

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

## SCHEME OF TEACHING & EXAMINATION

### B.E. V SEMESTER CIVIL ENGINEERING

| S.No.        | Board of Study  | Subject Code | Subject  | Periods per Week |          |           | SCHEME OF EXAM.    |            |            | Total Marks | Credit L+(T+P)<br>2 |
|--------------|-----------------|--------------|--|------------------|----------|-----------|--------------------|------------|------------|-------------|---------------------|
|              |                 |              |  |                  |          |           | Theory / Practical |            |            |             |                     |
|              |                 |              |  | L                | T        | P         | ESE                | CT         | TA         |             |                     |
| 1            | Civil Engg.     | 320511 (20)  | Structural Analysis - II                       | 4                | 1        | -         | 80                 | 20         | 20         | 120         | 5                   |
| 2            | Civil Engg.     | 320512 (20)  | Structural Engineering Design - I              | 4                | 1        | -         | 80                 | 20         | 20         | 120         | 5                   |
| 3            | Civil Engg.     | 320513 (20)  | Geotech Engineering - I                        | 3                | 1        | -         | 80                 | 20         | 20         | 120         | 4                   |
| 4            | Civil Engg.     | 320514 (20)  | Transportation Engineering - I                 | 3                | 1        | -         | 80                 | 20         | 20         | 120         | 4                   |
| 5            | Civil Engg.     | 320515 (20)  | Numerical Methods and Computer Programming     | 3                | 1        | -         | 80                 | 20         | 20         | 120         | 4                   |
| 6            | Civil Engg.     | 320516 (20)  | Engineering Hydrology                          | 2                | 1        | -         | 80                 | 20         | 20         | 120         | 3                   |
| 7            | Civil Engg.     | 320521 (20)  | Structural Analysis - Lab                      | -                | -        | 3         | 40                 |            | 20         | 60          | 2                   |
| 8            | Civil Engg.     | 320522 (20)  | Geotech Engineering - I Lab                    | -                | -        | 3         | 40                 |            | 20         | 60          | 2                   |
| 9            | Civil Engg.     | 320523 (20)  | Transportation Engineering - lab               | -                | -        | 3         | 40                 |            | 20         | 60          | 2                   |
| 10           | Civil Engg.     | 320524 (20)  | Numerical Methods and Computer Programming lab | -                | -        | 3         | 40                 |            | 20         | 60          | 2                   |
| 11           | Humanities etc. | 300525 (46)  | Personality Development                        | -                | -        | 2         |                    |            | 20         | 20          | 1                   |
| 12           | Civil Engg.     | 320526 (20)  | *Practical Training Evaluation and Library     | -                | -        | 1         |                    |            | 20         | 20          | 1                   |
| <b>Total</b> |                 |              |  | <b>19</b>        | <b>6</b> | <b>15</b> | <b>640</b>         | <b>120</b> | <b>240</b> | <b>1000</b> | <b>35</b>           |

L- Lecture T- Tutorial P- Practical , ESE- End Semester Exam

CT- Class Test TA- Teacher's Assessment

\*To be completed after IV Sem. and before the commencement of V sem.

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**  
**Subject: Structural Analysis-II**  
**Total Theory Periods: 50**  
**Total Marks in End Semester Exam: 80**  
**Minimum number of class tests to be conducted: 2**

**Branch: Civil Engineering**  
**Code: 320511 (20)**  
**Total Tutorial Periods: 12**

## **Unit 1**

Indeterminate beams, Principle of superposition., Analysis by consistent deformation method, Theorem of three moments, shear force and bending moment diagrams, Sinking of support.

## **Unit 2**

Strain energy application to beams, frame & trusses, Lack of fit

## **Unit 3**

Moment Distribution Method, Application to indeterminate beams and rigid frames without sway & with sway problem.

## **Unit 4**

Slope deflection method, Application to indeterminate beams and rigid frames without sway & with sway problem. Basics of Column analogy method.

## **Unit 5**

Qualitative and Quantitative Influence lines of indeterminate beams by Muller Breslau Principle and its use.

