



List of New Course(s) Introduced

Department : Civil Engineering

Programme Name : B.Tech.

Academic Year : 2019-20

List of New Course(s) Introduced

Sr. No.	Course Code	Name of the Course
01.	CE03THS03	INDIAN CONSTITUTION
02.	CE04TPC05	CONCRETE TECHNOLOGY
03.	CE04THS05	PROFESSIONAL PRACTICE, LAW & ETHICS
04.	CE04THS06	EFFECTIVE TECHNICAL COMMUNICATION
05.	CE04PHS01	EFFECTIVE TECHNICAL COMMUNICATION LAB



Minutes of Meetings (MoM) of Board of Studies (BoS)

Academic Year : 2019-20

School : School of Studies of Engineering and Technology

Department : Civil Engineering

Date and Time : June 29, 2019 - 03:30 PM

Venue : Department of Civil Engineering

**Department of Civil Engineering
School of Studies, Engineering & Technology
Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur C.G.**

Minutes of Meeting of BoS

A meeting of Board of Studies (BoS) of Civil Engineering was held on 29-06-2019 at 03.30 PM in the Department of Civil Engineering to discuss and finalize the scheme and syllabus of B.Tech. course w.e.f 2019-20 session. The following DRC members were present.

1. Dr. M. C. Rao, Chairman BoS, Head of the Department Civil Engg.
2. Dr. Shailendra Kumar, Professor, Civil Engg. Dept., GGV, member of BoS
3. Shri. Sunil Kumar Shrivastava, Chief Manager (Civil), SECL Bilaspur, Industry Expert and member of BoS
4. Shri.R.K. Choubey, Asso. Professor, Civil Engg. Dept., GGV, member of BoS

At the outset the chairman welcomed all the esteemed members.

The draft of the Scheme & Evaluation for B.Tech. 3rd to 8th Semester and the detail syllabus of B.Tech. 2nd year (3rd & 4th semester) Civil Engineering was prepared as per the model Scheme and Syllabus of AICTE 2018. The Chairman of BoS informed the members of BoS that the VC nominee and external member Prof. U.K.Dewangan, Head Civil Engg. Dept., NIT Raipur could not attend the meeting due to his pre-occupied academic assignments at NIT Raipur. Also, Mr. A.K.Parashar, member of BoS could not be present as he is out of station to attend the GIAN course at NIT Jaipur. However, both the members have gone through the proposed scheme and syllabus and have sent their comments through e-mail. Accordingly members discussed and incorporated the desired modifications.

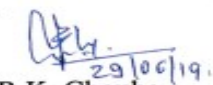
The BoS approved the above Scheme & Evaluation for B.Tech. 3rd to 8th Semester and the detail syllabus of B.Tech. 2nd year (3rd & 4th semester) Civil Engineering and recommended to be made effective from session 2019-20.

The meeting ended with vote of thanks.


Dr. M. C. Rao


Prof. Shailendra Kumar


S. K. Shrivastava


R.K. Choubey



The following revisions were introduced in the of B.Tech. 2nd year (3rd & 4th semester) scheme and syllabi :

- ❖ ENGINEERING MATHEMATICS-III (CE03TBS05)
- ❖ SURVEYING & GEOMATICS (CE03TPC04)
- ❖ ENGINEERING ECONOMICS (CE04THS04)

The following new courses were introduced in the of B. Tech. 2nd year (III and IV Semesters):

- ❖ INDIAN CONSTITUTION (CE03THS03)
- ❖ CONCRETE TECHNOLOGY (CE04TPC05)
- ❖ PROFESSIONAL PRACTICE, LAW & ETHICS (CE04THS05)
- ❖ EFFECTIVE TECHNICAL COMMUNICATION (CE04THS06)
- ❖ EFFECTIVE TECHNICAL COMMUNICATION LAB (CE04PHS01)

विभागाध्यक्ष
HOD
सिविल इंजीनियरी विभाग
Department of Civil Engineering
प्रौ.सं.गु.या.विश्वविद्यालय, बिलासपुर (छ.ग.)
I.T., G.G.V. Bilaspur (C.G.)

