Masonry.

- Filling in foundation and Plinth.
- Laying Damp Proof course at Plinth level.
- Super structure with Brick Masonry in Cement Mortar.
- R.C.C works.
- plastering works
- Cement concrete flooring
- Wood works like Doors and Windows.

2.2 REPORT WRITING

Report Writing – Points to be considered while a report writing - Writing typical reports for works such as

- i. Buildings – Residential / Hospital / School
- ii. Demolishing a building
- iii. Conservation of a monumental building
- iv. Water supply system for a village.

UNIT III 3.1 MEASUREMENTS & MATERIAL REQUIREMENT

Units of measurements for works and materials - Degree of accuracy in measurements - Deduction for openings in masonry, plastering and white washing area – Painting coefficient – out turn of works - working out of materials requirements – cement, sand, bricks and aggregates.

3.2 DATA:

Data – Theory – Main and sub data – Observed data - Lead statement – Schedule of rates – Standard data book - Sundries – Lump sum provision - Preparation of data using standard data and schedule of rates - Brick and Stone masonries – Lime Concrete and Cement Concrete - Flooring Works and weathering course - R.C. works for slab, sunshade, beam and column - Partition wall – Form works for beams and slabs - White washing and Painting works - A.C. sheet roofing – Wall plastering – ceiling plastering - Pointing – Plumbing and sanitary works in Buildings.

UNIT IV 4.1 VALUATION

Valuation – Purpose of Valuation- Types of Valuation - Book value – Market value – Salvage value – Scrap value - Depreciation – Obsolescence - Sinking fund – Land valuation (Classification Only)- Mortgage and lease -Problems on valuation - Annuity- Definition and types

4.2 RENT FIXATION

Fixation of rent – Out goings – Gross and net income – Years Purchase - Capital Cost -Standard rent – Market rent – Economical rent - Problems on rent calculation only (Simple Problems)

UNIT V 5.1 STAGES OF DETAILED ESTIMATE

Taking off quantities – Systems – Trade system – Group system – Advantages of group system – Methods – Long wall and Short wall method – Centre line method – Abstract estimate – Lump sum provision and contingencies – quantity surveyor – duties – essential qualities.

5.2 DETAILED ESTIMATE

Detailed estimate for buildings using Trade system. Taking off quantities for all items of works in the following types of buildings by centre line method. i. Residential building with two / three rooms (Load bearing structure) with RCC roof
ii. Two Storied building (Framed structure) with RCC roof
iii. Industrial buildings with AC / GI sheet roof with steel trusses

REFERENCES:

- Estimating and Costing by B.N. Dutta.
- Estimating and Costing by Mahajan
- Estimating, Costing and Accounts by DD Kohli
- Estimating and Costing by S.C. Rangwala.