Department of Applied Science & Humanities-I

LESSON PLAN

Session: Jan – May 2026

Semester: 2nd

Name:_____

University Roll Number: _____

BUDDHA INSTITUTE OF TECHNOLOGY

CL-1 Sector - 7, GIDA, Gorakhpur - 273209 (U.P)
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TIME TABLE

BUDDHA INSTITUTE OF TECHNOLOGY, GIDA, GORAKHPUR
DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I
CLASS TIME TABLE (Even Sem 2025-26)

Branch: AIML (F)	w.e.f.: 29 Jan.'2026			Semester: 2nd			ROOM NO: 216 (Block-3)	
Day / Time	**09:10 AM to 10:05 AM**	**10:05 AM to 11:00 AM**	**SHORT BREAK (15 Min.)**	**11:15 AM to 12:10 PM**	**12:10 PM to 01:05 PM**	**LUNCH BREAK (40 Min.)**	**01:45 PM to 02:40 PM**	**02:40 PM to 3:35 PM**	**3:35 PM to 4:30 PM**
Monday	FEE (SNJ)	PHY (AKS)		FME (SBL)	SS (AD)		MATHS-II (RKD)	PHY Tute F1 (AKS)	Physics Lab F1 (AKS)
								EE Tute F2 (AG)	EE Lab F2 (AG)
Tuesday	FEE (SNJ)	PHY (AKS)		FME (SBL)	SS (AD)		MATHS-II (RKD)	PHY (AKS)	FME (SBL)
Wednesday	FEE (SNJ)	PHY (AKS)		FME (SBL)	MATHS-II (RKD)		MATHS-II (RKD)	WKS Tute F1 (SBL)	Workshop Lab F1
								Eng. Lab F2	Library F2
Thursday	FEE (SNJ)	PHY (AKS)		FME (SBL)	SS (AD)		MATHS-II (RKD)	Eng. Lab F1	Library F1
								WKS Tute F2 (SBL)	Workshop Lab F2
Friday	FEE (SNJ)	PHY (AKS)		FME (SBL)	SS (AD)		MATHS-II (RKD)	EE Tute F1 (AG)	EE Lab F1 (AG)
								PHY Tute F2 (AKS)	Physics Lab F2 (AKS)
Saturday	FEE (SNJ)	PHY (AKS)		FME (SBL)	MATHS-II (RKD)				

	Subject Code	Subject Name		Lecture/Week
Academics	BAS201	Engineering Physics	Mr. Anoop Kumar Srivastava (AKS)	7
	BAS203	Engineering Mathematics-II	Dr. Rajan Kumar Dubey (RKD)	7
	BEF201	Fundamentals of Electrical Engineering	Dr. S. N. Jaiswal (SNJ)	6
	BMF201	Fundamentals of Mechanical Engineering	Mr. Shyam Bihari Lal (SBL)	7
	BAS205	Soft Skills	Ms. Akshita Dutta (AD)	4
	BAS251	Engineering Physics Lab	Mr. Anoop Kumar Srivastava (AKS)	2
	BEE251	Basic Electrical Engineering Lab	Mr. Ajay Gupta (AG)	2
	BWS251	Workshop Practice Lab	Mr. Shyam Bihari Lal (SBL)	2
	BAS255	English Language Lab	Ms. Akshita Dutta (AD)	1
Skill	-			
Placement				
Self-Learning		Library		1
			Total	**39**

(Dr. S. N. Jaiswal)
HOD (ASH-I)

EVALUATION SCHEME

Subject Code	Subject	Sessional Marks	Exam Marks	Total Marks
THEORY SUBJECTS				
BAS201	Engineering Physics	30	70	100
BAS203	Engineering Mathematics-II	30	70	100
BEE201	Fundamentals of Electrical Engineering	30	70	100
BME201	Fundamentals of Mechanical Engineering	30	70	100
BAS205	Soft Skills	30	70	100
PRACTICAL/DESIGN/DRAWING				
BAS251	Engineering Physics Lab	50	50	100
BEE251	Basic Electrical Engineering Lab	50	50	100
BWS251	Workshop Practice Lab	50	50	100
BAS255	English Language Lab	50	50	100

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (EVEN Semester)

Semester: II	**Section:** F (AIML)	**Course Code:** BAS201	**Contact Hours/week:**6+1
Course Title: Engineering Physics			**#of credits:**4
Teacher's name: Anoop Kumar Srivastava			**Designation:** Asst. Professor
SessionalMarks:30	**EndSemesterExaminationMarks:**70		**UniversityExamHours:**3hrs

Prerequisites if any:

Course Code	Course Name	Description	Before Semester
-	Eng Physics	Basic laws and Theory of Physics	10+2

Content delivery by using	Marker, Board, Book

COURSE SYLLABUS:			
Module No	**UNIT Contents**	**Hrs**	**COs**
1	Inadequacy of classical mechanics, Planck's theory of black body radiation(qualitative), Compton effect, de-Broglie concept of matter waves, Davisson and Germer Experiment, Phase velocity and group velocity, Time-dependent and time-independent Schrodinger wave equations, Physical interpretation of wave function, Particle in a one-Dimensional box.	**17**	**CO1**
2	Basic concept of Stoke's theorem and Divergence theorem, Basic laws of electricity and magnetism, Continuity equation for current density, Displacement current, Maxwell equations in integral and differential form, Maxwell equations in vacuum and in conducting medium, Poynting vector and Poynting theorem, Plane electromagnetic waves in vacuum and their transverse nature. Relation between electric and magnetic fields of an electromagnetic wave, Plane electromagnetic waves in conducting medium, Skin depth.	**17**	**CO2**
3	Fibre Optics: Principle and construction of optical fiber, Acceptance angle, Numerical aperture, Acceptance cone, Step index and graded index fibers, Fiber optic communication principle, Attenuation, Dispersion, Application of fiber. Laser: Absorption of radiation, Spontaneous and stimulated emission of radiation, Population inversion, Einstein's Coefficients, Principles of laser action, Solid state Laser (Ruby laser) and Gas Laser (He-Ne laser), Laser applications.	**16**	**CO3**
4	Superconductors: Temperature dependence of resistivity in superconducting materials, Meissner effect, Temperature dependence of critical field, Persistent current, Type I and Type II super conductors, High temperature superconductors, Properties and Applications of Super-conductors. Nano-Materials: Introduction and properties of nano materials, Basics concept of Quantum Dots, Quantum wires and Quantum well, Fabrication of nano materials – Top Down approach (CVD) and Bottom-Up approach (Sol Gel), Properties and Application of nano materials.	**15**	**CO4**
5	Coherent sources, Interference in uniform and wedge shaped thin films, Necessity of extended sources, Newton's Rings and its applications, Introduction to diffraction, Fraunhoffer diffraction at single slit and double slit, Absent spectra, Diffraction grating, Spectra with grating, Dispersive power, Resolving power, Rayleigh's criterion of resolution, Resolving power of grating.	**18**	**CO5**

