

B.E.

OMOUS INSTITUTION UNDER VISVESVARATA TECHNOLOGICAL

Approved by AICTE, 2(f) and 12(B) recognized by UGC, New Delhi

anagiri Shikshana Trust (R)

Accredited by NAAC, Accredited by NBA, Certified by ISO 9001 - 2015



nology

Autonomous Scheme & Syllabus

First Year - ECE & EEE (EE Stream)

SCHEME - 2023

I and II Semester



SERVICE TO MANKIND IS SERVICE TO GOD

His Divine Soul Padmabhushana Sri Sri Sri Dr. Balagangadharanath MahaSwamiji Founder President, Sri Adichunchanagiri Shikshana Trust®



Belief in God is not ignorance or illusion. It is a belief that there is an unseen, ineffable Power that transcends all our powers of muscles, mind and lives.



His Holiness Parama Pujya Sri Sri Sri Dr. Nirmalanandanatha MahaSwamiji President, Sri Adichunchanagiri Shikshana Trust ®

True richness is the generosity of heart. Cultivate it and work to help the less fortunate ones in life.

Revered Sri Sri Dr. Prakashanatha Swamiji Managing Director, BGS & SJB Group of Institutions & Hospitals



People and prosperity follow the path which the leaders take. So the elders and leaders should make sure that they give the right lead and take the right path.





CET Code: E115 | COMED-K: E107 | MBA: B288 | M.Tech: T871

Syll	Syllabus Book for EE Stream (ECE and EEE)											
	Syllabu	is for 1 st and 2 nd Semester										
The syllabus, scher The syllabus, scher The updates will b	The syllabus, scheme and guidelines are provided in detail. The syllabus, scheme and guidelines are subjected to changes if any needed. The updates will be done and intimated timely.											
The Syllabus book	is available c	on <u>www.sjbit.edu.in</u>										
For any queries, j	olease write t	academicdean@sjbit.edu.in										
UPDATES												
Release / RevisionDateRemarksBelasse00/00/2022Pending syllabus of 2 nd SEM AEC course												
Release	09/09/2023	Pending syllabus of 2 nd SEM AEC course 23CSAE21/23EEAE21/ 23CVAE21/23MEAE21										
Revision 01	02/11/2023	Updated with pending course syllabus										
Revision 02	06/11/2023	More clarity in CIE & SEE guidelines of CAED course (typographical mistakes are removed) Formatting for better appearance.										
Revision 03	18/11/2023	Retitling of Course titles of Mathematics, Physics, chemistry, Engg. Core courses from all departments										
Revision 04	23/08/2024	Mentioning NCMC course Titles										



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AUTONOMOUS SCHEME (Tentative) UG - BE First Year ECE/EEE

S	CHEN	ME:	2023	SEM:		Da	te of Revision:				23-08-2024					
	e	e			pt.	ept		Tea	ching	Hrs/V	Veek		Exa	minati	ons	
GT	Iyp	typ s			Dej	g de	ts	L	Т	Р	0	ß		SEE		S
SL No	Course 7	Course Serie	Course Code	Course Title	Teaching	QP setting	Credi	Lecture	Tutorial	Practical	PBL/ABL/ SL/othrs.	CIE Mark	Dur.	Th. Mrks	Lab. Mrks.	Tot. Mark
	PHYS	ICS C	CYCLE													
1	BSC	1	23MAT11B	Fundamentals of Infinite series, Calculus & Linear Algebra	Maths	Maths	4	3	2	0		50	03	50	-	100
2	IBSC	1	23PHI12B	Physics of Condensed Matter	PHY	PHY	4	2	2	2		50	03	50	-	100
3	ESC	1	23EET13B	Basic Electrical Engineering	EEE	3	3	0	0		50	03	50	-	100	
4	ESC	2	23MET14B	Integrated Mechanical Systems	ME	ME	3	3	0	0		50	03	50	-	100
5	IESC	1	23CPI15B	Programming in C	CSE^	CSE^	4	3	0	2		50	03	50	-	100
6	HSMC	1	23ENGH01	Professional Skills in English	HSS	HSS	PP/NP	0	1	1		50	-	0	-	50
7	HSMC	2	23ENVH02	Environmental studies	HSS	HSS	1	1	0	0	@	50	02	50	-	100
8	NCMC	1	23PDSN01	Skills for Success: An approach to aptitude and soft skills	I.E.	I.E.	PP/NP	0	0	0	2	50	-	0	-	50
9	AEC	1	23EEAE11	WEB 2.0 (HTML, CSS & JAVASCRIPT)	I.E.	I.E.	1	1	0	0	2	50	02	50	-	100
					SEN	/I-I Total	20	16	5	7	4	450		350	0	800
	CHEMI	STRY	CYCLE							-						
1	BSC	2	23MAT11B	Fundamentals of Infinite series, Calculus & Linear Algebra	Maths	Maths	4	3	2	0		50	03	50	-	100
2	IBSC	2	23CHI12B	Functional materials and materials chemistry	CHE	CHE	4	2	2	2		50	03	50	-	100
3	ESC	3	23ECT13B	Basic Electronics	ECE	ECE	3	3	0	0		50	03	50	-	100
4	ESC	4	23CVT14B	Basics of Civil Engineering	CV	CV	3	3	0	0		50	03	50	-	100
5	IESC	2	23CDI15B	Engineering Visualization	CV/ME	CV/ME	4	3	0	2		50	03	0	50	100
6	HSMC	3	23SKAH03/ 23BKAH04	Samskrutika Kannada / Balake Kannada	HSS	HSS	PP/NP	1	0	0		50	-	0	-	50
7	HSMC	4	23CIPH05	Constitution of India & Professional Ethics	HSS	HSS	1	1	0	0	@	50	02	50	-	100
8	NCMC	1	23PDSN01	Skills for Success: An approach to aptitude and soft skills	I.E.	I.E.	PP/NP	0	0	0	2	50	-	0	-	50
9	AEC	1	23EEAE11	WEB 2.0 (HTML, CSS & JAVASCRIPT)	I.E.	I.E.	1	1	0	0	2	50	02	50	-	100
	SEM-I Total 20 17 4 6 4 450 300 50 800															
BSC	- Basic S	Scienc	e Course; IBSC	C - Integrated Basic Science Course; ESC - Engineering Scie	nce Cours	e; IESC -	Integrate	ed Eng	ineerin	ng Scie	ence Co	urse; H	SMC -	Humar	nities, S	ocial

sciences & Management Course; AEC - Ability Enhancement Course. {CSE^ --> CSE Stream} {@ - Compulsory one activity during the semester} {I.E - Industry Expert}

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AUTONOMOUS SCHEME (Tentative) UG - BE First Year ECE/EEE

S	CHEN	AE:	2023	SEM:		Da	te o	f <u>Re</u>	visi	o <u>n:</u>	23-08-2024					
		1)			ot.	pt		Tea	ching	Hrs/V	Veek		Exa	ıminati	ions	
	[yp	type s			Del	g de	ts	L	Т	Р	0	SS		SEE	1	S
SL No	Course]	Course 1 Serie	Course Code	Course Title	Teaching	QP setting	Credi	Lecture	Tutorial	Practical	PBL/ABL/ SL/othrs.	CIE Marl	Dur.	Th. Mrks	Lab. Mrks	Tot. Marl
	CHEMI	STR Y	CYCLE													
1	BSC	2	23MAT21B	Advanced Calculus and Numerical Methods	Maths	Maths	4	3	2	0		50	03	50	-	100
2	IBSC	2	23CHI22B	Functional materials and materials chemistry	CHE	CHE	4	2	2	2		50	03	50	-	100
3	ESC	3	23ECT23B	Basic Electronics	ECE	ECE	3	3	0	0		50	03	50	-	100
4	ESC	4	23CVT24B	Basics of Civil Engineering	CV	CV	3	3	0	0		50	03	50	-	100
5	IESC	2	23CDI25B	Engineering Visualization	CV/ME	CV/ME	4	3	0	2		50	03	0	50	100
6	HSMC	3	23SKAH03/ 23BKAH04	Samskrutika Kannada / Balake Kannada	HSS	HSS	PP/NP	1	0	0		50	-	0	-	50
7	HSMC	4	23CIPH05	Constitution of India & Professional Ethics	HSS	HSS	1	1	0	0	@	50	02	50	-	100
8	NCMC	2	23PDSN02	Skilful Harmony: Bridging aptitude and soft skills	I.E.	I.E.	PP/NP	0	0	0	2	50		0	-	50
9	AEC	2	23EEAE21	Introduction to Python programming	I.E.	I.E.	1	1	0	0	2	50	02	50	-	100
					SEM	I-II Total	20	17	4	6	4	450		300	50	800
	PHYS	ICS C	CYCLE													
1	BSC	1	23MAT21B	Advanced Calculus and Numerical Methods	Maths	Maths	4	3	2	0		50	03	50		100
2	IBSC	1	23PHI22B	Physics of Condensed Matter	PHY	PHY	4	2	2	2		50	03	50	-	100
3	ESC	1	23EET23B	Basic Electrical Engineering	EEE	EEE	3	3	0	0		50	03	50	-	100
4	ESC	2	23MET24B	Integrated Mechanical Systems	ME	ME	3	3	0	0		50	03	50	-	100
5	IESC	1	23CPI25B	Programming in C	CSE^	CSE^	4	3	0	2		50	03	50	-	100
6	HSMC	1	23ENGH01	Professional Skills in English	HSS	HSS	PP/NP	0	1	1		50	-	0	-	50
7	HSMC	2	23ENVH02	Environmental studies	HSS	HSS	1	1	0	0	@	50	02	50	-	100
8	NCMC	2	23PDSN02	Skilful Harmony: Bridging aptitude and soft skills	I.E.	I.E.	PP/NP	0	0	0	2	50	-	0	-	50
9	AEC	2	23EEAE21	Introduction to Python programming	I.E.	I.E.	1	1	0	0	2	50	02	50		100
					SEM	I-II Total	20	16	5	7	4	450		350	0	800
							_				_					~

BSC - Basic Science Course; IBSC - Integrated Basic Science Course; ESC - Engineering Science Course; IESC - Integrated Engineering Science Course; HSMC - Humanities, Social sciences & Management Course; AEC - Ability Enhancement Course. {CSE^ --> CSE Stream} {@ - Compulsory one activity during the semester} {I.E - Industry Expert.}







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	Table of Contents											
Sl. No	Subject code	Subject	Pg No									
1	23MAT11B	Fundamentals of Infinite series, Calculus & Linear Algebra	1 to 3									
2	23MAT21B	Advanced Calculus and Numerical Methods	4 to 6									
3	23EET13B/23EET23B	Basic Electrical Engineering	7 to 9									
4	23ECT13B/23ECT2 3B	Basic Electronics	10 to 12									
5	23MET14B/24B	Integrated Mechanical Systems	13 to 15									
6	23CVT14B/24B	Basics of Civil Engineering	16 to 18									
7	23CPI15B/25B	Programming in C	19 to 22									
8	23CDI15B/25B	Engineering Visualization	23 to 25									
9	23PHI12B/22B	Physics of Condensed Matter	26 to 29									
10	23CHI12B/22B	Functional materials and materials chemistry	30 to 33									
11	23BKAH04	Balake Kannada (Kannadafor Usage)	34 to 36									
12	23SKAH03	SamskrutikaKannada	37 to 38									
13	23ENGH01	Professional Skills and English	39 to 41									
14	23CIPH05	Constitution of India & Professional Ethics	42 to 44									
15	23ENVH02	Environmental Studies	45 to 47									
16	23PDSN01	Skills for Success: An approach to Aptitude and Soft Skills	48 to 50									
17	23PDSN02	Skilful Harmony: Bridging Aptitude and Soft skills	51 to 52									
18	23EEAE11	Skill Development Course – 1: WEB 2.0 (HTML, CSS & JAVASCRIPT)	53 to 55									
19	23EEAE21	Skill Development Course – 2: Python	<u>56 to 58</u>									
20		Annexure-CIE & SEE Guidelines	59 to 66									