Signature & Seal of HoD



Scheme and Syllabus

CIVIL ENGINEERING DEPARTMENT, SOS, ENGINEERING & TECHNOLOGY GURU GHASIDAS VISHWAVIDYALAYA (A CENTRAL UNIVERSITY), BILASPUR

SCHEME OF B.TECH. III SEMESTER CIVIL ENGINEERING W.E.F. 2019-20 (ODD SEMESTER)

S. No	Subject Code	Subjects	Period/Week			Scheme of Evaluation				Grand Total	Credits
						Internal Assessment (IA)			ESE		
						CT-I	CT-II	Total			
		Theory	L	T	P						
1	CE03TBS05	Engineering Mathematics-III	3	1	0	15	15	30	70	100	4
2	CE03TPC01	Strength of Materials	3	1	0	15	15	30	70	100	4
3	CE03TPC02	Fluid Mechanics-I	3	0	0	15	15	30	70	100	3
4	CE03TPC03	Building Materials & Construction	3	0	0	15	15	30	70	100	3
5	CE03TPC04	Surveying & Geomatics	3	0	0	15	15	30	70	100	3
6	CE03THS03	Indian Constitution*	2	0	0	↓	↓	↓	↓	↓	0
		Practical									
1	CE03PPC01	Survey Lab	0	0	3	-	-	30	20	50	1.5
2	CE03PPC02	Fluid Mechanics Lab	0	0	3	-	-	30	20	50	1.5
1	CE03PES06	Computer Aided Civil Engg. Drawing	0	0	3	-	-	30	20	50	1.5
										Total Credits	21.5

L - Lecture Hours, T-Tutorial Hours, P - Practical Hours, CT - Class Test, ESE – End Semester Exam; * Mandatory Course



**CIVIL ENGINEERING DEPARTMENT, SOS, ENGINEERING & TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA (A CENTRAL UNIVERSITY), BILASPUR**

**SCHEME OF B.TECH. IV SEMESTER CIVIL ENGINEERING
W.E.F. 2019-20 (EVEN SEMESTER)**

S. No	Subject Code	Subjects	period/Week			Scheme of Evaluation				Grand Total	Credits
						Internal Assessment (IA)			ESE		
			Theory	L	T	P	CT-I	CT-II			
1	CE04THS04	Engineering Economics	3	0	0	15	15	30	70	100	3
2	CE04TPC05	Concrete Technology	3	0	0	15	15	30	70	100	3
3	CE04THS05	Professional Practice, Law & Ethics	2	0	0	15	15	30	70	100	2
4	CE04TPC06	Structural Analysis-I	3	1	0	15	15	30	70	100	4
5	CE04TPC07	Fluid Mechanics-II	3	0	0	15	15	30	70	100	3
6	CE04THS06	Effective Technical Communication	3	0	0	15	15	30	70	100	3
		Practical									
1	CE04PHS01	Effective Technical communication lab	0	0	2	-	-	30	20	50	1
2	CE04PPC03	Material Testing Lab	0	0	3	-	-	30	20	50	1.5
										Total Credits	20.5

L - Lecture Hours, T-Tutorial Hours, P - Practical Hours, CT - Class Test, ESE – End Semester Exam;



DEPARTMENT OF CIVIL ENGINEERING B.TECH. SECOND YEAR SYLLABUS W.E.F 2019-20

Course Outcomes- At the end of the course students will be able to:

- To apply the knowledge, techniques, basics, and instruments of the discipline to engineering and surveying activities
- Explain different methods and their procedure for levelling
- Explain the working principles of various surveying instruments
- To relate the knowledge on Surveying to the new frontiers of science like Hydrographic surveying, Electronic Distance Measurement, Global Positioning System, Photogrammetry and Remote Sensing.

SYLLAUS	(SEMESTER-III)	Periods/Week			Internal Assessment (IA)			ESE	Grand Total	Credits
		L	T	P	CT-I	CT-II	TOTAL			
Subject Code:	CE03THS03							-	-	00
Subject:	Indian Constitution	2	0	0	-	-	-			

Course Learning Objectives:

- To the importance of preamble of the constitution of India.
- To understand the fundamental rights and duty as a citizen of India.
- To understand the functioning of union and state government and their inter-relationship.

Course Content:

UNIT 1: Introduction: Constitution-meaning of the term, Sources and constitutional theory, Features, Citizenship. Preamble.

