

**VEL TECH MULTI TECH  
Dr. RANGARAJAN Dr. SAKUNTHALA  
ENGINEERING COLLEGE**

(An ISO 9001: 2008 Certified Institution)

(Owned by 'VEL Shree R. Rangarajan  
Dr. Sagunthala Rangarajan Educational Academy)

(Approved by AICTE, New Delhi

&

Govt. of Tamil Nadu and affiliated to Anna University)



**WEEKLY SCHEDULE**

**VI - SEMESTER**

**2012-2016**

4 Year Degree Course in Engineering

**CIVIL ENGINEERING**

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**WEEK DETAILS****YEAR 2015**

<b>S.NO</b>	<b>WEEKS</b>	<b>DATE</b>	
		<b>FROM</b>	<b>TO</b>
1.	WEEK 1	02.01.15	09.01.15
2.	WEEK 2	12.01.15	16.01.15
3.	WEEK 3	19.01.15	23.01.15
4.	WEEK 4	27.01.15	30.01.15
5.	WEEK 5	02.02.15	06.02.15
6.	WEEK 6	09.02.15	13.02.15
7.	WEEK 7	16.02.15	20.02.15
8.	WEEK 8	23.02.15	27.02.15
9.	WEEK 9	02.03.15	06.03.15
10.	WEEK 10	09.03.15	13.03.15
11.	WEEK 11	16.03.15	20.03.15
12.	WEEK 12	23.03.15	27.03.15
13.	WEEK 13	30.03.15	01.04.15
14.	WEEK 14	06.04.15	10.04.15
15.	WEEK 15	13.04.15	17.04.15
16.	WEEK 16	20.04.15	24.04.15
17.	WEEK 17	27.04.15	30.04.15

# VI SEMESTER

## CONTENTS

<b>S. NO</b>	<b>SUBJECTCODE</b>	<b>SUBJECT NAME</b>
01	MG2351	Principles of Management
02	CE2351	Structural Analysis – II
03	CE2352	Design of Steel Structures
04	CE2353	Construction Planning & Scheduling
05	CE2354	Environmental Engineering II
06	CE2021	Hydrology
07	CE2355	Environmental and Irrigation Engineering Drawing
08	CE2356	Environmental Engineering Laboratory

**VI SEMESTER**  
**EXAM DETAILS**

<b>S.NO</b>	<b>DATE</b>	<b>EXAM</b>
1	22-JAN-15 to 24-JAN-15	<b>UNIT TEST I</b>
2	11-Feb-15 to 13-Feb-15	<b>UNIT TEST II</b>
3	03-Mar-15 to 05-Mar-15	<b>UNIT TEST III</b>
4	23-Mar-15 to 25-Mar-15	<b>UNIT TEST IV</b>
5	13-Apr-15 to 16-Apr-15	<b>UNIT TEST V</b>
6	20-Apr-15 to 27-Apr-15	MODEL EXAM

# **MG2351 PRINCIPLES OF MANAGEMENT**

## **WEEK – 1**

### **UNIT - 1&2**

#### **Overview of Management**

Management, Role of managers Evolution of Management thought  
–Organization and the environmental factors Trends and  
Challenges of Management in Global Scenario

## **WEEK – 2 UNIT TEST - 1**

## **WEEK – 3**

### **UNIT -2**

#### **Planning**

Nature and purpose of planning - Planning process

## **WEEK – 4**

Types of plans –Managing by objective (MBO) Strategies

## **WEEK - 5**

Decision Making under different conditions First Cycle Test

## **WEEK – 6: UNIT TEST – 1I**

## **WEEK - 7**

### **UNIT- 3**

#### **Organizing**

Nature and purpose of organizing - Organization structure

## **WEEK – 8**

Centralization and Decentralization - Delegation of  
authority

## **WEEK – 9: UNIT TEST – 1II**

## **WEEK - 10**

### **UNIT- 4**

#### **Directing**

Creativity and Innovation Motivation and Satisfaction Motivation  
Theories

## **WEEK - 11**

Elements and types of culture - Managing cultural diversity First  
Cycle Test

**WEEK – 12: UNIT TEST – 1V**

**WEEK – 13**

**Controlling**

Process of controlling - Types of control - Budgetary and  
non-budgetary control techniques