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Semester: I Course Type: BSC													
Course Title:	Funda	mentals	of Infini	te seri	es, Calculus and Lin	ear Algebra							
Course Code	:	23M	IAT11B			Credits:	4						
Teaching Ho	urs/We	ek (L:7	[:P:O)		3:2:0:0	Total Hours:	50						
CIE Marks:	5	0	SEE Ma	arks:	50	Total Marks:	100						
SEE Type:	The	ory				Exam Hours:	3						
I. Course Ob	jective	s:											
 Familiarize the importance of calculus associated with one variable and multivariable. Analyze the problems by applying Ordinary Differential Equations. To develop the knowledge of matrices and linear algebra in comprehensive manner. 													
II. Teaching1. In add2. State t3. Gradin4. Encou	 II. Teaching-Learning Process (General Instructions): In addition to the traditional lecture method, innovative teaching methods shall be adopted. State the need for Mathematics with Engineering Studies and Provide real-life examples. Grading assignments and quizzes and documenting students' progress. Encourage the students for group learning to improve their creative and analytical skills. 												
Pre-requi 1. Trigono 2. Differen 3. Basic k	isites ometric ntiation nowled	formula , Integra ge of M	ne. ation and atrix ope	prope	rties. s.								
Modulo1. So	auonco	and Sa	<u>III</u> rios	. CO	URSE CONTENT		10 Hours						
Module1: Sequence and Series10 HoursSequences, Series, convergence, divergence, oscillatory conditions, properties, comparison tests, D'Alembert's ratio test, Alternating series, Absolute convergence, power series. Taylor's and Maclaurin's series expansions for one variable (statement only)-Problems.Textbook: Chapter: sections: Discussion and coverage of contents as suggested in articles 9.1 to 9.6, 9.9, 9.12, 9.13, 9.14 and 4.3(4), 4.4. of Textbook 1.Self Study: Cauchy's root test.													
Module-2:Si	Module-2:Single variable calculus 10 Hours												
Polar curves	– Angl	e betwe	een the r	adius	vector and tangent,	angle between two	curves, pedal						

Polar curves – Angle between the radius vector and tangent, angle between two curves, pedal equation. Curvature and radius of curvature – Cartesian and pedal forms. Evaluation of Indeterminate forms: evaluation of limits of the form $1^{\infty}, 0^{0}, \infty^{0}$.

Textbook: Chapter: sections: Discussion and coverage of contents as suggested in articles 4.7(1,
2), 4.8, 4.10, 4.11(1, 5), 4.5(III) of Textbook 1.Self Study: Radius of curvature in parametric and polar form.RBT Levels: L1, L2 and L3.Module-3:Multivariable calculusPartial differentiation; Definition and problems, Total derivatives – Differentiation of composite
functions. Jacobians-definition and problems. Taylor's and Maclaurin's series expansions for two
variables (statement only)-Problems.Maxima and minima for a function of two variables.Textbook: Chapter: sections: Discussion restricted to derivation and problems as suggested in
articles 5.2, 5.5(1, 2), 5.7 (1), 5.9, 5.11 of Textbook 1.Self Study:

Method of Lagrange's undetermined multipliers with a single constraint.

RBT Levels: L1, L2 and L3

Module-4: Ordinary differential equations (ODE's) of first order

Linear and Bernoulli's differential equations. Exact differential equations. Orthogonal trajectories (Cartesian form only) and Newton's law of cooling, and LR circuits. Nonlinear differential equations: Introduction to general and singular solutions; Solvable for *p* only; Clairaut's equation.

Textbook: Chapter: sections: Discussion and coverage of contents as suggested in articles 11.9 (only for introduction), 11.10, 11.11, 12.3 (1, 2), 12.5, 12.6, 11.13(1), 11.14 of Textbook 1.

Self Study:

Reducible to exact differential equations. Orthogonal trajectories – polar form.

RBT Levels: L1, L2 and L3.

Module-5:Linear Algebra

10 Hours

10 Hours

Rank of a matrix by echelon and normal form. Consistency and Solution of system of linear equations. Gauss-elimination method. Approximate solution by Gauss-Seidel method. Determination of largest Eigen values and the corresponding Eigen vector by Rayleigh's power method.

Textbook: Chapter: Sections: Discussion and coverage of contents as suggested in articles 2.7(1, 2, 7), 2.10(1), 28.6(1) 28.7(2) and 28.9of Textbook 1.

Self Study:

LU decomposition method and Gauss-Jordan method.

RBT Levels: L1, L2 and L3.

	IV. COURSE OUTCOMES
CO1	Understand convergence of infinite series.
CO2	Apply the knowledge of single variable calculus to solve the problems on polar curves and to evaluate indeterminate forms.
CO3	Apply the knowledge of partial differentiation to find the extreme value of the function and Jacobian.
CO4	Solve first-order ordinary differential equations analytically using standard methods.
CO5	Make use of matrix theory for solving the system of linear equations and compute eigen

	values and eigen vectors.																
				V. Co	D-PO	-PSO	MAP	PING	(marl	k H=3	; M=2	; L=1)				
PO/P	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S 3	S4	
SO																	
C01	3	2										1					
CO2	3	2										1					
C03	3	2															
C04 C05	3	2										1					
	5	2			VI.	Asses	smen	t Deta	nils (C	IE &	SEE)	1					
General Rules: Refer Annexure section 1																	
Continuous Internal Evaluation (CIE): Refer Annexure section 1																	
Semester End Examination (SEE): Refer Annexure section 1																	
						VII.	Lea	arning	g Reso	ources	5						
VII(a): Te	xtbool	ks:														
Sl. No.Title of the BookName of the authorName of the publisherEdition and Year																	
1	High Matl	her Eng hemati	ginee .cs	ring	В	B.S. Grewal				anna I	Publis	4	4 th Ed.	, 2018	8.		
VII(b): Re	ferenc	e Bo	oks:													
1	Adv Matl	anced hemati	Engi cs	neerin	g E	. Krey	vszig		Joh	nn Wil	ey &	Sons	1	10 th Ed., 2016			
2	A Te Engi Matl	extboo ineerin hemati	k of Ig .cs		N N	N.P Bali and Manish Goyal				xmi Pı	ublica	tions	1	10th Ed., 2022			
3	High Matl	her Eng hemati	ginee .cs	ring	В	8.V.Ra	mana		Tat	ta Mc	Graw	-Hill	1	1 th Ed.	, 2017	1	
4	Line App	ar Alg	ebra ns	and its	° 0	libert	Stran	g	Cer	ngage	Publi	cation	s 4	th Ed.,	2022		
5	Line App	ar Alg	ebra ns	and its	S D	David (C Lay		Pea	arson l	Publis	hers	4	th Ed.,	2018		
VII(c): We	eb link	s and	d Vide	eo Leo	tures	(e-Re	sourc	es):								
1. 2. 3. 4.	<u>http</u> <u>http</u> <u>http</u> VT	://npte ://www ://acac U EDU	el.ac.i w.cla demic JSAT	n/course ss-cen ccarth. progr	<u>ses.pl</u> tral-ce org/ ramme	np?dis entral.e e-20	ciplin com/s	eID=1 ubject	<u>11</u> /math((MOC	OCs)						
VIII: Activity Based Learning																	
Assig	nmen	ts, qui	z and	prese	ntatio	n.											







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Insti

S.

Semester:	Semester: II Course Type: BSC												
Course Title	: Adv	vanced C	Calculus and N	Nume	erical Methods								
Course Code	e:	23	3MAT21B			Credits:	4						
Teaching Ho	ours/V	Week (I	.:T:P:O)		3:2:0:0	Total Hours:	50						
CIE Marks:		50	SEE Marl	ks:	50	Total Marks:	100						
SEE Type:	Т	heory				Exam Hours:	3						
I. Cour	se O	bjective	s:										
 Familiarize the importance of higher order ordinary differential equations for electronics and electrical engineering. Have an insight to solving the partial differential equations. Apply the knowledge of numerical methods to solve electrical and electrical Engineering problems. Teaching-Learning Process (General Instructions): 													
II. Teaching-Learning Process (General Instructions):													
 State Gradi Encou Pre-requ Trigono Differe 	the ne ng as trage isites ometr ntiati	eed for M signmen the stud ric form on, Inte	Mathematics w its and quizzes ents for group ulae. gration and pr	with I s and p lear	Engineering Studie l documenting stud rning to improve th ties	s and Provide real-1 ents' progress. eir creative and ana	ife examples. lytical skills.						
			111.	COL	JRSE CONTENT								
Module-1:In	tegra	al calcul	us				10 Hours						
Multiple Int	egral	s: Evalu	ation of doub	ole ar	nd triple integrals,	evaluation of doubl	e integrals by						
change of or	der d	of integ	ration, chang	ing i	into polar coordin	ates. Applications	to find Area,						
Problems. B	eta a	nd Gar	nma functio	ns: 1	Definitions, proper	ties, relation betwe	een Beta and						
Gamma funct	ions.	Problem	ns.										
Textbook: C	hapt	er: secti	ions: Discuss	ion a	ind coverage of con	ntents as suggested	in articles 7.1 to						
7.5, 7.14, 7.1	5&7	7.16 of T	extbook 1.										
Self Study: A	Applic	cation to	find Volume										
RBT Levels	: L1,]	L2 and I	_3										
Module-2:Vector calculus 10 Hours													
Vector Diffe	Vector Differentiation: Scalar and vector fields. Gradient, directional derivative, curl and												
divergence -	physi	ical inter	rpretation, So	olenoi	idal and Irrotationa	l vector fields, Pro	blems. Vector						
Identities. Ve	ctor	Integra	tion: Line inte	egral	s, Surface integrals	. Applications to w	ork done by a						
force and flux	k. Sta	tement o	of Green's the	orem	n, problems.								

Textbook: Chapter: sections:

Discussion and coverage of contents as suggested in articles 8.1, 8.4 to 8.8, 8.11, 8.12, 8.13, and 8.18(1, 2) of Textbook 1.

Self Study:

Stoke's theorem and Gauss divergence theorem.

RBT Levels:L1, L2 and L3

Module-3: Differential equations of higher order:

10 Hours

10 Hours

Second order linear ODE's with constant coefficients – Inverse differential operators, evaluation of homogeneous equations, Non homogeneous equations (e^{ax} , sin ax or cos ax, polynomial), method of variation of parameters, Cauchy's and Legendre homogeneous equations. Applications: LCR circuits.

Textbook: Chapter: sections: Discussion and coverage of contents as suggested in articles 13.1 to 13.6, 13.8, 13.9, 14.5 of Textbook 1.

Self study: Applications to simple harmonic motion and oscillations of a spring.

RBT Levels: L1, L2 and L3

Module-4: Numerical methods

Solution of algebraic and transcendental equations: Newton-Raphson method.

Finite Differences and Interpolation: Forward, Backward differences, Interpolation, Newton-Gregory Forward and Backward Interpolation formulae, Interpolation with unequal Intervals: Newton divided difference interpolation formula and Lagrange interpolation formula (no proof), problems. **Numerical Integration**: Simpson 1/3rd rule and Simpson 3/8th rule.

