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

NAGAPATTINAM – 611 002

B.E. ELECTRICAL AND ELECTRONICS ENGINEERING

Full Time Curriculum and Syllabus

Second Year – Fourth Semester

Course Code	Course Name	L	T	P	C	Maximum Marks		
						CA	ES	Total
Theory Course								
1701MA403	Numerical Methods and Statistics	3	2	0	4	40	60	100
1702EE401	Measurements and Instrumentation	3	0	0	3	40	60	100
1702EE402	Linear Integrated Circuits	3	0	0	3	40	60	100
1702EE403	Transmission and Distribution	3	2	0	4	40	60	100
1702EE404	Electrical Machinery-II	3	0	0	3	40	60	100
1702EC406	Communication Engineering	3	0	0	3	40	60	100
1701CH201*	Environmental Studies*	3	0	0	3	40	60	100
LaboratoryCourse								
1702EE451	Electrical Machinery Laboratory-II	0	0	4	2	50	50	100
1702EE452	Analog And Digital Integrated Circuits Laboratory	0	0	2	1	50	50	100
1704EE453	Technical Seminar II	0	0	2	1	100	0	100
1704GE451	Life Skills: Verbal Ability	0	0	2	1	100	0	100

L – Lecture | T – Tutorial | P – Practical | CA – Continuous Assessment | ES – End Semester

1701MA403	NUMERICAL METHODS AND STATISTICS	L	T	P	C
	(Common to B.E - Civil, EEE and Mech.)	3	2	0	4

PREREQUISITE:

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

COURSE OBJECTIVES:

1. To sole 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

COURSE OUTCOMES:

After completion of the course, Students will be able to

CO1: Find the intermediate values, when huge amounts of experimental data are involved (K3)
CO2: Solve first order differential equation using Numerical methods (K3)
CO3: Perform Integration using Numerical methods (K3)
CO4: Solve algebraic and transcendental Equations numerically (K3)
CO5: Analyses the statistical data (K3)

UNIT I INTERPOLATIONANDAPPROXIMATION 12Hours

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

UNIT II NUMERICALDIFFERENTIATION 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 ANDTRANSCENDENTALEQUATIONS 12Hours

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 TESTINGOFHYPOTHESIS 12Hours

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

REFERENCES:

1. Johnson R.A.Gupta C. B, Miller and Freunds 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 puplishers,2004
3. Walpole R.E. Myers S.L, Ye.K, Probability and statistics for Eng. and scientists, 8th edition Pearson education,2007
4. Gerald C.F Wheatley P.O, Applied Numerical Analysis, 6th edition ,Pearson education Asia2006
5. Nptel.ac.in/courses/111105035,www.nptelvideos.in/2012/11/Mathematics.html
6. www.learnerstv.com/Free-maths-video lectures -ltv348-page1.html
7. www.indiastudychannel.com

1702EE401 MEASUREMENTS AND INSTRUMENTATION

L	T	P	C
3	0	0	3

PREREQUISITE :

1. Semiconductor Physics and Devices
2. Electron Devices and Circuits

COURSE OBJECTIVES:

1. To learn the measuring instrument characteristics and also to calculate different parameters of Instruments.
2. To empower students to understand the working of electrical equipment used in everyday life.
3. To understand the necessary of modern tools in electrical industry.

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1: Describe the basic functional elements of measuring instruments and the errors in the measurements systems(K2)
CO2: Discuss the operation and applications of measuring instrument under typical environment (K2).
CO3: Identify the unknown values of resistor, inductor and capacitor of given network using suitable bridge circuit (K3) .
CO4: Explain the construction and working principle of various storage and display devices(K2)
CO5: Make use of sensor and transducers in measuring purpose using data acquisition system(K3)

UNIT I INTRODUCTION OF MEASURING INSTRUMENTS 9 Hours

Classification of measuring instruments; Functional elements of an instrument ; Static and dynamic characteristics ; loading effect of ammeter and voltmeter; Errors in measurement - Gross, Systematic and Random errors; Statistical Evaluation of measurement data; Standards - International, primary, secondary and working standard, calibration – A case study in calibration of measuring instruments.

