

COURSE NAME : Civil Engineering Group
COURSE CODE : CE/CS/CR/CV
SEMESTER/YEAR : SIXTH
SUBJECT TITLE : Contracts And Accounts
SUBJECT CODE :

Teaching and Examination Scheme:

Teaching Scheme			Examination Scheme					
TH	TU	PR	PAPER HRS.	TH	PR	OR	TW	TOTAL
04	--	02	03	100	--	--	50@	125

External Assessment @ Internal Assessment * Online Examination

NOTE:

- **Two tests each of 25 marks to be conducted as per the schedule given by MSBTE.**
- **Total of tests marks for all theory subjects are to be converted out of 50 and to be entered in mark sheet under the head Sessional Work. (SW)**

RATIONALE:

For infrastructure development various construction projects are required to be undertaken. These projects are to be executed by entering into a legal contract. For this purpose the diploma student shall have adequate knowledge of different types of contract and accounting procedures for effecting the payments. .

Knowledge about the procedure of execution of work by P.W.D. will be useful while working as an engineer in P.W.D. and executing various works. The topic on different types of contract, conditions of contract will enable the student to use the specific type of contract for execution of work.

Concept of Tender and knowledge about preparation of tender documents, writing specification for different items of work will be helpful to prepare actual Tender papers and contract documents which are required before starting construction.

Topic on measurement book and nominal muster roll will be useful for execution of petty works at site. The information on various departmental procedures and different types of forms used by P.W.D. as well as various construction firms, will be useful to prepare bills and different modes of payment to contractors.

The knowledge of valuation will be helpful in the future while preparing valuation reports for purposes like buying, selling, for mortgage deed, for rent fixation, etc.

This subject will help the student in implementing actual field practices, this will make the student further more competent in the execution of civil engineering works.

General Objectives:

The students shall be able to:

1. Understand various types of contract with the purpose of each type.
2. Understand different conditions of contract and its use in execution of work.
3. Appreciate importance of specification of various items of construction.
4. Understand the procedure and different forms for the preparation of tender documents.
5. Know techniques of evaluation.

Learning structure

Theory

Topic and Contents	Hours	Marks
<p>Topic: 1 Procedure of Execution of Work By P.W.D.</p> <p>Specific objectives</p> <ul style="list-style-type: none"> ➤ State the meaning and purpose of administrative approval and technical sanction. ➤ Draw organization structure of p.w.d. <p>Contents</p> <ul style="list-style-type: none"> • Organizational structure of p.w.d., functions of their personnel. P.w.d. Procedure of initiating the work, Administrative approval, technical sanction, budget provision. • Methods used in p.w.d. for carrying out works contract method and departmental method, rate list method, piece work method, day’s work method, department method. 	06	12
<p>Topic: 2 Contracts</p> <p>Specific objectives</p> <ul style="list-style-type: none"> ➤ State purpose of different types of contracts ➤ State Advantages, Disadvantages with suitability of each contract. <p>Contents</p> <p>2.104</p> <ul style="list-style-type: none"> • Definition of contract, Objects of contract, requirements of valid contract <p>2.2 Types of engineering contract with advantages and10 disadvantages ,their suitabilities</p> <ul style="list-style-type: none"> • Lump sum contract, item rate contract, percentage rate contract, cost plus percentage, cost plus fixed fee, cost plus variable percentage and cost plus variable fee contract, labour contract, demolition contract, target contract, negotiated contract. <p>2.306</p> <ul style="list-style-type: none"> • Classification of contractor, Registration of contractor, Built operate transfer (BOT) Project: Objectives, scope, advantages, disadvantages, examples. 	14	20
Topic and Contents	Hours	Marks

<p>Topic: 3 Tender And Tender Documents</p> <p>Specific objectives</p> <ul style="list-style-type: none"> ➤ Draft tender Notice. ➤ State procedure of submitting tender documents. <p>Contents</p> <p>3.112</p> <ul style="list-style-type: none"> • Definition of tender, necessity of tender, types-local and Global • Tender notice, points to be included while drafting tender Notice, drafting of tender notice. • Meaning of terms: earnest money, security deposit, validity period, right to reject one or all tenders, corrigendum to tender notice and its necessity. <p>3.2 Tender documents08</p> <ul style="list-style-type: none"> • list, schedule a, schedule b, schedule C • Terms related to tender documents – contract conditions: time limit, time extension, penalty, defective material and workmanship, termination of contract, suspension of work, subletting of contract, extra items , escalation ,arbitration, price variation clause, defect liability Period , liquidated and unliquidated damages. . • Filling the tender by contractor and points to be observed by Contractor. • Procedure of submitting filled in tender document , procedure of opening tender , comparative statement , scrutiny of tenders ,award of contract, acceptance letter and work order. • Unbalanced tender, ring formation. 	14	20
<p>Topic: 4.Accounts In P.W.D.- Payment To Contractors</p> <p>Specific objectives</p> <ul style="list-style-type: none"> ➤ State the use of Measurement book and Nominal muster roll. ➤ State different modes of payments and their use. <p>Contents</p> <p>4.1 Various account forms and their uses -----.(08)</p> <ul style="list-style-type: none"> • Measurement Books, Nominal Muster Roll, Imprest Cash, Indent, Invoice, Bills, Vouchers, Cash Book, Temporary Advance. Heads of Accounts. <p>4.2 Mode of Payment to the contractor- -----(08)</p> <ul style="list-style-type: none"> • Interim Payment and its necessity, Advance Payment, Secured Advance, on Account payment, Final Payment, First And Final Payment, Retention money, Reduced rate payment, Petty advance, Mobilization advance. 	06	16
Topic and Contents	Hours	Marks