Textbook: Chapter: sections: Discussion and coverage of contents as suggested in articles 28.2(3), 29.1(1, 2), 29.6, 29.9, 29.10, 29.11, 29.12, 30.4, 30.7, 30.8 of Textbook 1.

Self study:Regula-falsi method and Trapezoidal rule.

RBT Levels: L1, L2 and L3

Module-5: Numerical Solution of Ordinary Differential Equations (ODEs):

10 Hours

Numerical solution of ordinary differential equations of first order and first degree - Taylor's series method, Modified Euler's method, Runge-Kutta method of fourth order and Milne's predictor corrector formula (No derivations),problems. Numerical solution of ordinary differential equations of second order and first degree: Milne's method.

Textbook: Chapter: sections: Discussion and coverage of contents as suggested in articles 32.3, 32.5, 32.7, 32.9, 32.12 of Textbook 1.

Self Study: Numerical solution of ordinary differential equations of second order and first degree Runge-Kutta method of fourth order.

RBT Levels: L1, L2 and L3.

	IV. COURSE OUTCOMES										
CO1	Apply the concept of change of order of integration and change of variables to evaluate										
COI	multiple integrals to find area.										
cor	Understand the applications of vector calculus refer to Solenoidal, Irrotational vectors,										
02	line integral and surface integral.										
CO3	Analyze the solution of second and higher order ordinary differential equations.										
CO4	Apply the knowledge of numerical methods in solving physical and engineering										

	phenomena.																	
CO	5	To deve	elop tl	he solu	ition 1	for firs	st orde	r ODI	Es usir	ng nun	nerica	l techr	nique	s.				
				V. CO	D-PO	-PSO	MAP	PING	(mar	k H=3	; M=2	2; L=1)					
PO/P	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S3	S4		
SO																		
CO1	3	2										1						
CO2	3	2										1						
CO3	3	2										1						
CO4	3	2																
05	3	Z			T 7 T							1						
~	General Rules: Refer Annexure section 1																	
General Rules: Refer Annexure section 1 Continuous Internal Evaluation (CIE): Refer Annexure section 1																		
Continuous Internal Evaluation (CIE): Refer Annexure section 1																		
Seme	Semester End Examination (SEE): Refer Annexure section 1																	
						VII.	Lea	arning	g Reso	ources	5							
VII(a): Te	extbool	ks:															
Sl. No.		Title of	f the	Book		Naı a	ne of uthoi	the r	Na	me of	the p	her	Edition and Year					
1	Hig Ma	her En themati	ginee	ring	В	S.S. Gr	rewal		Kh	anna F	Publisl	4	44 th Ed.	, 2018	8.			
VII(b): R	eferenc	e Bo	oks:														
1	Adv Ma	vanced themati	Engi ics	neering	^g E	. Krey	szig		Joh	ın Wil	ey & S	Sons]	10 th Ed., 2016				
2	Intr of 1	oducto Numeri	ry Me cal A	ethods nalysis	s	.S.Sas	try]	Гata M	IcGrav	w-Hill		11th	Editio	n		
3	Hig Ma	her En themati	ginee cs	ring	В	.V.Ra	mana		Tat	a Mc	Graw-	Hill	1	11 th Ed.	, 2017	1		
4	Lin Ap	ear Alg olicatio	gebra ns	and its	, c	lilbert	Strang	g	Cer	ngage	Public	cation	s 4	4th Ed.,	2022	•		
5	"Li Ap	near Al olicatio	gebra ns"	a and it	ts D	avid (C Lay		Pea	arson I	Publis	hers	2	4th Ed.,	2018	•		
VII(c)): W	eb link	s and	l Vide	o Leo	tures	(e-Re	sourc	es):									
5. 6. 7. 8.	 5. <u>http://nptel.ac.in/courses.php?disciplineID=111</u> 6. <u>http://www.class-central-central.com/subject/math(MOOCs)</u> 7. <u>http://academiccarth.org/</u> 8. VTU EDUSAT programme-20 																	
VIII:	Acti	vity Ba	ased	Learn	ing													
Assig	nme	nts, qui	z and	prese	ntatio	n.												







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Semester:	I/II Co	urse Type:		ESC									
Course Tit	le Basic El	ectrical Engineer	ing										
				~									
Course Co	de: 23EET	13B/23EE123B		Credi	ts: 3								
Teaching H	lours/Weel	<u>(L:T:P:O)</u>	3:0:0:0	Total Hou	rs: 40								
CIE Marks:	50	SEE Marks:	50	Total Marl	«s: 100								
SEE Type	:	Theory		Exam Hour	·s: 3								
		I.	Course Object	ives:									
 This course will enable students: To understand electricity evolution and electricity invention experiments. To study fundamental concepts of electromagnetism. To analyse DC and AC circuits. To study the construction, working and applications of different electrical machines To study the domestic wiring, tariff and electrical safety practices. 													
II .Teaching-Learning Process (General Instructions):													
Video Anim	os nations		IRSE CONTEN	NT									
Module-1:	History of	electricity, elect	romagnetism &	DC circuits	8 Hours								
History of ele franklin kite of Electromagn coefficient of DC circuits: Analysis of so	ectricity(Reverse experiment, the experiment, the etism: Static coupling. en Introduction eries parallel	view only): Evolut homas alva edison cally and dynamic ergy stored in mag to dc circuits, ol circuits and nume	tion of electricity bulb invention) ally induced emf gnetic field. simpl ms law, kirchho rical.	& electrical invent ; concepts of self e numerical. ff's laws, concept	ions (benjamin and mutual inductance. of power and energy.								
Textbook: C Section-2.1,	hapter: sect 2.2, Chapter	ions: Basic elect -3, Section-3.6,3	rical engineering .7,3.8,3.9, Chap	g, D C Kulshresh oter-5, Section-5.	ntha: Chapter 2, 1,5.2,5.6,5.7,5.8								
Pre-requisite	es (Self Lear	ning): Faraday's I	Laws of Electroma	agnetic Induction,	Lenz's Law.								
RBT Levels	: L1, L2, L	3											
Module-2:A	C fundam	ental & single-p	hase AC circuit	ts	8 Hours								
AC fundamentals: Generation of sinusoidal voltage, concept of phasors, time period, frequency, instantaneous values, peak, average, rms value, peak factor, and form factor, numerical. Single phase ac circuits: Analysis of R, L, C, R-L, R-C and R-L-C series circuits with phasor diagrams, power and power factor, numerical. Textbook: Chapter: sections: Basic electrical engineering, D C Kulshreshtha : Chapter 9,													
Section 9.1 t	to 9.7, Chap	ter-10, Section-1	0.1,10.2,10.6										

Pre-requisites (Self Learning): Acquaintance of circuit parameters R, L and C

RBT Levels: L1, L2, L3

trans	fo	rn	ners															
Three phase ac circuits: Generation of three phase ac quantities, advantages and limitations. star and delta connections, relationship between line and phase quantities. power in balanced 3-phase circuits, measurement of 3-phase power by 2-wattmeter method. numerical.																		
Singl	e p	oha	ise tra	insfor	mers:	Const	ructio	on an	d tyj	pes, o	operat	ting p	orinci	ple, en	nf equ	atio	ons, 1	losses and
efficie	enc	cy.	applic	ations	, num	erical.		1.						** 1 1	1.1		C1	. 10
Texth	000)k:	Char	oter: s	ection	ns: Ba	sic e	lectr	1cal	engi	neeri	ng, I	$\mathbf{D}\mathbf{C}$	Kulsh	reshth	a	: Ch	apter 12,
Section	on	- l	$\frac{2.3 \text{ to}}{1.3 \text{ to}}$	<u>12.9,</u>	Char	$\frac{\text{oter-13}}{1}$	<u>, Sec</u>	tion-	-13.	<u>1,13.</u>	<u>2,13.</u>	5,13.	10					
Pre-1	req	lui	sites (S	Self L	earnii	1g): Mu	utual	Indu	ction	prin	ciple.							
RBT	Ľ	lev	els: L	.1, L2	, L3													
Mod	lul	e-4	4: Thi	ree ph	ase i	nducti	on n	noto	rs ai	nd D	C me	otor			8 Hou	rs		
Three magn DC r moto Nume	Three phase induction motors: Construction of 3-phase induction motor, concept of rotating magnetic field. Working principle, types, Slip and its significance, applications, numerical. DC motor: Principle of operation, back emf and its significance. Torque equation, types of motors, characteristics of DC motors (series & shunt only). Applications of DC motors. Numerical. Textbook: Chapter: sections: Basic electrical engineering. D C Kulshreshtha : Chapter 15.																	
Textb	000	ok:	Chap	oter: s	ectio	ns: Ba	sic e	lectr	ical	engi	neeri	ng, l	DС	Kulsh	reshth	a	: Ch	apter 15,
Section	on	- 1	5.1 to	15.4,	15,7	, Chapt	ter-1	6:S	ectio	on-16	5.2, 1	6.11	to 10	5.13.				_
Pre-n	req	lni	sites (S	Self L	earnii	ıg): Mı	ıtual	induc	ction	, Flei	ning'	s righ	nt-har	nd rule				
RBT	Ľ	lev	els: L	.1, L2	, L3													
Mod	lul	e-5	5: Doi	mestic	: wiri	ng an	d saf	ety r	neas	sures	6				8 Hou	rs		
Dome	esti	ic v	wiring	: Intro	ducti	on, ser	vice	mains	s, me	eter b	oard	and c	listril	oution l	board.	T	pes	of domestic
wiring	wiring. Definition of "unit" used for consumption of electrical energy. two-part electricity tariff.																	
calcul	lati	ion	of ele	ctricity	/ bill 1	for don	nestic	cons	sume	rs.					-			-
Equipment safety measures: Working principle of fuse and Miniature Circuit Breaker (MCB), merits																		
and d	em	ieri	ts.															
Perso	na	ıl s	afety	measu	ires:	Electri	c sho	ock a	nd s	afety	prec	autio	ns, e	arthing	and i	ts	types	s (Plate and
Pipe),	,					р	•		1			г		77 1 1	1.1		CI	(10
lext	000)K:	Chap 2 4 1	oter: s	ectioi	is: Bas	sic e	lectri	cal	engi	neerii	ng, L		Kuishr	esntna	a :	Cna	ipter 19 :
Section December 201	on	15	$\frac{1}{10}$	19.10		~). Fre	1		f									
Pre-r	eq	uis	ittes (S	Sell Le	arnin	g): Fui	ndam	ental	S 01 4	AC SI	uppiy	•						
RBT	Ľ	ev	els: L	.1, L2	, L3													
						IV	/. CO	URS	SE (DUT	CON	1ES						
At th	e e	end	l of th	e cour	se sti	ıdents	will	be al	ole to	0								
CO	1	U	nderst	and th	ne con	ncepts	of el	ectri	city	evolu	ition a	and e	electr	romagr	netism	ι.		
CO	2	A	pply t	he bas	sic ele	ectrical	l law	s to s	solve	e DC	and	AC o	circu	its.				
CO	3	Ez	xplain	the c	onstru	action,	type	s and	d wo	orkin	g of e	electr	ical	machir	nes.			
CO	4	D	escrib	e the	conce	ents of	dom	estic	wir	ing a	nd sa	fety	mea	sures.				
	T	2		v uno v			SO 1	лат	DDIN		ma orde	11_2	. N/-	-2. I -	1)			
PO/	1	1	2	2	1.00	-r0-r	501		0 0			п-э	, IVI-	-2, L-	1)	20	62	\$4
PSO			2	5	4	3	U	/	o	9	10	11	12	51	r.	52	33	54
CO1	3		2	-	-	-	1	1	1	-	-	-	2	2		-	-	-
CO2	3		2	-	-	-	1	1	1	-	-	-	2	2			-	-
CO3	3		$\frac{2}{2}$	-	-	-	1	1	1	-	-	-	2	2	4	2	-	-
CO4	3		Ζ	-	-	-	Ζ	2				-		Z	•	-	-	-
						VI. AS	sessi	ment	Dei	tails	(CIE	a & S	eee)					
Gene	era	l F	Rules :	Refe	r appo	endix s	sectio	on 1										
Cont	in	U 0	us Int	ternal	Eval	luation	1 (Cl	[E):]	Refe	er app	pendi	x sec	tion	1				
Seme	est	er	End	Exam	inati	on (SE	2 E):]	Refe	r app	pend	ix sec	ction	1					
						V	VII. I	Lear	ning	g Res	sourc	es						
VII(a	a):	T	extbo	oks:														
Sl. No.	Ti	itle	e of th	e Boo	k	Nam au	e of thor	the		Edit	tion a	and Y	lear	Na	ame o	f t	he p	ublisher

