

E.G.S. PILLAY ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai
Accredited by NAAC with 'A' Grade | Accredited by NBA (CSE, EEE, MECH)
NAGAPATTINAM – 611 002



B.E. CIVIL ENGINEERING

Second Year – Fourth Semester

Course Code	Course Name	L	T	P	C	Maximum Marks		
						CA	ES	Total
Theory Course								
1702MA403	Numerical Methods and Statistics	3	2	0	4	40	60	100
1702CE401	Engineering Surveying II	3	0	0	3	40	60	100
1702CE402	Solid Mechanics II	3	1	0	4	40	60	100
1702CE403	Applied Hydraulic Engineering	3	0	0	3	40	60	100
1702CE404	Geotechnical Engineering I	3	0	0	3	40	60	100
1702CE405	Transportation Engineering	3	0	0	3	40	60	100
Laboratory Course								
1702CE451	Hydraulic Engineering Lab	0	0	4	2	50	50	100
1702CE452	Geotechnical Engineering Lab	0	0	4	2	50	50	100
1702CE453	Surveying Lab II	0	0	4	2	50	50	100
1704CE454	Technical Seminar II	0	0	2	0	100	-	100
1704GE451	Life Skills: Verbal Ability	0	0	2	0	100	-	100

1702MA403	NUMERICAL METHODS AND STATISTICS (Common to B.E - Civil, EEE and Mech.)	L	T	P	C
		3	2	0	4

PREREQUISITE:

- 1.Engineering Mathematics I
- 2.Engineering Mathematics II
- 3.Engineering Mathematics III

COURSE OBJECTIVES:

- 1.To solve the engineering problem, by use of numerical tools
- 2.To understand the concept of interpolation
- 3.To analyze the population and samples using statistics techniques

UNIT I INTERPOLATION AND APPROXIMATION 12 Hours

Interpolation with unequal intervals - Lagrange's interpolation – Newton's divided difference interpolation – Interpolation with equal intervals – Newton's forward and backward difference formulae.

UNIT II NUMERICAL DIFFERENTIATION 12 Hours

Approximation of derivatives using interpolation polynomials-Taylor's series method – Euler's method - Modified Euler's method - Fourth order Runge-Kutta method for solving first order equations

Unit III NUMERICAL INTEGRATION 12 Hours

Numerical integration using Trapezoidal, Simpson's 1/3 rule – Romberg's method - Two point and three Point Gaussian quadrature formulae – Evaluation of double integrals by Trapezoidal and Simpson's 1/3 rules.

UNIT IV SOLUTION OF ALGEBRAIC AND TRANSCENDENTAL EQUATIONS 12 Hours

Solution of algebraic and transcendental equations - Newton Raphson method- Solution of linear system of equations - Gauss elimination method – Gauss Jordan method – Iterative methods of Gauss Jacobi and Gauss Seidel

UNIT V TESTING OF HYPOTHESIS 12 Hours

Large sample test based on Normal distribution for single mean and difference of means - Tests based on t and F distributions for testing means and variances – Contingency table (Test for Independency) – Goodness of fit

TOTAL: 60 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

- 1.Finding Eigen value using power method
- 2.Cubic Spline

COURSE OUTCOMES:

After completion of the course, Students will be able to

- CO1: To find the intermediate values, when huge amounts of experimental data are involved.
- CO2: To solve first order differential equation using Numerical methods
- CO3: To perform Integration using Numerical methods
- CO4: To solve algebraic and transcendental Equations numerically
- CO5: Analyses the statistical data

REFERENCES:

- 1.Johnson R.A.Gupta C. B, Miller and Friends Probability and statistics for Engineers, 7th edition ,Pearson Education,2007
- 2.Grewal B.S and Grewal J.S, Numerical methods in Engineering and Science, 6th edition, Khanna Pulpishers,2004
- 3.Walpole R.E. Myers S.L ,Ye.K, Probability and statistics for Engg and scientists, 8th edition Pearson education,2007
- 4.Gerald C.F Wheatley P.O, Applied Numerical Analysis, 6th edition ,Pearson education Asia 2006
- 5.Nptel.ac.in/courses/111105035, www.nptelvideos.in/2012/11/Mathematics.html
6. www.learnerstv.com/Free-maths-video lectures - Itv348-page1.html
7. www.indiastudychannel.com

1702CE401

ENGINEERING SURVEYING II

L	T	P	C
3	0	0	3

PREREQUISITE:

1. Students Known about the Basic knowledge of chain surveying.
2. Students known about the knowledge of Levelling.
3. Knowledge about the Marking.

