P.E.S COLLEGE OF ENGINEERING, MANDYA

Scheme of Teaching and Examinations - 2025
Outcome-Based Education (OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2025-26)

B.E. I – Semester [Physics Group] | **Stream: – Electrical Engineering Stream (EES)** | **Programme: Electrical and Electronics Engineering**

Sl. No	Course and Course Code		Course Title	TD/PSB	Teaching Hours/Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	SAAE	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	ASC(IC)	P25MACS101	Applied Mathematics -I (Calculus and Linear Algebra)	Maths	3	2	0		03	50	50	100	04
2	ASC	P25PHEE102	Applied Physics – Physics of Electrical & Electronics Materials	Physics	3	0	0		03	50	50	100	03
3	ETC	P25ETC103	Introduction to AI and Applications	Respective Engg dept	3	0	0		03	50	50	100	03
4	ESC	P25ESC1043	Engineering Science Courses-I (Introduction to Electronics and Communication Engineering)	Respective Engg dept	3	0	0		03	50	50	100	03
5	PSC	P25PSC1053	Programme Specific Courses (Elements of Electrical Engineering)	Respective Engg dept	3	0	0		03	50	50	100	03
6	PSC	P25PSCL1065	Program-Specific Course Lab (Elements of Electrical Engineering Laboratory)	Respective Engg dept	0	0	2		02	50	50	100	01
7	ASC	P25PHCSL107	Applied Physics Laboratory (Quantum Physics and Applications)	PHY	0	0	2		02	50	50	100	01
8	AEC	P25ENG108	Communicative English - I	Humanities	1	0	0		01	50	50	100	O1
9	AEC/SDC	P25IDT109	Innovation and Design Thinking Lab (**Project-based learning-** IDEA Lab Workshop/ Maker's space)	Any Dept	0	0	2		02	50	50	100	01
10	HSMS	P25KSK110/ P25KBK110	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0		01	100	--	100	PP
				TOTAL						550	450	**1000**	**20**

11	**AICTE Activity Points** (students have to earn **100** activity points between 01 to 08 semester)	Compulsory requirement for the award of a degree

S- (SAAE) Students Academic Activity Engagement Hours, **ASC**-Applied Science Course, **ESC**- Engineering Science Courses, **IC** – Integrated Course (Practical Course Integrated with Theory Course), **PLC(IC)**- Programming Language Course (Integrated Course), **AEC**- Ability Enhancement Course, **AEC/SDC**- Ability Enhancement Course/Skill Development course, **ETC**- Emerging Technology Course, **TD/PSB**- Teaching Department / Paper Setting Board, **HSMC**-Humanity, Social Science and management Course, **CIE** –Continuous Internal Evaluation, **SEE**- Semester End Examination, **NCMC:** Non Credit Mandatory Course, **PP** : (Pass/Pass) is assigned to a non credit course. "PP" represents pass in course provided students have successfully completed the CIE requirements. Otherwise, "NP-not pass shall be awarded. "PP" is essential for the award of the degree

Credit Definition: 1-hour Lecture **(L)** per week=**1Credit** 2-hoursTutorial**(T)** per week=**1Credit**	04-Credits courses are to be designed for 50 hours of Teaching-Learning Session 04-Credits (IC) are to be designed for 40 hours' theory and 10-12 hours of practical sessions 03-Credits courses are to be designed for 40 hours of Teaching-Learning Session 02- Credits courses are to be designed for 25 hours of Teaching-Learning Session
2-hours Practical / Drawing (**P**) per week=**1Credit**	01-Credit courses are to be designed for 12 hours of Teaching-Learning sessions

Integrated courses (IC), combining theory with practical components.

The theory sessions conducted for 3 hours per week, while the practical sessions will be conducted for 2 hours per week.

- The theory component will be evaluated through both Continuous Internal Evaluation (CIE) and Semester End Examination (SEE).
- The practical component will be assessed only through CIE. However, questions related to the practical content will be included in the SEE question paper as part of the final examination.

The **Student Induction Programme** (SIP), initiated by the All-India Council for Technical Education (AICTE), is designed to help newly admitted students in technical institutions transition smoothly into the higher education environment. It aims to familiarize students with the institutional culture, foster connections with peers and faculty, and provide a foundation for holistic learning. The first year of Engineering programmes is composed of I semester and II semester and Summer Semester. SIP activities shall be scheduled in the afternoon sessions during the first week of class commencement of I and II semesters only. Activities under SIP may include Physical Activities, Creative Arts, Universal Human Values, Literary Events, Proficiency Modules, Lectures by Eminent Personalities, Local Area Visits, Department/Branch Familiarization, and Innovation-related sessions. The specific programmes to be conducted will be notified separately by the University, with the academic calendar or separately.

AICTE Activity Points Requirement for BE/B.Tech. Programmes

As per AICTE guidelines (refer Chapter 6 – *AICTE Activity Point Program, Model Internship Guidelines*), in addition to academic requirements, students must earn a specified number of **Activity Points** to be earned is to be eligible for the award of their degree.

- **Regular students** admitted to a 4-year degree program must earn **100 Activity Points**.
- **Lateral entry students** (joining from the second year) must earn **75 Activity Points**.
- **Students transferred** from other universities directly into the fifth semester must earn **50 Activity Points** from the date of entry into VTU.

These Activity Points are **non-credit** and will not be considered for **the SGPA/CGPA** or be used for **vertical progression**. However, they are mandatory for the **award of the degree**, and the points earned will be reflected on the **eighth semester Grade Card**.

The hours spent for earning the activity points shall not be counted for regular attendance requirements. Students can accumulate these points at any time during their program, including on weekends, holidays, and vacations starting from the year of admission, provided they meet the minimum hours of engagement prescribed for each activity.

If a student fails to earn the required Activity Points, the eighth-semester Grade Card will be withheld until the requirement is fulfilled. Consequently, the degree will be awarded only after the
Grade Card has been released.

Applied Mathematics-I					Applied Physics				
Code	**Title**	**L**	**T**	**P**	**Code**	**Title**	**L**	**T**	**P**
P25MACV101	Differential Equations and Linear Algebra: CV Stream	3	2	0	P25PHCV102	Physics for Sustainable Structural System (CV stream)	3	0	0
P25MAME101	Differential Calculus and Linear Algebra: ME Stream	3	2	0	P25PHME102	Physics of Materials (Mech stream)	3	0	0
P25MAEE101	Calculus and Numerical Techniques: EEE Stream	3	2	0	P25PHEC102	Quantum Physics and Electronics Sensors (ECE stream)/	3	0	0
P25MACS101	Calculus and Linear Algebra: CSE Stream	3	2	0	P25PHEE102	Physics of Electrical & Electronics Materials (EEE)	3	0	0
					P25PHCS102	Quantum Physics and Applications (CSE stream)	3	0	0
Programme Specific Courses (PSC)					**Engineering Science Courses-I(ESC-I)**				
P25PSC1051	Engineering Mechanics	3	0	0	P25ESC1041	Introduction to Building Sciences	3	0	0
P25PSC1052	Elements of Mechanical Engineering	3	0	0	P25ESC1042	Introduction to Electrical Engineering	3	0	0
P25PSC1053	Elements of Electrical Engineering	3	0	0	P25ESC1043	Introduction to Electronics & Communication Engineering	3	0	0
P25PSC1054	Fundamentals of Electronics & Communication Engineering	3	0	0	P25ESC1044	Introduction to Mechanical Engineering	3	0	0
P25PSC1055	Programming in C	3	0	0	P25ESC1045	Essentials of Information Technology	3	0	0
P25PSC1056	Elements of Biotechnology and Biomimetics	3	0	0					
P25PSC1057	Principles of Soil Science and Agronomy	3	0	0					
Program-Specific Course Lab (PSCL)					**Emerging Technology Course (ETC)**				
P25PSCL1061	Mechanics and Materials Lab	0	0	2	P25ETC103	Introduction to AI and Applications	3	0	0
P25PSCL1062	Basic Electrical & Electronics Engineering Lab	0	0	2					
P25PSCL1063	Fundamentals of Electronics & Communication Engineering Lab	0	0	2		**Applied Physics Lab (ASC Lab)**			
P25PSCL1064	Elements of Mechanical Engineering Lab	0	0	2	P25PHCSL107	Applied Physics Laboratory (Quantum Physics and Applications)	0	0	2
P25PSCL1065	C Programming Lab	0	0	2					
P25PSCL1066	Soil Science and Agronomy Field Lab	0	0	2					
P25PSCL1067	Elements of Biotechnology Lab	0	0	2					

The Mathematics/Physics courses shall be taught by a single faculty member per session, with no sharing of the course (subject) modules. The **tutorial sessions** for the **mathematics course** shall be conducted in the Laboratory environment using **MATLAB software** to enhance computational understanding and application skills.

Students admitted to a specific engineering stream are required to select and successfully complete **Applied Mathematics-I** and **Applied Physics courses** that are aligned with their program stream. These courses are intended to reinforce the academic foundations and develop the professional competencies relevant to their chosen engineering
discipline.

Programme Specific Courses (PSC): Programme Specific Courses (PSC) are a set of core courses tailored to the specific branch or discipline of engineering in which a student is enrolled (e.g., Mechanical Engineering, Computer Science, Civil Engineering, etc.). These courses are intended to provide students with in-depth knowledge and specialized skills essential for professional competence in their chosen field.
Students must select and complete the courses from this group that **correspond to their admitted program stream**.
Similarly, students are also required to choose and pass laboratory courses that are specific to their stream from the **Programme Specific Courses Laboratory (PSCL)** group.

Engineering Sciences Courses-I(ESC-I): Courses designed to broaden the technical knowledge of students beyond their core area of study. These courses enable students to gain a foundational understanding of engineering principles from other disciplines. Students are required to select and complete the courses that do not belong to their admitted program stream. For example, a student admitted to the Civil Engineering program must choose a course such as Introduction to Mechanical Engineering or Introduction to Electrical Engineering, rather than Civil Engineering-related subjects. The course selected under Engineering Science Courses – II (ESC-II) must be different from the course chosen
under ESC-I and must also not belong to the student's admitted engineering stream.