### **Name of Text Books:**

Structural Analysis – Punmia B.C. (Laxmi Publications)  
Structural Analysis (Vol. – II) – Bhabhi Katti S. (Vikas Publishers)

### **Name of Reference Books:**

Intermediate Structural Analysis – Wang. C.K. (McGraw Hill Book Compnay, 1983)  
Matrix analysis of Framed Structures – Weaver, W. & Gere J.M. (CBS Publishers and Distribution, Delhi 1990)  
Fundamentals of Structural Analysis – Lect & Vari (Tata McGraw Hill)  
Structural Analysis – Pandit & Gupta (Tata McGraw Hill)  
Theory of Structure – Ramamurtham S. (Dhanpat Rai Publication)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**  
**Subject: Structural Engineering Design-I**  
**Total Theory Periods: 50**  
**Total Marks in End Semester Exam: 80**  
**Minimum number of class tests to be conducted: 2**

**Branch: Civil Engineering**  
**Code: 320512 (20)**  
**Total Tutorial Periods: 12**

## **Unit 1 General Design Considerations**

Properties of Concrete and reinforcing steel, characteristic strengths, stress-strain curves, workmanship, I.S. specifications, Basis for design, loads and forces, requirements governing reinforcement and detailing.

Working stress, ultimate strength and limit states of design. Serviceability Conditions- Limit states of deflection and cracking, calculation of deflections.

## **Unit 2 Working Stress Method – Beams and Slabs**

Analysis and design by working Stress method - Singly and doubly reinforced sections, rectangular and T-sections.

One way and two way slabs, staircases.

## **Unit 3 Working Stress Method – Columns and Column Footings**

Analysis and design by working Stress method - Short and long columns, eccentrically loaded columns. Uniaxial and Biaxial bending, Isolated Column Footings.

## **Unit 4 LIMIT STATE METHOD - BEAMS AND SLABS.**

Analysis and design by Limit State method - Singly and doubly reinforce sections, rectangular and T-sections.

One way and two way slabs, staircases.

## **Unit 5 Limit State Method – Columns and Column Footings**

Analysis and design by Limit State method - Short and long columns, eccentrically loaded columns. Uniaxial and Biaxial bending, Isolated Column Footings.

### **Name of Text Books:**

Reinforced Concrete Design – Sinha N.C. & Roy S.K. (S. Chand & Co.)

RCC Design – Punmia, Jain & Jain (Laxmi Publications)

### **Name of Reference Books:**

Relevant IS codes IS: 456:2000, IS 875, Part 1, 2

Reinforced Concrete Structures – Dayaratam P. (Oxford and IBH Publishing Co. 1986)

Reinforced Concrete Limit State Design – Jain, A.K. (Nem Chand & Bros. Roorkee, 1993)

Design Aids for Reinforced Concrete to I.S.-456-1978 – SP-16, 1980 (Bureau of Indian Standards, New Delhi)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**

**Subject: Geotech Engineering-I**

**Total Theory Periods: 40**

**Total Marks in End Semester Exam: 80**

**Minimum number of class tests to be conducted: 2**

**Branch: Civil Engineering**

**Code: 320513 (20)**

**Total Tutorial Periods: 12**

## **Unit 1 INTRODUCTION**

Introduction to Geotechnical Engineering; Unique nature of soil; Soil formation and soil types, inter relationship of soil, soil mechanics and geotechnical engineering, aim and scope of soil mechanics.

### **Index Properties of Soil**

Basic definitions; phase relations; physical and engineering properties of soil, soil grain and properties coarse and fine grained soils, Stoke's law, method of fine grained analysis.

## **Unit 2 SOIL CLASSIFICATION AND EFFECTIVE STRESS**

Indian standard soil classification system, Purpose of soil Classification, Different System of soil Classification, Field Identification, Principal of Effective Stress and Related Phenomena, Types of soil moisture, principal of effective stress; capillarity; seepage force and quicksand condition;

## **Unit 3 COMPACTION, PERMEABILITY AND SEEPAGE ANALYSIS OF SOIL**

Clay mineralogy, soil structure, compaction theory, laboratory compaction tests, method of compaction control, permeability, one dimensional flow, permeability of soil, Darcy's law, laboratory methods of determination, pumping out tests for field determination of permeability, seepage through soils, two-dimension flow problems, confined flow and unconfined flow, flow ness and their characteristics, exit gradient and failure due to piping, criteria for design of filters.

