

**COURSE TITLE** : **QUANTITY SURVEYING -I**  
**COURSE CODE** : **3026**  
**COURSE CATEGORY** : **B**  
**PERIODS / WEEK** : **5**  
**PERIODS /SEMESTER** : **90**  
**CREDITS** : **4**

**TIME SCHEDULE**

<b>MODULE</b>	<b>TOPIC</b>	<b>PERIODS</b>
I	Introduction, Definitions and Units of measurement, Earth work computation	22
II	Estimating the capacity of Reservoir, Detailed Estimate of single storied building except Roof & Finishing	23
III	Detailed Estimate of single storied building -Roof & Finishing. Estimating road work.	23
IV	Analysis of rates, Abstract of Estimate	22
	<b>TOTAL</b>	<b>90</b>

***Rationale:** One of the major role of a Diploma holder is that of a quantity surveyor. They have to prepare the detailed and abstract of estimates from the drawings and also prepare the bill of quantities of the works actually executed. For this they should have a though knowledge about the drawings and make interpretation of that. They should be familiar with the units of measurements and the rules for taking the measurements. This course covers the basic aspects of these based on the standards and practices adopted in Kerala State PWD.*

**OBJECTIVE**

Upon completing the course, the students should be able to

**1.1.0 Understand the importance of Quantity surveying and the role of quantity surveyor**

- 1.1.1 Understand different types of estimates and methods of detailed estimating
- 1.1.2 Understand the definitions and terms used in quantity surveying.
- 1.1.3 Understand different units of measurements and accuracy of measurements.
- 1.2.0 Understand the different methods of earth work computation.
- 1.2. 1 Compute quantities of given road cross section.

**2.1.0 Understand and interpret the given drawing.**

- 2.1.1 Understand the methods of taking measurements and quantities.
- 2.1.2. Compute the capacity of a reservoir from contour map.
- 2.1.3. Understand the method of taking quantities of items below roof level except finishing work.
- 2.1.4 Understand the details of doors, windows, Ventilator etc. from the given drawing.
- 2.1.5 Understand the methods of taking their measurements and quantities.

**3.1.0 Understand the method of taking quantities of items at roof level & finishing work including water supply and sanitary fittings of the given building and other structures.**

- 3.2.0 Understand the method of taking quantities of road work.

**4.1.0 Understand the rules for taking measurements, standards and specifications of data by state PWD.**

- 4.1.1 Understand the schedule of rates by state PWD.

4.1.2 Understand the idea of preparing the abstract Estimate and conveyance statement.

**Note: While taking estimates students should be taken to field for taking the actual measurements of each typical case and asked to compute quantities. Practical sessions are included for this exercise. Examination of this paper will be conducted similar to theory paper.**

## COURSE CONTENT

### MODULE-I

Definition of quantity surveying – essential requirements – Quantity surveyor – duties and qualities – definition and elements of estimate – types – rough cost, plinth area, cubical content and service unit method – detailed estimate.

Units of measurements for different items as per standard – accuracy of measurements – explain the terms – sundries, Lump sum, Lead and lift, contingencies, unforeseen items, work charged establishment.

Earth work computation – Trapezoidal – Mid ordinate and Prismoidal formula for computing volumes – Taking out quantities from Longitudinal section and Cross section in cutting and filling.

### MODULE – II

Different methods of taking out measurements – Center line – in to in and out to out - Crossing – methods.

Taking out quantities of all items of the following- Below roof level excluding finishing items

1. A compound wall
2. Computation of the capacity of reservoir from a contour map.
3. One roomed building (RCC roof-Flat & Sloped)
4. Two roomed building (RCC roof-Flat & Sloped)
5. A residential building with RCC roof-Flat & Sloped
6. An office building with RCC roof-Flat & Sloped
7. Doors, windows, ventilators etc.

### MODULE – III

Taking out quantities of all items of the following- above roof level and finishing items including water supply and sanitary fittings.

1. One roomed building (RCC roof-Flat & Sloped)
2. Two roomed building (RCC roof-Flat & Sloped)
3. A residential building with RCC roof-Flat & Sloped
4. An office building with RCC roof-Flat & Sloped
5. Masonry Well.
6. Ground level RCC water tank.
7. Road estimate- Method of taking quantities of a W.B.M.road.

### MODULE – IV

Definition – cost of materials – at source and at site – conveyance charges – standard data book – schedule of rates – Lump sum items – Rules of measurements – rules regarding tolerance of wastage of materials and extra labour.

Preparation of data – categories of labour and labour charge – cost of materials – over head charge including establishment – incidental, lead and lift – exercises. Methods of preparing abstract estimate-exercises.

### REFERENCE BOOKS

1. Estimating & Costing - B.N.DUTTA., UBS Publishers.
2. Estimating & Costing - S.C.Rangawala, Charotar Publishing House.

### 3. Estimating & Costing - Chakraborty.- SK Kataria & sons.