COURSE OBJECTIVES:

1. This subject deals with geodetic measurements and control survey method
2. The student is also exposed to the Modern Surveying

UNIT I CONTROL SURVEYING

9 Hours

Horizontal and vertical Control surveying – Instrument and Accessories – Corrections – Trigonometrical leveling – single and reciprocal observation traversing.

UNIT II SURVEYING ADJUSTMENT

9 Hours

Errors Sources- classification of errors – true and most probable Values- weighed observations – method of equal shifts –principle of least squares – Normal Equation – correlates

UNIT III CURVES

9 Hours

Introduction – Types of curves – Designation of curves – Elements of simple circular curve –simple problems – Transition curves – vertical curves.

UNIT IV GPS SURVEYING

9 Hours

Basic concept – Different segment - -Space, Control and user segments – satellite configuration – signal structure – Hand held and geodetic receivers.

UNIT V TOTAL STATION SURVEYING

9 Hours

Basic Principle – Classification – Measuring principle, Working principle, Sources of errors – Infrared and Laser Total station instruments. Care and maintenances of total station instruments.

TOTAL: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

1. Building Marking in the construction field using Total station
2. Levelling work in the Highways Railways and Airways using Total station

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Completion of this course students shall be able to understand the advantages
- CO2: Electronic surveying over conventional surveying methods
- CO3: Understand the working principle of GPS, its components, signal structure, and error sources
- CO4: Understand various GPS surveying methods and processing techniques used in GPS observations
- CO5: Improve ability to function as a survey party in completing the assigned field work
- CO6: Appreciate the need for licensed surveyors to establish positioning information for property and structures.

REFERENCES:

1. Alfred Leick, “GPS satellite surveying”, John Wiley & Sons Inc., 3rd Edition, 2004.
2. Guocheng Xu, “GPS Theory, Algorithms and Applications”, Springer - Berlin, 2003.
3. Sathesh Gopi, rasathishkumar, N. madhu, “Advanced Surveying, Total Station GPS and Remote Sensing” Pearson education, 2007
4. Roy S.K., “Fundamentals of Surveying”, 2nd Edition, Prentice Ha of India, 2004.
5. Arora K.R.,”Surveying Vol 1 & 2”, Standard Book House, 10th Edition 2008.

1702CE402

SOLID MECHANICS - II

L	T	P	C
3	1	0	4

PREREQUISITE:

Solids Mechanics -I

COURSE OBJECTIVES:

1. To impart knowledge on Energy principles, stress, Strain and deformation of solids with applications to beams, cylinders and unsymmetrical sections.
2. To acquire the ability to analyze the mechanism of load transfer in columns
3. To develop the clear understanding of the shear force and bending moment in indeterminate beams.

UNIT I ENERGY PRINCIPLES

9 Hours

Strain energy and strain energy density – strain energy due to axial load, shear, flexure and torsion – Castigliano’s theorems –Principle of virtual work – application of energy theorems for computing deflections in beams and trusses

UNIT II INDETERMINATE BEAMS

9 Hours

Concept of Analysis - Propped cantilever and fixed beams-fixed end moments and reactions – Theorem of three moments – analysis of continuous beams – shear force and bending moment diagrams.

UNIT III COLUMNS AND CYLINDER

9 Hours

Euler’s theory of long columns – critical loads for prismatic columns with different end conditions; Rankine-Gordon formula for eccentrically loaded columns – middle third rule – core section – Thick cylinders.

UNIT IV STATE OF STRESS IN THREE DIMENSIONS

9 Hours

Determination of principal stresses and principal planes – Volumetric strain –Theories of failure – Principal stress - Principal strain – shear stress – Strain energy and distortion energy theories – application in analysis of stress, load carrying capacity.

