

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Environmental Engineering

Semester: 4

Subject Name: ESTIMATING AND COSTING-I

Sr. No.	Course Content
1.	INTRODUCTION: 1.1 Meaning & objectives of estimating & costing. 1.2 Skills required for a good estimator. 1.3 Interpretation of drawing.
2.	MODE OF MEASUREMENTS: 2.1 Purpose, accuracy, units, rules. 2.2 Mode of measurements for related items (as per I.S.)
3.	SPECIFICATIONS: 3.1 Definition, purpose & importance of specifications 3.2 Types of specification. 3.3 Design and drafting of specifications 3.4 Specification writing for some useful items viz. (i) Excavation (ii) Concrete including R.C.C. (iii) Earthwork (iv) Brick masonry (v) Stone masonry (vi) Plaster (vii) Pipe Joints (All)
4.	RATE ANALYSIS: 4.1 Definitions, Importance, purpose & factors affecting the rate analysis. 4.2 Task work, rate of materials and labor, water charges etc. 4.3 Rate analysis of important items from excavation to completion of work of Civil Engineering Structure. (Use also Computer software) e.g. Excavation, Brick work, Plaster R.C.C and P.C.C. work and pipe joints. 4.4 Importance of S.O.R. and market rates.
5.	ESTIMATING: 5.1 Types of estimates. E.g. Approximate, Detail, Revised with purpose, Annual repair and Annual Maintenance, Supplementary estimate etc. 5.2 Methods of computing the quantities (i) Centerline method (ii) Long wall and short wall method 5.3 Standard format of measurement sheet, abstract sheet and its use.
6.	TECHNICAL TERMS: 6.1 Approximate method of costing for buildings. 6.2 Define: Provisional sum, provisional item, prime cost, spot item, Day Work, Overhead charges, contingencies, water charges, establishment charges, contractor's profit. Administrative approval, Technical Sanction (Competent

	Authority), Work charged establishment.
7.	ORGANIZATION 7.1 Introduction 7.2 Organization 7.3 Types of organization, 7.4 Staff structure of Engg. Deptt. 7.5 Explain the duties and responsibilities of • Executive Engineer • Deputy Executive Engineer • Section Officer/Additional Assistant Engineer

LIST OF TUTORIALS:

SR NO.	NAME OF TOPIC
1	Drawing of one room is to be provided to guide the students for interpretation of drawing.
2	List of different items is to be provided to learn the modes of measurements according to prevailing I.S.
3	Rate analysis for at-least five items of construction
4	Specifications for at least seven items of construction
5	Use computer for rate analysis of at least any two items
6	Organization Chart of water supply & sewage Board, Pollution control board, Gujarat Ecology Commission.

REFERENCES BOOKS:

1. I.S 1200 Part I to XXV (Revised) B.I.S. Publication
2. Estimating & Costing in Civil Engg. B.N. Dutta
3. Estimating & Costing (Civil Engg.) S.C.Rangwala
4. Estimating & Costing M.C.Chakraborty
5. A text book of Estimating & Costing G.S.Birdie
6. Estimating & Costing Vazirani & Chandola
7. Fundamentals of Public Works procedures and accounts K.N.Pandya
8. Construction Management and accounts Vazirani & Chandola
9. Estimating & Costing in Civil Engg.theory and Practice B.N.Dutta
10. Construction Planning, equipment and methods R. L.Peurifoy
11. PWD Handbooks (Vol. I & Vol. II) Govt.of Gujarat
12. I.S. code 1200 (Part I to XXX) B.I.S., Delhi
13. Civil Estimating costing & valuation. Amarjit Aggarwal & A.K. Upadhyay