1	Basic electrical engineering	D C Kulshreshtha	2nd edition, 2019	Tata McGraw Hill.								
VII(b): Reference Bool	ks:										
1	A Textbook of electrical technology	B.L.Theraja	Reprint edition 2014.	S Chand and Company								
2	Basic electrical engineering	D.P. Kothari	4th edition,2019.	McGraw-Hill education								
VII(c): Web links and	Video Lectures (e-R	lesources):									
Ment	tion the links of the	online resources, vid	leo materials, etc.									
https	://www.youtube.co	m/@eeedepartment4	<u>878</u>									
https	://www.youtube.co	<u>m/watch?v=6p5WXz</u>	<u>erYYiI</u>									
https	nttps://www.youtube.com/watch?v=0wkjlSZt0ko											
VIII	VIII: Activity Based Learning / Practical Based Learning/Experiential learning:											

Activities like seminar, assignments, quiz, case studies, mini projects, industry visit, self-study activities, group discussions, etc







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Somostor	I/II	Co	urso Typo:		FSC							
Semester.	1/11	CO	urse rype.		ESC							
Course Title	:Basic	Elect	tronics									
Course Code	e: 23	ECT	13B/23ECT23B		Credits:	3						
Teaching Ho	ours/We	ek (L	.:T:P:O)	3:0:0:0	Total Hours:	40						
CIE Mark	s: 5	0	SEE Marks:	50	Total Marks:	100						
SEE Typ	e:		Theory		Exam Hours:	3						
I. Course Ol	bjective	5:										
This course wi	ill enable	stude	nts:									
1. To u	nderstan	d the	structure and cha	aracteristics of semic	onductor devices 1	Diode, Transistor,						
FET,	FET, MOSFET and linear Integrated chips.											
2. To understand the concepts of Boolean algebra and digital circuits.												
3. Students will be equipped with the knowledge of basics of communication systems and cellular												
wireless networks.												
II. Teaching-Learning Process (General Instructions):												
Chalk and talk method												
Power	r point pr	esenta	tion / keynotes									
Video	S											
Virtu	al Labs											
			III. COU	RSE CONTENT								
Module-1						8 Hours						
Semiconduc	tor Dio	des a	and its Applicat	ions								
PN Junction analysis.	diode, (Chara	cteristics and Para	ameters, Diode Appr	roximations, DC L	.oad Line						
Diode Applie	cations:	Intro	duction, Half Wa	ve Rectification, Fu	ll Wave Rectificat	tion, Full Wave						
Rectifier Pow	ver Supp	ly, R	C and LC power S	Supply Filters. (inclu	des numerical)							
Zener Diodes	: Zener	Diod	es, Zener Diode	Voltage Regulators.								
Text1 : Chap	ter - 2											
RBT Levels:	L1, L2	, L3										
Module-2						8 Hours						
BJT & Fiel	d Effect	Tra	nsistor									
Bipolar Jun	ction Tr	ansis	tor : Introduction	n, Transistor Constru	uction, Transistor	Operation,						
Common Ba	se Conf	igurat	tion, Transistors A	Amplifying Action,	Common Emitter	Configuration,						
Common Co	llector C	ontig	uration, Limits of	operation, Operating	g point, Fixed Bias	Configuration						
Characteristic	I ransi	stor:1	nuroduction, C	onstruction and Ch	MOSET of JEL	E1, Transfer						
Unaracteristi	ls of De	pieuo	m type MOSFEI	s, Ennancement Typ								

Text 1: Chapter - 4 & 9

RBT L	ev	els: L	1, L2,	L3												
Module	e-3													8	Hours	
IC Ope Integrat Non inv Text 1:	era ed vert Ch	tional circuit ing At apter	l Amp t oper mplifi - 14	olifiers ational ers, In	& its ampli verting	Appl fiers, g Amp	icatio Biasin plifiers	ns ng ope s, Sum	eration	al am Ampl	plifier ifiers,	rs, Vol Diffe	tage f rential	ollow I Amp	er circ lifiers	uits,
RBT L	ev	els: L	1, L2,	L3												
Modul	e-4	ļ												8	Hours	
Digital Electronics Fundamentals Digital Computers and Digital Systems, Binary Numbers, Number Base Conversion Octal and Hexadecimal numbers Conversion, Axiomatic Definition of Boolean Algebra, Basic Theorems and Properties of Boolean Algebra, Boolean Functions, Canonical and Standard Forms, Other Logic Operations. Combinational Logic: Introduction, design procedure, adders. Text 2 : Chapter 1, 2 & 4																
RBT L	ev	els: L	1, L2,	, L3												
Modul	e-5	5												8	Hours	
Noise, Cellula Topolog Bluetoo Text 3:	Re r gies th. C	ceiver Telepl s,1G,2 hapter	G,Modnone $G,3G1 & 31 L2$	lulation Syster ,4G C 8	n, Typo n, Ce Commu	es of (llular inicat	Comm conc ion S	unica cept Systen	tion S and f ns, 40	ystem reque G Te	s. ncy I chnolo	Reuse,	Wird	eless ess L	Netw AN a	ork and
			<u>, 12</u> ,		Г	V. CO	DURS	E OU	TCO	MES						
At the e	nd	of the	cours	se stud	ents w	ill be	able to)		-	•	1 .	<u> </u>		1 .	
CO1		Analy: applic:	ze ations	the o	peratic	on and	d char	acteri	stics (of sen	niconc	luctor	devic	es an	d its	
CO2	A	Apply 1 Semico	the ac	quired tor dev	knowl vices li	edge ke BJ	to con T and	struct FET	small	scale	circui	its con	sisting	g of		
CO3]	Emplo	y Op-	-Amp i	n vario	ous ci	rcuits	and a	nalyze	its w	orking	5				
CO4]	Design	1 the b	basic di	igital c	ircuit	using	Bool	ean alg	gebrai	c equa	ations.				
CO5]	Relate	the	blocks	of con	mmur	nicatio	n syst	em.							
				V. CO)-PO-]	PSO	MAPI	PING	(mark	x H=3	; M=2	;L=1))			
PO/PSO	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S3	S4
CO1	3	3	2		2	2							2			
CO2 CO3	3	2	3		3	1			1				2			
CO4	2	1	1		2	1			1				2			
CO5	2	1	1		2	1			1				2			
	_				VI. A	lssess	ment	Detai	ils (CI	E & S	SEE)					
Genera	1 R	ules:	Refer	appen	dix sec	tion	1									

Seme	ester End Examinat	ion (SEE): Refer append	dix section 1							
		VII. Learni	ng Resources							
VII(a	a): Textbooks:									
Sl. No.	Title of the Book	Name of the author	Edition and Year	Name of the publisher						
1	Electronic Devices and Circuits	David A Bell	5 th edition	Oxford Publication						
2	Digital Logic and Computer Design	ISBN-978-81-203-0417- 8,2008	PHI Learning							
3	Communication Systems	S L Kakani , Priyanka Punglia	1 st edition,2017	New Age International Pvt Ltd						
VII(I	b): Reference Books	•								
1	Electronic Devices and Circuit Theory	Robert L Boylestad	9 th Edition	Prentice Hall						
2	Electronic Communication Systems	George Kennedy	4 th edition	ТМН						
VII(d	c): Web links and Vi	ideo Lectures (e-Resou	rces):							
 htt htt htt htt htt htt 	tps://nptel.ac.in/cour ps://nptel.ac.in/cours ps://nptel.ac.in/cours ps://youtu.be/C0s7TS s://youtu.be/j8V8nDC	ses/122106025 ses/108105132 ses/117104072 S6HK0I CIHXY								
VIII	: Activity Based Lea	rning / Practical Based	l Learning/Experiential le	arning:						
Welco	ome to Virtual Labs - A	MHRD Govt of India Initia	tive (vlabs.ac.in)							
Welcome to Virtual Labs - A MHRD Govt of india Initiative (vlabs.ac.in)										
<u>Welco</u>	<u>ome to Virtual Labs - A</u>	MHRD Govt of india Initiat	<u>tive (vlabs.ac.in)</u>							
Welco	ome to Virtual Labs - A	MHRD Govt of india Initiat	tive (vlabs.ac.in)							



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|| Jai Sri Gurudev || Sri Adichunchanagiri Shikshana Trust (R)

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Semester:	I/II	Cou	urse Type:	Sype: ESC									
Course Tit	le: Int	egra	ted Mechan	ical S	ystems								
Course Coo	le:	23	MET14B/2	4B		Credit	s: 3						
Teaching H	lours/	Wee	k (L:T:P:O)	3:0:0:0	Total Hours	s: 40						
CIE Marks	: 5	0	SEE Ma	arks:	50	Total Marks	s: 100						
SEE Type	:		Theo	ory		Exam Hours	s: 3						
			I.		.Course Obje	ectives:	·						
 Acquire basic knowledge of mechanical engineering and fundamentals of turbines. Attain knowledge about traditional and advanced manufacturing processes. Procure basic concepts of IC engines, and Electric vehicles. Obtain the knowledge of mechanical power transmission and robotics. Gain the fundamental concepts of refrigeration, air conditioning and joining processes. IITeaching-Learning Process (General Instructions): Adopt different types of teaching methods to develop the outcomes through Power point presentations and Video demonstrations or Simulations. Arrange visits to show the working models & processes. Adopt collaborative (Group Learning) Learning in the class. Adopt Problem Based Learning (PBL), which foster students' Analytical skills and develops thinking skills such as evaluating, generalizing, and analysing information. 													
Module-1:							8 Hours						
Introduction Society- Er Manufacturi Steam Forr steam, Steam Turbines: S Diagrams), O turbine, pelto	n to M nergin ng, Au natior n prop Steam Gas tu on who	lecha ng T ntome n and erties Turl urbine eel (v	anical Engi Frends and otive, Aeros d Applicat s and applic bines, comp e, comparis with sketche	neerin Tecl space, ion: M ations parison on bet es).	ng: Role of M hnologies in and Marine s Modes of hea of steam. n between Ir tween open a	lechanical Engine different secto ectors. at transfer, Stean npulse and reac nd closed cycle	eering in Industries and ors such as Energy, n formation, Types of tion turbine (with PV gas turbine, Hydraulic						
Pre-requisit	es (Se	elf Le	earning): B	asic ki	nowledge of p	ower generation.							
RBT Levels	: L1,]	L 2											
Module-2:	10		• • •	р '	. 1 . 0		8 Hours						
 Machine Tool Operations: Lathe: Principle of working of a centre lathe, lathe operations: Turning, facing, knurling, thread cutting, taper turning by swivelling the compound rest, Drilling Machine: Working of simple drilling machine, drilling operations: drilling, boring, reaming, tapping, counter sinking, counter boring, Milling Machine: Principle, Working and types of milling machine, milling operations: plane milling, end milling and slot milling. (No sketches of machine tools, sketches to be used only for explaining the operations). Introduction to Advanced Manufacturing Systems: Introduction, components of NC, CNC, advantages and applications of CNC 													
Pre-requisit	:es (Se ₃• 1.1	elf Le L2	earning): B	asic ki	nowledge of 1	nachine tools							
NDI LEVER	». L/I,												