UNIT V ADVANCED TOPICS IN BENDING OF BEAMS

9 Hours

Unsymmetrical bending of beams of symmetrical and unsymmetrical sections – Shear Centre

TOTAL: 45+15 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

1. Analysis of all types of flexural members
2. Approaching the flexural members with different kinds of stress analysis

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Identify the deflection in beams and frames using energy theorems
- CO2: Explain the indeterminate beams like continuous beams and fixed beams in structures.
- CO3: Illustrate the load carrying capacity of columns
- CO4: Calculate the stresses in thick cylinders.
- CO5: Compute the state of stress in three dimensions
- CO6: Apply the stresses due to unsymmetrical bending.

REFERENCES:

1. Rajput R.K. "Strength of Materials (Mechanics of Solids)", S.Chand& company Ltd., New Delhi, 2010.
2. Egor P Popov, "Engineering Mechanics of Solids", 2nd edition, PHI Learning Pvt. Ltd., New Delhi, 2012
3. Kazimi S.M.A, "Solid Mechanics", Tata McGraw-Hill Publishing Co., New Delhi, 2003
4. William A .Nash, "Theory and Problems of Strength of Materials", Schaum’s Outline Series, Tata McGraw Hill Publishing company, 2007
5. PunmiaB.C."Theory of Structures" (SMTS) Vol 1&II, Laxmi Publishing Pvt Ltd, New Delhi 2004.
6. Rattan.S.S., "Strength of Materials", Tata McGraw Hill Education Pvt. Ltd., New Delhi, 2011.
7. Bansal.R.K "Strength of materials", Laxmi Publications (P) Ltd, New Delhi 2014.

1702CE403	APPLIED HYDRAULIC ENGINEERING	L	T	P	C
		3	0	0	3

PREREQUISITE:

1. Knowledge about fluid properties and equations on fluid flow

COURSE OBJECTIVES:

1. To introduce the students to various hydraulic engineering problems like open channel flows and hydraulic machines
2. To relate the theory and practice of problems in hydraulic engineering

UNIT I UNIFORM FLOW

12 Hours

Open channel – Differences between pipe flow and open channel flow - Types of flow – Properties of open channel - velocity distribution – Chezy's equation – Empirical formulae for Chezy's constant - Most economical section - specific energy concept

UNIT II GRADUALLY VARIED FLOW

8 Hours

Dynamic equations of GVF – Classification of flow profiles – Computation of GVF profiles – Direct Step Method and Standard Step Method.

UNIT III RAPIDLY VARIED FLOW

7 Hours

Momentum equation for RVF - Hydraulic jumps - Classification of Jumps – Surges

UNIT IV TURBINES

9 Hours

Classifications of turbine – velocity triangle diagram for Pelton, Francis and Kaplan Turbine – Specific speed - Characteristics curves for turbines – Draft tube.

UNIT V PUMPS

9 Hours

Classification of pumps – Centrifugal pump – minimum speed to start the pump – NPSH – operating characteristics – Multistage pumps – Reciprocating pump – Negative slip - indicator diagrams – air vessels

TOTAL: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

1. Field visit on irrigation structures

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Apply the Chezy's & Manning's equation for finding the most economical section of a channel for uniform flow
- CO2: Describe the specific energy concepts in open channel flow
- CO3: Discover the type of water surface profile based on Gradually varied flow equation
- CO4: Apply the Rapidly varied flow equations for hydraulic jump and surges
- CO5: Identify the turbines based on their efficiencies for hydroelectric projects
- CO6: Identify the required pumps for the hydraulic projects

REFERENCES:

1. Modi, P.N., & Seth, S.M., Hydraulics and Fluid Mechanics including Fluid Machines Standard Book House, New Delhi, 2000
2. Rama Durgaiah, D., Fluid Mechanics and Machinery, New Age International Publishers, New Delhi, 1st Edition, Reprint, 2006.
3. Chow, V.T., Open Channel Hydraulics, Blackburn Press, 2nd Edition, Reprint, 2009
4. JAINA.K "Fluid Mechanics" Khanna Publishers, New Delhi.
5. Bansal.R.K., Fluid Mechanics and Hydraulic Machines, Laxmi Publication (P) Ltd., New Delhi, 2018

1702CE404

GEOTECHNICAL ENGINEERING I

L	T	P	C
3	0	0	3

PREREQUISITE:

- 1.Knowledge about engineering behavior of fluid properties
- 2.Knowledge about mechanical properties of solids.