## **Unit 4 STRESSES DUE TO APPLIED LOADS AND CONSOLIDATION**

Stresses due to applied Loads, Boussinesq equation of vertical pressure under concentrated loads, rectangularly loaded area, circular Loaded Area Newmart's Chart, Westergoard's equation, compressibility, effects of soil type, stress history and effective stress on compressibility, consolidation, factors affecting consolidation and compressibility parameters. normally consolidated and over consolidated soils, different forms of primary consolidation equation – transient flow condition, Terzaghi theory of one-dimensional consolidation and time rate of consolidation.

## **Unit 5 Shear Strength and Soil Exploration**

Introduction, stress at a point and Mohr's stress circle; Mohr-Columb Failure criterion: Laboratory tests for shear strength determination; shear strength parameters; UU, CU and CD tests and their relevance to field problems; Shear strength characteristics of normally consolidated and reconsolidated clays; Shear strength Characteristics of sands, Soil Exploration, Various Method of field Exploration, Undisturbed Soil Sampling equipments and Field test (Static & Dynamic Penetration Test, PLT), cyclic plate load test and modern electronic test of site characterisation.

### **Name of Text Books:**

Soil Mechanics and Foundation Engineering – B.C. Punmia (Laxmi Publication)

Soil Engineering in Theory and Practice (Vol-II) – Alam Singh (Asia Publishing House, New Delhi)

### **Name of Reference Books:**

Soil Mechanics and Foundation Engineering – S.N. Murthy (Dhanpat Rai Publications)

Basic and Applied Soil Mechanics – Gopal Ranjan & Rao A.S.R. (New Age International, New Delhi, 1998)

Design Aids in Soil Mechanics and Foundation Engineering – S.R. Kaniraj (Tata McGraw Hill, New Delhi)

Geotechnical Engineering Principles and Practice – Donald P. Coduto (Prentice Hall of India, New Delhi)

Soil Mechanics and Foundation Engineering – Garg S.K. (Khanna Publishers)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**  
**Subject: Transportation Engineering-I**  
**Total Theory Periods: 40**  
**Total Marks in End Semester Exam: 80**  
**Minimum number of class tests to be conducted: 2**

**Branch: Civil Engineering**  
**Code: 320514 (20)**  
**Total Tutorial Periods: 12**

## **Unit 1 PRINCIPAL OF HIGHWAY PLANNING**

Road development and planning in India Highway alignment, requirements. Engineering Surveys for highway location Maps and Drawing.

Geometric Design: Cross Section elements of horizontal and vertical Alignment. Highway drainage, Surface and subsoil drainage.

## **Unit 2 TRAFFIC ENGINEERING**

Traffic characteristics, studies such as volume Speed. 'O' and 'D' parking etc. and their uses. Traffic control. Devices, Prevention of road accidents, rotary intersection, highway lighting,

Highway Materials: Behaviour of highway materials, properties of Subgrade and pavement component materials. Tests on subgrade soil, Aggregate and bituminous materials.

## **Unit 3 PAVEMENT DESIGN**

Factors in design of flexible and rigid pavements, Group index and C. B. R. methods, Westergoard analysis of wheel loads. Stresses in rigid pavements. I.R.C. recommendations

## **Unit 4 Pavement Construction Techniques and Quality Control**

Types of Pavements water bound macadam, bituminous and cement concrete pavements.

Joints in cement concrete pavements, pavement failures

## **Unit 5 AIRPORT PLANNING**

Definition of terms related to airport engineering, factors affecting site, selection, obstructions, various surveys for site selection, zoning laws. Classification of Obstructions

### **Runways**

Orientation, Basic runway length and its corrections. Geometric design, runway configuration taxiways layout geometric, Standards, exit taxiways fillets separation.