UNIT 2: Fundamental Rights and Duties: Fundamental Rights, Fundamental Duties, Directive Principles of State Policy

UNIT 3: Union Government: Structure of Indian Union: Federalism, Centre-State relationship President: Role. Power and position, Prime Minister and council of ministers, Cabinet and Central Secretariat, Lok Sabha. Rajya Sabha

UNIT 4: State Government: Governor: Role and position, Chief Minister and council of ministers, State Secretariat

UNIT 5: Relationship between Centre and States: Distribution of Legislative Powers, Administrative Relations, Coordination between States

Text Books:

1. Constitution of India, V.N. Shukla
2. The Constitutional Law of India, J.N. Pandey
3. Indian Constitutional Law. M.P. Jain

Outcome: At the end of the course students will be able to:

- Describe the salient features of the Indian Constitution
- List the Fundamental Rights and Fundamental Duties of Indian citizens
- Describe the Directive Principles of State Policy and their significance



DEPARTMENT OF CIVIL ENGINEERING B.TECH. SECOND YEAR SYLLABUS W.E.F 2019-20

SYLLAUS	(SEMESTER-IV)	Periods/Week			Internal Assessment (IA)			ESE	Grand Total	Credits
		L	T	P	CT-I	CT-II	TOTAL			
Subject Code:	CE04TPC05							70	100	03
Subject:	Concrete Technology	3	0	0	15	15	30			

Course Learning Objectives:

- To learn about various ingredients materials of concrete, like cement aggregates, water, etc
- To learn about various admixtures that enhances the properties of concrete.
- To learn about various properties of concrete, its design mix
- To study about various types of special concrete

Course Content:

Unit 1: Constituent Material

Cement-Different types-Chemical composition and Properties -Tests on cement-IS Specifications-Aggregates-Classification-Mechanical properties and tests as per BIS grading requirements- Water- Quality of water for use in concrete.

Unit 2: Chemical and Mineral Admixtures

Accelerators-Retarders- Plasticisers- Super plasticizers- Water proofers – Mineral Admixtures like Fly Ash, Silica Fume, Ground Granulated Blast Furnace Slag and Metakaolin -Their effects on concrete properties

Unit 3: Proportioning of Concrete Mix

Principles of Mix Proportioning-Properties of concrete related to Mix Design Physical properties of materials required for Mix Design – Design Mix and Nominal Mix-BIS Method of Mix Design – Mix Design Examples

Unit 4: Fresh and Hardened Properties of Concrete:

Workability-Tests for workability of concrete-Slump Test and Compacting factor Test-Segregation and Bleeding-Determination of Compressive and Flexural strength as per BIS – Properties of Hardened concrete-Determination of Compressive and Flexural strength-Stress-strain curve for concrete Determination of Young's Modulus.

Unit 5: Special Concretes:

Light weight concretes – High strength concrete – Fibre reinforced concrete – Ferrocement – Ready mix concrete – Slurry infiltrated fibrous concrete (IFCON) - Shotcrete – Polymer concrete – High performance concrete- Geopolymer Concrete.

Text Books:

1. Gupta.B.L., Amit Gupta, "Concrete Technology", Jain Book Agency, 2010.
2. Shetty,M.S, "Concrete Technology", S.Chand and Company Ltd, New Delhi, 2003
3. Santhakumar,A.R; "Concrete Technology", Oxford University Press, New Delhi, 2007
4. Neville, A.M; "Properties of Concrete", Pitman Publishing Limited, London,1995
5. Gambir, M.L; "Concrete Technology", 3rd Edition, Tata McGraw Hill Publishing Co Ltd, New Delhi, 2007
6. IS10262-1982 Recommended Guidelines for Concrete Mix Design, Bureau of Indian Standards, New Delhi, 1998

Outcomes: At the end of the course students will be able to:

- Understand properties and role of ingredients like cement, aggregate, admixtures etc. to produce better quality concrete
- Select the appropriate admixture for better performance of the concrete



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- Design the concrete mix by IS Method
- Perform destructive, semi-destructive and non-destructive tests for concrete
- Differentiate between normal concrete and other special concretes
- Demonstrate advancements in concreting materials and techniques

SYLLAUS	(SEMESTER-IV)	Periods/Week			Internal Assessment (IA)			ESE	Grand Total	Credits
		L	T	P	CT-I	CT-II	TOTAL			
Subject Code:	CE04THS05							70	100	02
Subject:	Professional Practice, Law & Ethics	2	0	0	15	15	30			

Course Learning Objectives

- To make the students understand the types of roles they are expected to play in the society as practitioners of the civil engineering profession
- To develop some ideas of the legal and practical aspects of their profession.