COURSE OBJECTIVES:

1. Provide the description, classification and to know about properties of soil.
2. Familiarize the students an understanding of permeability and seepage of soils
3. To know about the consolidation and compaction effect on soil in lab and field.

UNIT I INTRODUCTION

9 Hours

Definition of soil and soil mechanics – Formation of soil – types of soil – Three phase system of soil and their relationships – Specific gravity – Definition – Determination – Field density - sand replacement and core cutter method.

UNIT II INDEX PROPERTIES

9 Hours

Classification of soil – Grain size analysis – Stoke’s law and hydrometer analysis– Consistency of soils – Atterberg’s limit - Liquid limit, Plastic limit and Shrinkage limit – Determination - plasticity index, liquidity index , consistency index ,shrinkage ratio, flow index and toughness index – Classification of coarse grained and fine grained soil as per BIS.

UNIT III PERMEABILITY AND SEEPAGE

9 Hours

Permeability –Definition – Assumption - one dimensional flow through soil – Darcy’s law – Limitations - Discharge velocity and seepage velocity – factors affecting the permeability – permeability determination - lab and field methods – permeability in stratified soil deposits – Introduction of flow net and its properties - application of flow net.

UNIT IV COMPACTION AND CONSOLIDATION

9 Hours

Compaction – field and lab methods – Proctor’s test – factors affecting the compaction – California Bearing Ratio (CBR) test – effect of compaction in soil properties – Consolidation – Terzaghi’s theory of one dimensional consolidation - partial differential equation (no analytical solution) – Lab method - coefficient of consolidation – Determination - \sqrt{t} and $\log t$ methods.

UNIT V STRESS DISTRIBUTION AND SHEAR STRENGTH

9 Hours

Introduction – stresses in soil – concept of effective and neutral stresses – stress distribution in soil media – Boussinesq and Westergaard analysis – Point load , Uniformly distributed load , line load – rectangular load - pressure bulb –Newmark’s chart – Introduction. Shear strength – shear strength of cohesive and cohesion less soils – Mohr coulomb’s theory –Direct shear, Triaxial, unconfined shear strength – Lab and field vane shear test - factors affecting the shear strength.

TOTAL: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Discuss the relationship of three phases of soil
- CO2: Describe the various properties of soil and its classification.
- CO3: Calculate the permeability of water in soil.
- CO4: Explain compaction and consolidation of soil
- CO5: Interpret the shear strength of the soil
- CO6: Explain the various types of stress distribution in soil media.

REFERENCES:

1. Raju .K.V.B and Ravichandran .P.T, “Mechanics of Soils”, Ayyappa Publications, 2000.
2. Punmia .B.C, “Soil Mechanics and Foundations”, Laxmi Publications Pvt.Ltd., 2005.
3. Gopal Ranjan and Rao .A.S.R, “Basic and Applied Soil Mechanics”, New age international (p) Ltd., 2007.
4. Terzaghi .K and Peck .R.B, “Soil Mechanics in Engineering Practice”, JohnWiley Ltd., 1996
5. Arora .K.R, “Soil Mechanics and Foundation Engineering”, Standard Publication Distributors, 2011.

1702CE405	TRANSPORTATION ENGINEERING	L	T	P	C
		3	0	0	3

PREREQUISITE:

1. Basic engineering & fundamental knowledge on materials

COURSE OBJECTIVES:

1. To understand the importance of transportation and characteristics of road transport
2. To know about the history of highway development, surveys and classification of road
3. To study about the geometric design of highways
4. To study about traffic characteristics and design of intersections
5. To know about the pavement materials and design

UNIT I HIGHWAY GEOMETRY 9 Hours

Importance Road transportation, Highway alignment – Requirement, Engineering surveys for Highway location. Maps & drawings to be prepared. Geometric design – Cross section element, width, camber, design – speed, sight distances, requirements and design of horizontal and vertical alignments.