COURSE OUT COMES: At the end of the Course, the Student will be able to:

CO1	**BAS201**	To explain the distribution of energy in black body radiation and to understand the difference in particle and wave nature with explanation of Compton effect and Schrodinger wave equation.
CO2	**BAS201**	To understand the concept of displacement current and consistency of Ampere's law and also the properties of electromagnetic waves in different medium with The use of Maxwell's equations.
CO3	**BAS201**	To know the functioning of optical fiber and its properties and applications. To understand the concept, properties and applications of Laser.
CO4	**BAS201**	To know the properties and applications of superconducting materials and nano materials.
CO5	**BAS201**	To understand the behavior of waves through various examples/applications of Interference and diffraction phenomenon and the concept of grating and resolving power.

Mapping of COs/PO:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BAS-201.1	3	2	-	-	-	-	-	-	-	-	-	2
BAS-201.2	3	2	-	-	-	-	-	-	-	-	-	2
BAS-201.3	3	2	-	-	-	-	-	-	-	-	-	2
BAS-201.4	3	2	-	-	-	-	-	-	-	-	-	2
BAS-201.5	3	2	-	-	-	-	-	-	-	-	-	2
Avg	3	2	-	-	-	-	-	-	-	-	-	2

Correlationlevels:1-Slight(Low) 2-Moderate(Medium) 3-Substantial(High)

LESSONPLAN

Lecture	Module	Scheduled					Conducted			
		Topic	RBT		CO mapping	Date	Topic	Date	No of Students	Sign
1.		Inadequacy of classical mechanics	L2							
2.		Planck's theory of black body radiation (qualitative)	L3							
3.		Planck's theory of black Body radiation(qualitative) ….continue	L3							
4.		Compton Effect	L3							
5.		Compton Effect continue	L3							
6.		De-Broglie concept of matter waves	L2							
7.		De-Broglie concept of matter waves…..continue	L2							
8.		**Tutorial -1**								
9.		Davisson and Germer Experiment	L3							
10.	**1**	Phase velocity	L2		**CO1**					
11.		Group velocity	L2							
12.		Schrodinger equation Time dependent	L3							
13.		Schrodinger equation Time independent	L3							
14.		Physical interpretation of wave function	L2							
15.		Particle in a one-Dimensional box.	L3							
16.		Particle in a one- Dimensional box….continue	L3							
17.		Numerical	L3							
18.		**Tutorial-2**								
19.		Basic concept of Stoke's theorem and Divergence theorem	L2							
20.		Basic laws of electricity	L2							
21.		Basic laws of magnetism	L2							

22		Continuity equation for current density	L3							
23		Displacement current	L3							
24		**Tutorial-3**								
25	**2**	Maxwell equations in integral/differential form	L3							
26		Maxwell equations in vacuum	L3		**CO2**					
27		Maxwell equations in conducting medium	L3							
28		Poynting vector, Poynting theorem	L3							
29		Plane electromagnetic waves in vacuum	L3							
30		Transverse nature of Plane Electromagnetic	L3							
31		Plane electro magnetic waves in conducting medium	L3							
32		Skin depth	L3							
33		Skin depth---continue	L3							
34		Numerical	L3							
35		**Tutorial-4**								
36		Principle of optical fibre	L2							
37		Construction of optical fibre	L2							
38		Acceptance angle , Acceptance cone	L2							
39		Step index and graded index fibres	L2							
40		Fibre optic communication principle	L2							
41		Attenuation and Dispersion	L3							
42		Application of fibre	L2							
43		**Tutorial-5**			**CO3**					
44	**3**	Laser: Absorption of radiation	L2							
45		Spontaneous and stimulated Emission of radiation	L3							
46		Population inversion, Einstein's Coefficients	L2							
47		Principles of laser action, Ruby laser	L3							
48		He-Ne laser, Laser applications	L2							
49		**Tutorial-6**								

50		Superconductors:	L2							
51		Temperature dependence of resistivity in superconducting materials	L3							
52		Temperature dependence of Critical field	L3							
53		Meissner effect, Persistent current	L3							
54		Tutorial-7								
55		Type I and Type II superconductors	L2							
56		High temperature superconductors	L2							
57	**4**	Properties and Applications of Super-conductors	L2							
58		Nano-Materials: Introduction and properties of nanomaterials	L2		**CO4**					
59		Basics concept of Quantum Dots	L2							
60		Quantum wires and Quantum well	L2							
61		Fabrication of nano materials	L2							
62		Top Down approach (CVD), Bottom-Up approach (Sol Gel	L2							
63		Properties and Application of nano materials	L2							
64		Numerical	L3							
65		**Tutorial-8**								
66		Coherent sources	L2							
67		Interference in uniform thin films: Reflected rays	L3							
68		Interference in uniform thin films: Transmitted rays	L3							
69		Interference in wedge shaped films	L3							
70		Necessity of extended sources	L3							
71		Newton's Rings and its applications	L3							
72		Newton's Rings and its applications--continue	L3							
73		**Tutorial-9**			**CO5**					
74	**5**	Introduction to diffraction	L2							
75		Fraunhoffer diffraction at single slit	L3							
76		Fraunhoffer diffraction at single slit -continue	L3							

77.		Fraunhoffer diffraction at **D**ouble slit	L3							
78.		Absent spectra, Diffraction grating	L2							
79.		Spectra with grating	L3							
80.		Dispersive power, Resolving power	L3							
81.		Rayleigh's criterion of resolution	L3							
82.		Resolving power of grating.	L3							
83.		**Tutorial-10**								