Modu	ale-3: 8 Hours																
Intro	du	ctio	n to	IC	Eng	gines	: Co	mpo	nents	s and	wor	king	prin	ciple	es of	2 &	2 4-Stroke Petrol
engin	e a	nd 4	-Stro	oke l	Dies	el en	gine	s, per	rforn	nance	of I	C en	gines	(Sir	nple	num	erical).
Insig	ht	into	fut	ure	mo	bilit	v te	chno	logv	: Intro	oduc	tion t	to El	ectri	cand	l Hv	brid Vehicles.
Work	ing	y Pri	ncip	le.	Adv	antag	ies a	nd d	lisad	vanta	ges (of El	lectri	c V	ehicle	es (E	EVs) and Hybrid
vehic	les	. Em	issio	n st	anda	ards.					5-2						
Pre-r	ea	uisit	es (S	[]	Lea	rnin	թ): B	asic	knov	vledg	e of a	autor	nobi	les.			
RRT	L	avels	• I.1	1.2		2	9 /* –										
Mod	ու		, L1	, 🎞	, L	,										2 110	1120
Mark	ule	:-4:	D		P	•	•	. D.	14 D-	•	T 4	. 1 4	• • • •	T		о по 1 14	$\frac{\text{urs}}{1}$
Niech			Pow	er		1SMI	SS101 1 1.			rives:	Intro		tion,	Typ	es of	belt	drives (Open and
Cross	B		rive), le	ngtr	1 OI U	he b	elt ar	id te	nsion	S. \mathbf{G}	ear I	Jrive	es: 1	ypes	- sp	ur, helical, bevel,
worm	ar	id ra		na pi	1110	n, ve	locit	y rati	.0, S1	mple	and $\begin{pmatrix} 1 \\ 1 \end{pmatrix}$	comp	bound	a gea	ar trai		ssion.
Intro	du	ctioi	n to	KOD	otic	S: O	pen-l	loop	and	closed	1-100 11 ·	op co	ntrol	syst	ems.	Join	ts & links, Robot
anato	my	<u>', Ap</u>	plica	ttion	$\frac{15 01}{1 00}$	Kot	$\frac{1}{2}$	n ma	teria	I hand	lling	, pro	cessi	ng, a		bly	and inspection.
Pre-	RRT Levels: L1 L2																
KR1	KB1 Levels: L1, L2																
Mod	Module-5: 8 Hours																
Heat	Heat Transfer Applications: Review of modes of Heat Transfer; Automobile Radiators;																
Condensers and evaporators of refrigeration systems; Cooling of Electrical and Electronic																	
Dev ₁ c	Devices; Active, Passive, and Hybrid Cooling.																
Intro	du	ctio	n to	Me	echa	itron	ics:	Defi	nitio	on of	Mee	chatr	onics	5, Ev	voluti	on	of Mechatronics,
Contr	ol	syst	ems,	M	easu	ireme	ents,	Trar	isduo	cers a	and	sense	or, 1	ype	of S	sense	ors, Logic gates,
Adva	nta	ges a	and A	App	licat	ions	of M	lecha	tron	ICS.							
Pre-r	eq	uisit	<u>es (S</u>	belf	Lea	rnin	g): B	asic	knov	vledg	e of	heati	ng co	oolin	g and	l we	lding process.
RBT	Ĺ	evels	5: L1	, L2													
	IV.COURSE OUTCOMES																
C)1	Uno	derst	and	the	role	ofmo	echar	nical	engir	eeri	ng in	indu	ıstry	and s	socie	ety,
	/1	fun	dame	ental	ls of	stea	m an	d tur	bine	s.							
CC	12	Det	ermi	ning	g coi	nven	tiona	l and	adv	anced	mao	chini	ng pi	oces	sses in	n ma	nufacturing of
		con	npon	ents	•												
CC)3	Inte	erpre	t the	fun	dam	ental	cond	cepts	ofen	gine	s & 1	futur	e mo	bility	v tecl	nnology.
CC		App	oly tl	ne ba	asic	cond	ept o	of tra	nsmi	ission	syst	em a	nd ro	oboti	CS		
)4	app	licat	ion			-				•						
CC)5	Enu	ımer	ate t	he a	pplic	catio	n of ł	neat 1	transf	er &	Mec	hatro	onics	5		
	-			V	V C	0-P()-PS	O M	APF	PING	(ma	rk H	=3· N	<i>I</i> =2∙	L=1)	
PO/PS	50	1	2	3	4	5	6	7	8	9	10	11	12	S1	<u>S2</u>	53	<u>S4</u>
	1	3	2	5		5		,	0		10	11	12		52	55	51
	2	3	2														
	2	3	$\frac{2}{2}$	2				1									
	<u>J</u>	3	$\frac{2}{2}$	2				1									
	5	3	2														
	5	5				VI	A 664		ont I	Dotail	e (C	IF Ø	- SFI	<u>ר</u>			
			-		0	V I.	ASS	essin		Detail	s (C	IE Q	(SE	<u>L)</u>			
Gen	ler	al R	ules:	Re	ter /	Anne	xure	Sect	ion l				~				
Con	ntir	nuou	s Int	tern	al E	valu	atio	n (Cl	lE):	Refe	: An	nexu	re Se	ct101	n l		
Sem	les	ter F	End	Exa	min	atio	ı (SF	E E):]	Refe	r Ann	exur	e See	ction	1			
							V	II. Le	earni	ing R	esou	rces					
VII	a):	Tex	tboo	ks:													
SL		-					1	Nam	e of 1	the	E	ditio	n an	d			
No.		Title of the Book				k	1	911 811	thor			Edition and Vear			Name of the publisher		
	Ele	Elements of Mechanical						au				<u>r</u> ear			Subhash Publications		
1	En	ginee	ering		-14111		K R	Gopa	ıla Kı	rishna	, 201	.9			~011u0		
	Ele	emen	ts of	Wor	ksho	p	Hazı	ra Ch	oudh	ry and	201	0		N	Aedia	Pror	noters and
2	Te	chno	logy	(Vol	. 1 a	nd	Nirz	ar Ro	v	5	201	2010			Publishers Pvt.		

	2)										
VII(ł): Reference Books:		I								
1	An Introduction to Mechanical Engineering	Jonathan Wickert and Kemper Lewis	Third Edition	S Chand and Company							
2	Manufacturing Technology- Foundry, Forming and Welding,	P.N.Rao	Vol 1, 2019	Tata McGraw Hill							
3	Robotics	Appu Kuttan KK	volume 1	K. International Pvt Ltd,							
4	Automation, production system and CIM	Mikell P Grover	4 th edition, 2018								
VII(d	e): Web links and Video	Lectures (e-Resou	rces):								
•	https://youtu.be/cT9U	N1XENNk?si=EtVU	DGO8cHU5xW	VfY							
•	https://youtu.be/fw8Jf	oif1BM?si=IbGrPZS	PpcyW2BZq								
•	https://www.youtube.c	com/watch?v=mNOY	/S-duUJYEV E	lectrical Systems BASICS!							
https:	://rakhoh.com/en/applica	tions-and-advantage	s-of-steam-in-m	anufacturing- and-							
proce	ess-industry/										
•	Videos Makino (For]	Machine Tool Opera	tion)								
VIII	Activity Based Learnin	ng / Practical Based	Learning/Exp	eriential learning:							
$\begin{bmatrix} 1\\ 2\\ 3\\ 4 \end{bmatrix}$	 Visit to any manufacturing/aero/auto industry or any power plant Demonstration of lathe/milling/drilling/CNC operations Demonstration of working of IC engine Video demonstration of latest trends in mobility/rebeties 										
		i fatest trends in mo	Unity/1000tics								





BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060 Approved by AICTE, New Delhi. Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

|| Jai Sri Gurudev || Sri Adichunchanagiri Shikshana Trust (R)

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Semester:	I/II	C	ourse Type:	ESC										
Course Title : E	Basics of	Civi	l Engineering	5										
Course Code:		23CV	/T14B/24B			Credits:	3							
Teaching Hour	s/Week	(L:T	:P:O)		3:0:0:0	Total Hours:	40							
CIE Marks:	50)	SEE Mar	·ks:	50	Total Marks:	100							
SEE Type:			The	ory		Exam Hours:	3							
			<u> </u>	Cou	rse Objectives:									
 To make To develor applications To develor To develor 	 To make students learn the scope of various fields of ervir engineering. To develop student's ability to analyse the problems involving forces, moments with their applications. To develop the student's ability to find out the center of gravity and moment of inertia and their applications. 													
II. Teaching-Learning Process (General Instructions):														
Chalk and talk, videos, Power Point presentation, animations.														
. COURSE CONTENT														
Module-1: Introduction To Civil Engineering 8 Hours														
 Engineering, Hydraulics, Water Resources and Irrigation Engineering, Transportation Engineering, Environmental Engineering. Effect of the infrastructural facilities on socio-economic development of a country. BUILDING MATERIALS AND CONSTRUCTION: Properties and uses of building material used in construction, Types of foundations, walls, doors, windows and staircases. Textbook: H. J Sawant: Chapter-1: sections-1 Self-Learning: Smart materials used in construction 														
Module-2: Su	stainabl	le infr	rastructure				8 Hours							
 SOCIETAL AND GLOBAL IMPACT OF INFRASTRUCTURE INFRASTRUCTURE: Introduction to sustainable development goals, Smart city concept, clean cityconcept, Safe city concept ENVIRONMENT: Basic concepts of water supply and sanitary systems, urban air pollution management, Solid waste management, identification of Landfill sites, urban flood control. BUILT-ENVIRONMENT: Energy efficient buildings, recycling, Temperature and Sound control inbuildings, Security systems; Smart buildings. Textbook: H. J Sawant: Chapter 3 &4: Sections 3&4 Dr. Adv. Harshul Savla: Chapter 12Self-Learning: Sustainable practices in Infrastructure construction. 														
Module-3: Analysis of force systems 8 Hours														
ANALYSIS OF FORCE SYSTEMS: Concept of idealization, system of forces, principles of superposition and transmissibility, Resolution and composition of forces, Law of Parallelogram of forces, Resultant of concurrent and non-concurrent coplanar force systems, moment of forces, couple, Varignon's theorem, free body diagram, equations of equilibrium, equilibrium of concurrent and non- concurrent coplanar force systems – Numerical examples. Textbook: H. J Sawant: Chapter 6&8: Sections 6 & 8														