UNIT II HIGHWAY MATERIALS 9 Hours

Highway materials – Properties of sub-grade pavement component materials – Tests on aggregates, Sub-grade soil & bituminous materials. Different material-Glass, Fiber, Plastic, Geo-Textiles, Geo-membrane

UNIT III CONSTRUCTION AND MAINTENANCE 9 Hours

Pavement construction techniques – Types of pavements – Construction of bituminous pavements and rigid pavements. Pavement failures and their remedies. Pavement evaluation

UNIT IV PAVEMENT DESIGN 9 Hours

Design principles – pavement components and their role - Design practice for flexible and rigid Pavements (IRC methods only) - Embankments.

UNIT V TRAFFIC PLANNING AND DESIGN 9 Hours

Road Characteristics, Road user and vehicle characteristics, -, Intersections: at grade intersections, grade separated, intersections, channelized intersections and rotary, new work pedestrian facilities & cycle tracks.

TOTAL: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

1. They can get the knowledge in transportation system

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Explain geometric design of horizontal and vertical alignments of roads rural and urban
- CO2: Summarize the desirable properties of highway materials for constructions
- CO3: Explain the pavement construction technique for flexible and rigid pavement
- CO4: Explain the design of flexible and rigid pavements using IRC methods.
- CO5: Interpret the flow speed, density based on road user and vehicle characteristic
- CO6: Illustrate various methods of traffic control measures in urban area

REFERENCES:

1. Veeraragavan, A., Khanna, S.K., Ceg Justo, Highway Engineering, Nem Chand & Brothers, 2014
2. Sharma, S.K. “ Principles Practice and Design of Highway Engineering ”, S. Chand & Co Ltd, 2013
3. Gupta B.L and Amith Gupta, Highway and Bridge Engg., Standard publishers, and Distributor, 2010
4. ParthaChakroborthy and Animesh Das, Principles of Transportation Engineering, Prentice Hall of India Pvt. Ltd., 2013.
5. LrKadiyali, LrKadyali, NbLal, “ Principles and practice of highway engineering ”, Khanna Publishers. 2013
6. Rangwala, S.C, Highway Engineering, Charotar Book Distributors, 2013

1702CE451

HYDRAULICS ENGINEERING LAB

L	T	P	C
0	0	4	2

PREREQUISITE :

- 1.Fluid properties,
- 2.Applied hydraulics engineering

COURSE OBJECTIVES:

1. To acquire knowledge about properties of fluid
2. To understand knowledge about the losses in pipes
3. To understand knowledge about the characteristics of pumps and turbines

LIST OF EXPERIMENTS:

1. Calibration of Rotometer
2. Flow through Venturimeter Orifice meter
3. Flow through variable duct area - Bernoulli's Experiment
4. Flow through Orifice meter Mouthpiece and Notches
5. Determination of friction coefficient in pipes
6. Determination of loss coefficients for pipe fittings
7. Characteristics of Centrifugal pumps
8. Characteristics of Gear pump
9. Characteristics of Submersible pump
10. Characteristics of Reciprocating pump
11. Characteristics of Pelton wheel turbine
12. Characteristics of Francis turbine
13. Characteristics of Kaplan turbine

TOTAL:45 HOURS

ADDITIONAL EXPERIMENTS/ INNOVATIVE EXPERIMENTS:

- 1.Characteristics of multi stage Centrifugal pumps
- 2.Characteristics of jet on vane

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Measure the flow properties of fluid.
- CO2: Conduct the experiment to find the losses in pipes
- CO3: Conduct experiment to find characteristics curves of various pumps
- CO4: Conduct experiment to find characteristics curves of various turbines

REFERENCES:

- 1.SarbjitSingh."Experiments in Fluid Mechanics", Prentice Hall of India Pvt. Ltd, Learning Private Limited, Delhi, 2009
- 2.Hydraulic Laboratory Manual", Centre for Water Resources, Anna University, 2004.
- 3.Modi P.N. and Seth S.M., "Hydraulics and Fluid Mechanics", Standard Book House, New Delhi, 2000.
- 4.Subramanya K. "Flow in open channels", Tata McGraw Hill Publishing. Company, 2001

1702CE452

GEOTECHNICAL ENGINEERING LAB

L	T	P	C
0	0	4	2

PREREQUISITE:

COURSE OBJECTIVES:

- 1.To provide exposure to the students with hands on experience about classification of the soil.
- 2.To grant knowledge about field density of the soil.
- 3.To impart the knowledge about basic bearing capacity of the soil.
- 4.To attain adequate knowledge in assessing both Physical and Engineering behavior of soils through laboratory testing procedures.

LIST OF EXPERIMENTS:

1. Determination of specific gravity
2. Determination of grain size distribution of Sieve Analysis
3. Determination of grain size by Hydrometer
4. Determination of Liquid limit and Plastic of the soil
5. Determination of Shrinkage limit of the soil
6. Determination of Dry density by Standard Proctor Compaction test
7. Determination of Field density by Core cutter method
8. Determination of Field density by Sand Replacement method
9. Determination of Permeability Coefficient using Constant head method
10. Determination of Permeability Coefficient using Variable head method
11. Determination of shear strength by using Direct Shear test
12. Determination of compression strength by using Unconfined compressive strength test

TOTAL : 45 HOURS

ADDITIONAL EXPERIMENTS/ INNOVATIVE EXPERIMENTS:

- 1.Consolidation Test
- 2.Triaxial Test

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Develop experience to classify the soil
- CO2: Identify the concept of optimum moisture content of the soil.
- CO3: Recognize the concept of field density of the soil.
- CO4: Practice of the concept to do performance test on Compressive and shear strength
- CO5: Apply the techniques to determine index properties and engineering properties by conducting appropriate tests.

REFERENCES:

1. Murthy, V.N.S., "Soil Mechanics and Foundation Engineering", CBS Publishers Distribution Ltd., New Delhi. 2007
2. GopalRanjan and Rao A.S.R. "Basic and Applied soil mechanics", Wiley Eastern Ltd, New Delhi 3. (India), 2000.
4. Arora K.R. "Soil Mechanics and Foundation Engineering", Standard Publishers and Distributors, New 5. Delhi, 2002.
6. Soil Engineering Laboratory Instruction Manual" published by Engineering College Co- operative Society, Anna University, Chennai, 1996.
7. Saibaba Reddy, E. Ramasastry, K. "Measurement of Engineering Properties of Soils", New age International (P) Limited Publishers, New Delhi, 2002
8. Lambe T.W., "Soil Testing for Engineers", John Wiley and Sons, New York, 1990.

1702CE453

SURVEYING LAB II

L	T	P	C
0	0	4	2

PREREQUISITE:

1. Surveying I
2. Surveying Lab I

COURSE OBJECTIVES:

1. This subject deals with Electronic Survey method. The student is also exposed to the Modern Surveying.

LIST OF EXPERIMENTS:

1. Study of the odolite
2. Determination of Horizontal Angles by Reiteration method
3. Determination of Horizontal Angles by Repetition method
4. Determination of Vertical Angles
5. Theodolite survey - Traversing method
6. Determination of Height and distance of the object
7. Tacheometry Tangential system
8. Setting out work – Foundation Marking and Simple curve
9. Study of Total station

TOTAL : 45 HOURS

ADDITIONAL EXPERIMENTS/ INNOVATIVE EXPERIMENTS:

1. Building Marking
2. Road Alignment

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1: On completion of this course student shall be able to understand the advantages of the Electronic instrument and working in the field.

CO2: Understanding the methods of using the proper instrument for the method.