***L1–Remembering; L2–Understanding; L3–Applying; L4–Analysing; L5–Evaluating; L6 – Creating**

Syllabus for Sessional:

Class Test	**Syllabus**
CT	**Class 1-Class 30**
PRE-AKTU	**Full Syllabus**

Literature:

Text Books:

T1) Physics By S. K . Gupta, KrishnaPublication2018(978-93-88140-37-9)

Reference Books:

R1) Brij lal and N. Subramaniuam" Optics" S.Chand,978-81-21926-11-9
R2) David J. Griffith "Introduction to Electrodynamics", PHIPub.,0-13-185513-1

Course Instructor **HoD**

(ASH-I)

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (Even Semester)

LESSON PLAN

Semester: IInd	Section: F (AIML)	Course Code: BAS203	Contact Hours /week**: 6+1**
Course name: Engineering Mathematics-II			# of credits: 3
Teacher's name: Dr. Rajan Kumar Dubey			Designation: Assistant Professor
Sessional Marks: 30		End Semester Examination Marks: 70	University Exam Hours: 3

Prerequisites if any:
Basics of Differential Equation

Content delivery methods:	By Face to face delivery, Chalk & Board, Book.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**Ordinary Differential Equation of Higher Order:** Linear differential equation of nth order with constant coefficients, Simultaneous linear differential equations, Second order linear differential equations with variable coefficients, Solution by changing independent variable, Method of variation of parameters, Cauchy-Euler equation, Application of differential equations in solving engineering problems.	**16**	**CO1**
2	**Laplace Transform:** Laplace transform, Existence theorem, Properties of Laplace Transform, Laplace transform of derivates and integrals, Unit step function, Laplace transform of periodic function, Inverse Laplace transform and Convolution theorem. Application of Laplace Transform to solve ordinary differential equations and simultaneous differential equations.	**16**	**CO2**

3	**Sequences and Series:** Definition of Sequence and series with examples, Convergence of series, Tests for convergence of series, Ratio test, D' Alembert's test, Raabe's test, Comparison test. Fourier series, Half range Fourier sine and cosine series.	**13**	**CO3**
4	**Complex Variable–Differentiation**: Functions of complex variable, Limit, Continuity and differentiability, Analytic functions, Cauchy- Riemann equations (Cartesian and Polar form), Harmonic function, Method to find Analytic functions, Milne's Thompson Method, Conformal mapping, Mobius transformation and their properties.	**14**	**CO4**
5	**Complex Variable –Integration**: Complex integration, Cauchy- Integral theorem, Cauchy integral formula, Taylor's and Laurent's series, singularities and its classification, zeros of analytic functions, Residues, Cauchy's Residue theorem and its application.	**14**	**CO5**

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Applying the basic mathematical concepts for solving differential equations of higher order.
CO2	Understand and apply the concept of Laplace Transform to evaluate differential equations
CO3	Understand the concept of convergence of sequence and series. Also evaluate Fourier series.
CO4	Apply the concept of analyticity, Harmonic function and create the image of function applying conformal transformation.
CO5	Apply the concept of Cauchy Integral theorem, Cauchy Integral formula, singularity and calculus of residue to evaluate integrals.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	-	-	-	-	-	-	-	-	1
CO2	3	2	2	-	-	-	-	-	-	-	-	1
CO3	3	2	2	-	-	-	-	-	-	-	-	1
CO4	3	2	2	-	-	-	-	-	-	-	-	1
CO5	3	2	2	-	-	-	-	-	-	-	-	1
Average	3	2	2	-	-	-	-	-	-	-	-	1

	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
Average			

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

Gap in the syllabus	Elementary Approach.

Topics to be covered beyond syllabus	Some fundamentals on each topic.

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	Introduction	L3	CO1					
2		Basic Concept of first order & first degree differential equation	L3						
3		Linear differential equation of nth order with constant coefficients	L3						
4		Complementary function and Particular Integral	L3						
5		Particular Integral, when Q = e^{ax} , x^m , m is positive integer	L3						
6		Particular Integral, when Q = sin ax or cos ax , e^{ax} V	L3						
7		**Tutorial 1/Assignment 1**							
8		Particular Integral, when Q = x^m V	L3						
9		Particular Integral, when Q = tan ax , sec ax , cot ax, cosec ax, etc.	L3						
10		Cauchy – Euler equation	L3						
11		Legendre's equation	L3						
12		Example of Cauchy – Euler equation	L3						

13		Example of Legendre's equation	L3						
14		Second order linear differential equations with variable coeff.	L3						
15		Solution by changing independent variable	L3						
16		Normal form	L3						
17		Method of variation of parameters	L3						
18		Application of differential equations in solving engineering problems	L3						
19		**Tutorial 2/Assignment 2**	L3						
20	**II**	Introduction to Laplace Transformation	L3	CO2					
21		Properties of Laplace Transformation							
22		Problems	L3						
23		Laplace Transform of derivatives and Integrals	L3						
24		Example & Problems	L3						
25		Unit-Step function with example	L3						
26		Laplace Transformation of Periodic Function with Example	L3						
27		**Tutorial 3/Assignment 3**	L3						
28		Inverse Laplace Transform & Properties							
29		Convolution Theorem with statement and Proof	L3						

30		Examples and Problems	L3						
31		Application of Laplace Transformation to solve ODE	L3						
32		Examples and Problems	L3						
33		Simultaneous Differential Equation	L3						
34		Example Simultaneous Differential Equation	L3						
35		Application of Laplace Transformation to							
36		Examples and Problems	L3						
37		**Tutorial 4/Assignment 4**							
38	**III**	Introduction on Sequence and Series with Examples	L3	CO3					
39		Convergence of Series	L3						
40		Tests for Convergence of Series	L3						
41		Comparison and Ratio Test with Examples	L3						
42		**Tutorial 5/Assignment 5**							
43		D' Alembert's Test with examples	L3						
44		Rabbe's Test with examples	L3						
45		Introduction to Fourier Series with Examples.	L3						
46		Problems	L3						
47		Change of Interval	L3						
48		Half Range Fourier Sine Series	L3						