### **Name of Text Books:**

Principle and Practices of Highway Engineering – Kadiyali & Lab (Khanna Publishers, Delhi)

Highway Engineering – S. K. Khanna & C.E.G. Justo (Khanna Publishers, Delhi)

### **Name of Reference Books:**

Principles of pavement Design – Yoder and witzak (-----)

Air-port planning and Design – Khanna and Arora (Khanna Publishers, Delhi)

Highway Engineering – Rangawala S.C. (Charotar Publishers)

Specifications for Road and Bridge Works – MOST (IRC Publishers)

Manual for Survey, Investigation and Preparation of Road Projects – IRC Publication 2001.

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**  
**Subject: Numerical Methods And Computer Programming**  
**Total Theory Periods: 40**  
**Total Marks in End Semester Exam: 80**  
**Minimum number of class tests to be conducted: 2**

**Branch: Civil Engineering**  
**Code: 320515 (20)**  
**Total Tutorial Periods: 12**

## **Unit 1 BASIC CONCEPTS OF C++ PROGRAMMING LANGUAGE**

Constants and variables, arithmetic operators, integer mode and real mode operations, arithmetic expressions, assignment statements, logical operations, input/output statements, loop statements, break and continue statements, go to statement, nesting of loops, file handling. Simple Civil engineering applications.

## **Unit 2 FUNCTIONS**

Necessity of functions, defining functions, calling functions, passing values between functions. Simple Civil engineering applications.

### **Arrays**

Array initialization, inputting & outputting arrays, passing arrays to functions.

Introduction to structures and classes. Programming of matrix operations, programming of matrix inversion. Simple Civil engineering applications.

## **Unit 3 GRAPHICS PROGRAMMING AND ITS APPLICATION IN CIVIL ENGINEERING.**

**Unit 4** Solution of simultaneous linear algebraic equations by Gauss elimination and Gauss Jordan methods. Curve Fitting and Correlation Index. C++ programs for above.

**Unit 5** BACKWARD, FORWARD AND CENTRAL DIFFERENCES, APPLICATION OF DIFFERENCE RELATIONS IN THE SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS. Numerical Solution of ordinary differential equations by Runge-Kutta and Predictor-Corrector methods. C++ programs for above.

### **Name of Text Books:**

Let Us C++ – Yeshwant Kanitkar (BPB Publications)

Numerical Methods in Engineering and Science – Dr. B.S. Grewal (Khanna Publishers)

### **Name of Reference Books:**

Problem Solving with C++ – Savitch (Addison Wesley Publications)

Programming in C and PC Applications – Raj Gopalan (Vikas Publishers)

Computer Graphics (C-Version) – Hearnt & Beaker (Pearson Publications)

Principles of Interactive Computer Graphics – Newman & Sproull (Tata McGraw Hill)

Numerical Methods for Engineering – Chopra and Kanale (Tata McGraw Hill)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**

**Subject: Engineering Hydrology**

**Total Theory Periods: 28**

**Total Marks in End Semester Exam: 80**

**Minimum number of class tests to be conducted: 2**

**Branch: Civil Engineering**

**Code: 320516 (20)**

**Total Tutorial Periods: 12**

## **Unit 1 Introduction**

Definition and scope, Hydrology in relation to water resources development, Hydrologic Cycle, The necessity for hydrologic data, the global water budget, Practical applications.

### **Hydrometeorology**

Introduction, constituents of atmosphere, the weather and the atmosphere, the general circulation, air masses and fronts, climate and weather seasons in India.

## **Unit 2 Precipitation**

Forms of precipitation, measurement of precipitation, Recording and Non-recording type of rain gauges, Typical and record rainfall data, errors in measurement of rainfall. Location of rain gauge stations, analysis and interpretation of rainfall data, Average depth of rainfall over area, Probable maximum precipitation (PMP).

## **Unit 3 Infiltration and Run off**

Introduction, factors affecting infiltration, measurement of infiltration, infiltrometers, infiltration equations, infiltration indices, effect of infiltration on runoff and recharge of ground water, Runoff, components of runoff, estimation of runoff, calculations by infiltration method, rainfall-runoff relationship, rational method of estimating runoff, Basin yield.

## **Unit 4 Hydrograph Analysis**

Introduction, characteristics of the hydrograph, Effect of rainfall distribution on the shape of hydrograph, hydrograph separation, Unit hydrograph, Derivation of the unit hydrograph, Unit hydrograph from the complex storms-hydrograph, applications of Unit hydrograph.