Course Content

UNIT 1: Professional Practice – Respective roles of various stakeholders: Government (constituting regulatory bodies and standardization organizations, prescribing norms to ensure safety of the citizens); Standardization Bodies (ex. BIS, IRC)(formulating standards of practice); professional bodies (ex. Institution of Engineers(India), Indian Roads Congress, IIA/ COA, ECI, Local Bodies/ Planning Authorities) (certifying professionals and offering platforms for interaction); Clients/ owners (role governed by contracts); Developers (role governed by regulations such as RERA); Consultants (role governed by bodies such as CEAI); Contractors (role governed by contracts and regulatory Acts and Standards); Manufacturers/ Vendors/ Service agencies (role governed by contracts and regulatory Acts and Standards). Professional Ethics – Definition of Ethics, Professional Ethics, Business Ethics, Corporate Ethics, Engineering Ethics, Personal Ethics; Code of Ethics as defined in the website of Institution of Engineers (India); Profession, Professionalism, Professional Responsibility, Professional Ethics; Conflict of Interest, Gift Vs Bribery, Environmental breaches, Negligence, Deficiencies in state-of-the-art; Vigil Mechanism, Whistleblowing, protected disclosures.

UNIT 2: General Principles of Contracts Management: Indian Contract Act, 1972 and amendments covering General principles of contracting; Contract Formation & Law; Privacy of contract; Various types of contract and their features; Valid & Voidable Contracts; Prime and sub-contracts; Joint Ventures & Consortium; Complex contract terminology; Tenders, Request For Proposals, Bids & Proposals; Bid Evaluation; Contract Conditions & Specifications; Critical /"Red Flag" conditions; Contract award & Notice To Proceed; Variations & Changes in Contracts; Differing site conditions; Cost escalation; Delays, Suspensions & Terminations; Time extensions & Force Majeure; Delay Analysis; Liquidated damages & Penalties; Insurance & Taxation; Performance and Excusable Non-performance; Contract documentation; Contract Notices; Wrong practices in contracting (Bid shopping, Bid fixing, Cartels); Reverse auction; Case Studies; Build-Own-Operate & variations; Public- Private Partnerships; International Commercial Term.

UNIT 3: Arbitration, Conciliation and ADR (Alternative Dispute Resolution) system: Arbitration – meaning, scope and types – distinction between laws of 1940 and 1996; UNCITRAL model law – Arbitration and expert determination; Extent of judicial intervention; International commercial arbitration; Arbitration agreements – essential and kinds, validity, reference and interim measures by court; Arbitration tribunal – appointment, challenge, jurisdiction of arbitral tribunal, powers, grounds of challenge, procedure and court



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assistance; Award including Form and content, Grounds for setting aside an award, Enforcement, Appeal and Revision; Enforcement of foreign awards – New York and Geneva Convention Awards; Distinction between conciliation, negotiation, mediation and arbitration, confidentiality, resort to judicial proceedings, costs; Dispute Resolution Boards; Lok Adalats.

UNIT 4: Engagement of Labour and Labour & other construction-related Laws: Role of Labour in Civil Engineering; Methods of engaging labour- on rolls, labour sub-contract, piece rate work; Industrial Disputes Act, 1947; Collective bargaining; Industrial Employment (Standing Orders) Act, 1946; Workmen's Compensation Act, 1923; Building & Other Construction Workers (regulation of employment and conditions of service) Act (1996) and Rules (1998); RERA Act 2017, NBC 2017

UNIT 5: Law relating to Intellectual property: Introduction – meaning of intellectual property, main forms of IP, Copyright, Trademarks, Patents and Designs, Secrets; Law relating to Copyright in India including Historical evolution of Copy Rights Act, 1957, Meaning of copyright – computer programs, Ownership of copyrights and assignment, Criteria of infringement, Piracy in Internet – Remedies and procedures in India; Law relating to Patents under Patents Act, 1970 including Concept and historical perspective of patents law in India, Patentable inventions with special reference to biotechnology products, Patent protection for computer programs, Process of obtaining patent – application, examination, opposition and sealing of patents, Patent cooperation treaty and grounds for opposition, Rights and obligations of patentee, Duration of patents – law and policy considerations, Infringement and related remedies.