49		Examples of Half Range Fourier Sine Series	L3						
50		Half range Fourier cosine series	L2						
51		Half range Fourier cosine series	L3						
52		**Tutorial 6/Assignment 6**							
53		Introduction to Limit , Continuity	L3						
54		Differentiability of Complex variable functions with examples	L3						
55		Analytic Function with examples	L3						
56		Cauchy – Riemann equations							
57		Problem based on Cauchy – Riemann equations	L3						
58	**IV**	**Tutorial 7/Assignment 7**		CO4					
59		Introduction to Conformal mapping	L3						
60		Properties of conformal mapping.	L3						
61		Problems	L3						
62		Bilinear Transformation/ Mobius transformation with examples	L3						
63		Properties of Mobius Transformation with examples	L3						
64		Nature of Bilinear Transformation	L3						

65		Problems	L3						
66		**Tutorial 8/Assignment 8**	L3						
67		Introduction of Complex integration	L3						
68		Cauchy- Integral theorem	L3						
69		Cauchy integral formula	L3						
70		Taylor's and Laurent's series	L3						
71		singularities and its classification	L3						
72	**V**	**Tutorial 9/Assignment 9**		CO5					
73		zeros of analytic functions	L3						
74		Residues	L3						
75		Cauchy's Residue theorem and its application	L3						
76		Revision	L3						
77		**Tutorial 10/Assignment 10**	L3						
78		**Revision**							
79		**Revision**							

80		**Revision**							
81		**Revision**							
82		**Revision**							
83		**Revision**							

Class Test	**Syllabus**
CT	**Class 1-Class 34**
PUT	**Full Syllabus**

***Revised Bloom's Taxonomy (RBT) Levels:**

*L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

Faculty Recommended Book (FRB) :(As per University / Board syllabus)

Text Books

T1. Engg. Mathematics-II, N.P. Bali, University Science Press

T2. Introduction to Engg. Mathematics-II, H.K. Dass, S. Chand & Company Ltd.

Reference Books

R1. E. Kreyszig, Advance Engineering Mathematics, John Wiley & Sons, 2005.

R2. Peter V. O'Neil, Advance Engineering Mathematics, Thomson (Cengage) Learning, 2007.

Faculty Sign **HOD's sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (EVEN Semester)

LESSON PLAN

Semester: 2nd	**Section:** F (AI-ML)	**Course Code:** BEE201	**Contact Hours /week:** 6
Course name: B. Tech			**# of credits**: 3
Teacher's name: Dr. S. N. Jaiswal			**Designation:** Associate Professor
Sessional Marks: 30		**End Semester Examination Marks:** 70	**University Exam Hours:** 3

Prerequisites if any:
NA

Content delivery methods:	By Face to face delivery, Chalk & Board, Tutorial etc

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**DC Circuits** Electrical circuit elements (R, L and C), Concept of active and passive elements, voltage and current sources, concept of linearity and linear network, unilateral and bilateral elements, Kirchhoff's laws, Loop and nodal methods of analysis.	**17**	**CO1**
2	**Steady- State Analysis of Single Phase AC Circuits** Representation of Sinusoidal waveforms – Average and effective values, Form and peak factors, Concept of phasors, phasor representation of sinusoidally varying voltage and current. Analysis of single phase AC Circuits consisting of R, L, C, RL, RC, RLC combinations (Series and Parallel), Apparent, active & reactive power, Power factor, power factor improvement. Concept of Resonance in series & parallel circuits, bandwidth and quality factor. Three phase balanced circuits, voltage and current relations in star and delta connections.	**24**	**CO 2**
3	**Transformers** Magnetic materials, BH characteristics, ideal and practical transformer, equivalent circuit, losses in transformers, regulation and efficiency. Auto-transformer and three-phase transformer connections.	**12**	**CO 3**
4	**Electrical machines** **DC machines:** Principle & Construction, Types, EMF equation of generator and torque equation of motor, applications of DC motors (simple numerical problems) **Three Phase Induction Motor:** Principle & Construction, Types, Slip-torque characteristics, Applications (Numerical problems related to slip only) **Single Phase Induction motor:** Principle of operation and introduction to methods of starting, applications. **Three Phase Synchronous Machines:** Principle of operation of alternator and synchronous motor and their applications.	**21**	**CO 4**
5	**Electrical Installations** Components of LT Switchgear: Switch Fuse Unit (SFU), MCB, ELCB, MCCB, Types of Wires and Cables, Importance of earthling. Types of Batteries, Important characteristics for Batteries. Elementary calculations for energy consumption and savings, battery backup.	**10**	**CO 5**

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Apply the concepts of KVL/KCL and network theorems in solving DC circuits.
CO2	Analyze the steady state behavior of single phase and three phase AC electrical circuits.
CO3	Identify the application areas of a single phase two winding transformer as well as an auto transformer and calculate their efficiency. Also identify the connections of a three phase transformer.
CO4	Illustrate the working principles of induction motor, synchronous machine as well as DC machine and employ them in different area of applications.
CO5	Describe the components of low voltage electrical installations and perform elementary calculations for energy consumption.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	-	-	-	-	-	-	-	-	3
CO2	3	3	2	-	-	-	-	-	-	-	-	3
CO3	3	3	2	-	-	-	-	-	-	-	-	3
CO4	3	3	3	-	-	-	-	-	-	-	-	3
CO5	3	2	1	-	-	-	-	-	-	-	-	3
Average	3	2.8	2	-	-	-	-	-	-	-	-	3

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

Gap in the syllabus	Concept of Equivalent resistance, Star-Delta n/w transformation and Source transformation

Topics to be covered beyond syllabus	NOT APPLICABLE

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	CO Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1.	I	**DC Circuits:** Introduction	L1	CO1					
2.		Electrical Circuit Analysis: Concepts of network	L2						
3.		Concepts of series and parallel circuit	L2						
4.		Loop, Mesh, Close Path, Node, Branch Concept of linearity and linear network	L2						
5.		R, L and C as linear elements, Unilateral and bilateral elements	L2						
6.		Kirchhoff's Law	L2						
7.		Numerical Practice on Kirchhoff's Law	L3						
8.		Mesh Analysis	L2						
9.		Numerical Practice on Mesh Analysis	L3						
10.		Numerical Practice on Mesh Analysis	L3						
11.		**Tutorial -I**							