I Semester

Course Title	Differential Calculus & Linear Algebra						
Course Code	P25MAEE101						
Category	COMMON TO EE STREAMS						
Scheme and Credits	Theory/Practical/Integrated					Total teaching hours	Credits
	L	T	P	SS	Total		
	3	0	2	-	04	(40Hours Theory+20 Hours Practical)	04
CIE Marks:50	SEE Marks:50		Total Max. marks=100		Duration of SEE: 03 Hours		

Course Learning Objectives:	
1	Apply foundational concepts of calculus and differential equations to analyze geometric properties of curves, solve first and higher-order ordinary differential equations, and model physical phenomena in science and engineering.
2	Apply the principles of linear algebra to solve systems of linear equations, determine eigen values and eigenvectors, and analyze real-world problems such as traffic flow.
3	Demonstrate then applications of electrical engineering and allied engineering science using modern ICT tools.

Unit	Syllabus content	No. of hours
I	**Differential Calculus:** Polar curves, angle between the radius vector and the tangent, angle between the polar curves, pedal equations. Curvature and radius of curvature in cartesian, polar, parametric and pedal forms. **Self - study:** Center and circle of curvature, evolutes and involutes.	8 hours
II	**Power Series Expansions, Indeterminate Forms and Multivariable Calculus:** Statement and problems on Taylor's and Maclaurin's series expansion for one Variable. Indeterminate forms- L'Hospital's rule. Partial Differentiation: Partial differentiation, total derivative- differentiation of composite functions. Jacobian. Maxima and minima for a function of two variables. **Self - study:** Euler's theorem and problems. Method of Lagrange's undetermined multipliers with single constraint.	8 hours
III	**Ordinary Differential Equations (ODE) of First Order and First Degree and Nonlinear ODE:** Exact and reducible to exact differential equations- Integrating factors on $\frac{1}{N}\left(\frac{\partial M}{\partial y}-\frac{\partial N}{\partial x}\right)$ and $-\frac{1}{m}\left(\frac{\partial N}{\partial x}-\frac{\partial M}{\partial y}\right)$ only. Linear and Bernoulli's differential equations. Orthogonal trajectories, L-R and C-R circuits. Non-linear differential equations: Introduction to general and singular solutions, solvable for p only, Clairaut's equations, reducible to Clairaut's equations. **Self - study:** Newton Law of Cooling.	8 hours
IV	**Ordinary Differential Equations of Higher Order**: Higher-order linear ODEs with constant coefficients, homogeneous and non-homogeneous equations$-e^{ax}, sin(ax+b), cos(ax+b), x^n$ only. Method of variation of parameters, Cauchy's and Legendre's homogeneous differential equations. L-C-R circuits. **Self-Study**: Orthogonal Trajectory.	8 hours

V	**Linear Algebra**: Elementary transformation on a matrix, Echelon form, rank of a matrix, consistency of system of linear equations. Gauss elimination, Gauss –Seidel method to solve system of linear equations. Eigen values and eigen vectors of a matrix, Rayleigh power method to determine the dominant eigen value of a matrix. **Self-Study**: Gauss-Jordan method.	8 hours

COURSEOUTCOMES: On completion of the course, student should be able to:

CO1: Apply foundational concepts of calculus and differential equations to analyze geometric properties of curves, solve first and higher-order ordinary differential equations, and model physical phenomena in science and engineering.

CO2: Apply the principles of linear algebra to solve systems of linear equations, determine eigenvalues and eigenvectors, and analyze real-world problems such as traffic flow.

CO3: Demonstrate the applications of electrical engineering and allied engineering science using modern ICT tools.

TEACHING – LEARNING PROCESS: Chalk and Talk, power point presentation, animations,

Text books:

1. B. S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 44th Ed., 2021.
2. E. Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons,10th Ed., 2018.
3. Gilbert Strang, Linear Algebra and its Applications, Cengage Publications, 4th Ed., 2022.

Reference books:

1. B. V. Ramana, Higher Engineering Mathematics, McGraw-Hill Education, 11th Ed., 2017
2. Srimanta Pal & Subodh C.Bhunia, Engineering Mathematics, Oxford University Press, 3rd Ed., 2016.
3. N. P. Bali and Manish Goyal, A Text book of Engineering Mathematics, Laxmi Publications, 10th Ed., 2022.
4. H. K. Dass and Er. Rajnish Verma, Higher Engineering Mathematics, S. Chand Publication,3rd Ed., 2014.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2										
CO2	2	3										
CO3	3	2										
Strength of correlation: Low-1, Medium-2, High-3												

Academic Year: 2025-26		
Course Title: Applied Physics – Physics of Electrical & Electronics Materials (EEE Stream)		
Course Code: P25PHEE102/202	Semester: I/II	Scheme: P25
Teaching hours/week (L:T:P): (3:0:0)	CIE Marks:50	CIE Weightage:50%
Credits: 03	SEE Marks:50	SEE Weightage: 50%

Teaching hours of Pedagogy: 40 hours Theory	Total: 100	Exam Hours: 3 Hrs

Course Learning Objectives:

- To **understand** the fundamental principles of dielectric and magnetic materials and their role in designing electrical components.
- To **learn** the concepts of thermoelectric effects, device construction and materials for energy harvesting and power generation applications.
- To **study** the electrical properties in metals and semiconductors, including Fermi energy and carrier concentration.
- To **explore** the principles of superconductivity and their applications in power systems, electronics and magnetic levitation.
- To **study** the properties and applications of electrical engineering materials and smart materials for sustainable energy and electronic systems.

UNIT-I	Hrs: 08

Dielectric and Magnetic Materials: Dielectrics: Introduction, Electrical Polarization Mechanisms, Internal fields in solids (qualitative), Clausius-Mossotti relation (Derivation) and its implications, Properties and Frequency dependence of Dielectric constant, Dielectric loss, Solid, Liquid and Gaseous dielectrics. Application of dielectrics in Capacitors, Transformers (Oils), SF6 in High Voltage application, Numerical Problems.

Magnetic material: Classification of magnetic materials, Weiss Molecular field theory of ferromagnetism (Qualitative), Importance of Curie Temperature, Ferromagnetic Hysteresis and Explanation using Domain theory, Energy loss, Hard and soft ferromagnetic materials and Applications, Transformer Cores, Armature, Inductors and chokes, Permanent Magnets, Numerical Problems.

Prerequisite: Fundamentals of electromagnetism

Self-Study Component: SF6 in High Voltage application

UNIT - II	Hrs: 08

Thermo electric materials and devices: Thermo emf and thermo current, Seebeck effect, Peltier effect, Seebeck and Peltier coefficients, figure of merit (Mention Expression), laws of thermoelectricity. Expression for thermo emf in terms of T1 and T2, Thermo couples, thermopile, Construction and Working of Thermoelectric generators (TEG) and Thermoelectric coolers (TEC), low mid and high temperature thermoelectric materials, Applications: Exhaust of Automobiles, Refrigerator, Space Program (Radioisotope Thermoelectric Generator), Numerical Problems.

Prerequisite: Basics of Thermal physics

Self-Study Component: Radioisotope Thermoelectric Generator

UNIT - III	Hrs: 08

Electrical Properties of Metals and Semiconductors: Failures of classical free electron theory, Mechanisms of electron scattering in solids, Matheissen's rule, Assumptions of Quantum Free Electron Theory, Density of States, Fermi Dirac statistics, Fermi Energy, Variation of Fermi Factor With Temperature and Energy, Expression for carrier concentration, Derivation of electron concentration in an intrinsic semiconductor, Expression for electron and hole concentration in extrinsic semiconductor, Fermi level for intrinsic (with derivation) and extrinsic semiconductor

(no derivation), Hall effect, Numerical Problems.	
Prerequisite: Basics of classical mechanics and carrier dynamics	
Self-Study Component: Hole concentration in extrinsic semiconductor	
UNIT - IV	**Hrs: 08**
Superconductivity: Zero resistance state, Persistent current, Meissner effect, Critical temperature, Critical current (Silsbee Effect) – Derivation for a cylindrical wire using ampere's law, Critical field, Formation of Cooper pairs - Mediation of phonons, Two-fluid model, BCS Theory - Phase coherent state, Limitations of BCS theory, Type-I and Type-II superconductors, High Tc superconductors, Formation of Vortices, Explanation for upper critical field, Josephson junction, Flux quantization, DC Squid, Superconducting Magnet, MAGLEV, Numerical Problems.	
Prerequisite: Basics of quantum mechanics	
Self-Study Component: Two-fluid model and DC Squid	
UNIT - V	**Hrs: 08**
Electrical Engineering Materials: Rare earth materials, Role in energy systems, Electrical & Magnetic phase diagram, Examples & high magnetic field applications, Ceramics: Types, Materials, Applications, Electrostriction, Strain proportional to square of the electric field, Comparison with piezoelectric effect, Materials, Applications, Electrorheological (ER) materials, Principle, Viscosity changes under applied electric field, ER Fluids, Applications, Magnetorheological (MR) materials, Principle, Magnetic field-induced change in viscosity, MR Fluids, Applications.	
Prerequisite: Fundamentals of material sciences	
Self-Study Component: Electrorheological (ER) and Magnetorheological (MR)	

Course Outcomes: At the end of the course students should be able to:
CO1: Illustrate dielectric and magnetic properties of materials and apply them in electrical components like transformers, capacitors, and magnetic switches.
CO2: Summarize thermoelectric phenomena, device construction, and identify suitable materials and applications for energy conversion.
CO3: Discuss electrical transport mechanisms in metals and semiconductors using classical and quantum models, and perform relevant calculations.
CO4: Explain superconducting principles, distinguish between types of superconductors, and explain their physical properties and technological uses.
CO5: Describe the principles, properties, and applications of rare earth, ceramic, and smart materials in energy systems.