**WEEK – 14**

Managing Productivity - Cost Control - Purchase Control

**WEEK – 15 UNIT TEST – V**

**WEEK - 16 & WEEK – 17**

**ICD CLASSES & MODEL EXAM**

**CE2351      STRUCTURAL ANALYSIS – II**

**WEEK – 1**

**UNIT - 1&2**

**Flexibility Method**

Equilibrium and compatibility – Determinate vs  
Indeterminate structures Indeterminacy - Primary structure –  
Compatibility conditions Analysis of indeterminate pin-jointed  
plane frames, continuous beams, rigid jointed plane frames

**WEEK - 2 UNIT TEST –I**

**WEEK – 3**

**UNIT -2**

**Stiffness Matrix Method**

Element and global stiffness matrices

**WEEK – 4**

Analysis of continuous beams – Co-ordinate transformations –  
Rotation matrix

**WEEK - 5**

Transformations of stiffness matrices, load vectors and displacements vectors First Cycle Test

**WEEK – 6 UNIT TEST –II**

**WEEK – 7**

**UNIT- 3**

**Finite Element Method**

Discretisation of a structure – Displacement functions – Truss element

**WEEK – 8**

Beam element – Plane stress and plane strain - Triangular elements

**WEEK – 9 UNIT TEST –III**

**WEEK - 10**

**UNIT- 4**

**Plastic Analysis of Structures**

Statically indeterminate axial problems Beams in pure bending –Plastic modulus – Shape factor – Load factor

**WEEK - 11**

Plastic hinge and mechanism – Plastic analysis of indeterminate beams and frames

**WEEK – 12 UNIT TEST –IV**

**WEEK – 13**

**UNIT – 5**

**Space and Cable Structures**

Analysis of Space trusses using method of tension coefficients – Beams curved in plan

**WEEK – 14**

Suspension cables – suspension bridges with two and three hinged stiffening girders

## **WEEK – 15 UNIT TEST –V**

## **WEEK - 16 & WEEK - 17**

### **ICD CLASSES & MODEL EXAM**

## **CE2352 DESIGN OF STEEL STRUCTURES**

### **WEEK – 1**

### **UNIT - 1&2**

#### **Introduction**

Properties of steel – Structural steel sections – Limit State Design Concepts Loads on Structures – Metal joining methods using rivets, welding, bolting Design of bolted, riveted and welded joints – Eccentric connections - Efficiency of joints – High Tension bolts

### **WEEK – 2 UNIT TEST –I**

### **WEEK – 3**

### **UNIT -2**

#### **Tension Members**

Types of sections – Net area

### **WEEK – 4**

Net effective sections for angles and Tee in tension

### **WEEK - 5**

Design of connections in tension members – Use of lug angles

### **WEEK – 6 UNIT TEST –II**

### **WEEK – 7**

### **UNIT- 3**

#### **Compression members**

Types of compression members – Theory of columns – Basis of current codal provision for compression member design – Slenderness ratio



## **WEEK – 8**

Design of single section and compound section compression members – Design of column bases – Gusseted base

## **WEEK – 9 UNIT TEST –III**

## **WEEK – 10**

### **UNIT- 4**

#### **Beams**

Design of laterally supported and unsupported beams – Built up beams – Beams subjected to biaxial bending

## **WEEK – 11**

Design of plate girders riveted and welded – Intermediate and bearing stiffeners – Web splices – Design of beam columns