12.		Concept of Super Mesh	L3						
13.		Node Analysis	L2						
14.		Numerical Practice on Node Analysis	L3						
15.		Numerical Practice on Node Analysis	L3						
16.		Concept of Super Node	L3						
17.		**Tutorial -II**							
18.	**II**	**Steady- State Analysis of Single Phase AC Circuits:** AC fundamentals, Average and effective values, Sinusoidal	L2	**CO2**					
19.		Half & Full rectified Sinusoidal Wave	L3						
20.		Square and Triangular waveforms, Form and peak factors for different waves	L3						
21.		Concept of Phasors, Phasor representation of Sinusoidally varying voltage and current.	L2						
22.		Purely Resistive Circuit, Purely Inductive Circuit, Purely Capacitive Circuit	L2						
23.		Numerical Practice on Purely R, L and C Circuit	L3						
24.		Apparent, active & reactive powers and Power factor	L2						
25.		Analysis of series-RLC Circuits	L2						
26.		Numerical Practice on RL, RC series circuit.	L3						
27.		Numerical Practice on series RLC	L3						

28.		Concept of Resonance in series & parallel circuits							
29.		Analysis of parallel- RLC Circuits	L3						
30.		**Tutorial – III**							
31.		Numerical Practice on parallel RL, RC and RLC Circuit	L3						
32.		Numerical Practice on parallel RL, RC and RLC Circuit	L3						
33.		Concept of power factor improvement and its improvement	L2						
34.		Bandwidth and quality factor	L3						
35.		Numerical Practice on Bandwidth and quality factor	L3						
36.		Meaning of phase sequence, star and delta connections, balanced supply and	L2						
37.		Line and Phase voltage/current relations in 3-phase Delta and star circuit	L3						
38.		Numerical Practice on Line and Phase voltage/current relations in Delta and star circuit	L3						
39.		**Tutorial – IV**							
40.	**III**	**Transformers**: Introduction to Transformer & EMF equation	L2	**CO3**					
41.		Properties of ideal and practical transformer	L2						
42.		Concept of shifting of Impedance	L3						
43.		**Tutorial – V**							
44.		Losses & Efficiency in transformers	L3						

45.		Numerical Practice on efficiency	L3						
46.		Numerical Practice on efficiency	L3						
47.		Voltage Regulation of Transformer	L2						
48.		**Tutorial – VI**							
49.		**Electrical machines:** Construction & Working Principles of DC Machine	L2						
50.		Types of DC generator and motor	L2						
51.		DC Machine Construction, EMF equation of DC Machine	L2						
52.		Torque equation of DC motor	L3						
53.		Numerical on EMF and Torque equation	L3						
54.		Numerical on EMF of DC motors	L3						
55.	**IV**	Torque equation of DC motors	L3	**CO4**					
56.		Characteristics of DC motors	L3						
57.		Applications of DC motors and numerical	L3						
58.		Numerical on DC machine	L3						
59.		**Tutorial – VII**							
60.		Principle of operation Single Phase Induction motor	L3						
61.		Introduction to methods of starting of Single Phase Induction motor and its applications	L3						

62.		Introduction to Three Phase Induction Motor & construction	L2						
63.		Working of Three Phase Induction Motor	L2						
64.		Slip-torque characteristics of Three Phase Induction Motor applications	L2						
65.		Numerical based on slip and Pole	L3						
66.		Numerical based on synchronous speed	L3						
67.		Three Phase Synchronous Motor	L2						
68.		Three Phase Synchronous Generator	L2						
69.		**Tutorial – VIII**							
70.	**VII**	**Electrical Installations:** Components of LT Switchgear Switch Fuse Unit (SFU)	L2	**CO5**					
71.		MCB, ELCB, MCCB	L2						
72.		Types of Wires and cable	L3						
73.		Importance of Earthing	L2						
74.		Types of Earthing	L2						
75.		Earthing and its application	L2						
76.		Types of Batteries	L2						
77.		**Tutorial – IX**							
78.		Important characteristics of Batteries	L2						

79.		Characteristics of Batteries and their application	L2						
80.		Elementary calculations for energy consumption	L2						
81.		Elementary calculations for energy consumption	L2						
82.		Elementary calculations for energy saving	L2						
83.		Elementary calculations for energy saving	L2						
84.		**Tutorial – X**	L2						

Class Test	**Syllabus**
CT	**Class 1-Class 32**
PRE-AKTU	**Full Syllabus**

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

Text Books: **T1)** Ritu Sahdev, "Basic Electrical Engineering", Khanna Publishing House.
T2) J.B. Gupta, "Basic Electrical Engineering" Katson Publication.
T3) Ashfaq Husain and Haroon Ashfaq, "Basic Electrical Engineering", Dhanpat rai & Co..

Reference Books:
R1) E. Hughes, "Electrical and Electronics Technology", Pearson, 2010.
R2) L. S. Bobrow, "Fundamentals of Electrical Engineering", Oxford University Press.

Faculty Sign **HOD's sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (EVEN Semester)

LESSON PLAN

Semester: 2nd	**Section: F (AIML)**	**Course Code:** BME201	**Contact Hours /week:** 7
Course name: B. Tech			**# of credits**: 3
Teacher's name: Shyam Bihari Lal			**Designation:** Assistant Professor
Sessional Marks:30		**End Semester Examination Marks:**70	**University Exam Hours:**3

Prerequisites if any: NA

Content delivery methods:	By face to face delivery (Marker & Board), Presentation(Projector), Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1.	**Introduction to Mechanics:** Linear differential Force moment and couple, principle of transmissibility, Varignon's theorem. Resultant of force system- concurrent and non-concurrent coplanar forces, Types of supports (Hinge, Roller) and loads (Point, UDL, UVL), free body diagram, equilibrium equations and Support Reactions. **Normal and shear Stress**, strain, Hooke's law, Poisson's ratio, elastic constants and their relationship, stress-strain diagram for ductile and brittle materials, factor of Safety.	21	1
2.	**I C Engine:** Basic definition of engine and Components, Construction and Working of Two stroke and four stroke SI & CI engine, merits and demerits, scavenging process; difference between two-stroke and four stroke IC engines and SI and CI Engines. **Electric vehicles** and hybrid vehicles: Components of an EV, EV batteries, chargers, drives, transmission and power devices. Advantages and disadvantages of EVs. Hybrid electric vehicles, HEV drive train components, advantages of HV.	14	2
3.	**Refrigeration:** Refrigerating effect, Ton of Refrigeration; Coefficient of performance, methods of refrigeration, construction and working of domestic refrigerator, concept of heat pump. **Air-Conditioning:** Its meaning and application, humidity, dry bulb, wet bulb, and dew point temperatures, comfort conditions, construction and working of window air.	14	3
4.	**Introduction:**Fluids properties, pressure, density, dynamic and kinematic viscosity, specific gravity, Newtonian and Non-Newtonian	16	4