UNIT II ELECTRICAL AND ELECTRONICS INSTRUMENTS 9 Hours

Principle and types of analog and digital voltmeters, ammeters, multimeters,; Single phase and three phase wattmeter and energy meter; Determination of B-H curve; Instrument transformers-current and potential Transformer; comparison of CT and PT; Instruments for measurement of frequency – vibrating read type, electrical resonance type, and Weston frequency meter; Megger.

UNIT III COMPARISON METHODS OF MEASUREMENTS 9 Hours

D.C & A.C potentiometers; D.C bridges –Wheatstone and Kelvin bridges; A.C bridges-Maxwell bridge, Anderson bridge, Hays bridge, and Schering bridge, self-balancing bridges; Interference & screening – Multiple earth and Earth loops; Electrostatic and electromagnetic interference; Grounding techniques.

UNIT IV STORAGE AND DISPLAY DEVICES 9 Hours

Recorders - X-Y recorders and digital plotters; CRT display- digital CRO; LED and LCD display; Power quality Analyzer.

UNIT V TRANSDUCERS AND DATA ACQUISITION SYSTEMS 9 Hours

Classification of transducers -Selection of transducers, Resistive, capacitive, inductive transducers, Piezoelectric and Hall effect transducers:Elementsofdataacquisitionsystem;DataLoggers;A/D,D/Aconverters;Smart Sensors.

TOTAL: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR:

1. Measurement of wind energy using anemometers.
2. Measurement of air pressure using barometers.

REFERENCES:

1. A.K. Sawhney, „A Course in Electrical & Electronic Measurements & Instrumentation", Dhanpat Rai & Co,2004.
2. J. B. Gupta, „A Course in Electronic and Electrical Measurements", S. K. Kataria & Sons, Delhi, 2003.
3. H.S. Kalsi, „Electronic Instrumentation", Tata McGraw Hill, II Edition 2004.
4. Martin Reissland, „Electrical Measurements", New Age International (P) Ltd., Delhi, 2001.
5. Alan. S. Morris, Principles of Measurements and Instrumentation, 2nd Edition, Prentice Hall of India, 2003
6. nptel.ac.in/syllabus/108106070/

1702EE402	LINEAR INTEGRATED CIRCUITS	L	T	P	C
		3	0	0	3

PREREQUISITE :

1.Electric circuit Analysis
2.Electronic Devices and Circuits

COURSE OBJECTIVES:

1. To understand the fundamentals and fabrication of ICs.
2. To explain the functions, characteristics and applications of op. amp.
3. To describe operation of signal converters, special function ICs and voltage regulators.

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1 Explain the fundamentals of IC technology and fabrication of diode, capacitance, resistance, FET and typical circuits. (K3)
CO2 Describe the functional block diagram, performance parameters and frequency compensation techniques of operational amplifier (K3).
CO3 Construct analog circuits using operational amplifiers for linear applications. (K3)
CO4 Construct analog circuits with operational amplifiers for non-linear applications. (K3)
CO5 Build signal converters using operational amplifiers. (K3)
CO6 Design timer and voltage regulator circuits using special function ICs(K3)

UNIT I FABRICATION OF INTEGRATED CIRCUITS 9 Hours

IC classification, fundamental of monolithic IC technology; Epitaxial growth, masking and etching, diffusion of Impurities; realization of monolithic ICs and packaging; fabrication of diodes, capacitance, resistance and FET.

UNIT II OPERATIONAL AMPLIFIER 9 Hours

Op. amp. introduction - functional block diagram, ideal and practical op-amp characteristics, CMRR, open loop Gain, slew rate, transfer characteristics, input bias and output offset voltage, offset compensation techniques, frequency response characterization, and frequency compensation.