<p>Topic: 5. Specification</p> <p>Specific objectives</p> <ul style="list-style-type: none"> ➤ Prepare detail specifications of various items ➤ Write the rules for specification writing. <p>Contents</p> <ul style="list-style-type: none"> • Necessity and importance of specifications of an items, points to be observed in framing specifications of an item, Types of specification –Brief and Detailed, Standard and Manufacturers specification. • Preparing Detailed Specifications of items in civil engineering works from each of following: building construction , Irrigation Engineering ,Transportation Engineering , Public health Engineering . • Legal Aspects of Specification. 	08	12
<p>Topic: 6.Valuation</p> <p>Specific objectives</p> <ul style="list-style-type: none"> ➤ State factors affecting value of property. ➤ Calculate the capitalized value. <p>Contents</p> <p>6.108</p> <ul style="list-style-type: none"> • Definition and Necessity of Valuation. Definitions – Cost, Price, Value, Characteristics of Value, Factors Affecting Value. • Types of Value: - Book Value, Scrap Value, Salvage Value, Speculative Value , Distress Value, Market Value, Monopoly Value, Sentimental Value, Factors Affecting Value. <p>6.212</p> <ul style="list-style-type: none"> • Depreciation, Obsolescence, Sinking Fund. Methods of Calculation of Depreciation – Straight Line Method, Sinking Fund Method, Constant Percentage Method Quantity Survey Method. • Computation of Capitalized Value, Gross Income, Outgoing, Net Income, Years Purchase. Types of Outgoing And Their Percentages. Fixation Of Rent as Per PWD Practice. Simple numerical problems. 	16	20
Total	64	100

Practicals:

Skills to be developed:

Intellectual Skills:

1. Draft brief tender notice for civil engineering constructions.
2. Prepare tender document for construction of a residential building and other civil engineering work.
3. Write the detailed specification.
4. Prepare valuation report for land and building.

Motor skills

- 1.
- 2.
- 3.

Term work will be prepared by each student in the form of following assignments.

List of Assignments:

1. Collect old set of tender document and write a report containing Name of work, location, estimated cost of work, conditions of contract, etc.
2. Collect tender notices published in newspapers for various items of civil Engineering works. (At least 5) Write salient features of them.
3. Draft tender notices for construction of a civil engineering Work i.e. W. B. M. Road and Residential Building)
4. Prepare Tender Document for the Building. Teacher shall form a group of five Students. Each group shall use independent drawing (Submission Drawing prepared in third semester can be used.) Detailed Estimate prepared for R.C.C. Building in Estimating and Costing shall be used.
5. Collect various account forms from PWD and write a report stating name and Numeric code of form with its use.
6. Write a report on P.W.D store procedure and P.W.D account procedure with details of cash book, indent, petty advance etc. For it a Guest Lecture of PWD official may be arranged for providing the data for writing of above report.
7. Write detailed Specifications for one item from each of following:
 - a) Building construction.
 - b) Irrigation engineering.

- c) Transportation engineering.
- d) Public health engineering.

Learning Resources:

1. Books:

Sr. No.	Author	Title	Publisher
01	B.N.DATTA	ESTIMATING AND COSTING IN CIVIL ENGINEERING	UBS Publishers
02	S.C.RANGWALA	ESTIMATING AND COSTING, SPECIFICATION AND VALUATION IN CIVIL ENGINEERING	Charotar Publication
03	B.S.PATIL	CIVIL ENGINEERING CONTRACTS AND ACCOUNTS VOL.I,II	Orient Longman
04	S.C.RANGWALA	VALUATION OF REAL PROPERTIES	Charotar Publication
05	Dr.V.K.RAINA	CONSTRUCTION MANAGEMENT AND CONTRACT PRACTICES	Shroff Publishers & Distributers pvt.ltd.