## **WEEK – 12 UNIT TEST –IV**

## **WEEK – 13**

### **UNIT – 5**

#### **Roof Trusses and Industrial Structures**

Roof trusses – Roof and side coverings – Design loads

## **WEEK – 14**

Design of purlin and elements of truss; end bearing – Design of gantry girder

## **WEEK – 15 UNIT TEST –V**

## **WEEK - 16 & WEEK – 17**

**ICD CLASSES & MODEL EXAM**

## **CE2353 CONSTRUCTION PLANNING & SCHEDULING**

### **WEEK – 1**

#### **UNIT - 1&2**

#### **Construction Planning**

Basic concepts in the development of construction plans  
Defining Work Tasks- Definition- Precedence relationships among

activities-Estimating Activity Durations-Estimating Resource Requirements for work activities-coding systems

## **WEEK – 2 UNIT TEST I**

### **WEEK - 3**

#### **UNIT -2**

### **Scheduling Procedures and Techniques**

Relevance of construction schedules- The critical path method- Calculations for scheduling with leads.

### **WEEK – 4**

Use of Advanced Scheduling Techniques-Improving the Scheduling process

### **WEEK - 5**

– Introduction to application software

## **WEEK – 6 UNIT TEST II**

### **WEEK – 7**

#### **UNIT- 3**

### **Cost Control Monitoring and Accounting**

The cost control problem-The project Budget-Forecasting for Activity cost control - financial accounting

### **WEEK – 8**

Control of project cash flows-Schedule control-Schedule and Budget updates-Relating cost and schedule information

## **WEEK – 9 UNIT TEST III**

### **WEEK - 10**

#### **UNIT- 4**

### **Quality Control and Safety During Construction**

Quality and safety Concerns in Construction-Organizing for Quality and Safety

### **WEEK - 11**

Work and Material Specifications Sampling by Attributes-Statistical Quality control by Sampling and Variables-Safety

## **WEEK – 12 UNIT TEST IV**

### **WEEK – 13**

#### **UNIT – 5**

#### **Organization and Use of Project Information**

Types of project information-Accuracy and Use of Information-Computerized organization and use of Information

### **WEEK – 14**

Centralized database Management systems-Databases and application programs-Information transfer and Flow

### **WEEK – 15**

#### **UNIT TEST V.**

### **WEEK - 16 & WEEK - 17**

#### **ICD CLASSES & MODEL EXAM**

## **CE2354 ENVIRONMENTAL ENGINEERING II**

### **WEEK – 1**

#### **UNIT - 1&2**

#### **Planning for Sewerage Systems**

Sources of wastewater generation – Effects Estimation of storm runoff – Factors affecting Characteristics and composition of sewage and their significance – Effluent standards – Legislation requirements

### **WEEK – 2 UNIT TEST I**

### **WEEK - 3**

#### **UNIT -2**

#### **Sewer Design**

Sewerage – Hydraulics of flow in sewers

### **WEEK – 4**

Objectives – Design period - Design of sanitary and storm sewers

## **WEEK - 5**

Laying, joining & testing of sewers – appurtenances –  
Pumps –Plumbing System for Buildings

## **WEEK – 6 UNIT TEST II**

## **WEEK – 7**

### **UNIT- 3**

#### **Primary Treatment of Sewage**

UNIT Operation and Processes – Selection of treatment  
processes – Onsite sanitation - Septic tank, Grey water harvesting

## **WEEK – 8**

Principles, functions design and drawing of screen, tanks –  
Operation and Maintenance aspects

## **WEEK - 9**

### **UNIT TEST III.**

## **WEEK - 10**

### **UNIT- 4**

#### **Firstary Treatment of Sewage**

Selection of Treatment Methods – Principles, Functions,  
Design and Drawing of UNITs

## **WEEK - 11**

Oxidation ditches, UASB – Waste Stabilization Ponds –  
Reclamation and Reuse of sewage - Recent Advances in Sewage  
Treatment