UNIT III APPLICATIONS OF OPERATIONAL AMPLIFIER 9 Hours

Inverting and non-inverting amplifiers, voltage follower, summing amplifier, differential amplifier, instrumentationamplifier;comparators;integratoranddifferentiator;sinusoidaloscillators-phaseshift,Wein Bridge& Hartley; sample and hold circuit; clipper and clamper; Schmitt trigger.

UNIT IV SIGNAL CONVERTERS 9 Hours

V/F and F/V converters; V/I and I/V converter; D/A converter - weighted resistor type, R-2R ladder type; A/D Converters- flash type, successive approximation type, single slope type, dual slope type, A/D converter using voltage-to-time conversion.

UNIT V SPECIAL FUNCTION INTEGRATED CIRCUITS 9 Hours

555 Timer - functional block diagram and description, monostable and astable operation; 566 voltage controlled oscillator; 565 PLL - functional block diagram, principle of operation, characteristics; IC voltage regulators – regulation, need for voltage regulation; LM78XX, 79XX fixed voltage regulators; LM 317 & LM723; Interpretation of IC data sheets.

Total: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR:

1. Interpretation of data sheets of an OPAMP
2. Active filters

REFERENCES:

1. D Roy Choudhury and Sheil B.Jani, “Linear Integrated Circuits” 4th Edition, New Age International, New Delhi, 2014.
2. S Salivahanan and V S Kanchana Bhaaskaran, “Linear Integrated Circuits”, 2nd Edition, McGraw-Hill Education, 2014.
3. Ramakant A.Gayakward, “Op-amps and Linear Integrated Circuits”, 4th Edition, PHI Learnings, 2003.
4. B Somanathan Nair, “Linear Integrated Circuits: Analysis, Design and Applications”, Wiley, 2009.
5. Floyd and Buchla, “Fundamentals of Analog Circuits”, Pearson, 2013.
6. http://nptel.ac.in/courses/117107094/

1702EE403 TRANSMISSION AND DISTRIBUTION L T P C
3 2 0 4

PREREQUISITE :

1. Power Plant Engineering
2. Electric circuit analysis

COURSE OBJECTIVES:

1. To understand the structure of power system, insulators, cables and substation.
2. To develop expressions for various parameters related to transmission lines.
3. To obtain the equivalent circuits for the transmission lines to determine voltage regulation and efficiency.

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1: Infer knowledge on the basics of transmission system of power system(K2)
CO2: Develop expressions for the computation of transmission line parameters(K3)
CO3: Obtain the voltage regulation and efficiency from the equivalent circuit of the transmission Lines(K3)
CO4: Apply the voltage distribution in insulator strings (K3)
CO5: Interpret the parameters related to underground cable (K2)
CO6: Develop the transmission line and modern substation layout with grounding techniques(K3)

UNIT I INTRODUCTION TO TRANSMISSION AND DISTRIBUTION SYSTEM 12 Hours

Structure of electric power system- Single line diagram, Typical standard specifications of transmission and distribution system; HVDC transmission - comparison between HVAC and HVDC; Substation and its types, Typical key diagram of a 11kV / 400V substation; feeders, distributors and service mains - radial and ring main systems; calculation of voltage in distributors with concentrated and distributed loads.

UNIT II PARAMETERS OF TRANSMISSION LINE 12 Hours

Parameters of transmission lines; types of conductors; resistance, inductance and capacitance of single phase, three phase, symmetrical and unsymmetrical transposed conductors; self and mutual GMD; skin and proximity Effects; interference with neighboring communication circuits; corona discharges.

UNIT III MODELLING AND PERFORMANCE OF TRANSMISSION LINES 12 Hours

Classification of lines - short line, medium line and long line; equivalent circuits, phasor diagram, attenuation Constant, phase constant, surge impedance; transmission efficiency and voltage regulation; real and reactive power flow in lines, surge impedance loading; methods of voltage control; Ferranti effect.