Self-Learning: Free body diagram for complex figures(3D) **RBT Levels: L1 L2 L3 Module-4: Friction and Projectiles** 8 Hours FRICTION: FRICTION: Introduction, Frictional force, Types of Friction- Static friction and Dynamic friction, Limiting friction, Laws of friction-Laws of Static friction and Laws of Dynamic friction, Angle of friction, Angle of Repose, Cone of friction, Ladder friction. Problems on Static Friction-Horizontal plane, Inclined plane, Interconnected bodies and ladder friction. PROJECTILEs: Projectile Motion, Relative motion, Numerical problems. Motion under gravity, Numerical problems. Textbook: H. J Sawant: Chapter 7&12: Sections 7 & 12Self-Learning: Pulley problems with friction **RBT Levels: L1 L2 L3 Module-5: Centroid and Moment of Inertia** 8 Hours **CENTROID:** Introduction, methods of determining the centroid, locating the centroid of simple figures from first principle, Centroid of composite and built-up sections – Numerical Examples. MOMENT OF INERTIA: Introduction, method of determining the second moment of area of plane sections from first principles, parallel axis theorem and perpendicular axis theorem section modulus, the radius of gyration, moment of inertia of composite area and built-up sections Numerical Examples. Concept of product of inertia (No problem). Textbook: H. J Sawant: Chapter 10&11: Sections 0&11 Self-Learning: Centroid & MOI for complex figures **RBT Levels: L1 L2 L3 IV.COURSE OUTCOMES** Summarize the various fields of civil engineering and importance of building materials. **CO1** Apply the knowledge of science to study the effect of force systems on the rigid bodies. **CO2 CO3** Analyse the action of force systems on the rigid bodies. **CO4** Determine the centroid and moment of inertia of regular and built-up sections. V.CO-PO-PSO MAPPING (mark H=3; M=2; L=1) PO/PSO 1 2 3 4 8 9 10 11 12 **S**1 S2 S3 S4 5 6 7 CO1 2 2 1 1 1 CO2 3 2 1 1 CO3 3 2 1 1 CO4 3 2 1 1 VI. Assessment Details (CIE & SEE) General Rules: Refer Appendix Section 1 Continuous Internal Evaluation (CIE): Refer Appendix Section 1 Semester End Examination (SEE): Refer Appendix Section 1 VII. Learning Resources VII(a): Textbooks: Name of the SI. No. Title of the Book **Edition and Year** Name of the author publisher Basic Civil Engineering and 1 Bansal R. K. 2015 Laxmi Publications Engineering Mechanics Elements of Civil Engineering and 2 2014 Kolhapure B K EBPB Engineering Mechanics Elements of Civil Technical Engineering and 3 H. J Sawant 2014 Publications Mechanics VII(b): Reference Books: Mechanics for 1 1987 Beer F.P. and Johnston E. R McGraw Hill

	Engineers, Statics											
	and Dynamics			NT A								
2	Mechanics	Bhavikatti S S	2019	New Age International								
3	Engineering Mechanics	Reddy Vijaykumar K	2011	BS publication								
4	Engineering Mechanics	Timoshenko S	5th Edition, 2017	Pearson Press								
5	Green Building:5Principles & PracticesDr. Adv. Harshul Savla2021Notion Press											
VII(c):	Web links and Video I	Lectures (e-Resources): <u>https://www</u>	v.youtube.com/watch?	v=nGfVTNfNwnk								
https://w	www.youtube.com/watcl	h?v=nkg7VNW9UCc										
https://w	ww.youtube.com/watch	n?v=aiT5mcuXf5Y&list=PLOSWwF	V98rfKXq2KBphJz95	orao/q8Ppw1&index=								
/ 1												
https://w	ww.youtube.com/watcl	$\frac{n!}{v} = v QRCC nR91KU}{h^{2}v} = 2VDV to L = aV4$										
https://w	www.youtube.com/watch	$\frac{11!\sqrt{-5!} \text{ DAUCL} - \frac{114}{2}}{2\sqrt{2}}$										
https://w	www.youtube.com/watch	$h_{v} = 3 I D A let - q I 4$										
https://w	www.youtube.com/watcl	$h^2 v = at_0 P5$ DeTPF										
https://w	www.youtube.com/watcl	$h^2v = ksmsn907AsI$										
https://w	www.youtube.com/watcl	$h^2v = x 1ef(0.48h^3)CF$										
https://w	www.youtube.com/watcl	$h^2v=1$ Nck-X49ac										
https://p	lay.google.com/store/ap	ps/details?id=appinventor.ai_igarc32	22.Resultant Force									
https://w	www.voutube.com/watcl	h?v=RIBeeW1DSZg										
https://w	www.youtube.com/watcl	h?v=R8wKV0UQtlo										
https://w	www.youtube.com/watcl	h?v=0RZHHgL8m A										
https://w	ww.youtube.com/watch	n?v=Bls5KnQOWkY										
https://w	www.youtube.com/watcl	h?v=nFBvLIfFFqI										
VIII: A	ctivity Based Learning	g / Practical Based Learning/Exper	iential learning:									
https://w	ww.youtube.com/watcl	n?v=Zrc_gB1YYS0										
https://pl	lay.google.com/store/ap	ps/details?id=vn.edu.best4u.com.bie	<u>udonoiluc</u>									
https://w	https://www.youtube.com/watch?v=Hn_iozUo9m4											
https://play.google.com/store/apps/details?id=com.teobou												
https://w	ww.youtube.com/watch	<u>n?v=WOHRp3V-QA0</u>										



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Approved by AICTE, New Delhi. Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

Semester:	I/IICourse Type:IESC											
Course Title	Progr	ammi	ng in C									
Course Code	:	23CI	PI15B/25E	3		Credits	: 4					
Teaching Ho	urs/W	eek (I	L:T:P:O)		3:0:2:0	Total Hours	: 40 + Lab slots					
CIE Marks:	50)	SEE M	arks:	50	Total Marks	: 100					
SEE Type:			Theor	y		Exam Hours:	3					
			I.	Cours	e Objectiv	es:						
I.Course Objectives: This course will enable students to: 1. Familiarize with writing of algorithms, flowchart and fundamentals of C. 2. Use of different Branching statements and loops 3. Use and implement data structures like arrays and structures. 4. Implement different programs using functions. 5. Define and use of pointers with simple applications. II .Teaching-Learning Process (General Instructions): These are sample Strategies, which teachers can use to accelerate the attainment of thevarious course outcomes. 1. Lecturer method (L) need not to be only traditional lecture method, but alternativeeffective teaching methods could be adopted to attain the outcomes. 2. Use of Video/Animation to explain functioning of various concepts. 3. Encourage collaborative (Group Learning) Learning in the class. 4. Ask at least three HOT (Higher order Thinking) questions in the class, which promotescritical thinking. 5. Adopt Problem Based Learning (PBL), which fosters student's Analytical skills, develop design thinking skills such as the ability to design, evaluate, generalize, and analyze information rather than simply recall it. 6. Introduce Topics in manifold representations. 7. Show the different ways to solve the same problem and encourage the students to comeup with their own creative ways to solve them. 8. Discuss how ever												
Basic organization of computers. Programming Basics & Overview of C: Introduction, Problem solving. Introduction to C,												
Basic structure Textbook1: C	e of C _l C hapte	progra r1, Te	m, Progra xtbook2:	mming 3.1.3.	g style. 2, 3.7, 3.8.	3.9.						
RBT Levels:	1				_,,,							
Module-2: Ba	nsics of	f C.					8 Hours					