Suggested Learning Resources:

Textbooks:

Sl. No.	Title	Author	Year&Edition	Publisher
1.	Solid State Physics	S O Pillai	8th Ed., 2018	New Age International

				Publishers
2.	Engineering Physics	Satyendra Sharma and Jyotsna Sharma	2018	Pearson
3	A Text book of Engineering Physics	N Avadhanulu, P G Kshirsagar	2014, Revised Edition	M S Chand
4	Smart Materials and Structures	M V Gandhi and B S Thompson	2018	Chapman & Hall
ReferenceBooks:				
1.	Engineering Physics	S L Kakani, Shubra Kakani	3rd Ed., 2020	CBS Publishers and Dis tributers Pvt. Ltd.
2.	Introduction to Superconductivity	Tinkham M	2nd Ed., 2004	Dover Publications
3.	Engineering Physics	--	2014	Wiley
4.	Engineering Physics	Gaur and Gupta	2017	Dhanpat Rai Publications
5.	Electrical Engineering Materials	R K Shukla	2017	Tata Mc Graw-Hill Education, India

Web links and Video Lectures (e-resources)
1. Mod-02 Lec-20: Dielectrics – Prof. D. K. Ghosh, IIT Bombay https://www.youtube.com/watch?v=P9VyW2wq9ZE.
2. 2. Mod-01 Lec-16: Dielectric (Insulating) Solids – Prof. G. Rangarajan, IIT Madras https://www.youtube.com/watch?v=etjZmdmrjSU
3. Lecture 41: Thermoelectric Generators – Functioning and Applications https://www.youtube.com/watch?v=G9NgoxHMPwk.
4. NPTEL course: Solid State Physics – Prof. A.K. Raychaudhuri, IIT Kharagpur Course link: https://archive.nptel.ac.in/courses/115/105/115105099.
5. Mod-01 Lec-27: Superconductivity – Perfect Conductivity & Diamagnetism – Prof. G. Rangarajan, IIT Madras https://www.youtube.com/watch?v=GglT1RoBPzg.
6. Lecture 01: PMMC Instrument – https://www.youtube.com/watch?v=n1MinLtvnPY.
7. Lecture 02: Electrodynamic / Moving Iron Instruments – https://www.youtube.com/watch?v=n1MinLtvnPY&list=PLbRMhDVUMngcoKrA4sHzvbNVSE6IpEio&index=2.
8. Lecture 03: Measurement Systems Characteristics – https://www.youtube.com/watch?v=Hlvbr5DCEfM.
9. Lecture 05: Moving Iron Instruments – https://www.youtube.com/watch?v=TgGMqVPsaK0.
10. Lecture 23: Error Calculation & Uncertainty – https://www.youtube.com/watch?v=ZpYGQQAix0E.
11. Electrical Measurement course Prof Avishek Chatterjee IIT Kharagpur : https://www.youtube.com/playlist?list=PLbRMhDVUMngcoKrA4sH-

zvbNVSE6IpEio.

Teaching Learning Process:	
1. Chalk and talk	2. Short Animations and Videos
3. Experimential Learning	4. Active based Learning
5. Hybrid Learning	6. Simulations and Interactive Simulations
7. ICT Based Learning	8. Self Learning using AI Tools

Active Based Learning (Suggested Activities in Class)/Practical Based Learning
http://nptel.ac.in https://swayam.gov.in https://virtuallabs.merlot.org/vl_physics.html https://phet.colorado.edu https://www.myphysicslab.com

Course Articulation Matrix of Applied Physics
Physics of Electrical & Electronics Materials
(EEE Stream)

COs / POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	2	-	-	-	-	-	-	-	2
CO2	3	3	2	-	-	-	-	-	-	-	2
CO3	3	3	-	-	2	-	-	-	-	-	2
CO4	3	2	-	2	-	-	-	-	-	-	2
CO5	3	2	2	-	-	-	-	-	-	-	2

Academic Year: 2025-26	Semester: I	Scheme: P25
Course Title: **Introduction to AI and Applications**		
Course Code: **P25ETC103**	CIE Marks:**50**	CIE Weightage:**50%**
Teaching hours/week (L: T:P): **3:0:0**	SEE Marks:**50**	SEE Weightage:**50%**
Teaching hours of Pedagogy:**40**	Exam Hours: **3 Hrs**	
Credits:**3**		

Course learning Objectives:

CO1: Explain the concepts and types of artificial intelligence.
CO2: Illustrate basic machine learning methods for regression, classification and clustering. CO3: Identify real-world applications across different disciplines.
CO4: Make use of prompt engineering techniques to interact with generative AI tools. CO5: Outline recent trends in artificial intelligence and machine learning.

Unit 1	8 Hours

Introduction to Artificial Intelligence: Artificial Intelligence, How Does AI Work? Advantages and Disadvantages of Artificial Intelligence, History of Artificial Intelligence, Types of Artificial Intelligence, Weak AI, Strong AI, Reactive Machines, Limited Memory, Theory of Mind, Self-Awareness, Is Artificial Intelligence Same as Augmented Intelligence and Cognitive Computing, Machine Learning and Deep Learning.

Machine Intelligence: Defining Intelligence, Components of Intelligence, Differences Between Human and Machine Intelligence, Agent and Environment, Search, Uninformed Search Algorithms, Informed Search Algorithms: Pure Heuristic Search, Best-First Search Algorithm (Greedy Search).

Knowledge Representation: Introduction, Knowledge Representation, Knowledge-Based Agent, Types of Knowledge.

Textbook Map: Chapter 1 (1.1-1.5), Chapter 3 (3.1-3.7.2), Chapter 4 (4.1-4.4)

Unit 2	8 Hours

Introduction to Prompt Engineering, Introduction to Prompt Engineering, The Evolution of Prompt Engineering, Types of Prompts, How Does Prompt Engineering Work? Comprehending Prompt Engineering's Function in Communication, The Advantages of Prompt Engineering, The Future of LLM Communication.

Prompt Engineering Techniques for ChatGPT, Introduction to Prompt Engineering Techniques, Instructions Prompt Technique, Zero, One, and Few Shot Prompting, Self-Consistency Prompt.

Prompts for Creative Thinking: Introduction, Unlocking Imagination and Innovation.

Prompts for Effective Writing: Introduction, Igniting the Writing Process with Prompts.

Textbook Map: Chapters 1, 3, 4 & 5

Unit 3	8 Hours

Machine Learning: Techniques in AI, Machine Learning Model, Regression Analysis in Machine Learning, Classification Techniques, Clustering Techniques, Naïve Bayes Classification, Neural Network, Support Vector Machine (SVM).

Textbook Map: Chapter 2 (2.1-2.8)

Unit 4	8 Hours

Trends in AI: AI and Ethical Concerns, AI as a Service (AIaaS), Recent trends in AI, Expert System, Internet of Things, Artificial Intelligence of Things (AIoT).

Textbook Map: Chapter 8 (8.1, 8.2, 8.4), Chapter 9 (9.1- 9.3)

Unit 5	8 Hours

Robotics, Robotics-an Application of AI, Drones Using AI, No Code AI, Low Code AI.

Industrial Applications of AI: Application of AI in Healthcare, Application of AI in Finance, Application of AI in Retail, Application of AI in Agriculture, Application of AI in Education, Application of AI in Transportation, AI in Experimentation and Multi-disciplinary research.

Textbook Map: Textbook 1: Chapter 8 (8.3), Chapter 1 (1.7, 1.8, 1.10, 1.11)
Textbook 3: Chapter 3, Chapter 5 (5.1)

Web links and Video Lectures (e-resources)

1. Elements of AI – *https://www.elementsofai.com*
2. CS50's Introduction to Artificial Intelligence with Python – Harvard. *https://cs50.harvard.edu/ai/*
3. Google Machine Learning Crash Course – *https://developers.google.com/machine-learning/crash-course*
4. Learn Prompting (Open-Source Guide) – *https://learnprompting.org*
5. Google AI – Learn with Google AI *https://ai.google/education/*
6. Coursera – Machine Learning by Andrew Ng (Stanford University), *https://www.coursera.org/learn/machine-learning*
7. OpenAI Prompt Engineering Guide (for ChatGPT) *https://platform.openai.com/docs/guides/gpt-best-practices.*
8. Prompt Engineering for Developers – DeepLearning.AI + OpenAI *https://www.deeplearning.ai/short-courses/chatgpt-prompt-engineering-for developers/*
9. Ethics in AI – Google Responsible AI Practices *https://ai.google/responsibilities/responsible-ai-practices/*
10. Google Teachable Machine (Train AI models visually without code) https://teachablemachine.withgoogle.com

Suggested Learning Resources:

Textbooks:

1	Reema Thareja	Artificial Intelligence: Beyond Classical AI	Pearson Education	2023
2	Ajantha Devi Vairamani and Anand Nayyar	Prompt Engineering: Empowering Communication	1st Edition, CRC Press, Taylor & Francis Group	2024(DOI: https://doi.org/10.1201/9781032692319).
3	Saptarsi Goswami, Amit Kumar Das and Amlan Chakrabarti	"AI for Everyone – A Beginner's Handbook for Artificial Intelligence"	Pearson	2024

Reference Books:

1.	Stuart Russell and Peter Norvig	Artificial Intelligence: A Modern Approach	4th Edition	Pearson Education, 2023
2	Elaine Rich, Kevin Knight, and Shivashankar B. Nair	Artificial Intelligence	-	McGraw Hill Education
3	Tom Taulli, Prompt Engineering for Generative AI	ChatGPT, LLMs, and Beyond	-	Apress, Springer Nature
4	Nilakshi Jain, Artificial Intelligence	Making A System Intelligent	First Edition	Wiley

Teaching-Learning Process (Innovative Delivery Methods):

The following are sample strategies that educators may adopt to enhance the effectiveness of the teaching- learning process and facilitate the achievement of course outcomes.

- Flipped Classroom
- Problem-Based Learning (PBL)
- Case-Based Teaching
- Simulation and Virtual Labs
- ICT-Enabled Teaching
- Tool Demonstration

Academic Year: 2025-26	Semester: I	Scheme: P25
Course Title: Introduction to Electronics and Communication Engineering		
Course Code: P25ESC1043/2043	CIE Marks: 50	CIE Weightage: 50
Teaching hours/week (L:T:P): 3:0:0	SEE Marks: 50	SEE Weightage:50
Teaching hours of Pedagogy: 40	Exam Hours: 3	
Credits: 3		

Prerequisite: Mathematics, physics, and chemistry

Course learning Objectives:

CO1: - To prepare students with fundamental knowledge/ overview in the field of Electronics and Communication Engineering.
CO2:-. To equip students with a basic foundation in electronic engineering required for comprehending the operation and application of electronic circuits, logic design, embedded systems, and communication systems.
CO3: -. Professionalism & Learning Environment: To inculcate in first-year engineering students an ethical and professional attitude by providing an academic environment inclusive of effective communication, teamwork, ability to relate engineering issues to a broader social Context, and life-long learning needed for a successful professional career.

