

## Diploma 1 Year (Common for all Branches of Engineering)

Sr. No.	Code	Subjects
1	101	English & Communication Skills
2	102	Applied Physics
3	103	Applied Chemistry
4	104	Applied Mathematics
5	105	Computer & Information Technology Fundamental
6	106	Applied Mechanics
7	107	Engineering Drawing
8	108	Workshop Practice
9	109	Electrical & Electronics

### **(Diploma Detailed Syllabus for 1<sup>st</sup> Year)**

#### **Code 101 English and Communication Skills**

1. Transformation of sentences, Determiners, Preposition.
2. Tense, Common errors (Noun, Pronoun, Articles, Adverb, Punctuation, etc.)
3. Modals, in conversational usage, prefix suffix idioms & phrasal Verbs.
4. Composition- 1. Unseen Passage, prefix suffix idioms & phrasal Verbs.
5. Letter Writing, Paragraph Writing, Report Writing.
6. Essay Writing

#### **Code 102 Applied Physics**

Units and dimensions, elasticity, Properties of Liquids, Gravitation and Satellites Sound Waves, Transfer of Heat, Electrostatics, D.C. Circuits, A.C. Circuits Semi conductor Physics, /modern Physics, Modern Physics, Nuclear Physics, Pollution and its control.

#### **Code 103 Applied Chemistry**

Atomic Structure, Development of periodic Table, Electro Chemistry, Kinetic theory of Gases, Carbon Chemistry, Metals and Alloys, Pollution, Water, Fuels, Corrosion, Polymers. Cement and Glass, Lubricants, Miscellaneous materials, New Engineering Materials.

#### **Code 104 Applied Mathematics**

Introduction of different type of expansion, complex Number, Trigonometry Matrices and determinants, Numerical integration, Two Dimensional Coordinate geometry Conic, Function, Different Calculus, Application of different calculus, Integral Calculus. Differential Equations, Vector algebra.

### **Code 105 Computer and Information Technology Fundamentals**

Introduction to computer, Operating System, Introduction to windows xp  
Information concept and processing, Computer and Communication Internet ,  
Information Processing, Power Point.

### **Code 106 Engineering Mechanics**

Force, Coplanar Forces, Moment, Application of principal of Force % Movements  
Center of Gravity, Friction, Simple Machines, Rectilinear Motion, Motion Under Gravity  
Projectiles, Newton's laws of Motion, Impact and Collision, Circular Motion, Work  
power and Energy.

### **Code 107 Engineering Drawing**

Introduction of Drawing Instruments, Lines Lettering and Dimensioning, Geometrical  
Construction and Engineering Curves, Scales, Theory of Orthographic Projection of  
solids, Conversion of Practical View into orthographic views, Section of solids and  
Development of Surfaces,  
Isometric Projection, Section and Conventions, Rivets and Riveted Joints Screw Threads  
and Fasteners, Foundation Bolt and locking Devices, Keys and Pulleys Shaft Coupling,  
Veering Building Drawing.

### **Code 108 Workshop Practices**

Carpentry Shop, Welding and Sheet Metal Shop, Sheet Metal Shop, Fitting and Plumbing  
Shop.

### **Code 109 Electrical & Electronics Workshop**

1. Identification of following resistors and finding their value
2. Identification of following capacitor and finding their value
3. Identification of following Switches and study of their working Mechanism
4. Identification and testing of connectors
5. Study of different relays and their contacts
6. Measuring of voltage, current and resistance using analog & Digital Millimeter
7. Testing of electronic component such as capacitor, inductor diode and transistor.
8. Measurement of amplitude e& frequency of a signal using CRO.
9. Verification of Ohm's Law using resistive circuit and analog meter.
10. Soldering of different passive component combination on general purpose PCB.
11. Sketching of different electronic components symbol on drawing sheet..

### **Electrical Workshop**

1. Study of symbol, specification and approximate cost of common electrical accessories, tools and wires & cables required for domestic installation.
2. Study of
  - a) Basic electricity rules for a domestic consumer
  - b) Safety precaution & use of Fire fighting equipments.
3. Use of series of phase tester, series test lamp tong test and megger in testing of electrical installation.

4. a) Prepare of potential divider and measure resistance of a filament lamp using voltmeter and meter.  
b) Measurement of power and energy consumption by and electric heater using wattmeter and energy meter.
5. Preparation of wiring diagram, wiring testing, fault finding& costing for
  - a) Control of one lamp by one switch (using batten and tumbler switch
  - b) Control the staircase wiring (using batten and tumbler switch)
  - c) Control of one bell buzzer indenter by one switch (using conduit and flush type switch)
6. Prepare one Switchboard as per institutional requirement (using flush type switches. Sockets, MCB, ELCB, etc.)
7. Study Connecting testing and fault finding of
  - a) Fluorescent tube and its necessities
  - b) Ceiling fan with resistance type and electronic regulator
8. Study Connecting testing and fault finding of
  - a) Automatic electric Iron.
  - b) Air Cooler
  - c) Electric water pump
9. Design Draw and estimate the material required for installation for  
A small residential Building/ Office/ hall