	fluid, Pascal's Law and Continuity Equation. **Working principles of hydraulic turbines** (Pelton Wheel and Francis) & pumps (Centrifugal and Reciprocating) and their classifications and hydraulic lift.		
5.	**Introduction to Measurement:** Concept of Measurement, Error in measurements, Calibration, measurements of pressure (Bourdon Tube Pressure and U-Tube Manometer), temperature(Thermocouple and Optical Pyrometer), mass flow rate (Venturi Meter and Orifice Meter), strain (Bonded and Unbonded Strain Gauge), force (Proving Ring) and torques (Prony Brake Dynamometer); Concepts of accuracy, precision and resolution. **Introduction to Mechatronic Systems:** Evolution, Scope, Advantages and disadvantages of Mechatronics, Industrial applications of Mechatronics, Introduction to autotronics, bionics, and avionics and their applications. Sensors and Transducers. **Overview of Mechanical Actuation System:**Kinematic Chains, Cam, Ratchet Mechanism, Gears and its type, Belt, Bearing. Hydraulic and Pneumatic Actuation Systems: Overview, Pressure Control Valves, Direction Control Valves, Rotary Actuators, Accumulators and Pneumatic, Sequencing Problems.	17	5

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Understand the concept of force and its effect on a rigid body, stress-strain, and factor of safety.
CO2	Understand the basic component and working of internal combustion engines, electric and hybrid vehicles.
CO3	Understand the concept of VCRS, and Psychrometric terms.
CO4	Understand fluid properties, conservation laws, hydraulic machinery and used in real life.
CO5	Understand the working principle of different measuring instrument with the knowledge of accuracy, error and calibration. Also understand concept of mechatronics with their advantages, scope and Industrial application, the different types of mechanical actuation system.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	-	-	-	-	-	-	-	-	1
CO2	3	2	2	-	-	-	2	-	-	-	-	1
CO3	3	2	2	-	-	-	1	-	-	-	-	1
CO4	3	2	2	-	-	-	-	-	-	-	-	1
CO5	3	2	2	-	-	-	-	-	-	-	-	1
Average	3	2	2	-	-	-	0.6	-	-	-	-	1

	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
Average			

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

Gap in the syllabus	Study of beam, Psychrometric chart, Bernoulli's principle.

Topics to be covered beyond syllabus	

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1.	I	Force & its characteristics, Basic law of mechanics.	L2	CO1					
2.		Resolution of forces and it resultant.	L2						
3.		Basic Numerical problems.	L3						
4.		Law of transmissibility, Lami's theorem.	L2						
5.		Basic Numerical problems.	L3						
6.		Moment and couple, Varignon's theorem.	L2						
7.		Basic Numerical problems.	L3						
8.		Basic Numerical problems.	L3						
9.		Basic Numerical problems.	L3						
10.		**Tutorial-1**							
11.		Type of beam and load, UDL, UVL, Point load.	L2						
12.		Free body diagram (FBD).	L2						
13.		Equilibrium equations.	L2						
14.		Beam support reactions.	L2						
15.		Basic Numerical problems.	L2						

16.		Basic Numerical problems.	L2						
17.		Normal and shear Stress, strain, Hooke's law, Poisson's ratio, elastic constants and their relationship	L2						
18.		Basic Numerical problems.	L3						
19.		Stress strain diagram for ductile &	L2						
20.		Basic Numerical problems.	L3						
21.		Basic Numerical problems.	L3						
22.		**Tutorial-2**							
23.	**II**	Basic concept of IC engine & its components.	L2	CO2					
24.		Construction and working of four stroke SI engine.	L2						
25.		Construction and working of four stroke CI engine.	L2						
26.		Construction and working of two stroke SI engine.	L2						
27.		Construction and working of two stroke CI engine.	L2						
28.		Comparison between SI & CI, two stroke & four stroke IC engine.	L2						
29.		Scavenging process, merit and demerits of SI engine.	L2						
30.		Merit and demerits of CI engine.	L2						
31.		**Tutorial-3**	L2						
32.		Basic concept and component of electric vehicle (EV)	L2						
33.		Energy storage device (batteries)	L2						
34.		Batteries management system.	L2						

35.		Basic concept and component of hybrid electric vehicle (HEV)	L2						
36.		Parallel and series hybrid electric vehicle	L2						
37.		Advantages and disadvantages of EV and HEV	L2						
38.		**Tutorial-4**	L2						
39.		Refrigerating effect and ton of refrigeration.	L2						
40.		Basic concept of heat engine, heat	L2						
41.		Coefficient of performance (COP)	L2						
42.		Numerical on COP	L3						
43.		Method of refrigeration.	L2						
44.		Concept of vapour compression refrigeration system (VCRS).	L2						
45.		Construction and working of domestic refrigerator.	L2						
46.	**III**	Basic numerical problem on COP.	L3	CO3					
47.		Basic numerical problem on COP.	L3						
48.		**Tutorial-5**							
49.		Concept of air conditioning and its application.	L2						
50.		Refrigerants and its type.	L2						
51.		Psychrometric terms, DBT, WBT, DPT, comfort temperature.	L2						
52.		psychrometric chart	L2						
53.		Construction and working of domestic window type air	L2						

		conditioner.							
54.		**Tutorial-6**							
55.		Properties of fluid	L2						
56.		Dynamic and kinematic viscosity	L2						
57.		Newtonian and non-Newtonian fluid	L2						
58.		Pascal's law	L2						
59.		Numerical on Pascal's law	L3						
60.		Continuity equation	L2						
61.		Numerical on Continuity equation	L3						
62.		**Tutorial-7**							
63.	**IV**	Working principle of hydraulic turbine and classification.	L2	CO4					
64.		Construction and working of Pelton wheel	L2						
65.		Construction and working of Francis turbine.	L2						
66.		Working principle of hydraulic Pump and classification.	L2						
67.		Construction and working of centrifugal pump, Construction and working of reciprocating pump.	L2						
68.		Construction and working of hydraulic lift.	L2						
69.		**Tutorial-8**							
70.	**V**	Concept of measurement, error in measurement, and calibration.	L2	CO5					
71.		Measurement of pressure.	L2						