Unit 1:	Hrs: 8

Power Supplies: Block Diagram, Rectifiers, Reservoir and Smoothing Circuits, Improved Ripple Filters, Full Wave Rectifiers, Bi Phase Rectifiers Circuits, Bridge Rectifier Circuits, Voltage Regulators, Output Resistance and Voltage Regulation, Voltage Multipliers, (Only Voltage Doubler) Switched Mode Power Supplies.
Amplifiers: Types of Amplifiers, Gain, Input and Output Resistance, Frequency Response, Bandwidth, Phase Shift, Negative Feedback.
Text 1: Page No: 117-128, 139-146

Self-Study Content: Multistage Amplifiers, Power Amplifiers.

Unit 2:	Hrs:8

Oscillators: Positive Feedback, Condition for Oscillations, Ladder Network Oscillator, Wein Bridge Oscillator, Single-Stage Astable Oscillator, Crystal Controlled Oscillators (Only Concepts, Working, and Waveforms. No Mathematical Derivations)
Operational Amplifiers: Operational Amplifier Parameters, Operational Amplifier Characteristics, Operational Amplifier Configurations, Operational Amplifier Circuits.
Text 1: Page No:179-186, 165-169, 171-175

Self-Study Content: Practical Operational Amplifier Circuits.

Unit 3:	Hrs: 8

Analog Communication Schemes: Introduction, Modern Communication System Scheme: Information Source and Input Transducer, Transmitter, Channel or Medium, Noise, Receiver, Concept of Modulation, Concept of Radio Wave Propagation (Ground, Space, Sky), Types of Communication Systems. **Modulation Schemes:** Amplitude Modulation, Angle Modulation, Advantages of Digital Communication Over Analog Communication, Multiplexing, Digital Modulation Schemes: ASK, FSK, PSK, (Explanation with Waveform)
Text 2: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.9, 1.12, 1.15, 2.2.1, 3.2.1, 6.1, 6.11, 6.12, 6.13, 6.15, 6.16.

Self-Study Content: Other Modulation Techniques.

Unit4:2	Hrs:8

Embedded Systems: Definition, Embedded Systems Vs General Computing Systems, Classification of Embedded Systems, Major Application Areas of Embedded Systems, Purpose of an Embedded System, Core of The Embedded System: Microprocessors, GPP Vs ASIP, Microcontrollers, Microprocessor Vs Microcontroller, DSP, RISC V/S CISC, Memory: ROM, Sensors, Actuators, LED, 7-Segment LED Display.
Text 3: 1.1, 1.2, 1.4, 1.5, 1.6, 2.1.1.1-2.1.1.6, 2.2.1, 2.3.1, 2.3.2, 2.3.3.1, 2.3.3.2.

Self-Study Content: RAM, Optocoupler, Stepper motor.

Unit 5:	Hrs:8
Boolean Algebra and Logic Circuits: Binary Numbers, Number Base Conversion- Binary, Decimal And Octal and Hexa Decimal Numbers and Vice-Versa, Complements-1's and 2's, Basic Definitions, Basic Theorems and Properties of Boolean Algebra, Boolean Functions, Canonical and Standard Forms, Digital Logic Gates. **Combinational Logic:** Introduction, Design Procedure, Adders- Half Adder, Full Adder. Text 4: 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.7, 4.1, 4.2, 4.3.	
Self-Study Content: Other Combinational Circuits.	

Suggested Learning Resources:				
Textbooks:				
	Title	Author	Year & Edition	Publisher
1.	Electronic Circuits Fundamentals & Applications	Mike Tooley	2020, 5th Edition,	Elsevier
2.	Communication Systems	S L Kakani and Priyanka Punglia	2017, 1st Edition	New Age International Publisher
3.	Introduction to Embedded Systems	K V Shibu	2019, 2nd Edition	McGraw Hill Education
4.	Digital Logic and Computer Design	M. Morris Mano	2017	Pearson Education
Reference Books:				
1.	Electronic Devices and Circuit Theory	Robert L. Boylstad, Louis Nashelsky	2015,11th Edition	PHI
2.	Basic Electronics	D.P Kothari and I. J Nagarath	2014	McGraw Hill Education

Web links and Video Lectures (e-resources)
1. https://nptel.ac.in/courses/122106025 2. https://nptel.ac.in/courses/108105132

Course Outcomes: On completion of this course, students are able to:			
COs	**Course Outcomes** with ***Action verbs*** for the Course topics	**Bloom's Taxonomy Level**	**Program Outcome Addressed (PO #) with BTL**
CO1	**Analyze** the principles and applications of power supplies, amplifiers, oscillators for engineering applications.	**Analyse**	PO1, PO2, [L3]
CO2	**Analyse** and compare different modulation schemes evaluating their performance to various communication systems.	**Analyse**	PO2 [L4]
CO3	**Illustrate** the fundamentals of embedded systems demonstrating their purpose in developing various embedded applications	**Apply**	PO2 [L3]

CO4	**Apply** Boolean algebra and logic circuits to design an optimized digital circuits for the given specifications.	**Apply, Design**	PO2, PO3 [L3,L4]
CO5	**Design & Evaluate** for the performance of different communication systems, embedded systems and various circuit configurations.	**Design, Evaluate**	PO4, PO5 [L5]

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
#1	3	2										3	2
#2		3											3
#3		3											3
#4		3	2										3
#5				2	2								

Active Based Learning (Suggested Activity in Class)/ Practical Based Learning (Example)

1. Flipped Classroom
2. Problem-Based Learning (PBL)
3. Case-Based Teaching
4. Simulation and Virtual Labs
5. Partial Delivery of course by Industry expert/ industrial visits
6. ICT-Enabled Teaching
7. Role Play

Academic Year: 2025-26	Semester: I	Scheme: P25
Course Title: **Elements of Electrical Engineering**		
Course Code: **P25PSC1053**	CIE Marks:**50**	CIE Weightage:**50%**
Teaching hours/week (L: T:P): **3:0:0**	SEE Marks:**50**	SEE Weightage:**50%**
Teaching hours of Pedagogy:**40**	Exam Hours: **3 Hrs**	
Credits:**3**		

Course learning Objectives:

CO1: Apply the basic laws used in the analysis of DC circuits, Electrostatics and Electromagnetism.
CO2: Assess implications of electromagnetic induction.
CO3: Analyse the single-phase circuits.
CO4: Analyse the three phase circuits and measure power.
CO5: Explain electricity billing, domestic wiring and safety measures against electricity.

Unit 1	8 Hours

DC circuits: Ohm's law and Kirchhoff's laws, analysis of series, parallel and series-parallel circuits. Power and energy. Problems.

Electrostatics: Coulombs law, definitions of absolute and relative permittivity, electric field, electric flux, electric field strength, flux density. Capacitor: Expression of parallel plate capacitor, factors affecting capacitance, capacitors in series and capacitors in parallel, energy stored in an electrostatic field, problems.

Electromagnetism: Electromagnets-direction of flux produced, right-hand rule, definition-magnetic circuit, mmf, magnetic field strength, free space and relative permeability, reluctance, permeance, useful and leakage flux, simple series circuits and parallel circuit problems.

Unit 2	8 Hours

Electromagnetic Induction: Faraday's law of electromagnetic induction, Lenz's law, dynamically and statically induced emf, Fleming's right-hand rule. Simple problems. Inductance and mutual inductance, coefficient of coupling, energy stored and its applications. Force experienced by a current-carrying conductor placed in the magnetic field. Fleming's left-hand rule. Force between conductors carrying current in the same and in the opposite directions.

Unit 3	8 Hours

Single-phase Circuits: Generation of sinusoidal voltage, frequency of generated voltage, Expression of average value, RMS value, form factor and peak factor of sinusoidal voltage and current. Phasor representation of alternating quantities. Analysis of R, L and C circuits. Series and parallel R-L, R-C and R-L-C circuits with phasor diagrams, calculation of real power, reactive power, apparent power, and power factor, illustrative examples.

Unit 4	8 Hours

Three- phase Circuits: Generation of three-phase system, definition of phase sequence, star and delta (mesh) connections, relation between phase and line values of voltages and of currents of star and delta connections, considering the phasor diagram. Definition of balanced and unbalanced source and load. Power, reactive power and power factor. Problems on balanced loads. Measurement of 3-phase power by 2-wattmeter method. Expression of power factor in terms wattmeter readings. Effect of power factor on wattmeter readings. Comparison between single phase and three-phase systems.

Unit 5	8 Hours

Domestic Wiring: Service mains – overhead and underground. Types of wiring: Exposed to open space – wooden batten wiring and casing and capping. Concealed wiring: conduit wiring. Wiring for two-way and three-way control of load.

Domestic Electricity Bill: Power-rating of household connected loads. Sanctioned Load. Practical unit of measuring energy, energy expressed for commercial purposes - Unit, its definition.
Electricity bill [as per Electricity Supply Companies (escoms)]: Tariff method considered: two-part tariff. Particulars considered for billing: sanctioned load and units consumed. Calculation of electricity bill for domestic consumers.

Equipment Safety Measures: Working principles of fuse and miniature circuit breaker (MCB), the merits and demerits of fuse and MCB.

Personal safety measures: Electric shock, possible effects of shocks. Safety precautions to avoid personal shock while dealing with electricity. Permanent measure: Earthing: Pipe and plate.

Suggested Learning Resources:				
Textbooks:				
1	B.L. Theraja	A textbook of Electrical Technology	S Chand and Company	Volume-1 Reprint Edition 2014
2	D.C. Kulshreshtha	Basic Electrical Engineering	McGraw Hill	2nd Edition 2024
Reference Books:				
1.	D. P. Kothari and I. J. Nagrath	Basic Electrical Engineering	McGraw Hill	2nd edition, 3rd Reprint 2024.
2	V. K. Mehta, Rohit Mehta	Principles of Electrical Engineering & Electronics	S. Chand and Company Publications	2nd edition, 2015
3	E. Hughes	Electrical Technology	Pearson	12th Edition, 2016
4	S.K Bhattacharya	Basic Electrical and Electronics Engineering	Pearson	2nd edition, 2017.
5	Harish C Rai	Handbook of Electrical Engineering formulae	CBS Publications	2018

Web links and Video Lectures (e-resources)

www.nptel.ac.in

1. Principle of Electrical Sciences, Prof Sanjay Agrawal, Indira Gandhi National Open University.
2. Electricity and Electrical Wiring, Dr. Antara Mahanta Barua, Krishna Kanta Handiqui State Open University, Guwahati.