## **Diploma Civil Engg. Third Sem.**

Sr. No.	Code	Subject
1	CE31	Strength of Materials
2	CE32	Fluid Mechanics-I
3	CE33	Building Technology- I
4	CE34	Surveying – I
5	CE35	Transportation-Engineering –I
6	CE36	Soil Engineering
7	CE37	Construction Materials

### **Diploma III<sup>rd</sup> Sem.**

#### **Code CE 31 Strength of Materials –I**

1. Simple Stress and Strain
2. Compound Stress
3. Strain Energy
4. Bending Moments and shear force
5. Moment of inertia
6. Bending Stresses in Beams
7. Shear Stress in Beams

#### **Code CE 32 Fluid Mechanics – I**

1. Introduction
2. Fluid Pressure and its Measurement
3. Hydrostatics

4. Hydro kinematics
5. Hydrodynamics and Measurement of flow
6. Orifices and Notches

### **Code CE 33 Building Technology –I**

1. Introduction
2. Foundation
3. Walls
4. Brick Masonry
5. Stone Masonry
6. Scaffolding Shoring and Underpinning
7. Dampens and its Prevention
8. Building Bye Laws

### **Code CE 34 Surveying – I**

1. Introduction
2. Chain Surveying
3. Compass Surveying
4. Minor Instrument

### **Code CE 35 Transportation Engineering – I**

1. Introduction
2. Highway Development and Planning
3. Highway Geometric Design
4. Traffic Engineering
5. Highway Materials
6. Construction of Roads
7. Highway Materials
8. Road Drainage and Road Arboriculture
9. Bridges

### **Code CE 36 Soil Engineering**

1. Introduction
2. Fundamental Definitions and Relationships
3. Classification of Soils
4. Permeability of Soils
5. Compaction
6. Consolidation
7. Shear Strength
8. Bearing Capacity
9. Soil Pressure
10. Soil Exploration

### **Code CE 37 Construction Materials**

1. Stones
2. Bricks
3. Tiles
4. Lime
5. Lime Mortar
6. Cement and Cement Mortar
7. Timber
8. Paints and Varnishes

### **Diploma Civil Engg. Fourth Sem.**

Sr. No.	Code	Subject
1	CE41	Strength of Materials - II
2	CE42	Fluid Mechanics-II
3	CE43	Building Technology- II
4	CE44	Surveying – II
5	CE45	Transportation-Engineering –II
6	CE46	Concrete Technology
7	CE47	Building Drawing

### **Code CE 41 Strength of Materials – II**

1. Deflection
2. Columns and Struts
3. Torsion so Struts
4. Springs
5. Thin Cylindrical Shells
6. Combined Direct and Bending stress
7. Frames

### **Code CE 42 Fluid Mechanics – II**

1. Flow Through Pipes
2. Flow Through Channels
3. Turbines
4. Pumps

### **Code CE 43 Building Technology – II**

1. Arches and Lintels
2. Doors
3. Windows
4. Stairs and Stair Cases
5. Roofs
6. Floors
7. Finishing of Building
8. Basic Principles of Building Planning
9. Orientation
10. Design of Buildings

### **Code CE 44 Surveying - II**

1. Leveling
2. Contouring
3. Plane Table Surveying
4. Modern Instruments

### **Code CE 45 Transportation Engineering – II**

1. Introduction
2. Permanent way and track materials
3. Rails
4. Steppers
5. Ballast
6. Fixture
7. Railway Geometries
8. Permanent and Temporary land Widths
9. Point and Crossing
10. Tracks Laying
11. Maintenance
12. Stations and Yards
13. Signal lings
14. System of Signal lings
15. Tunneling

### **Code CE 46 Concrete Technology**

1. Cement

2. Testing of Comment
3. Aggregates
4. Water
5. Admixtures
6. Fresh Concrete
7. Concrete Operation
8. Strength of Concrete
9. Special Concrete
10. Formwork
11. Quality Control at site

**Code CE 47 Building Drawing**

1. Detailed working plan, elevation and section of the following
2. Drawing of a small residential building from measurements
3. Detailed working drawing of a two storied building

**Diploma V<sup>th</sup> Sem**

Sr.No.	Code	Subject
1	CE51	Public health Engineering -I
2	CE52	Irrigation Engineering -I
3	CE53	Theory of Structures
4	CE54	Surveying – III
5	CE55	Estimating and Costing –I
6	CE56	Elective Construction Management Building Services
7	CE57	Elective II C Programming Computer in Business System

**V<sup>th</sup> Sem.**

**Code CE 51 Public Health engineering**

1. Introduction
2. Quantity of water
3. sources of water
4. Quantity of water
5. Treatment of water
6. Conveyance of water
7. Regulatory Valves
8. Distribution of water
9. Building water supply

## 10. Rural water supply

### **Code CE 52 Irrigation Engineering –I**

1. Introduction
2. Water Requirements of crops
3. Hydrology
4. Reservoir Planning
5. Dams
6. Earthen and Rock fill dams
7. Spillways
8. River Training Works