		Construction and working of Bourdon tube.							
72.		Measurement of pressure Construction and working of U tube.	L2						
73.		Measurement of temperature. Construction and working of Thermocouple. Measurement of temperature. Construction and working of Optical Pyrometer.	L2						
74.		Measurement of mass flow rate. Construction and working of Venturi Meter.	L2						
75.		Measurement of strain. Construction and working of bonded strain gauge.	L2						
76.		Measurement of force. Construction and working of Proving ring.	L2						
77.		Measurement of torque. Construction and working of Prony brake dynamometer.	L2						
78.		**Tutorial-9**							
79.		Introduction to mechatronics system. Its evolution, scope.	L2						
80.		Advantages and disadvantages, Industrial application of Mechatronic system.	L2						
81.		Sensors and transducers. Autotronics, Bionics, & Avionics.	L2						
82.		Cam mechanism. Introduction to Ratchet.	L2						
83.		**Tutorial-10**							

Class Test	Syllabus
CT-01	Class 1-Class 33
PRE-AKTU	Full Syllabus

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

Text Books

1. Fundamentals of mechanical engineering & mechatronics: V.K. Gupta , New Age Publications
2. Fundamentals of mechanical engineering & mechatronics: Dr. D. S. Kumar, Katson Book.

Reference Book

3. Basic Mechanical Engineering, G Shanmugam, S Ravindran, McGraw Hill
4. Engineering Mechanics: S. S. Bhavikatti, New Age International Publisher.
5. Engineering Mechanics: Dr. D. S. Kumar, Katson Book.
6. Basic Mechanical Engineering, M P Poonia and S C Sharma, Khanna Publishers.
7. Mechatronics : Principles, Concepts and Applications, Nitaigour Mahalik, McGraw Hill
8. Mechanical Measurements & Control, Dr. D. S. Kumar.

Faculty Sign **HOD's sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (Even Semester)

LESSON PLAN

Semester: II	Section: F (AIML)	Course Code: BAS205	Contact Hours /week**:**
Course name: Soft Skills			# of credits: 3
Teacher's name:**Ms. Akshita Dutta**			Designation: AP
Sessional Marks:30		End Semester Examination Marks:70	University Exam Hours: 3

Prerequisites if any:
NA

Content delivery methods:	By Face to face delivery, Presentation, Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	Unit-1 Applied Grammar and Usage: Transformation of Sentences: Simple, Compound and Complex, Subjectverb agreement, Prefix and Suffix, Antonyms, Synonyms, Homophones, Homonyms, New word Formation, Select word power	8	CO1
2	Unit-2: Listening and Speaking Skills Active Listening :Meaning and Art of Listening, Traits of a Good Listener, Listening modes, listening and Note taking, Types of Listening, Listening Techniques using Ted Talk Audio listening with script reading, Pronunciation; Speaking style ; content and sequencing.	8	CO2
3	Unit-3: Reading and Writing Skills: Reading style: Skimming; Scanning; Churning & Assimilation, Effective writing tools and methods: Inductive Deductive; Exposition; Linear; Interrupted; Spatial & Chronological etc, Official and Business Letter writing, Agenda, Notices, Minutes of meeting,	8	CO3
4	Unit-4: Presentation and Interaction Skills Introduction to oral communication, Nuances and Modes of Speech Delivery, Public speaking: confidence, clarity, and fluency, Individual Speaking: Elements; Non verbal Communication: Kinesics, Paralinguistic features of Voice-Dynamics, Proxemics, Chronemics, and Presentation Strategies: planning, preparation, organization, delivery	8	CO4
5	Unit-5: Work- place skills: Leadership qualities; Impact, Communication skills for Leaders: Listening and Responding; Mental health at work place: Managing Stress; Techniques: Application of 4 A's; Avoid; Alter; Access; Adapt	8	CO5

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Write professionally In simple and correct English.
CO2	Demonstrate active listening with comprehension, and the ability to write clear and well-structured emails and proposals.
CO3	Learn the use of correct body language 'nd tone of voice to enhance communication.
CO4	Acquire the skills necessary to communicate effectively and deliver presentations with clarity and impact
CO5	Understand and apply some important aspects of core skills, like Leadership and stress management.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	1	1	1	1	-	1	1	1	1
CO2	1	1	1	2	1	-	-	-	1	1	1	1
CO3	2	2	1	2	1	-	-	-	-	-	1	1
CO4	2	1	1	1	1	1	-	-	-	-	1	1
CO5	1	1	1	2	1	-	-	-	1	1	1	1
Average	1.4	1.2	1.0	1.6	1.0	0.4	0.2	-	0.6	0.6	1.2	1.4

	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	2	1	1
CO3	2	1	1
CO4	2	1	1
CO5	2	1	1
Average	2	1	1

Correlation levels: **1-Slight (Low)** **2-Moderate (Medium)** **3-Substantial (High)**

Gap in the syllabus	Topics related to disintegration of structures and Irrigation Engineering.

Topics to be covered beyond syllabus	Bridge topics which are help to solve different competitive Exam such as GATE,IES and State AE etc.