Teaching-Learning Process (Innovative Delivery Methods):

The following are sample strategies that educators may adopt to enhance the effectiveness of the teaching-learning process and facilitate the achievement of course outcomes.

1. Technology Integration,
2. Collaborative Learning
3. Flipped Classroom
4. Visual Based Learning

Academic Year: 2025-26	Semester: I	Scheme: P25
Course Title: **Elements of Electrical Engineering Lab**		
Course Code: **P25PSCL1062**	CIE Marks:**50**	CIE Weightage:**50%**
Teaching hours/week (L:T:P):**0:0:2**	SEE Marks:**50**	SEE Weightage:**50%**
Teaching hours of Pedagogy:**24**	Exam Hours: **3**	
Credits:**1**		

Note:

(i) The laboratory syllabus consists of PART-A and PART-B. While PART-A has 6 conventional experiments, PART-B has 6 typical open-ended experiments. The maximum mark for laboratory course is 100.

(ii) Both PART-A and PART-B are considered for CIE and SEE.

(iii) Students have to answer 1(one) question from PART-A and 1(one) question from PART-B.

(iv a) The questions set for SEE shall be from amongst the experiments under PART-A. It is evaluated for 70 marks out of the maximum 100 marks.

(iv b)The open-ended question set for SEE shall be any other open-ended question and not selected from the experiments under PART-A. It shall be evaluated for 30 marks.

(v) For continuous internal evaluation, during the semester classwork, the typical open-ended questions may be selected from PART-B or there may be any other similar question to enhance the skill of the students.

PART – A CONVENTIONAL EXPERIMENTS

(1) Verification of Ohm's law and Kirchhoff's laws.

(2) Measurement of low range resistance using voltmeter-ammeter method. Verification of resistance value using multimeter/LCR meter.

(3) Measurement of earth's resistance by 3-electrode method.

(4) Measurement of resistance, inductance, impedance and power factor using voltmeter, ammeter and wattmeter in single-phase AC circuits.

(5) Measurement of three-phase power of an inductive load by 2-wattmeter method, when the load is (a) star connected and (b) delta connected. Calculation of resistance, reactance, impedance and power factor.

(6) Wiring an appropriate electric circuit, understanding the basic principle used for 2-way and 3-way control of load.

PART – B
TYPICAL OPEN-ENDED EXPERIMENTS

Open-ended experiments are a type of laboratory activity where the outcome is not predetermined and students are given the freedom to explore, design, and conduct the experiment based on the problem statements as per the concepts defined by the course coordinator. It encourages creativity, critical thinking, and inquiry-based learning.

(1) Creation of short circuit to determine the time taken by a fuse of different length. Documenting the test data and the conclusions.

(2) Trouble shooting experiments in simple DC circuits. The trouble may be due to loose connection, faulty component leading to open circuits or short circuits. Detection of fault and the reasons for that and conclusion.

(3) Measurement of voltage between line and neutral, ground and line, ground and neutral in respect of heathy and unhealthy 3-pin socket. Conclusions arrived for the faulty wiring. Allowable ground voltage.

(4) A 12 V battery is available. It is required to obtain 3 V from the battery to charge a mobile. Create a circuit to obtain the required voltage. Specify all the ratings of the components used.

(5) Only three ammeters and standard resistance are available in the laboratory. Using the same measure the single phase power consumed by an inductive load.

(6) Only three voltmeters and standard resistance are available in the laboratory. Using the same measure the single phase power consumed by an inductive load.

Suggested Learning Resources:

Textbooks:

1. **Manual prepared for the conventional experiments by EEE Departments.**

Web links and Video Lectures (e-Resources):

(1) https://bes-iitr.vlabs.ac.in/List%20of%20experiments.html [Virtual Labs, an ministry of education (MOE) Govt. of India Initiative]

Teaching-Learning Process (Innovative Delivery Methods):

The following are sample strategies that educators may adopt to enhance the effectiveness of the teaching- learning process and facilitate the achievement of course outcomes.

(i)Demonstration with hands-on practice.

Perform the experiment step-by-step to reinforce understanding and skill after a demonstration. (ii)Problem-based learning (PBL)

Students to work individually or in groups to analyse the situation, design solutions, and present their findings.

Academic Year: 2025-26		
Course Title: Applied Physics Laboratory – Physics of Electrical & Electronics Materials (EEE Stream) **Semester: I/II**		
Course Code:	**P25PHEEL107/207**	**Credit: 01**
Teaching hours/week (L: T:P):	**0:0:2**	**CIE Marks:50**
Teaching hours of Pedagogy:	**10-12 Lab slots**	**SEE Marks:50**

Course Learning Objectives:

- Identify the principle of physics to perform and analyze laboratory experiments related to electrical and electronics pertaining to Engineering field.
- Setup or construct the circuit to perform experiments related to Engineering applications.
- Analyze the knowledge of mathematical sciences to calculate experimental result comparing with theory related to Engineering field.

PART–A : Fixed Set of Experiments	**24 Hours**

1. Determination of **dielectric constant** of the material of capacitor by Charging and Discharging Method.
2. Determination of **Magnetic Flux Density** at any point along the axis of a circular coil.
3. Determination of resistivity of a semiconductor by **Four Probe Method**.
4. Study the Characteristics of a **Photo-Diode** and to determine the power responsivity.
5. Study the frequency response of Series & Parallel **LCR circuits**.
6. Determination of **Fermi Energy** of Copper.
7. Tracing of **B-H Curve** for a ferromagnetic material.
8. **Maxwell's / Wheatstone bridge circuits** – Determination of unknown value of inductance/ resistance.
9. Experiment on **Thermo-emf / Peltier Module**.
10. **Black-Box Experiment** (Identification of basic Electronic/Electrical Components).
11. Determine the **Energy Gap** of the given Semiconductor.
12. To study the operation of a **multimeter** and use it for measuring resistance, current, voltage, and for testing diodes, transistors, and continuity in conductors.
13. Experimental Data Analysis using **Spread Sheets**.
14. Construction and Analyzing Electronic circuits using one of the following
    1. Expeyes: https://expeyes.in/
    2. Circuit Lab : https://www.circuitlab.com/
    3. Multisim : https://www.multisim.com/
    4. DCAC lab : https://dcaclab.com/
    5. Falstad : https://www.falstad.com/circuit/

Course Outcomes: On completion of this course, students should be able to:

CO1: Apply the fundamental concepts of physics by performing laboratory experiments using electronic components and circuits.

CO2: Analyze and interpret experimental data, calculate errors and compare results with theoretical predictions to validate physical laws and engineering applications.

CO3: Demonstrate the use of simulation tools such as PHET, Spreadsheets and Tracker to model, visualize and investigate physical phenomena for engineering problem-solving.

Suggested Learning Resources:

Textbooks:				
	Title	**Author**	**Year & Edition**	**Publisher**
1.	Principles of Electronics	V K Mehta & Rohit Mehta	Latest Edition	S Chand & Company
2.	Electronic Devices and Circuit Theory	Robert L Boylestad & Louis Nashelsky	11th Edition, 2015	Pearson Education
Reference Books:				
1.	Engineering Physics Laboratory Manual	H K Malik & A K Singh	2nd Edition, 2012	Viva Books
2.	Applied Physics Laboratory Manual	R Arora	Latest Edition	S Chand & Co.,
3.	Laboratory Experiments in Engineering Physics	D Chattopadhyay, P C Rakshit	Latest Edition	New Central Book Agency
4.	Practical Physics	G L Squires	4th Edition, 2001	Cambridge University Press
5.	Expeyes - Experiments for Young Engineers and Scientists	Ajith Kumar B P	2016	IUAC, New Delhi (Open Source Initiative)
6.	Spreadsheet Applications in Science Education	Thomas J Quirk	2nd Edition, 2015	Springer

Course Articulation Matrix of Applied Physics Laboratory
Physics of Electrical & Electronics Materials
(EEE Stream)

COs / POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	-	-	-	-	-	-	-	-	-
CO2	2	3	-	2	-	-	-	-	2	-	-
CO3	1	2	-	-	3	-	-	-	1	-	2

Course Title:	Communicative English – I (Common to all branches)		
Course Code:	P25ENG108	CIE Marks	50
	Theory	SEE Marks	50
		Total Marks	100
Teaching Hours/Week (L:T:P:S)	0:2:0:2	Exam Hours	02 Theory
Total Hours of Pedagogy	30 hours	Credits	01

Module-1: Introduction to Communication Skills	6 Hours
Introduction to communication, Meaning and process, Channels of communication, Elements of communication, Barriers to effective communication. Activities - Making introductions, Sharing personal information, Describing feelings and opinions.	
Module-2: Listening Skills I	**4 Hours**
Hearing vs. Listening, Types of listening, Determinants of good listening, Active listening process, Barriers to listening, Activities - Listening for pronunciation practice, listening for personal communication, Listening for communication - language functions	
Module-3: Speaking Skills I	**6 Hours**
Basics of speaking, Elements and Functions of speaking, structuring your speech, Focusing on fluency, Homographs and Signpost words. Activities – Free Speech and Pick and Speak	
Module-4: Reading Skills I	**4 Hours**
Developing reading as a habit, Building confidence in reading, improving reading skills, Techniques of reading - skimming and scanning. Activities - understanding students' attitudes towards reading, countering common errors in reading, developing efficiency in reading.	
Writing Skills I	**4 Hours**
Improving writing skills, Spellings and punctuation, Letter and Paragraph writing. Activity – Writing your personal story	
Module-5: Body Language and Presentation Skills	**6 Hours**
Elements of body language, Types, Adapting positive body language, Cultural differences in body language. 4 Ps in presentations, Overcoming the fear of public speaking, Effective use of verbal and nonverbal presentation techniques. Activity – Group presentations	
Course Outcomes: On completion of this course, students will be able to, CO1: Understanding elements of communication, barriers to effective communication, and channels of communication. CO2: Learning determinants of good listening, active listening processes, and types of listening. CO3: Mastering basics of speaking, structuring speeches, focusing on fluency, and overcoming fear of public speaking. CO4: Developing efficiency in writing, understanding common errors, and practicing letter and paragraph writing	

Textbooks and Reference Books:

1. Communication Skills by Sanjay Kumar and Pushpa Lata, Oxford University Press - 2015.
2. Everyday Dialogues in English by Robert J. Dixson, Prentice-Hall of India Ltd., 2006.
3. Developing Communication Skills by Krishna Mohan& Meera Banerjee (Macmillan)
4. The Oxford Guide to Writing and Speaking, John Seely, Oxford.