UNIT IV INSULATORS AND UNDERGROUND CABLES 12 Hours

Insulators - types, potential distribution in insulator string, improvement of string efficiency, testing of insulators; underground cables - constructional features of LT and HT cables, capacitance of single-core cable, Grading of cables, power factor and heating, capacitance of 3- core belted cable; DC cables.

UNIT V MECHANICAL DESIGN OF LINES AND GROUNDING 12 Hours

Mechanical design of transmission line; sag and tension calculations for different weather conditions; tower Spotting- types of towers; substation layout (AIS, GIS); methods of grounding.

TOTAL: 60 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

1. Distribution automation
2. Distributed generation

REFERENCES:

1. C.L.Wadhwa, „Electrical Power Systems", New Academic Science Ltd, seventh edition 2017.
2. J.Brian, Hardy and Colin R. Bayliss, "Transmission and Distribution in Electrical Engineering" Newnes; 'Fourth Edition, 2012.
3. D.P.Kothari, I.J. Nagarath, "Power System Engineering", Tata McGraw-Hill Publishing Company limited, New Delhi, 2nd ed., 2008.
4. Hadi Saadat, „Power System Analysis, " PSA Publishing; Third Edition, 2010.
5. S. L. Uppal "Electrical Power" Khanna Publisher, 13th Edition , 1988
6. http://nptel.ac.in/courses/108108099/, http://nptel.ac.in/courses/108105053/2

1702EE404	ELECTRICAL MACHINERY-II	L	T	P	C
		3	0	0	3

PREREQUISITE :

1. Electrical Machinery-I.
2. Electromagnetic Field.

COURSE OBJECTIVES:

1. To impart the basic operation and construction of various AC machines.
2. To describe the performance of synchronous machine by different methods.
3. To analyze the performance characteristics and equivalent circuits of AC machines.

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1: Investigate the percentage regulation of three-phase AC generator using various regulation methods(K3)

CO2: Inspect the performance characteristics of three-phase synchronous motor by conducting various test (K3).

CO3: Identify the performance characteristics of three-phase induction motor by conducting OC and SC test (K3).

CO4: Gain Knowledge about the concepts of starters & speed control methods (K2)

CO5: Describe the characteristics behavior of various types of single-phase induction motor and special machines (K2)

UNIT I SYNCHRONOUS GENERATOR 9 Hours

Constructional details; types of rotors ;EMF equation; armature reaction ;parallel operation ;voltage regulation Methods – EMF, MMF, ZPF & ASA methods; two reaction theory; sliptest; capability curves.

UNIT II SYNCHRONOUS MOTOR 9 Hours

Principle of operation; torque equation; V and Inverted V curves ;Power input and power developed equations; Starting methods; hunting; damper windings; synchronous condenser; Synchronous induction motor.

UNIT III THREE PHASE INDUCTION MOTOR 9 Hours

Constructional details, types; principle of operation; rotating magnetic field; slip; equivalent circuit; Torque-Slip characteristics; torque equation; circle diagram; separation of losses; cogging and crawling; induction Generators; - double cage deep bar induction motors.

UNIT IV STARTING AND SPEED CONTROL OF THREE PHASE INDUCTION MOTOR 9 Hours

Need for starting; types of starters – star delta starter, auto transformer starter, DOL starter; speed control – voltage control, frequency control, pole changing, cascaded connection, v/f control, slip power recovery scheme;

Braking of three-phase induction motor.

UNIT V SINGLE PHASE INDUCTION MOTOR & FRACTIONAL HORSE POWERMOTOR 9 Hours

Single phase induction motors ; rotating vs alternating magnetic field; double revolving field theory; Torque - speed characteristics; equivalent circuit; starting methods; hysteresis motor; stepper motor; universal motor; linear induction motor, brushless DC motor.