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	**Unit-1** **Applied grammar and usage** Transformation of sentences (intro)	L2						
2		Sentence	L2						
3		Simple	L2						
4		Compound	L2						
5		Complex	L2						
6		Exercises	L2						
7		Subject verb agreement	L2						
8		Subject verb agreement	L2						
9		Prefix and suffix							
10		Advanced vocabulary	L2						
11		Antonyms	L2						

12		Synonyms	L2						
13		Homophones and homonyms	L3						
14		New word formation	L2						
15		Select word power	L2						
16	II	**Unit -2** **Listening and speaking skills** Meaning and art of listening	L2						
17		Traits of a good listener	L2						
18		Listening modes	L2						
19		Listening and note taking							
20		Types of listening	L2						
21		Listening techniques using TED TALK	L2						
22		Pronunciation	L3						
23		Speaking skills	L2						
24	III	Types of speaking methods	L2						
25		Content and sequencing							

26		**Unit -3** **Reading and writing skills** Introduction	L2						
27		Reading styles	L2						
28		Skimming, scanning	L2						
29		Churning and assimilation	L2						
30		Writing skills	L2						
31		Effective writing tools	L2						
32		Methods of writing	L2						
33		Inductive, deductive	L2						
34		Exposition,linear	L2						
35	IV	Interrupted, spatial	L2						
36		Chronological							
37		Official letter writing	L3						
38	V	Business letter writing	L3						
39		Agenda	L3						
40		Notice	L3						
41		Minutes of meeting	L3						
42		**Unit-4** **Presentation and interaction skills** Introduction							
43		Oral communication	L2						

44		Nuances and modes of speech delivery	L2						
45		Speech delivery methods	L2						
46		Public speaking	L2						
47		Individual speaking (intro)	L2						
48		Elements of individual speaking	L2						
49		Non-verbal communication	L2						
50		Kinesics	L2						
51		Proxemics	L2						
52		Chronemics	L2						
53		Paralinguisticsfeatures of voice dynamics	L2						
54		Presentation (intro)	L2						
55		Presentation strategies	L3						
56		Planning & preparation	L3						
57		Organization & delivery	L3						
58		**Unit-5 Work-place skills** Leadership qualities	L2						
59		Communication skills for leaders	L2						
60		Mental health at work place	L2						
61		Managing stress techniques	L2						
62		4 A’s of stress management	L3						

CT- 1	**1-30**
PUT	**Full Syllabus**

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

Prescribed Books:

1. Technical Communication, (Second Ed.); O.U.P., Meenakshi Raman &S.Sharma New Delhi,2011.
2. Business Communication for Managers, PayalMehra, Pearson, Delhi, 2012.
3. Personality Development, Harold R. Wallace et. Al, Cengage Learning India Pvt. Ltd; New Delhi2006.
4. Practical Communication by L.U.B. Pandey; A.I.T.B.S. Publications India Ltd.; KrishanNagar,Delhi 2013.
5. Personality Development & Soft Skills, BarunK.Mitra, Oxford University Press, New Delhi, 2012.
6. Public Speaking, William S. Pfeiffer, Pearson, Delhi, 2012.
7. Human Values, A.N. Tripathi, New Age International Pvt. Ltd. Publishers New Delhi, 2005.
8. English Grammar & Usage, R.P.Sinha, Oxford University Press, New Delhi, 2005.
9. English Grammar & Composition, Wren & Martin S.Chand& Co Ltd, New Delhi, 2009.
10. Soft Skills for Everyone. Jeff Butterfield, Cengage Learning India Pvt. Ltd; New Delhi 2017.

Faculty Sign **HOD's sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (Even Semester)

Experiment No.	Physics Lab BAS251
1	To determine the wave length of sodium light by Newton's ring experiment.
2	To determine the specific rotation of cane sugar solution using Polari meter
3	To determine the wave length of He-Ne laser light using single slit diffraction
4	To find the thickness of the thin wire using wedge Shape film.
5	To determine the energy band gap of a given Semiconductor material
6	To study the resonance condition of a series LCR circuit.
7	To verify Stefan's law by electric method
8	To study Hall Effect and determine Hall coefficient carrier density and mobility of a given semiconductor material using Hall effect setup
9	To draw hysteresis (B-H curve) of a specimen in the form Of a transformer and to determine it shysters is loss.
10	To determine the variation of magnetic field with the distance along the axis of a current Carrying coil and estimate the radius of the coil.

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (Even Semester)

Experiment No.	Basic Electrical Engg. Lab BEE251
1	Verification of Kirchhoff's laws
2	Measurement of power and power factor in a single phase ac series inductive circuit andstudy improvement of power factor using capacitor
3	Study of phenomenon of resonance in RLC series circuit and obtain resonant frequency.
4	Connection and measurement of power consumption of a fluorescent lamp (tube light).
5	Measurement of power in 3- phase circuit by two-wattmeter method and determinationofits power factor for star as well as delta connected l
6	Determination of parameters of ac single phase series RLC circuit
7	Determination of (i) Voltage ratio (ii) polarity and (iii) efficiency by load test of a SinglePhase Transformer
8	Determination of efficiency of a dc shunt motor by load test
9	To study running and speed reversal of a three phase induction motor and record speedin both directions.
10	Demonstration of cut-out sections of machines: dc machine, three phase inductionmachine, single-phase induction machine and synchronous machine.

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (Even Semester)

Experiment No.	Workshop Practice Lab BWS251
1	To measure the diameter of a given object Use ofVernier Calipers
2	To measure the diameter of by Use of Micrometer(Screw-Gauge).
3	To study tools and operation in machine shop.
4	To make a job on lathe machine as per given drawing.
5	To study of tools and operation in fitting shop.
6	To make a 90° angle, cutting, drilling & taping.
7	To study of tools and operation in Carpentry Shop.
8	To make a mortise & Ten on joint as per given drawing.
9	To study of tools and operation in welding shop.
10	To makes a butt joint using arc welding as per Given drawing.

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCE & HUMANITIES-I

ACADEMIC YEAR 2025-26 (Even Semester)

Experiment No.	English Language Lab BAS255
1	Group Discussion: Practical based on Accurate and Current Grammatical Patterns.
2	Conversational Skills for Interviews under suitable Professional Communication Lab conditions with emphasis on Kinesics.
3	Communication Skills for Seminars/Conferences/Workshops with emphasis on Paralinguistic/Kinesics
4	Presentation Skills for Technical Paper/Project Reports/ proposals based on proper Stress and Intonatio Mechanics
5	Official/Public Speaking practice sessions based on suitable Rhythmic Patterns
6	Theme Presentation/ Keynote Presentation based on correct methodologies of argumentation
7	Individual Speech Delivery/Conferencing with skills to defend Interjections/Quizzes.
8	Argumentative Skills/Role Play Presentation with Stress and Intonation
9	Comprehension Skills based on Reading and Listening Practical's on a model Audio
10	Startup presentations, Video portfolio, Extempore, Role play, Just a Minute (JAM) etc.