5. English Language Communication Skills - Lab Manual cum Workbook by Rajesh Kumar Singh, Cengage learning India Pvt Limited – 2018

CO – PO – PSO Matrix

CO	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11		PSO1	PSO2	PSO3
CO1								1	3		2				
CO2									3		1				
CO3								1	3		2				
CO4					1				3		2				
CO															

SEMESTER - I

Innovation and Design thinking [As per Choice Based Credit System (CBCS) & OBE Scheme]			
Course Code:	**P25IDT109**	**Credits:**	**01**
Teaching Hours/Week (L: T:P):	**1:0:1**	**CIE Marks:**	**50**
Total Number of Teaching Hours:	**-**	**SEE Marks:**	**50**

Course objectives:

1) Understand a community-based challenge and perform research to analyze the problem.
2) Generate and evaluate solution ideas based on the problem analysis and select a feasible concept for prototyping.
3) Learn and apply appropriate rapid prototyping tools and techniques (e.g., Arduino, 3D printing, Figma, On-shape, etc.) to build a Proof of Concept (PoC).
4) Demonstrate their prototype solution through a structured presentation or demo, explaining the design decisions, functionality, and potential impact.

Unit - 1 <u>Problem Definition & Ideation</u> ● Problem Immersion & 5W1H Mind Mapping ● Root Cause (Fishbone) & User Journey Mapping	6 Hrs
● Ideation (Design Sprint principles & SCAMPER).	6 Hrs
Unit - 2 <u>Product Roadmap & PoC Design</u> ● Low-Fidelity Wireframing & Information Architecture (IT) ● High-Fidelity Prototyping (IT) ● CAD Design - Part 1 (2D Sketching) (Circuit branches, Mech, Civil) ● CAD Design - Part 2 (3D Part modelling & Assembly) (Circuit branches)	6 Hrs
Unit - 3 <u>PoC Development</u> ● UI Design using Figma (IT) ● Backend Setup (Supabase) & Database Design (IT) ● Frontend Development - Flutter flow (IT) ● Basic Electronics and Simulation (Circuit branches) ● Arduino Basics (Circuit branches) ● Arduino Sensor integration (Circuit branches) ● Digital fabrication using Laser cutting and 3D printing (Mech/civil) ● woodworking (Mech/Civil)	6 Hrs
Unit - 4 <u>Prototype Demonstration</u> ● Prototype building Hackathon and Demo day.	
Students are given a community-based problem statement on which the students work in teams to analyse the problem using design thinking methodology and build PoC to showcase their solution.	

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Course Title:	¸ÁA¸ÀÌøwPÀ PÀ£ÀßqÀ		
Course Code:	P25KSK110	CIE Marks	100
Course Type (Theory/Practical /Integrated)	Theory	SEE Marks	-
		Total Marks	100
Teaching Hours/Week (L:T:P:S)	0:2:0:0	Exam Hours	01 Theory
Total Hours of Pedagogy	15 hours	Credits	00

Course Objectives : ¸ÁA¸ÀÌøwPÀ PÀ£ÀßqÀ ¥ÀoÀåzÀ PÀ°PÉAiÀÄ GzÉÝÃ±ÀUÀ¼ÀÄ:

The course (P22KSK107/207) will enable the students,

1. ¥ÀzÀ« «zÁåyðUÀ¼ÁVgÀÄªÀÅzÀjAzÀ PÀ£ÀßqÀ ¨sÁµÉ, ¸Á»vÀå ªÀÄvÀÄÛ PÀ£ÀßqÀzÀ ¸ÁA¸ÀÌøwAiÀÄ ¥ÀjZÀAiÀÄ ªÀiÁrPÉÆqÀÄªÀÅzÀÄ.
2. PÀ£ÀßqÀ ¸Á»vÀåzÀ ¥ÀæzsÁ£À ¨sÁUÀªÁzÀ DzsÀÄ¤PÀ ¥ÀÆªÀð ªÀÄvÀÄÛ DzsÀÄ¤PÀ PÁªÀåUÀ¼À£ÀÄß ¸ÁAPÉÃwPÀªÁV ¥ÀjZÀºÀ¬Ä¸ÀÄªÀÅzÀÄ.
3. «zÁåyðUÀ¼À°è ¸Á»vÀå ªÀÄvÀÄÛ ¸ÁA¸ÀÌøwAiÀÄ §UÉÎ CjªÀÅ ºÁUÀÆ D¸ÀQÛAiÀÄ£ÀÄß ªÀÄÆr¸ÀÄªÀÅzÀÄ.
4. vÁAwæPÀ ªÀåQÛUÀ¼À ¥ÀjZÀAiÀÄªÀ£ÀÄß ºÁUÀÆ CªÀgÀÄUÀ¼À ¸Á¢ü¹zÀ «µÀAiÀÄUÀ¼À£ÀÄß ¥ÀjZÀ¬Ä¸ÀÄªÀÅzÀÄ.
5. ¸ÁA¸ÀÌøwPÀ, d£À¥ÀzÀ ºÁUÀÆ ¥ÀæªÁ¸À PÀxÀ£ÀUÀ¼À ¥ÀjZÀAiÀÄ ªÀiÁrPÉÆqÀÄªÀÅzÀÄ.

¨ÉÆÃzsÀ£É ªÀÄvÀÄÛ PÀ°PÁ ªÀåªÀ¸ÉÜ (Teaching-Learning Process – General Instructions):

These are sample Strategies, which teacher can use to accelerate the attainment of the course outcomes.

1. ¸ÁA¸ÀÌøwPÀ PÀ£ÀßqÀªÀ£ÀÄß ¨ÉÆÃ¢ü¸À®Ä vÀgÀUÀwAiÀÄ°è ²PÀëPÀgÀÄ ¥Àæ¸ÀÄÛvÀ ¥ÀÄ¸ÀÛPÀ DzsÁj¹ ¨ÁèPï ¨ÉÆÃqïð «zsÁ£ÀªÀ£ÀÄß C£ÀÄ¸Àj¸ÀÄªÀÅzÀÄ. ¥ÀæªÀÄÄR CA±ÀUÀ¼À ZÁmïðUÀ¼À£ÀÄß vÀAiÀiÁj¸À®Ä «zÁåyðUÀ¼À£ÀÄß ¥ÉæÃgÉÃ¦¸ÀÄªÀÅzÀÄ ªÀÄvÀÄÛ vÀgÀUÀwAiÀÄ°è CªÀÅUÀ¼À£ÀÄß ZÀað¸À®Ä CªÀPÁ±À ªÀiÁrPÉÆqÀÄªÀÅzÀÄ.
2. EwæÃa£À vÀAvÀæeÁÕ£ÀzÀ C£ÀÄPÀÆ®UÀ¼À£ÀÄß §¼À¹PÉÆ¼ÀÎªÀÅzÀÄ – CAzÀgÉ PÀ«-PÁªÀå ¥ÀjZÀAiÀÄzÀ°è PÀ«UÀ¼À avÀæt ªÀÄvÀÄÛ ¯ÉÃR£ÀUÀ¼ÀÄ ªÀÄvÀÄÛ PÀxÉ PÁªÀåUÀ¼À ªÀÄÆ® CA±ÀUÀ½UÉ ¸ÀA§AzsÀ¥ÀlÖ zsÀé¤ avÀæUÀ¼ÀÄ, ¸ÀA¨sÁµÀuÉUÀ¼ÀÄ, FUÁUÀ¯ÉÃ EvÀgÀ «ªÀÄ±ÀðPÀgÀÄ §gÉ¢gÀÄªÀ «ªÀÄ±ÁðvÀäPÀ «µÀAiÀÄUÀ¼À£ÀÄß n¦n, rfl¯ï ªÀiÁzsÀåªÀÄUÀ¼À ªÀÄÄSÁAvÀgÀ «±ÉèÃ¶¸ÀÄªÀÅzÀÄ.
3. £À«Ã£À ªÀiÁzÀjAiÀÄ ¸Á»vÀå ¨ÉÆÃzsÀ£ÉUÉ ¸ÀA§AzsÀ¥ÀlÖ «zsÁ£ÀUÀ¼À£ÀÄß ²PÀëPÀgÀÄ «zÁåyðUÀ½UÉ C£ÀÄPÀÆ®ªÁUÀÄªÀ jÃwAiÀÄ°è C¼ÀªÀr¹PÉÆ¼Àî§ºÀÄzÀÄ.