1. B.S. Patil, Legal Aspects of Building and Engineering Contracts, 1974.
2. The National Building Code, BIS, 2017
3. RERA Act, 2017
4. Meena Rao (2006), Fundamental concepts in Law of Contract, 3rd Edn. Professional Offset
5. Neelima Chandiramani (2000), The Law of Contract: An Outline, 2nd Edn. Avinash Publications Mumbai
6. Avtarsingh (2002), Law of Contract, Eastern Book Co.
7. Dutt (1994), Indian Contract Act, Eastern Law House
8. Anson W.R. (1979), Law of Contract, Oxford University Press
9. Kwatra G.K. (2005), The Arbitration & Conciliation of Law in India with case law on UNCITRAL Model Law on Arbitration, Indian Council of Arbitration
10. Wadhwa (2004), Intellectual Property Rights, Universal Law Publishing Co.
11. T. Ramappa (2010), Intellectual Property Rights Law in India, Asia Law House
12. Bare text (2005), Right to Information Act
13. O.P. Malhotra, Law of Industrial Disputes, N.M. Tripathi Publishers
14. K.M. Desai(1946), The Industrial Employment (Standing Orders) Act
15. Rustamji R.F., Introduction to the Law of Industrial Disputes, Asia Publishing House
16. Vee, Charles & Skitmore, Martin (2003) Professional Ethics in the Construction Industry, Engineering Construction and Architectural management, Vol.10, Iss2,pp 117-127, MCB UP Ltd
17. American Society of Civil Engineers (2011) ASCE Code of Ethics – Principles Study and Application
18. Ethics in Engineering- M.W.Martin& R.Schinzinger, McGraw-Hill
19. Engineering Ethics, National Institute for Engineering Ethics, USA
20. www.ieindia.org
21. Engineering ethics: concepts and cases – C. E. Harris, M.S. Pritchard, M.J.Rabins
22. CONSTRUCTION CONTRACTS, <http://www.jnormanstark.com/contract.htm>
23. Internet and Business Handbook, Chap 4, CONTRACTS LAW, <http://www.laderapress.com/laderapress/contractslaw1.html>
24. Contract&Agreements



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<http://www.tco.ac.ir/law/English/agreements/General/Contract%20Law/C.htm>
25. Contracts, <http://206.127.69.152/jgretch/crj/211/ch7.ppt>
26. Business & Personal Law. Chapter 7. "How Contracts Arise",
<http://yucaipahigh.com/schristensen/lawweb/lawch7.ppt>
27. Types of Contracts, <http://cmsu2.cmsu.edu/public/classes/rahm/meiners.c.on.ppt>
28. IV. TYPES OF CONTRACTS AND IMPORTANT PROVISIONS,
<http://www.worldbank.org/html/opr/consult/guidetxt/types.html>
29. Contract Types/Pricing Arrangements Guideline- 1.4.G (11/04/02),
<http://www.sandia.gov/policy/14g.pdf>

Course Outcome

At the end of the course student will be able to

- To familiarise the students to what constitutes professional practice, introduction of various stakeholders and their respective roles; understanding the fundamental ethics governing the profession
- To give a good insight into contracts and contracts management in civil engineering, dispute resolution mechanisms; laws governing engagement of labour
- To give an understanding of Intellectual Property Rights, Patents.
- To make the students understand the types of roles they are expected to play in the society as practitioners of the civil engineering profession
- To develop good ideas of the legal and practical aspects of their profession

SYLLAUS	(SEMESTER-IV)	Periods/Week			Internal Assessment (IA)			ESE	Grand Total	Credits
		L	T	P	CT-I	CT-II	TOTAL			
<i>Subject Code:</i>	CE04TPC06							70	100	04
<i>Subject:</i>	Structural Analysis-I	3	1	0	15	15	30			

Course Learning Objectives

- To study about the strain energy principles and their applications to beams and pin joint plane frames
- To learn about analysis of arches & cables.
- To learn how to draw influence line diagrams for beams and arches
- To study about the maximum SF, BM and absolute max BM
- To learn about the static and kinematic indeterminacy of structures and methods of analysis, analysis of fixed and continuous beams

Course Content:

UNIT-1: Principle of superposition, virtual work principle, Maxwell reciprocal theorem, deflection of beams using conjugate beam method. Deflection of beams and truss using energy method (Castigliano theorem), Analysis of plane truss using tension coefficient method (determinate)

UNIT-2: Three-hinged Arches: Bending Moment, Shear force, axial force for three-hinged arches, Analysis of Suspension Bridge without stiffening girders.