Total: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

1. Role of poly phase induction machines in windmill power generation.
2. New alternator technology in hybrid vehicle.

REFERENCES:

1. Fitzgerald A.E,CharlesKingsley, Stephen. D.Umans, „Electric Machinery", Published byTata McGraw-Hill Education Pvt. Ltd. 2015, 6th Edison.
2. Kothari D.P and I.J. Nagrath, „Electric Machines", Published by Tata McGraw -Hill Education Pvt. Ltd, 2010, 5th Edison.
3. BhimbhraP.S, "Electrical Machinery"„Khanna Publishers, 7th Edition, 2003.
4. Bandyopadhyay M.N, "Electrical Machines Theory and Practice", PHI Learning PVT LTD., New Delhi, 2009
5. Charles's A. Gross, "Electric /Machines", CRC Press, 2nd Edition, 2010.

1702EC406 COMMUNICATION ENGINEERING

L	T	P	C
3	0	0	3

PREREQUISITE :NIL

COURSE OBJECTIVES:

1. To provide an introduction on different analog modulation and demodulation systems.
2. To know the principles of sampling & quantization.
3. To learn the various baseband transmission schemes.
4. To understand the various Band pass signaling schemes.
5. To become skilled at fundamentals of mobile and wireless communication technologies and its applications.

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1: Explain the fundamental techniques of generations and detections for Amplitude, Frequency and Phase modulations(K2)
CO2: Construct a sampled and quantized signal for baseband transmission. (K3).
CO3: Describe the concepts of Digital modulation schemes for digital data transmission. (K3).
CO4: Apply cellular concepts in mobile communication networks(K3).
CO5: Make use of multiple access mechanisms of mobile communication networks(K3)

UNIT I AMPLITUDE MODULATION SYSTEMS **9 Hours**

Need for modulation – Classifications of modulation techniques-Generation and detection: AM, DSBSC, SSB-SC, VSB-Comparison of Amplitude modulation systems- AM transmitters-AM receivers.

UNIT II ANGLE MODULATION SYSTEMS **9 Hours**

Frequency modulation: Narrowband and wideband FM- Phase Modulation- Generation of FM signal: Direct FM, indirect FM- Demodulation of FM signals -FM stereo multiplexing- FM transmitters- FM receivers.

UNIT III SAMPLING AND QUANTIZATION **9 Hours**

Sampling Process – Aliasing – Instantaneous sampling – Natural Sampling –Flat Sampling – Quantization of signals –sampling and quantizing effects –channel effects – SNR for quantization pulses – data formatting Techniques –Time division multiplexing.

UNIT IV Digital Transmission **9 Hours**

Baseband Transmission: Wave form representation of binary digits - PCM, DPCM, DM, ADM systems, Pass band Transmission: ASK, FSK, PSK, QPSK, DQPSK, MSK, QAM , Noise performance of ASK, FSK, PSK, QPSK, DQPSK, MSK, QAM

UNIT V Cellular Communication **9 Hours**

Introduction, Frequency reuse, Cell Assignment techniques, Hand off Strategies, Interference and System Capacity, Trunking and Grade of Service, Improving Coverage and capacity in cellular systems. Multiple Access techniques: FDMA, TDMA, CDMA, SDMA

Total: 45 HOURS

FURTHER READING / CONTENT BEYOND SYLLABUS / SEMINAR :

Digital Communication Techniques
Advanced Wireless Communication

REFERENCES:

1. G.Kennedy and B.Davis, Electronic Communication Systems, fourth Edition, Tata McGraw-Hill -2008.
2. Simon Haykin, Communication Systems, John Wiley, 2001.
3. Simon Haykin, “Digital Communications”, John Wiley, 2006.
4. Amitabha Bhattacharya, “Digital Communication”, Tata McGraw Hill, 2006.
5. Rappaport. T.S., “Wireless Communications: Principles and Practices”, Second Edition, PHI, 2014

1702EE451	ELECTRICAL MACHINERY LABORATORY-II	L	T	P	C
		0	0	4	2

PREREQUISITE :

Electrical Machinery Laboratory-I

COURSE OBJECTIVES:

1. To know the performance characteristics of induction motors.
2. To compare various regulation methods of Synchronous machines.
3. To study the characteristics of brushless DC motor.