Module-1 PÀ£ÀßqÀ ¸ÀA¸ÀÌøw ªÀÄvÀÄÛ ¨sÁµÉ PÀÄjvÁzÀ ¯ÉÃR£ÀUÀ¼ÀÄ (03 hours of pedagogy)

1. PÀ£ÁðlPÀ ¸ÀA¸ÀÌøw - ºÀA¥À £ÁUÀgÁdAiÀÄå
2. PÀ£ÁðlPÀzÀ KQÃPÀgÀt : MAzÀÄ C¥ÀÆªÀð ZÀjvÉæ – f. ªÉAPÀl¸ÀÄ§âAiÀÄå
3. DqÀ½vÀ ¨sÁµÉAiÀiÁV PÀ£ÀßqÀ – qÁ. J¯ï. wªÉÄäÃ±À ªÀÄvÀÄÛ ¥ÉÆæÃ. «. PÉÃ±ÀªÀªÀÄÆwð

Module-2 DzsÀÄ¤PÀ ¥ÀÆªÀðzÀ PÁªÀå ¨sÁUÀ

(03 hours of pedagogy)

1. ªÀZÀ£ÀUÀ¼ÀÄ: §¸À ªÀtÚ, CPÀÌªÀÄºÀzÉÃ«, C®èªÀÄ¥Àæ¨sÀÄ, DAiÀÄÝQÌ ªÀiÁgÀAiÀÄå, eÉÃqÀgÀzÁ¹ªÀÄAiÀÄå, DAiÀÄÝQÌ ®PÀÌªÀÄä.
2. QÃvÀð£ÉUÀ¼ÀÄ: CzÀjAzÉÃ£ÀÄ ¥sÀ® EzÀjAzÉÃ£ÀÄ ¥sÀ® - ¥ÀÄgÀAzÀgÀzÁ¸ÀgÀÄ
3. vÀ®ètÂ¸À¢gÀÄ PÀAqÀå vÁ¼ÀÄ ªÀÄ£ÀªÉÃ – PÀ£ÀPÀzÁ¸ÀgÀÄ
4. vÀvÀé¥ÀzÀUÀ¼ÀÄ: ¸Á«gÀ PÉÆqÀUÀ¼À ¸ÀÄlÄÖ - ²±ÀÄ£Á¼À ±ÀjÃ¥sÀPÁgÀPÀ gÀÆ¥ÀUÀ¼ÀÄ ªÀÄvÀÄÛ «¨sÀQÛ ¥ÀævÀåAiÀÄUÀ¼ÀÄ - ¸À¥ÀÛ«Ä «¨sÀQÛ ¥ÀævÀåAiÀÄ – (D, CzÀÄ, CªÀÅ, C°è) Predictive Forms, Locative Case

Module-3 DzsÀÄ¤PÀ PÁªÀå¨sÁUÀ (03 hours of pedagogy)

1. r«f gÀªÀgÀ ªÀÄAPÀÄwªÀÄä£À PÀUÀÎ¢AzÀ DAiÀÄÝ PÉ®ªÀÅ ¨sÁUÀUÀ¼ÀÄ
2. PÀÄgÀÄqÀÄ PÁAZÁt: zÁ.gÁ. ¨ÉÃAzÉæ
3. ºÉÆ¸À¨Á½£À VÃvÉ: PÀÄªÉA¥ÀÄ

Module-4 vÁAwæPÀ ªÀåQÛUÀ¼À ¥ÀjZÀAiÀÄ (03 hours of pedagogy)

1. qÁ. ¸Àgï. JA. «±ÉéÃ±ÀégÀAiÀÄå: ªÀåQÛ ªÀÄvÀÄÛ LwºÀå – J J£ï ªÀÄÆwðgÁªï
2. PÀgÀPÀÄ±À® PÀ¯ÉUÀ¼ÀÄ ªÀÄvÀÄÛ ¥ÀgÀA¥ÀgÉAiÀÄ «eÁÕ£À: PÀjÃUËqÀ ©ÃZÀ£ÀºÀ½î

Module-5 ¸ÁA¸ÀÌøwPÀ, d£À¥ÀzÀ PÀxÉ ªÀÄvÀÄÛ ¥ÀæªÁ¸À PÀxÀ£À (03 hours of pedagogy)

1. AiÀÄÄUÁ¢: ªÀ¸ÀÄzsÉÃAzÀæ
2. ªÉÄUÁ£É JA§ Vjd£À ¥ÀªÀðvÀ: ».a. ¨ÉÆÃgÀ°AUÀAiÀÄå

¸ÁA¸ÀÌøwPÀ PÀ£ÀßqÀ PÀ°PÉ¬ÄAzÀ «zÁåyðUÀ½UÉ DUÀÄªÀ ¥ÀjuÁªÀÄUÀ¼ÀÄ (Course Outcomes)

CO1: PÀ£ÀßqÀ ¨sÁµÉ, ¸Á»vÀå ªÀÄvÀÄÛ PÀ£ÀßqÀzÀ ¸ÀA¸ÀÌøwAiÀÄ PÀÄjvÀÄ CjªÀÅ ªÀÄÆrgÀÄvÀÛzÉÉ.

CO2: PÀ£ÀßqÀ ¸Á»vÀåzÀ DzsÀÄ¤PÀ ¥ÀÆªÀð ªÀÄvÀÄÛ DzsÀÄ¤PÀ PÁªÀåUÀ¼ÀÄ ¸ÁAPÉÃwPÀªÁV PÀ°vÀÄ ºÉaÑ£À N¢UÉ ªÀÄvÀÄÛ eÁÕ£ÀPÉÌ ¸ÀÆàwð ªÀÄÆqÀvÀÛzÉ.

CO3: «zÁåyðUÀ¼À°è ¸Á»vÀå ªÀÄvÀÄÛ ¸ÀA¸ÀÌøwAiÀÄ §UÉÎ CjªÀÅ ºÁUÀÆ D¸ÀQÛAiÀÄÄ ºÉZÁÑUÀÄvÀÛzÉ.

CO4: vÁAwæPÀ ªÀåQÛUÀ¼À ¥ÀjZÀAiÀÄ ºÁUÀÆ CªÀgÀÄUÀ¼À ¸Á¢ü¹zÀ «µÀAiÀÄUÀ¼À£ÀÄß w½zÀÄPÉÆAqÀÄ £Ár£À E¤ßvÀgÀ ªÀåQÛUÀ¼À §UÉÎ w½zÀÄPÉÆ¼Àî®Ä PËvÀÄPÀvÉ ºÉZÁÑUÀÄvÀÛzÉ.

CO4: ¸ÁA¸ÀÌøwPÀ, d£À¥ÀzÀ ºÁUÀÆ ¥ÀæªÁ¸À PÀxÀ£ÀUÀ¼**À** ¥ÀjZÀAiÀÄ ªÀiÁrPÉÆqÀÄªÀÅzÀÄ.

Assessment Details (both CIE and SEE)

methods of CIE – MCQ, Quizzes, Open book test, Seminar or micro project)
The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is50%. The student has to obtain a minimum of 40% marks individually both in CIE and 35% marks in SEE to pass. Theory Semester End Exam (SEE) is conducted for 50 marks (01 hour duration). Based on this grading will be awarded.

Continuous Internal Evaluation:

Two Tests each of **40 Marks (duration 01 hour)**
Two assignments each of **10 Marks**

CIE methods / question paper is designed to attain the different levels of Blomm's taxonomy as per the outcome defined for the course.

¸É«Ä¸ÀÖgï CAvÀåzÀ ¥ÀjÃPÉëAiÀÄÄ F PÉ¼ÀV£ÀAwgÀÄvÀÛzÉ – Semester end Exam

SEE will be conducted as per the scheduled timetable, with common question papers for the subject,

1. The question paper will have 25 questions. Each question is set for 02 marks.
2. SEE Pattern will be in MCQ Model for 50 marks. Duration of the exam is 01 hour.

¥ÀoÀå ¥ÀÄ¸ÀÛPÀ: University Priscribed Textbook

¸ÁA¸ÀÌøwPÀ PÀ£ÀßqÀ

qÁ. ».a. ¨ÉÆÃgÀ°AUÀAiÀÄå ªÀÄvÀÄÛ J¯ï. wªÉÄäÃ±À,
¥Àæ¸ÁgÁAUÀ, «±ÉéÃ±ÀégÀAiÀÄå vÁAvÀæPÀ «±Àé«zÁå®AiÀÄ, ¨É¼ÀUÁ«

§¼ÀPÉ PÀ£ÀßqÀ - Balake Kannada (Kannada for Usage)

Course Title:	**§¼ÀPÉ PÀ£ÀßqÀ**		
Course Code:	**P25KSK110**	**CIE Marks**	**100**
Course Type (Theory/Practical /Integrated)	**Theory**	**SEE Marks**	**-**
		Total Marks	**100**
Teaching Hours/Week (L:T:P:S)	**0:2:0:0**	**Exam Hours**	**01 Theory**
Total Hours of Pedagogy	**15 hours**	**Credits**	**00**

Course objectives: §¼ÀPÉ PÀ£ÀßqÀ ¥ÀoÀå PÀ°PÉAiÀÄ GzÉÝÃ±ÀUÀ¼ÀÄ

The course (P22KBK107/207) will enable the students,

1. To create the awareness regarding the necessity of learning local language for comfortable and healthy life.
2. To enable learners to Listen and understand the Kannada language properly.
3. To speak, read and write Kannada language as per requirement.
4. To train the learners for correct and polite conservation.
5. To know about Karnataka state and its language, literature and General information about this state.

¨ÉÆÃzsÀ£É ªÀÄvÀÄÛ PÀ°PÁ ªÀåªÀ¸ÉÜ (Teaching-Learning Process – General Instructions):

These are sample Strategies, which teacher can use to accelerate the attainment of the course outcomes.