UNIT-3: Influence Lines: Basic concept of moving load and influence line; influence lines for reactions, Shearing forces and bending moments for determinate beams; absolute maximum shearing force and bending moment.

UNIT-4: Influence lines for three-hinged arches and stresses in simply supported plane determinate trusses



DEPARTMENT OF CIVIL ENGINEERING B.TECH. SECOND YEAR SYLLABUS W.E.F 2019-20

UNIT-5: Hydraulic Machines: Turbines: Classification of turbines, draft tube, specific speed, unit quantities, and characteristics curves of turbines, and governing of turbine. **Pump:** Introduction, Centrifugal pumps, efficiencies, specific speed, cavitations, slip, percentage slip.

Name of Text Books:

1. Fluid Mechanics and Machines – Dr. A.K. Jain (Khanna Publications)
2. Fluid Mechanics and Machines – Dr. R.K. Bansal (Laxmi Publications)
3. Fluid Mechanics – Dr. P.N. Modi (Standard Book House)
4. Mechanics of Fluid – Irving H. Shames (McGraw Hill)
5. Introduction to Fluid Mechanics – James A. Fay (Prentice Hall India)

Name of Reference Books:

1. Fluid Machines – Dr. Jagdish Lal (Metropolitan Book Company Private Ltd.)
2. Fluid Machines – John P. Douglas (Pearson Publication)

Outcome: At the end of the course students will be able to

- To understand the difference between broad principles of flow of fluid, for instance laminar and turbulent flow.
- To understand boundary layer effect and importance of dimensional analysis in design of stream lined object.
- To understand the functioning of turbines and pipes.

SYLLAUS	(SEMESTER-IV)	Periods/Week			Internal Assessment (IA)			ESE	Grand Total	Credits
		L	T	P	CT-I	CT-II	TOTAL			
Subject Code:	CE04THS06							70	100	03
Subject:	Effective Technical Communication	3	0	0	15	15	30			

Course Learning Objectives:

Effective Technical communication is critical in today's world. Most problems in an organization arise as a result of poor communication. Effective communication ensures a smooth flow of ideas, facts, decisions, and advice. This way, employees eliminate hindrances in achieving the organization's target.

Course Content:

Unit-1 Fundamentals of Communication Technical Communication: features; Distinction between General and Technical communication; Language as a tool of communication; Levels of communication: Interpersonal, Organizational, Mass communications; the flow of Communication: Downward, Upward, Lateral of Horizontal (Peer group); Importance of technical communication; Barriers to Communication.

Unit-2 Constituents of Technical Written Communication Words and Phrases: Word formation, Synonyms and Antonyms; Homophones; Select vocabulary of about 500-1000 New words; Correct Usage: all Parts of Speech; Modals; Concord; Articles; Infinitives; Requisites of Sentence Construction: Paragraph Development: Techniques and Methods- Inductive, Deductive, Spatial, Linear, Chronological etc; The Art of Condensation-various steps.



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Unit-3 Business Communication Principles, Sales & Credit letters; Claim and Adjustment Letters; Job application and Resumes. Reports: Types; Significance; Structure, Style & Writing of Reports. Technical Proposal; Parts; Types; Writing of Proposal; Significance. Negotiation & Business Presentation skills.

Unit-4 Presentation Strategies and Listening Skills. Defining Purpose; Audience & Local; Organizing Contents; Preparing Outline; Audio-visual Aids; Nuances of Delivery; Body Language; Dimensions of Speech: Syllable; Accent; Pitch; Rhythm; Intonation; Paralinguistic features of voice; Listening Skills: Active Listening, Passive Listening, methods for improving Listening Skills.