C-tokens	and Data types: Introduction, Character set,	C Tokens, Declaration of
variables,	Storage class, Assigning values to variables, S	ymbolic constants.
Managing	g I/O operations and operators: Managing I/O	D operations, Operators and
Expression	ns.	
Control	statements: Conditional and Un condition	onal branching statements with
programm	ing examples. Looping statements, break and c	continue statements.
Textbook	2: Chapter 4: 4.1-4.7, Chapter 5, Chapter 6	, Chapter 8, Chapter 9.
RBT Lev	els: 1,2	
Module-3	8: Arrays and Strings.	8 Hours
Arrays: (Dne-Dimensional Array, Two-Dimensional A	Arrays (Declaration and Compile
Time and	Run Time Initialization), reading and displayin	g arrays, Searching and Sorting.
Strings:	Introduction, Character Arrays, Declaring a	nd Initializing String Variables,
Reading S	Strings from Terminal, Writing Strings to S	Screen. Various String Handling
Functions	with programming examples.	
Textbook	2: Chapter 10 and 11.	
RBT Lev	els:2,3,4	
Module-4	: Functions and files.	8 Hours
User Defi	ned Functions:	
Need for	Functions, Types of functions, function defi	nition, declaration and its scope,
Category	of functions Storage classes (Automatic, Static,	, Extern, and Register).
Recursion	: Introduction recursion, types in recursive fu	nction, programming examples on
recursive	functions.	
Files: Intr	oduction to Files, Types of Files, declaring a	File Pointer Variable, opening a
File, Clos	ing a File, Read Data From Files, Writing Dat	ta to Files, Detecting the End Of-
File		
Textbook	2: Chapter 7, Textbook 1: Chapter 11: 11.9	, Chapter 16.
RBT Lev	els:2,3,4	
37 1 1 4		
Module-3	5: Pointers and UDT.	8 Hours
Nodule-: Pointers:	5: Pointers and UDT. Declaration and Initialization of pointers, Obta	8 Hours
Pointers: variable, p	5: Pointers and UDT. Declaration and Initialization of pointers, Obta pointer arrays, programming examples on point	8 Hours ining a value of a pointer ers.
Pointers: variable, p User defi	5: Pointers and UDT. Declaration and Initialization of pointers, Obtapointer arrays, programming examples on point ned data types : Introduction to structures, un	8 Hours ining a value of a pointer ers. ions, and enumerated data types-
Pointers: variable, p User defin Declaratio	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation of pointers, Obtation of pointer arrays, programming examples on pointer arrays . Introduction to structures, un n and Initializing of variables, Accessing s	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator
Pointers: variable, p User defi Declaratio members,	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point ned data types : Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structu	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures,
Pointers: variable, p User defin Declaration members, Structures	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point ned data types : Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structu and functions.	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures,
Pointers: variable, p User defi Declaratio members, Structures Textbook	 5: Pointers and UDT. Declaration and Initialization of pointers, Obtation of pointer arrays, programming examples on point and data types: Introduction to structures, un and Initializing of variables, Accessing s Arrays of structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. 	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures,
Pointers: variable, p User defin Declaration members, Structures Textbook RBT Lev	5: Pointers and UDT. Declaration and Initialization of pointers, Obtate pointer arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures,
Pointers: variable, p User defi Declaratio members, Structures Textbook RBT Lev	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation originates arrays, programming examples on point and data types: Introduction to structures, un and Initializing of variables, Accessing s Arrays of structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PA	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, RT
Vodule-3 Pointers: variable, p User defi Declaratio members, Structures Textbook RBT Lev Sl. No.	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation opinter arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structu and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PAL Experiments / Programs	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, RT a / Problems
Vodule-3 Pointers: variable, p User defin Declaration members, Structures Textbook RBT Lev Sl. No. 1	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation originates arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structu and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PAL Experiments / Programs Write a C Program to find area of a rectangular	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land
Vodule-3 Pointers: variable, p User defi Declaratio members, Structures Textbook RBT Lev Sl. No. 1 2	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structu and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PAL Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land for a four stroke gas engine.
Module-3Pointers:variable, pUser definDeclarationmembers,StructuresTextbookRBT LevSl. No.123	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point ned data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structur and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PALE Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator.	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land for a four stroke gas engine.
Module-3Pointers:variable, pUser definDeclarationmembers,StructuresTextbookRBT LevSl. No.1234	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point ned data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structures and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PARE Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the
Module-:Pointers:variable, pUser definDeclarationmembers,StructuresTextbookRBT LevSl. No.1234	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation originates arrays, programming examples on point and data types: Introduction to structures, un on and Initializing of variables, Accessing s Arrays of structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PALE Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond
Module-:Pointers:variable, pUser definDeclarationmembers,StructuresTextbookRBT LevSl. No.1234	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point and data types: Introduction to structures, un and Initializing of variables, Accessing s Arrays of structure, Arrays within structures and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PALE Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT 6 / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond a minimum of Rs.100 as meter
Module-:Pointers:variable, pUser definDeclarationmembers,StructuresTextbookRBT LevSl. No.1234	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point ned data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structures and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PATE Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a charge. If the total amount is more than Rs 400	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond a minimum of Rs.100 as meter 0, then an additional surcharge of
Module-:Pointers:variable, pUser definDeclaraticmembers,StructuresTextbookRBT LevSl. No.1234	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation onter arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structur and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 <u>III(b). PRACTICAL PALE Experiments / Programs</u> Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a charge. If the total amount is more than Rs 400 15% of total amount is charged. Write a program	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond a minimum of Rs.100 as meter 0, then an additional surcharge of am to read the name of the user,
Nodule-: Pointers: variable, p User defin Declaration members, Structures Textbook RBT Lev Sl. No. 1 2 3 4	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation ointer arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PAL Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a charge. If the total amount is more than Rs 400 15% of total amount is charged. Write a progra	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT 6 / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond minimum of Rs.100 as meter 0, then an additional surcharge of am to read the name of the user, arges.
Nodule-: Pointers: variable, p User defin Declaration members, Structures Textbook RBT Lev Sl. No. 1 2 3 4	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation pointer arrays, programming examples on point and data types: Introduction to structures, un n and Initializing of variables, Accessing s Arrays of structure, Arrays within structures and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PATE Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a charge. If the total amount is more than Rs 400 15% of total amount is charged. Write a program number of units consumed and print out the ch Write a C Program to generate prime numbers	8 Hours ining a value of a pointer ers. ions, and enumerated data types- tructure, union, and enumerator res, Structure within structures, RT 6 / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond minimum of Rs.100 as meter 0, then an additional surcharge of am to read the name of the user, arges. up to a given range.
Module-:Pointers:variable, pUser definDeclarationmembers,StructuresTextbookRBT LevSl. No.123456	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation onter arrays, programming examples on point and data types: Introduction to structures, un and Initializing of variables, Accessing s Arrays of structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PAL Experiments / Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a charge. If the total amount is more than Rs 400 15% of total amount is charged. Write a progra number of units consumed and print out the ch Write a C Program to generate prime numbers Compute sin(x)/cos(x) using Taylor series app	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT 6 / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond a minimum of Rs.100 as meter 0, then an additional surcharge of am to read the name of the user, arges. up to a given range. roximation. Compare your result
Module-:Pointers:variable, pUser defilDeclarationmembers,StructuresTextbookRBT LevSl. No.123456	5: Pointers and UDT. Declaration and Initialization of pointers, Obtation of the arrays, programming examples on point and data types : Introduction to structures, uning and Initializing of variables, Accessing structure, Arrays within structure and functions. 1: Chapter 14: 14.1 to 14.12, Chapter 15. els:2,3,4 III(b). PRACTICAL PATER Programs Write a C Program to find area of a rectangular Write a C Program to calculate IHP, BHP, CR Simulation of a Simple Calculator. An electricity board charges the following rate first 200 units 80 paisa per unit: for the next 10 300 units Rs 1 per unit. All users are charged a charge. If the total amount is more than Rs 400 15% of total amount is charged. Write a program to generate prime numbers Compute sin(x)/cos(x) using Taylor series approximation. Print both the built-in library function. Print both the function of the prime function. Print both the function	8 Hours ining a value of a pointer ers. ions, and enumerated data types- itructure, union, and enumerator res, Structure within structures, RT a / Problems r plot of land for a four stroke gas engine. s for the use of electricity: for the 00 units 90 paisa per unit: beyond a minimum of Rs.100 as meter 0, then an additional surcharge of am to read the name of the user, arges. up to a given range. roximation. Compare your result e results with appropriate
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9	In	Implement Matrix multiplication and validate the rules of multiplication.Write functions to implement string operations such as copy and concatenate															
10	 Write functions to implement string operations such as copy and concatenate using user defined functions. Write functions to implement string operations such as compare, reverse and find tring length. Use the personal string operation is a string operation. 																
	us	sing u	iser o	lefi	ned fi	incti	ons.										
11	W	rite f	funct	ion	s to in	npler	nent	stri	ng op	peration	ons s	uch	as com	pare	, rev	erse and find	
10	st	$r_1 ng l$	lengt	h. L	Jse th	e par	ame	ter p	$\frac{1}{1}$	$\frac{1}{1}$	hniq	ues.	1 '		1	•	
12	W fu	rite a	a pro	grai	m to c	conve	ert gi	ven	decii	mal n	umb	er to	binary	nun	iber	using	
13	In	nnlen	nent	stru	cture	s to r	read	wri	te and	1 com	mute	ave	rage_ m	arks	oft	he students	
10	lis	st the	stud	ent	s scor	ing a	bove	e ano	d belo	ow th	e ave	erage	e marks	for	a cla	iss of N	
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14	D	evelo	p a p	orog	gram u	using	poi	nters	s to c	ompu	ite th	e sur	n, mea	n an	d sta	ndard	
	de	eviati	on o	f all	elem	ents	store	ed ir	ı an a	rray	of N	real	number	rs.			
15	W	rite a	a C p	rog	ram to	o cop	y a t	text	file to	o ano	ther,	read	ing bot	h th	e inp	out file name	
	ar	nd tar	get f	ile 1	name.												
IV.COURSE OUTCOMES																	
CO1 Illustrate the basic constructs of C language.																	
CO	O2 Understand and apply suitable syntax for various problems.																
CO	2 C	Construct programming solutions for various basic problems.															
CO	3 I1	mplei	ment	pro	gram	s usi	ng pi	robl	em so	olving	g skil	ls.					
		V.CO-PO-PSO MAPPING (mark H=3; M=2; L=1)															
PO/PSO	1	1 2 3 4 5 6 7 8 9 10 11 12 S1 S2									S2	S3	S4				
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CO2	2		1														
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CO4	CO4 2 2																
					VI.As	ssess	men	t Do	etails	(CII	E & S	SEE))				
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Semes	ster]	End	Exai	nin	ation	(SE	E): I	Refe	r Ap	pendi	x sec	tion	2				
						VII.	Lea	rnin	ig Re	sour	ces						
VII(a):	Tex	tboo	ks:														
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1	Com fund and prog C	puter amentals Reema Thareja ramming in							3 rd Edition, 2023				Oxf Nev	Oxford Unversity Press, New Delhi			
2	2 Programming in E. ANSI C Balaguruswamy								7" Ec	lition	-		Tata	ı Mo	Grav	w- Hill	
VII(b):	Ref	eren	ce B	ook	s:												
	The	'C'		I	Brian	W.	-									1 07 1	
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	Prog	bgramming Sumitabna Das Mc Graw Hill Education															

VII(c): Web links and Video Lectures (e-Resources):

1. elearning.vtu.ac.in/econtent/courses/video/BS/15PCD23.html

2. https://nptel.ac.in/courses/106/105/106105171/ MOOC courses can be adopted for more clarity in understanding the topics and verities of problem solving method

3. https://tinyurl.com/4xmrexre

VIII: Activity Based Learning / Practical Based Learning/Experiential learning:

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning • Quizzes

- Assignments
- Seminar



S



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|| Jai Sri Gurudev || Sri Adichunchanagiri Shikshana Trust (R)

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Semester:	I/II		Course Type:		IESC				
Course Tit	le: Engi	ineeı	ing Visualization	1					
Course Co	de:	23	CDI15B/25B		Credits	: 4			
Teaching H	Iours/V	Veel	x (L:T:P:O)	3:0:2:0	Total Hours	: 40 + Lab slots			
CIE Marks	:: 50)	SEE Marks	Total Marks	: 100				
SEE Type	:		Theory	·	Exam Hours:	3			
			•	I. Course Ob	jectives:				
This course 1. Attai 2. Unde 3. Visu 4. Enur 5. Acqu • Adop presentat • Adop • Adop • Adop • Adop • Adop • Adop • Adop	 This course will enable students to: Attain the basic principles and conventions of engineering drawing Understand the use of drawing as a communication mode Visualize 2D and 3D pictorial views using CAD software Enumerate the concepts of development of lateral surfaces Acquire multi-disciplinary concept of applications II. Teaching-Learning Process (General Instructions): Adopt different types of teaching methods to develop the outcomes through Power point presentations and Video demonstrations. Adopt teaching methods by using working models Adopt collaborative (Group Learning) Learning in the class. Adopt Problem Based Learning (PBL), which foster students Analytical skills and develops thinking skills such as evaluating generalizing and analysing information with the use of 								
modern te	ools.			NIDSE CON	TENT				
Module-1.			111.00	JURSE CON		8 Hours			
Introductio	n۰					0 110013			
Significance sketching of ordinate sys Orthograpl Introduction Orthographi Orthograph lamina. (Pl Pre-requisi	e of Er engine tems ic Proj to Ortl c projec nic projec aced in tes (Sel	igine eering jecti hogr ction ectio Firs f Le	ering drawing, g drawing, Scales ons of Points, Li aphic projections s of lines. (Place ns of planes viz at quadrant only- arning): Basics of	BIS Convent s. Introduction ines and Plan s, Orthographi d in First quad triangle, squar <u>Change of po</u> of Geometry	tions of Enginee to Computer Aid es: to projections of p drant only) re, rectangle, pent sition method).	ring Drawing, Free hand ded Drafting software, Co- points in all the quadrants. tagon, hexagon and circular			
RBT Levels	:: L1, L	.2, L	3						
Module-2:						8 Hours			
Orthograph Orthographi Prisms & P Cubes. Pre-requisi	nic Projec c projec yramid tes (Sel	jecti ction s (tr f Le	on of Solids: of right regular iangle, square, r arning): Basics of	solids (Solids ectangle, pen of Geometry	Resting on HP on tagon, hexagon),	ly); Cylinders, Cones &			
RBT Levels	:: L1, L	.2 <u>,</u> L	3						
Module-3:						8 Hours			

Isom	sometric Projections:																
ISOM	Isometric scale, Isometric projection of right regular prisms, pyramids, cylinders, cones and																
spheres. (Isometric projection of combination of two simple solids.) Frustum of cone & square																	
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Mod	ule-	4:	-		<u> </u>										8 H	lours	
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Deve	lopı	nent of	late	eral s	urfac	es of	f rig	ht reg	gula	r prisms, c	ylin	ders	, pyra	amids	and c	cones	resting
with	base	e on HP o	onl	<u>y.</u>	Dev	elopr	nent	of the	eir f	rustums an	id tru	inca	tions.				
Pre-r	equ	lisites (S	elf	Lear	ning): Ba	ISICS	of Ge	eome	etry							
RBT	Le	vels: L1,	Ľ	2, L3													
Mod	ule-	5: Multi	dis	scipli	nary	App	licat	ions e	& P	ractice:					8 H	lours	
Elect	ric	Wiring	an	d lig	hting	diag	gran	ns: A	utor	natic fire a	alarm	ı, Ca	all be	ll syst	tem, I	JPS s	ystem,
Basic	po	wer	(distrit	oution	ı syst	tem 1	using	suit	able softwa	are			-		-	
Elect	r on i	cs Engin	eei	ring D)rawi	ngs-	Sim	ple El	ectr	onics Circu	iit D	rawi	ngs.				
Pre-	-req	uisites (Sel	lf Lea	ırnin	g): B	Basic	s of D)raw	ving							
RB	ΓL	evels: L	l, I	.2, L.	3												
						IV	<i>v</i> .CC	OURS	E O	UTCOMI	ES						
CO	1	Understar	nd a	nd vis	sualiz	e the	objec	cts wit	h de	finite shape	and	dime	ension	S			
CO	2	Analyse t	he s	shape	and si	ze of	obje	ects the	roug	h different v	views	3					
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		epresenta	uio	11.													
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CO4	3	2			2					2			1				
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5	Visualisation, T Madhusudhan Edition,																

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	Engineering Drawing:	J., Duff John M.,	Economy	Delhi,				
1	with an Introduction to		Edition,					
4	Interactive Computer		2005.					
	Graphics for Design and							
	Production,							
VII(	b): Reference books:							
1	Engineering Drawing,	Parthasarathy N. S., Vela Murali,	2015	Oxford University Press,				
2	Printed Circuit Board Design using AutoCAD,	Chris Schroder,	1997	Newnes				
3	Electrical power distribution,	A S Pabla,	6th edition,	Tata Mcgraw hill				
4	Electrical Engineering Drawing,	Bhattacharya S. K.,	second edition 1998	New Age International publishers, ,				
VII(	c): Web links and Video l	Lectures (e-Resou	rces):					
NPT	ELVideos: <u>https://youtube</u>	e.com/playlist?list=	=PLp6ek2	hDcoNCjoRLQ4rjpCozisCACBxKA				
VIII	: Activity Based Learning	g / Practical Base	d Learnin	g/Experiential learning:				
Activ	Activities like Model Preparation & Presentation, self-study activities.							