## **Unit 5 Ground Water**

Introduction, occurrence of ground water, aquifer parameters, ground water movement, Darcy's Law, permeability, steady and unsteady flow to wells in Confined and Unconfined aquifers, ground water exploration, Safe yield, Pumping test and recuperation test.

### **Name of Text Books:**

Engineering Hydrology – K. Subramanya (Tata McGraw Hill)

A Text Book of Hydrology – Dr. P. Jaya Rami Reddy (Laxmi Publications)

### **Name of Reference Books:**

Hydrology Principles and Analysis – H.M. Raghunath (New Age International Publication)

Applied Hydrology – Ven Te Chow, David R. Maidment, Larry W. Mays (McGraw Hill)

Applied Hydrology – Linsely R.K. Kohler, M.A. and J.L.H. Paulhus (McGraw Hill)

Hydrology for Engineers and Planners – Cassidy W.C. (Iowa State University Press)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**  
**Subject: Structural Analysis Lab**  
**Total Practical Periods: 40**  
**Total Marks in End Semester Exam: 40**

**Branch: Civil Engineering**  
**Practical Code: 320521 (20)**

## **Experiments to be performed (Min 10 experiments )**

1. To determine the flexural rigidity (EI) for a given beam
2. To verify the Maxwell's theorem of reciprocal deflection
3. To determine the vertical deflections of a variety of curved bars.
4. To obtain the horizontal deflection and deformed shape of portal frames with different end conditions.
5. To determine the strain in an externally loaded beam with the help of digital strain indicator.
6. Analysis of determinate beams on a Standard Structural Analysis Package such as SAP2000.
7. Analysis of indeterminate beams on a Standard Structural Analysis Package such as SAP2000.
8. Analysis of determinate pin-jointed frames on a Standard Structural Analysis Package such as SAP2000.
9. Analysis of indeterminate pin-jointed frames on latest version of a Standard Structural Analysis Package such as SAP2000.
10. Analysis of determinate rigid frames on latest version of a Standard Structural Analysis Package such as SAP2000.
11. Analysis of indeterminate rigid frames on latest version of a Standard Structural Analysis Package such as SAP2000.
12. To draw influence lines for determinate beams on latest version of a Standard Structural Analysis Package such as SAP2000.
13. To draw influence lines for indeterminate beams on latest version of a Standard Structural Analysis Package such as SAP2000.
14. Introduction to the latest version of a Standard Finite Element Analysis Package such as ANSYS.
15. Analysis of a plate with a hole on the latest version of a Standard Finite Element Analysis Package such as ANSYS.

## **List of Equipments / Machine Required:**

Elastic properties of beam apparatus  
Maxwell's law of reciprocal deflection apparatus  
Universal frame with variety of curved bars  
Universal frame with variety of portal frames  
Digital Strain Indicator  
Dial gauges for measuring deflections  
Weights and hangers to apply loads  
Latest Release of Software Package SAP2000 (Computers & Structures Inc., USA)  
Latest Release of Software Package ANSYS (ANSYS Inc., USA)

## **Recommended Books:**

Reference Manual of Respective Software  
Verification Manual of Respective Software



# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**

**Subject: Geotech Engineering - I Lab**

**Total Practical Periods: 40**

**Total Marks in End Semester Exam: 40**

**Branch: Civil Engineering**

**Practical Code: 320522 (20)**

## **Experiments to be performed (Min 10 experiments)**

1. To determine the mass density of soil by core cutter method.
2. To determine the specific gravity of soil sample by pycnometer method.
3. To determine the water content of soil (%) by oven dry method.
4. To determine in situ dry density of soil by sand replacement method.
5. To determine the particle size distribution of a soil by dry mechanical analysis (sieve analysis).
6. To determine the liquid limit of a soil sample.
7. To determine the plastic limit of a soil sample.
8. To determine the shrinkage limit of soil sample.
9. Study of permeability by falling head and constant head methods.
10. To determine the grain size distribution by wet mechanical analysis (Hydrometer apparatus).
11. To determine the liquid limit of soil sample by static cone penetrometer method.
12. Study of cyclic plate load test.
13. Study of various field control test method.
14. Study of Skempton's pore pressure parameters.
15. Determination of density for contaminated soil.