### **Code CE 53 Theory of Structures**

1. Slope and Deflection
2. Influence line diagram for the following in simply supported beams
3. Rolling loads
4. Indeterminate Structures
5. Propped Cantilever Beam
6. Fixed Beams
7. Continuous

### **Code CE 54 Surveying – III**

1. Theologize
2. Traverse
3. Tachometry
4. Trigonometrically leveling
5. Curves
6. Modern

### **Code CE 55 Estimating and Costing- I**

1. Introduction
2. Rate-Analysis
3. Specifications
4. Detailed Estimates for Building
5. Earth work calculation for Road and Rail Formation

### **Code CE 56 Construction Management and Equipments**

1. Introduction
2. Construction Planning
3. Organization
4. Construction Contracts



5. Construction Labour
6. Inspection and Quality Control
7. Construction Equipments

### **Code CE 57 Building Services**

1. Surface finishes and External Rendering
2. Water supply and Drainage in building
3. Hot water Supply
4. Ventilation
5. Air-Conditioning System for Building
6. Basic concepts of electrical wiring
7. Lifts
8. Lighting
9. Fire Protection
10. Sound and Acoustics

### **Code CE 58 C Programming**

1. Introduction
2. Elements of C
3. Console Input –Output
4. Control Flow
5. Arrays
6. Functions
7. Pointers
8. Structures and Enumerated Data Types

### **Code CE 59 Computer in Business Systems**

1. Business Data Processing
2. Business Files
3. Design, Analysis and Development of
4. Computerized Payroll
5. Fox Pro

## **Diploma VI<sup>th</sup> Sem**

Sr.No.	Code	Subject
1	CE61	Public health Engineering -II
2	CE62	Irrigation Engineering -II

3	CE63	Steel Structures Design and Drawing
4	CE64	R.C.C. Design and Drawing
5	CE65	Estimating and Costing –II
6	CE66	Elective Repair and Maintenance of civil works Appropriate Technology Environmental Engineering
7	CE67	Elective II Management Entrepreneurship Development Production System Management

## VI<sup>th</sup> Sem.

### **Code CE 61 Public health Engineering –II**

1. Introduction
2. Quantity of Sewage
3. Characteristics and Compositions of sewage
4. Building Drainage
5. Sewers
6. Appurtenances
7. Laying of Sewers
8. Maintenance
9. Sewage Disposal
10. Treatment and Disposal
11. Septic Tanks
12. Rural Sanitation

### **Code CE 62 Irrigation Engineering – II**

1. Canals
2. Water Logging
3. Diversion Head Works
4. Cross Drainage works
5. Distributor works
6. Well irrigation

### **Code CE 63 Steel Structure Design and Drawing**

1. Introduction
2. Structural Steel Connection
3. Tension Members
4. Compression Members
5. Column Bases
6. Beams and Lintels
7. Roof Trusses
8. Plate Girder

#### **Code CE 64 R.C.C. Design and Drawing**

1. Introduction
2. Flexural Members
3. Analysis and design of Beams
4. Slabs
5. Compression Members
6. Design of Footing
7. Retaining Wall
8. Prestressed Concrete

#### **Code CE 65 Estimating and Costing – II**

1. Preparing Details Estimates for the various items of work from the given drawing for
2. Valuation of property and rent fixation
3. Contract System
4. Procedure of Works
5. Public works accounts
6. Stores tools and plants

#### **Code CE 66 Repair and Maintenance of Civil works**

1. Principle of maintenance
2. Maintenance Standards
3. Defects
4. Maintenance Organization
5. Maintenance Problems and Their Solution

#### **Code CE 67 Appropriate Technology**

1. Introduction
2. Materials
3. Mud walls
4. Thatched Roofs
5. Low cost Housing
6. Rural Sanitation

7. Rural Sanitation
8. Rural Roads
9. Miscellaneous

### **Code CE 68 Repair and Maintenance of Civil Works**

1. Environment and Ecology
2. Factors affecting Environmental pollution
3. Water Pollution
4. Air Pollution
5. Noise Pollution
6. Land Pollution
7. Environmental Impact Assessment
8. Global Environmental Issues
9. Non conventional Sources of energy in environmental protection
10. Pollution control acts
11. Environment

### **Code CE 69 Management**

1. Principles of Management
2. Human Resources Development
3. Wages and Incentives
4. Financial Management
5. Material Management
6. Marketing Management
7. Tax System and Insurance
8. Labour Legislation and Pollution control Acts
9. Entrepreneurship Development

### **Code CE 70 Entrepreneurship Development**

1. Entrepreneurship
2. Industrial Policy
3. Entrepreneurship support System
4. Entrepreneurship Development
5. Setting up SSI
6. Raw material management
7. Marketing Facilities
8. Financial Sources for SSI
9. Contracts and Tenders
10. Projects Report
11. ISO : 9000 Series of Quality System

## **Code CE 71 Production System Management**

1. Introduction
2. New Product Design
3. Demand Forecasting
4. Production Planning and Control
5. Capacity Planning and Control
6. Material Requirement Planning
7. Process Planning
8. Production Control
9. Make of Buy Decision
10. Application of LPP in Production Management
11. Group Technology