COURSE OUTCOMES:

After completion of the course, Student will be able to

CO1: Investigate various regulation methods of synchronous machines by conducting OCC and SCC test (K3)

CO2: Experiment on synchronous machines for obtaining performance characteristics by conducting V and inverted V curve test (K3).

CO3: Compute the performance characteristics of single phase and three-phase induction motor by conducting load, no load and blocked rotor test(K3)

CO4: Construct the characteristics of special machines (K3)

CO5: Study about various types of starters in AC motor (K2)

LIST OF EXPERIMENTS:

1. Study of AC motor starters
2. No load & blocked rotor test and Load test on single phase induction motor
3. No load & blocked rotor test and Load test on three phase induction motor
4. Separation of no load losses of three phase induction motor
5. Voltage regulation of an alternator by EMF,MMF method
6. Voltage regulation of an alternator by ZPF method
7. Voltage regulation of an alternator by ASA method
8. V & inverted V curve of three phase synchronous motor
9. Determination of Xd and Xq and regulation of salient pole alternator
10. Characteristic analysis of brushless DC motor

Total: 60 Hours

ADDITIONAL EXPERIMENTS / INNOVATIVE EXPERIMENTS :

1. Measurements of positive & negative sequence current in three phase alternator
2. Synchronization / Parallel operation of three phase alternator

REFERENCES:

1. Kothari. D.P & Umre. B.S "Laboratory manual for electrical machines", I.K international Publishing House (P) Ltd. 2013 Edition
2. Suresh Babu. P.J, "Electrical Machinery Lab II Manual", 2018.

1702EE452	ANALOG AND DIGITAL INTEGRATEDCIRCUITS LABORATORY	L	T	P	C
		0	0	2	1

PREREQUISITE:

1. Electronic Devices and Circuits Lab
2. Digital Electronics

COURSE OBJECTIVES:

1. To test the characteristics of Amplifiers
2. To design and testing of logic gates
3. To implement and characterizing the circuit behavior with digital and analog ICs

COURSE OUTCOMES:

After completion of the course, Student will be able

CO1: Apply various types of biasing and amplifier configuration (K3).

CO2: Use simplification techniques to design a combinational hardware circuit (K3)

CO3: Design and Implement combinational and sequential circuits (K3)

CO4: Design and Implement a simple digital system (K3)

CO5: Apply analog and digital electronic circuits (K3)

LIST OF EXPERIMENTS:

1. Frequency response of CE Amplifier
2. Darlington amplifier Using BJT
3. Implementation of Boolean functions, adder/ subtractor circuits.
4. Design and implementation of code converters using logic gates
5. Parity generator and parity checker
6. Design and implementation of encoder and decoder using logic gates
7. Construction and verification of 4 bit ripple counter
8. Implementation of SISO, SIPO, PISO and PIPO shift registers using Flip-flops
9. Design and implementation of Multiplexer and De-multiplexer using logic gates
10. Timer IC application: Study of NE/SE 555 timer in astable and monostableoperation.

TOTAL: 30 HOURS

ADDITIONAL EXPERIMENTS / INNOVATIVE EXPERIMENTS:

1. IC voltage regulators
2. Real time applications using logic gates IC

REFERENCES:

1. Dr. T. Suresh Padmanabhan and K.Nandakumar, “Analog and Digital Integrated Circuits Manual”, 2018.
2. Integrated circuits: solution manual: analog digital circuits and systems manual by Jacob Millman.

1704EE453	TECHNICAL SEMINAR II	L	T	P	C
		0	0	2	1

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.

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.

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. Students are encouraged to use various teaching aids such as power Point presentation and demonstrative models.

TOTAL: 30 HOURS

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	1

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.

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

UNIT I VOCABULARY USAGE **6 Hours**

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

UNITII 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)

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.