## **List of Equipments / Machine Required:**

Core Cutter Mould  
Pycnometer of capacity 500 ml and 1000 ml  
Small and Big Soil Container  
Hydrometer Apparatus  
Oven  
Liquid Limit Apparatus  
Shrinkage Limit Apparatus  
Constant Head Permeability Test Apparatus  
Following Head Permeability Test Apparatus  
Mechanical Sieve Analysis (Complete Sets of Sieves)  
Static Cone Penetrometer Test Apparatus  
Skempton's Core Pressure Apparatus  
Soil Sampling Tube, Piston Tube  
Rammer for Compaction  
Soil Extractor  
Measuring Jar Cylinder (1000 CC)

## **Name of Text Books:**

Soil Mechanics and Foundation Engineering – B.C. Punmia (Laxmi Publication)

Soil Engineering in Theory and Practice (Vol-II) – Alam Singh (Asia Publishing House, New Delhi)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**

**Subject: Transportation Engineering-I Lab**

**Total Practical Periods: 40**

**Total Marks in End Semester Exam: 40**

**Branch: Civil Engineering**

**Practical Code: 320523 (20)**

## **Experiments to be performed (min 10 experiments)**

1. Determination of crushing value of aggregates.
2. To determine 10 percent finer value.
3. Determination of abrasion value by Los Angle's Machine.
4. Determination of abrasion value by Deval's Abrasion Machine.
5. Determination of Impact Value of aggregates.
6. Determination of Specific Gravity and Water Absorption of aggregate.
7. Determination of Softening Point of Bitumen.
8. Determination of Ductility Value of Bitumen.
9. Determination of Viscosity Value of Bitumen.
10. Determination of Elongation Index of Aggregate.
11. Determination of Flakiness Index of aggregate.
12. Determination of Penetration Value of Bitumen.
13. Flash and Fire Point Test.
14. Study of Marshal Stability Test.
15. Study of Benkelman Beam.

## **List of Equipments / Machine Required:**

Ring and Ball Apparatus  
Standard Penetrometer  
Los Angles Abrasion Machine  
Deval's Abrasion Machine  
Ductility Testing Machine  
Tar Viscometer  
Sieve Shaker  
Standard I.S. Sieves for Fine and Coarse Aggregate  
Length Gauge  
Thickness Gauge  
Crushing Value Cylinder and Mould with Plunger  
Aggregate Impact Testing Machine  
Flash and Fine Point Apparatus  
Benkelman Beam  
Hot Air Oven  
Water Bath  
Marshall Stability Machine and with Mould  
Proving Ring and Dial Gauge  
Weighing Balance up to 10 kg capacity

## **Name of Text Books:**

Highway Engineering – Justo & Khanna (Khanna Publishers)

Highway Engineering Manual – Justo & Khanna (Khanna Publishers)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

**Semester: 5<sup>th</sup>**  
**Subject: Numerical Methods and Computer Programming Lab**  
**Total Practical Periods: 40**  
**Total Marks in End Semester Exam: 40**

**Branch: Civil Engineering**  
**Practical Code: 320524 (20)**

## **Experiments to be performed (Min 10 experiments)**

1. A C++ program for determination standard deviation of any number of observations.
2. A C++ program for determination of correlation index.
3. A C++ program to perform regression analysis.
4. A C++ program to add any desired number of matrices.
5. A C++ program to multiply any desired number of matrices.
6. A C++ program to determine the inverse of a matrix.
7. A C++ program for solution of simultaneous linear algebraic equations by Gauss elimination method.
8. A C++ program for solution of simultaneous linear algebraic equations by Gauss Jordan method.
9. A C++ program for solution of simultaneous linear algebraic equations by Matrix Inversion method.
10. A C++ program for numerical solution of ordinary differential equations by Runge-Kutta method.
11. A C++ program for numerical solution of ordinary differential equations by Predictor-Corrector method.
12. A C++ program for the computation of area of any section by trapezoidal rule.
13. A C++ program for the computation of area of any section by Simpson's rule.
14. Graphics programming for the generation of line of different styles.
15. Graphics programming for the generation of a rectangle, circle, ellipse of given dimensions.