## **WEEK – 12 UNIT TEST IV**

## **WEEK – 13**

### **UNIT – 5**

#### **Disposal of Sewage and Sludge**

Standards for Disposal - Methods – dilution – Self  
purification of surface water bodies– Soil dispersion system

## **WEEK – 14**

Sludge characterization – Thickening – Sludge digestion –  
Biogas recovery – Advances in Sludge Treatment and disposal

## **WEEK – 15 UNIT TEST V**

## **WEEK - 16 & WEEK - 17**

### **ICD CLASSES & MODEL EXAM**

## **CE2021 HYDROLOGY**

### **WEEK – 1**

#### **UNIT - 1&2**

#### **Precipitation**

Hydrologic cycle –Types of precipitation –Forms of precipitation  
–Measurement of Rainfall –Spatial measurement methods –  
Temporal measurement methods – Frequency analysis of  
point rainfall –Intensity, duration, frequency relationship –  
Probable maximum precipitation.

### **WEEK – 2 UNIT TEST I**

### **WEEK - 3**

#### **UNIT -2**

#### **Abstraction from precipitation–**

Losses from precipitation –Evaporation process –Reservoir  
evaporation —

### **WEEK – 4**

Infiltration process Infiltration capacity –Measurement of  
infiltration –

### **WEEK - 5**

Infiltration indices –Effective rainfall

### **WEEK – 6 UNIT TEST II**

### **WEEK – 7**

#### **UNIT- 3**

Hydrographs

Factors affecting Hydrograph – Baseflow separation –  
Unit hydrograph – Derivation of unit hydrograph

**WEEK – 8**

S curve hydrograph – Unit hydrograph of different deviations  
- Synthetic Unit Hydrograph

**WEEK - 9**

**UNIT TEST III.**

**WEEK - 10**

**UNIT- 4**

**Floods and flood routing**

Flood frequency studies –Recurrence interval –Gumbel’s method  
–Flood routing –

**WEEK - 11**

Reservoir flood routing –Muskingum’s Channel Routing –Flood

**WEEK – 12 UNIT TEST IV**

**WEEK – 13**

**UNIT – 5**

**Ground water hydrology**

Types of aquifers – Darcy’s law – Dupuit’s assumptions –  
Confined Aquifer – Unconfined  
Aquifer –

**WEEK – 14**

Recuperation test –Transmissibility –Specific capacity –Pumping  
test –Steady flow analysis only

**WEEK – 15 UNIT TEST V**

**WEEK - 16 & WEEK - 17**

**ICD CLASSES & MODEL EXAM**

WEEK - 1	WATER SUPPLY AND TREATMENT
WEEK - 2	
WEEK - 3	
WEEK - 4	SEWAGE TREATMENT & DISPOSAL
WEEK - 5	
WEEK - 6	
WEEK - 7	
WEEK - 8	IMPOUNDING STRUCTURES
WEEK - 9	
WEEK - 10	
WEEK - 11	
WEEK - 12	CANAL TRANSMISSION STRUCTURES
WEEK - 13	
WEEK - 14	
WEEK - 15	CANAL REGULATION STRUCTURES
WEEK - 16	
WEEK - 17	

**CE2356                      ENVIRONMENTAL ENGINEERING  
LABORATORY**

<b>WEEK</b>	<b>EXPERIMENT</b>
1	Sampling and preservation methods and significance of characterisation of water and wastewater.
2	Determination of i) P <sup>H</sup> and turbidity ii) Hardness
3	Determination of iron & fluoride
4	Determination of residual chlorine
5	Determination of Chlorides
6	Determination of Ammonia Nitrogen
7	Determination of Sulphate
8	Determination of Optimum Coagulant Dosage
9	Determination of available Chlorine in Bleaching powder
10	Determination of dissolved oxygen
11	Determination of suspended, volatile and fixed solids
12	B.O.D. test
13	C.O.D. test
14	Introduction to Bacteriological Analysis (Demonstration only)