1. §¼ÀPÉ PÀ£ÀßqÀªÀ£ÀÄß vÀgÀUÀvÉAiÀÄ°è ²PÀëPÀgÀÄ ¨ÉÆÃ¢ü¸À®Ä «nAiÀÄÄ ¸ÀÆa¹gÀÄ ¥ÀoÀå¥ÀÄ¸ÀÛPÀªÀ£ÀÄß G¥ÀAiÉÆV¸À¨ÉÃPÀÄ.
2. ¥ÀæªÀÄÄR CA±ÀUÀ¼À ZÁmïðUÀ¼À£ÀÄß vÀAiÀiÁj¸À®Ä «zÁåyðUÀ¼À£ÀÄß GvÉÛÃf¸ÀÄªÀÅzÀÄ ªÀÄvÀÄÛ vÀgÀUÀwAiÀÄ°è CªÀÅUÀ¼À£ÀÄß ZÀað¸À®Ä CªÀPÁ±À ªÀiÁrPÉÆqÀÄªÀÅzÀÄ.
3. ¥Àæw «zÁåyð ¥ÀÄ¸ÀÛPÀªÀ£ÀÄß vÀgÀUÀwAiÀÄ°è §¼À¸ÀÄªÀAvÉ £ÉÆÃrPÉÆ¼ÀÄîªÀÅzÀÄ ªÀÄvÀÄÛ ¥Àæw ¥ÁoÀ ªÀÄvÀÄÛ ¥ÀæªÀZÀ£ÀUÀ¼À ªÀÄÆ® CA±ÀUÀ½UÉ ¸ÀA§AzsÀ¥ÀlÖAvÉ ¥ÀÆgÀPÀ ZÀlÄªÀnPÉUÀ½UÉ vÉÆqÀV¸ÀvÀPÀÌzÀÄÝ.
4. rfl¯ï vÀAvÀæeÁÕ£ÀzÀ ªÀÄÄSÁAvÀgÀ EwÛÃZÉUÉ rfl°ÃPÀgÀtUÉÆArgÀÄªÀ ¨sÁµÉ PÀ°PÉAiÀÄ «zsÁ£ÀUÀ¼À£ÀÄß ¦¦n ªÀÄvÀÄÛ zÀÈ±Àå ªÀiÁzsÀåªÀÄzÀ ªÀÄÄSÁAvÀgÀ ZÀað¸À®Ä PÀæªÀÄPÉÊUÉÆ¼ÀÄîªÀÅzÀÄ. EzÀjAzÀ «zÁåyðUÀ¼À£ÀÄß vÀgÀUÀwAiÀÄ°è ºÉZÀÄÑ KPÁUÀævÉ¬ÄAzÀ ¥ÁoÀ PÉÃ¼À®Ä ªÀÄvÀÄÛ CzsÀåAiÀÄ£ÀzÀ°è vÉÆqÀUÀ®Ä C£ÀÄPÀÆ®ªÁUÀÄvÀÛzÉ.
5. ¨sÁµÁPÀ°PÉAiÀÄ ¥ÀæAiÉÆÃUÁ®AiÀÄzÀ ªÀÄÄSÁAvÀgÀ §ºÀÄ¨ÉÃUÀ PÀ£ÀßqÀ ¨sÁµÉAiÀÄ£ÀÄß PÀ°AiÀÄ®Ä C£ÀÄPÀÆ®ªÁUÀÄªÀAvÉ PÁAiÀiðZÀlÄªÀnPÉUÀ¼À£ÀÄß ªÀÄvÀÄÛ QæAiÀiÁ AiÉÆÃd£ÉUÀ¼À£ÀÄß gÀÆ¦¸ÀÄªÀÅzÀÄ.

Module-1 **(03 hours of pedagogy)**

1. Introduction, Necessity of learning a local language. Methods to learn the Kannada language.
2. Easy learning of a Kannada Language: A few tips. Hints for correct and polite conservation, Listening and Speaking Activites

3. ªÉÊAiÀÄQÛPÀ, ¸ÁéªÀÄå¸ÀÆZÀPÀ / ¸ÀA§A¢üvÀ ¸ÁªÀð£ÁªÀÄUÀ¼ÀÄ ªÀÄvÀÄÛ ¥Àæ±ÁßxÀðPÀ ¥ÀzÀUÀ¼ÀÄ –Personal Pronouns, Possessive Forms, Interrogative words

Module-2 **(03 hours of pedagogy)**

೧. £ÁªÀÄ¥ÀzÀUÀ¼À ¸ÀA§AzsÁxÀðPÀ gÀÆ¥ÀUÀ¼ÀÄ, ¸ÀAzÉÃºÁ¸ÀàzÀ ¥Àæ±ÉßUÀ¼ÀÄ ªÀÄvÀÄÛ ¸ÀA§AzsÀªÁZÀPÀ £ÁªÀÄ¥ÀzÀUÀ¼ÀÄ – Possessive forms of nouns, dubitive question and Relative nouns

೨. UÀÄt, ¥Àj²ÀiÁt ªÀÄvÀÄÛ ªÀtð§tÚ «±ÉÃµÀtUÀ¼ÀÄ, ¸ÀASÁå²ÁZÀPÀUÀ¼ÀÄ Qualitative and Colour Adjectives, Numerals

೩. PÁgÀPÀ gÀÆ¥ÀUÀ¼ÀÄ ªÀÄvÀÄÛ «¨sÀQÛ ¥ÀævÀåAiÀÄUÀ¼ÀÄ - ¸À¥ÀÛ«Ä «¨sÀQÛ ¥ÀævÀåAiÀÄ – (D, CzÀÄ, C²ÀÅ, C°è) Predictive Forms, Locative Case

Module-3 **(03 hours of pedagogy)**

೧. ZÀvÀÄyð «¨sÀQÛ ¥ÀævÀåAiÀÄzÀ §¼ÀPÉ ªÀÄvÀÄÛ ¸ÀASÁå²ÁZÀPÀUÀ¼ÀÄ – Dative Cases, and Numerals

೨. ¸ÀASÁåUÀÄt²ÁZÀPÀUÀ¼ÀÄ ªÀÄvÀÄÛ §ºÀÄªÀZÀ£À £Á²ÀÄgÀÆ¥ÀUÀ¼ÀÄ – Ordinal numerals and Plural markers

೩. £ÀÆå£À / ¤µÉÃzsÁxÀðPÀ QæAiÀiÁ¥ÀzÀUÀ¼ÀÄ ªÀÄvÀÄÛ ªÀtð UÀÄt²ÁZÀPÀUÀ¼ÀÄ – Defective / Negative Verbs and Colour Adjectives

Module-4 **(03 hours of pedagogy)**

1. C¥ÀàuÉ / M¦àUÉ, ¤zÉÃð±À£À, ¥ÉÆæÃvÁìºÀ ªÀÄvÀÄÛ MvÁÛAiÀÄ CxÀðgÀÆ¥À ¥ÀzÀUÀ¼ÀÄ ªÀÄvÀÄÛ ªÁPÀåUÀ¼ÀÄ
   Permission, Commands, encouraging and Urging words (Imperative words and sentences)
2. ¸ÁªÀiÁ£Åå ¸ÀA¨sÁµÀuÉUÀ¼À°è ¢éwÃAiÀÄ «¨sÀQÛ ¥ÀævÀåAiÀÄUÀ¼ÀÄ ªÀÄvÀÄÛ ¸ÀA¨sÀªÀ¤ÃAiÀÄ ¥ÀæPÁgÀUÀ¼ÀÄ
   Accusative Cases and Potential Forms used in General Communication
3. "EgÀÄ ªÀÄvÀÄÛ EgÀ®è" ¸ÀºÁAiÀÄPÀ QæAiÀiÁ¥ÀzÀUÀ¼ÀÄ, ¸ÀA¨sÁªÀå¸ÀÆZÀPÀ ªÀÄvÀÄÛ ¤µÉÃzsÁxÀðPÀ QæAiÀiÁ ¥ÀzÀUÀ¼ÀÄ – Helping Verbs "iru and iralla", Corresponding Future and Negation Verbs
4. ºÉÆÃ°PÉ (vÀgÀvÀªÀÄ), ¸ÀA§AzsÀ ¸ÀÆZÀPÀ ªÀÄvÀÄÛ ªÀ¸ÀÄÛ ¸ÀÆZÀPÀ ¥ÀævÀåAiÀÄUÀ¼ÀÄ ªÀÄvÀÄÛ ¤µÉÃzsÁxÀðPÀ ¥ÀzÀUÀ¼À §¼ÀPÉ – Comparative, Relationship, Identification and Negation Words

Module-5 **(03 hours of pedagogy)**

1. PÁ® ªÀÄvÀÄÛ ¸ÀªÀÄAiÀÄzÀ ºÁUÀÆ QæAiÀiÁ¥ÀzÀUÀ¼À ««zsÀ ¥ÀæPÁgÀUÀ¼ÀÄ –Differint types of forms of Tense, Time and Verbs
2. zï, -vï, -vÀÄ, -EvÀÄ, -DV, -C®è, -Uï, -Pï, EzÉ, QæAiÀiÁ ¥ÀævÀåAiÀÄUÀ¼ÉÆA¢ ¨sÀÆvÀ, ¨sÀ«µÀåvï ªÀÄvÀÄÛ ªÀvÀðªÀiÁ£À PÁ® ªÁPÀå gÀZÀ£É – Formation of past, Future and Present Tense Sentences with Verb Forms
3. Kannada Vocabulary List : ¸ÀA¨sÁµÀuÉAiÀÄ°è ¢£ÉÆÃ¥ÀAiÉÆÃV PÀ£ÀßqÀ ¥ÀzÀUÀ¼ÀÄ – Kannada Words in Conversation

Course Outcomes (Course Skill Set):

§¼ÀPÉ PÀ£ÀßqÀ ¥ÀoÀåzÀ PÀ°PÉ¬ÄAzÀ «zÁåyðUÀ½UÉ DUÀÄªÀ C£ÀÄPÀÆ®UÀ¼ÀÄ ªÀÄvÀÄÛ ¥sÀ°vÁA±ÀUÀ¼ÀÄ :

At the end of the Couse, The Students will be able

CO1: To understand the necessity of learning of local language for comfortable life.

CO2: To Listen and understand the Kannada language properly.

CO3: To speak, read and write Kannada language as per requirement.

CO4: To communicate (converse) in Kannada language in their daily life with kannada speakers.

CO5: To speak in polite conservation.

(Assessment Details – both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and aearned the credits allotted to each subject / course if the student secures not less than 35% (18 Marks out of 50) in the semester – end examination (SEE), and a minimum of 40% (40 maeks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together

Continuous Internal Evaluation:

Two Tests each of **40 Marks (duration 01 hour)**

Two assignments each of **10 Marks**

CIE methods / question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

¸É«Ä¸ÀÖgï CAvÀåzÀ ¥ÀjÃPÉëAiÀÄÄ F PÉ¼ÀV£ÀAwgÀÄvÀÛzÉ – Semester end Exam (SEE)

SEE will be conducted as per the scheduled timetable, with common question papers for the subject,

1. The question paper will have 25 questions. Each question is set for 02 marks.
2. SEE Pattern will be in MCQ Model for 50 marks. Duration of the exam is 01 hour.

PÀ£ÀßqÀ PÀ°PÉUÁV ¤UÀ¢¥Àr¹zÀ ¥ÀoÀå¥ÀÄ¸ÀÛPÀ (Prescribed Textbook to Learn Kannada)

¥ÀoÀå ¥ÀÄ¸ÀÛPÀ (Text book) :

§¼ÀPÉ PÀ£ÀßqÀ

qÁ. J¯ï. wªÉÄäÃ±À,

¥ÀæPÀluÉ: ¥Àæ¸ÁgÁAUÀ,

«±ÉéÃ±ÀégÀAiÀÄå vÁAvÀæPÀ «±Àé«zÁå®AiÀÄ, ¨É¼ÀUÁ«