## **List of Equipments / Machine Required:**

PC system.  
Turbo C++ compiler.

## **Recommended Books:**

Let us C++ – Yeshwant Kanitkar (BPB Publications)  
Problem Solving with C++ – Savitch (Addison Wesley Publication)

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

Semester : B.E. V  
Subject : Personality Development  
No. of Periods : 2 pds/week  
Total Marks in End Semester Exam. : NIL  
Minimum number of class tests to be conducted: Two

Branch : Common to All Branches  
Code : 300525 (46)  
Tutorial Periods : NIL  
Teacher's Assessment: 20Mks

**Objective:** The course is introduced to develop one's outer and inner personality tremendously and enrich the abilities to enable one to meet the challenges associated with different job levels. Personality Development is essential for overall development of an individual apart from gaining technical knowledge in the subject.

## Unit – I

### Personality concepts:

- **What is Personality** – its physical and psychic aspects. How to develop a positive self-image. How to aim at Excellence. How to apply the cosmic laws that govern life and personality.
- **How to improve Memory.** How to develop successful learning skills. How to develop and effectively use one's creative power.
- How to apply the individual MOTIVATORS that make you a self-power personality.

## Unit – II

### INTERPERSONAL SKILLS:

- **Leadership:** Leaders who make a difference, Leadership: your idea, What do we know about leadership? If you are serious about Excellence. Concepts of leadership, Two important keys to effective leadership, Principles of leadership, Factors of leadership, Attributes.
- **Listening:** Listening skills, How to listen, Saying a lot- just by listening, The words and the music, How to talk to a disturbed person, Listening and sometimes challenging.
- **How to win friends** and influence people, How to get along with others. How to develop art of convincing others. How can one make the difference. How to deal with others particularly elders. Conflicts and cooperation.

## Unit – III

### Attitudinal Changes:

- **Meaning of attitude**, benefits of positive attitudes, how to develop the habit of positive thinking.
- **Negative attitude and wining:** What is FEAR and how to win it. How to win loneliness. How to win over FAILURE. How to win over PAIN. How to win over one's ANGER and others anger. How to overcome CRITICISM. What is stress and how to cope up with it? What is crisis and how to manage it.
- How to apply the **character MOTIVATORS** that elevate you and your personality to the top, the art of self motivation.
- How to acquire **mental well-being.**
- How to acquire **physical well-being.**
- How to formulate effective **success philosophy.**

## Unit –IV

### DECISION MAKING:

How to make your own LUCK. How to plan goals/objectives and action plan to achieve them. How to make RIGHT DECISION and overcome problems. How to make a Decision. Decision making : A question of style. Which style, when ? People decisions : The key decisions. What do we know about group decision making ? General aids towards improving group decision making. More tips for decisions of importance.

## Unit – V

### Communication Skills:

- **Public Speaking:** Importance of Public speaking for professionals. The art of Speaking - Forget the fear of presentation, Symptoms of stage fear, Main reason for speech failure, Stop failures by acquiring Information; Preparation & designing of speech, Skills to impress in public speaking & Conversation, Use of presentation aids & media.
- **Study & Examination:** How to tackle examination, How to develop successful study skills.
- **Group discussions:** Purpose of GD, What factors contribute to group worthiness, Roles to be played in GD.

### Reference Books:

1. How to develop a pleasing personality by Atul John Rego, Better yourself books, Mumbai, 2000.
2. How to Succeed by Brain Adams, Better Yourself books, Mumbai, 1969.
3. Basic Managerial skills for all by E. H McGrawth, Prentice Hall India Pvt Ltd, 2006.
4. The powerful Personality by Dr Ujjawal Patni & Dr Pratap Deshmukh, Medident Publisher, 2006.
5. Great Words win Hearts by Dr Ujjwal Patni, Fusion Books, 2006.
6. Personality : Classic Theories & Modern Research; friedman ; Pearson Education 2006.
7. How to win friends and influence people by Dale Carnigie, A.H. Wheeler 2006.