REFERENCES:

1. G. Brancato, S. Macchia, M. Murgia, M. Signore, G. Simeoni - Italian National Institute of Statistics, ISTAT
2. K. Blanke, T. Körner, A. Nimmergut - Federal Statistical Office Germany, FSO
3. P. Lima, R. Paulino - National Statistical Institute of Portugal, INE
4. J.H.P. Hoffmeyer-Zlotnik - German Center for Survey Research and Methodology, ZUMA

1704CE454

TECHNICAL SEMINAR II

L	T	P	C
0	0	2	0

COURSE OBJECTIVES:

1. To develop self-learning skills of utilizing various technical resources to make a technical presentation.
2. To promote the technical presentation and communication skills.
3. To impart the knowledge on intonation, word and sentence stress for improving communicative competence, identifying and overcoming problem sounds.
4. To promote the ability for Interacting and sharing attitude.
5. To encourage the commitment-attitude to complete tasks.

The students are expected to make two presentations on advanced topics (recent trends) related to II year/ III semester subjects. A faculty guide is to be allotted and he / she will guide and monitor the progress of the student and maintain attendance also. Students are encouraged to use various teaching aids such as power point presentation and demonstrative models.

TOTAL: 30 HOURS

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

- CO1 Identify and utilize various technical resources available from multiple field.
- CO2 Improve the technical presentation and communication skills.
- CO3 Improve communicative competence.
- CO4 Interact and share their technical knowledge.
- CO5 Understand and adhere to deadlines and commitment to complete the assignments.

EVALUATION SCHEME:

Continuous Assessment (100 Marks)

Distribution of Marks for Continuous Assessment	Marks
Presentation I	40
Report	10
Presentation II	40
Report	10
Total	100

1704GE451

LIFE SKILLS: VERBAL ABILITY

L	T	P	C
0	0	2	0

PREREQUISITE:

Technical English – I and II

COURSE OBJECTIVES:

1. To help students comprehend and use vocabulary words in their day to day communication.
2. To apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings.
3. To ensure students will be able to use targeted grammatical structures meaningfully and appropriately in oral and written production.
4. To enable the students to arrange the sentences in meaningful unit and to determine whether constructions rely on active or passive voice.
5. To apply the principles of effective business writing to hone communication skills.

UNIT I VOCABULARY USAGE

6 Hours

Introduction - Synonyms and Antonyms based on Technical terms – Single word Substitution – Newspaper, Audio and video listening activity.

UNIT II COMPREHENSION ABILITY

6 Hours

Skimming and Scanning – Social Science passages – Business and Economics passages – latest political and current event based passages – Theme detection – Deriving conclusion from passages.

UNIT III BASIC GRAMMAR AND ERROR DETECTION

6 Hours

Parallelism – Redundancy – Ambiguity – Concord - Common Errors – Spotting Errors – Sentence improvement – Error Detection FAQ in Competitive exams.

UNIT IV REARRANGEMENT AND GENERAL USAGE

6 Hours

Jumble Sentences – Cloze Test - Idioms and Phrases – Active and passive voice – Spelling test.

UNIT V APPLICATION OF VERBAL ABILITY

6 Hours

Business Writing - Business Vocabulary - Delivering Good / Bad News - Media Communication - Email Etiquette – Report Writing - Proposal writing – Essay writing– Indexing –Market surveying.

Total: 30 Hours

ASSESSMENT PATTERN

1. Two assignments (2 x 25 marks = 50 marks)
2. Pragmatic assessment (50 marks)

COURSE OUTCOMES:

After completion of the course, Student will be able to

- CO1: Use new words in their day to day communication.
- CO2: Gather information swiftly while reading passages.
- CO3: Students are proficient during their oral and written communication.
- CO4: Rearrange the sentences and able to identify the voice of the sentence.
- CO5: Students use their knowledge of the best practices to craft effective business documents

REFERENCES:

1. Arun Sharma and Meenakshi Upadhyav, How to Prepare for Verbal Ability and Reading Comprehension for CAT, McGrawHill Publication, Seventh Edition 2017.
2. R S Aggarwal and Vikas Aggarwal , Quick Learning Objective General English, S.Chand Publishing House, 2017.
3. Dr.K.Alex , Soft Skills, S.Chand Publishing House, Third Revise Edition, 2014.
4. Raymond Murphy, Essential English Grammar in Use, Cambridge University press, New Delhi, Third Edition, 2007.