Estimating and Costing III
EG 3203 CE

Year: III
Semester: II

Total: 6 Hrs. /week
Lecture: 3 Hrs./week
Tutorial: 3 Hr./week
Practical: Hrs./week
Lab: Hrs./week

Course Description:
This course focuses on familiarization of estimating and costing. It also deals with the specifications of sanitary, water supply and irrigation works.

Course Objectives:
After completion of this course students will be able to:
1. Understand the procedures methods of measuring and quantity of irrigation, water supply and sanitary suspension bridges and culvert and RCC T beam decking works;
2. Analyze rates for irrigation and suspension bridge works;
3. Provide the basic knowledge of specification for water supply and sanitary and irrigation works and
4. Prepare the estimating the cost of irrigation, culvert water supply and sanitary works.

Course Contents:

Theory

Unit 1: Estimating of Water Supply and Sanitary Works [15 Hrs.]
- 1.1. Water supply and sanitary works
- 1.2. Rural Water supply works
- 1.3. Slow Sand Filter
- 1.4. Rapid Sand Filter
- 1.5. Method of estimating tube well and accessories
- 1.6. Methods of estimating of sanitary works
- 1.7. Method of estimating internal plumbing and water supply works
- 1.8. Methods of estimating service connection between Municipal supply and consumer's pipe
- 1.9. Sewer Line
- 1.10. Surface drains

Unit 2: Estimating of Irrigation Works [14 Hrs.]
- 2.1 Aqueduct
- 2.2 Canal Fall
- 2.3 Canal Syphon
- 2.4 Canal Lining
- 2.5 Method of estimating of earthwork in canal
- 2.6 Culvert and RCC T-Beam decking
- 2.7 Slab Culvert
- 2.8 Hume Pipe syphon
- 2.9 Suspension Bridge

Unit 3: Analysis of Rate for Irrigation and Suspension Bridges: [10 Hrs.]
- 3.1 Factors affecting the cost of irrigation and suspension bridge works
- 3.2 Factors affecting the cost of suspension bridge works
- 3.3 Government procedure of preparing analysis or rate for irrigation works

3.4 Government procedure of preparing analysis or rate for Suspension bridge works- Implementation by Community/ User's Group, Implementation by Contractor through public tender
3.5 Estimate quantities of earthwork in channel
3.6 Estimate slab culvert/ pipe culvert
3.7 Estimate manholes
3.8 Estimate aqueduct

Unit 4: Specifications: [6 Hrs.]

4.1 WC commode cistern
4.2 WC pan with cistern
4.3 Wash basin
4.4 G.I Pipe, PPR pipe, CPVC pipes and fittings
4.5 HDPE pipe and fittings
4.6 UPVC pipe and fittings
4.7 Canal lining
4.8 Hume pipe

Tutorial [45 Hrs.]

Taking out detailed quantities and preparing estimate for the following:

1. Estimate internal plumbing and water supply work
2. Estimate service connection between municipal and consumer's pipe
3. Estimate tube well and accessories
4. Estimate earthwork in channel/canal
5. Estimate canal lining
6. Estimate sewer line, manholes and surface drain
7. Estimate suspension/suspended bridge
8. Estimate slab culvert
9. Estimate RCC T-beam decking
10. Estimate rural water supply (Drawing prepared by the student in water supply)
11. Estimate aqueduct structure
12. Estimate canal fall structure
13. Estimate slow sand filter
14. Estimate rapid sand filter

References:

1. Amarjit Aggarwal "Estimating civil quantity surveying and valuation" katson publishing house, ludhiyana, 1985
2. G.S. Berdie "Test book of estimating and costing"
3. M. Chakraborti "Estimating, costing, specification and valuation in civil engineering"
4. B.N Dutta "Estimating and costing, specification and valuation"

Evaluation Scheme

Unit	Title	Hrs.	Marks Distribution
1	Methods of Estimating of Water Supply and Sanitary Works	15	24
2	Methods of Estimating of Irrigation Works	14	24
3	Analysis of Rates	10	20
4	Specifications	6	12
		45 Hrs.	**80**