Unit-5 Value-Based Text Readings Following essays form the suggested text book with emphasis on Mechanics of writing. (i) Humanistic and Scientific Approaches to Human Activity by Moody E. Prior (ii) The Language of Literature and Science by A. Huxley (iii) Man and Nature by J.Bronowski (iv) The Social Function of Literature by Ian Watt (v) Science and Survival by Barry Commoner (vi) The Mother of the Sciences by A.J.Bahm (vii) The Effect of Scientific Temper on Man by Bertrand Russell.

Text Book :

1. Improve Your Writing ed. V.N.Arora and Laxmi Chandra, Oxford Univ. Press, 2001, New Delhi..
2. Technical Communication: A Practical Approach: Madhu Rani and Seema Verma- Acme Learning, New Delhi-2011
3. Technical Communication- Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press,2007, New Delhi.

Reference Books:

1. Communication Skills for Engineers and Scientists, Sangeeta Sharma et.al. PHI Learning Pvt.Ltd,2011, New Delhi.
2. Business Correspondence and Report Writing by Prof. R.C.Sharma & Krishna Mohan, Tata McGraw Hill & Co.Ltd.,2001, New Delhi.
3. Word Power Made Easy by Norman Lewis, W.R.Goyal Pub. &Distributors, 2009,Delhi.
4. Developing Communication Skills by Krishna Mohan, Mecra Bannerji- Macmillan India Ltd. 1990, Delhi.
5. Manual of Practical Communication by L.U.B.Pandey: A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2013, Delhi.
6. English Grammar and Usage by R.P.Sinha,

Course Outcomes:

- At the end of the semester, employability skills of the students will develop.
- Students will improve their Vocabulary and their Accent.

SYLLAUS	(SEMESTER-IV)	CREDITS: 1			INTERNAL ASSESSMENT (IA)			ESE
		L	T	P	IA	MSE	TOTAL	
Subject Code:	CE04PHS01							
Subject:	Effective Technical Communication Lab	0	0	2	30	-	30	20

Course Learning Objectives:

Interactive and Communicative Practical with emphasis on Oral Presentation/Spoken Communication based on International Phonetic Alphabets (I.P.A.)



Course Content:

LIST OF PRACTICALS:

1. Group Discussion: Practical based on Accurate and Current Grammatical Patterns.
2. Conversational Skills for Interviews under suitable Professional Communication Lab conditions with emphasis on Kinesics.
3. Communication Skills for Seminars/Conferences/Workshops with emphasis on Paralinguistics/ Kinesics.
4. Presentation Skills for Technical Paper/Project Reports/ Professional Reports based on proper Stress and Intonation Mechanics.
5. Official/Public Speaking based on suitable Rhythmic Patterns.
6. Theme- Presentation/ Key-Note Presentation based on correct argumentation methodologies.
7. Individual Speech Delivery/Conferences with skills to defend Interjections/Quizzes.
8. Argumentative Skills/Role Play Presentation with Stress and Intonation.
9. Comprehension Skills based on Reading and Listening Practicals on a model Audio-Visual Usage.

Reference Books:

1. Bansal R.K. & Harrison: Phonetics in English, Orient Longman, New Delhi.
2. Sethi & Dhamija: A Course in Phonetics and Spoken English, Prentice Hall, New Delhi.
3. L.U.B.Pandey & R.P.Singh, A Manual of Practical Communication, A.I.T.B.S. Pub. India Ltd. Krishan Nagar, Delhi.
4. Joans Daniel, English Pronouncing Dictionary, Cambridge Univ. Press.

Course Outcomes: On completion of the course, the students would be able to:

- Improve interpersonal communication
- Overcome stage fright and enhance confidence
- Participate in GDs
- Master presentation Skills and Interview Skills
- Learn and practice Listening, Reading, Writing and Speaking Skills

SYLLAUS	(SEMESTER-IV)	CREDITS: 3			INTERNAL ASSESSMENT (IA)			ESE
		L	T	P	IA	MSE	TOTAL	
<i>Subject Code:</i>	CE04PPC03							
<i>Subject:</i>	Material testing lab	0	0	3	30	0	30	20

Course Learning Objectives:

- To learn to perform various experiments related to properties of Cement.
- To learn to perform various experiments related to properties of Aggregates.
- To learn to perform various experiments related to properties of Bricks.
- To learn to perform various Destructive & non –destructive tests on concrete.

Course Content:

List of experiments

Testing of cement