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Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

Semester:	I/II	Course Type:			IBSC					
Course Title	Course Title: Physics of Condensed Matter									
Course Code	e:	23PHI12B/22E			Credits:	4				
Teaching Ho	ours/W	eek (L:T:P:O)		2:2:2:0	Total Hours:	40+ Lab slots				
CIE Marks:50SEE Marks:50Total Marks:100										
SEE Type:		Theo	ory		Exam Hours:	3				
	ICourse Objectives:									
1.         To stu           2.         To stu           3.         To stu           4.         To ur           5.         To ur	<ol> <li>To study the principles of quantum mechanics.</li> <li>To study the electrical properties of materials and basic concepts of nano materials.</li> <li>To study the essentials of photonics for engineering applications.</li> <li>To understand the fundamentals of vector calculus and EM waves.</li> <li>To understand the operations of different instruments and to analyze experimental results.</li> </ol>									
Some of the	adantad	II I eachin	g-Leai	rning Process (	General Instruc	tions):				
1. Chalk 2. Blenc 3. Simu 4. Smar 5. Lab E	<ul> <li>Some of the adapted methods in teaching learning methods are</li> <li>1. Chalk and Talk</li> <li>2. Blended Mode of Learning</li> <li>3. Simulations, Interactive Simulations and Animations</li> <li>4. Smart Classroom</li> <li>5. Lab Experiment Videos</li> </ul>									
	<u>^</u>	I	II.CO	URSE CONTI	ENT					
			III	(a).Theory par	rt					
Module-1:M	odern l	Physics & Quant	um Me	chanics		8 Hours				
Modern Phys -Boltzmann la Planck's law of Quantum M Application of properties and of one-diment Applications Numerical pro	sics: In aw and of radia <b>lechan</b> iof unce d physional of Schoblems.	troduction to blac. Planck's law (qu tion. de-Broglie h ics: Heisenberg's ertainty principle cal significance. I time independent prodinger's wave	kbody alitativ ypothes unce - Nor Probabi Schrö equati	radiation spectr e), Deduction sis. rtainty princip e-existence of lity density an dinger wave e on: Particle in	rum- Wien's law, of Wien's law an ole – statement electron in the d normalization of equation. Eigen f n a one-dimensio	Rayleigh Jean's law, Stefan ad Rayleigh Jeans law from and physical significance. nucleus. Wave function - of wave function. Setting up unctions and Eigen values. onal infinite potential well,				
Engineering physics by G. Aruldhas: Chapter: 9- Quantum Mechanics Engineering Physics by R K Guptha and R K Gaur: Chapter: 56-Quantum Theory 57-Waves and particle Pre-requisites (Self Learning): Phase velocity and group velocity										
<b>RBT</b> Levels:	L1 - R	emembering, L2 -	- Under	rstanding, L3 –	Applying.					
Module-2:El	ectrica	l properties of ma	aterials	5		8 Hours				
Electrical Pr theory. Postul velocity, Fern conductivity electron theor Semiconduct	Module-2:Electrical properties of materials         8 Hours           Electrical Properties: Review of classical free electron theory, limitations of classical free electron theory. Postulates of quantum free electron theory, Density of states (qualitative), Fermi energy, Fermi velocity, Fermi temperature, Fermi factor and its dependence on energy and temperature. Electrical conductivity (qualitative expression using effective mass and Fermi velocity). Merits of quantum free electron theory.           Semienduction         Introduction									

Page 26

semiconductor, Expression for the concentration of electrons in the conduction band and Holes concentration in valance band (only mention the expression), Fermi level in intrinsic and extrinsic semiconductors, Hall effect, Expression for Hall coefficient (derivation). Applications of Hall effect-Hall thrusters, Numerical problems

Modern Engineering Physics S.L. Guptha and Sanjeev Guptha: 19-Free electron theory and Chapter: 21-Semiconductor physics

#### Engineering Physics by R K Guptha and R K Gaur: Chapter: 60-Classifications of solids

Pre-requisites (Self Learning): Concepts of electric current	
<b>RBT Levels:</b> L1 – Remembering, L2 – Understanding, L3 – Applying,	
Module-3: Lasers and Optical fibers	8 Hours

**Lasers:** Interaction of radiation with matter, Einstein's coefficients (derivation of expression for energy density). Requisites of a Laser system. Conditions for Laser action. Principle, Construction, and working of semiconductor Laser. Application of Lasers in Defence (Laser range finder).

**Optical Fibers:** Propagation mechanism, angle of acceptance, Numerical aperture, Modes of Propagation, Types of optical fibers, Attenuation and Mention the expression for attenuation coefficient. Discussion of a block diagram of point-to-point communication, Merits, and demerits of Optical fiber, Optical fiber sensors- displacement sensor, Numerical problems.

Modern Engineering Physics S.L. Guptha and Sanjeev Guptha: 4- Lasers and Holography and Chapter: 5- Fiber Optics

Applied Physics for engineers by P K Diwan: Chapter:4- Lasers Chapter: 5 – Optical fiber Pre-requisites (Self Learning): Basic mechanism of sensors

	e,							
<b>RBT Levels:</b> : L1 – Remembering, L2 – Understanding, L3 – Applying,								
Module-4: Maxwell's Dielectrics	equations, Electro	Magnetic waves an	d 8 Hours					

**Maxwell's equations:** Fundamentals of vector analysis. Divergence and curl of electric field and magnetic field (static), Gauss' divergence theorem and Stokes' theorem. Current density & equation of Continuity; displacement current (with derivation) Maxwell's equations in vacuum.

**Electro Magnetic waves:** The wave equation in differential form in free space (Derivation of the equation using Maxwell's equations), Plane electromagnetic waves in vacuum, their transverse nature.

**Dielectric materials:** Polar and non-polar dielectrics, internal fields in a solid, Clausius Mossotti equation (Derivation), Application of dielectrics in transformers, Numerical problems.

Engineering physics by G. Aruldhas: Chaptar 2: Electromagnetic theory

Engineering Physics by R K Guptha and R K Gaur: Chapter: 53-Maxwell equations and Electromagnetic waves

Pre-requisites (Self Learning): Basics of electromagnetic waves

**RBT Levels:** : L1 – Remembering, L2 – Understanding, L3 – Applying.

Module-5:Modern Engineering Materials	8 Hours
---------------------------------------	---------

**Nano Materials:** Introduction to Nano materials, Surface to volume ratio, Quantum confinement – Quantum well, Quantum wire, Quantum dot. Carbon Nano tubes, types, properties, Synthesis of carbon nano tubes - Arc discharge method, Applications.

Transmission Electron Microscopy (TEM), Scanning Electron Microscope (SEM), Application of SEM in analysis of Molecular size, Numerical problems.

Engineering physics by G. Aruldhas: Chaptar 16: Nano technology

Pre-requisites (Self Learning): Properties of materials

**RBT Levels:**L1 – Remembering, L2 – Understanding, L3 – Applying.

	III(b). Practical part
Sl.	Experiments
No.	
1	Measurement of Wavelength of LASER using Diffraction Grating
2	Determination of Numerical Aperture using optical fiber
3	Determination of resistivity of a material using Four Probe Method
4	Measurement of dielectric constant by Charging and Discharging method of a Capacitor
5	Study of Input and output characteristics of a Transistor

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0	Stuc	$\frac{1}{1}$		naracte	ristic	cs P	hoto-Di	ode	1.D	11 1 1		·.				
7	Stuc	Magnument of Magnetic Eigld at any noint along the article for simular asil														
8	Ivieasurement of Magnetic Field at any point along the axis of a circular coil															
9	Determination of Plank's Constant using LEDs.															
10	Determination of Fermi Energy of a conductor															
11	Determination of unknown components (L.C.and R) using Black Box															
12	Verification of Stefan's law															
13	Part	icle s	size d	etermi	natio	n us	sing LA	SER	sou	ce						
14	PHF	ET In	terac	tive Si	mula	tion	S									
Instructions for conduction of practical part:         Any Ten Experiments must be completed from the list of experiments.         Each experiment to be evaluated for conduction with observation sheet and record writeup. Rubrics for the evaluation of the write-up for experiments designed by the faculty who is handling the laboratory session and is made known to students at the beginning of the practical session.         • Record should contain all the specified experiments in the syllabus and each experiment write-up willbe evaluated for 50 marks.         • Average marks scored by the students from all the experiments are considered.         • Weightage to be given for neatness and submission of record/write-up on time.         • Department shall conduct 01 test for 50 marks, test shall be conducted after the completion of prescribed experiments.         • In each test, test write-up, conduction of experiment, acceptable result, and procedural knowledgewill carry a weightage of 80% and the rest 20% for viva-voce.         IV.COURSE OUTCOMES         CO1       Discuss the fundamental principles of Quantum Mechanics         CO2       Elucidate the concepts of conductors and semiconductors         CO3       Describe the principles of LASERS and Optical fibers and their relevant applications.         CO4       explain basic concepts of nanoscience and technology and its applications																
	non	ust II	icasu	V	<u></u> Со т		DSO M	ADI		(mor	l₂ ⊔_2.	M-2.I-	-1)			
PO/PSO	1	2	3	<u>v.</u> 4	5	6	7	8	9	10	11 1	12 <u>12</u>	S1	S2	S3	S
								<u> </u>								3
CO1	3	2	-	-	-	-	-	-	-	-	-	2		<u> </u>		
CO2	3	2	-	-	-	-	-	-	-	-	-	2				
	2	2	-	-	-	-	-	-	-	-	-	2				
C04 C05	3	$\frac{2}{2}$	1	-	2	-	-	-	- 3	-	-	$\frac{2}{2}$				
0.03	5	2	1	_	V	- [_A	- ssessme	ent I	)etai	- ls (CI	- E & SF	<u>(EE)</u>				
Carr	oral	D1	ла <b>.</b> П	ofor 1	• • • •					~ (01		,				
Gen		INUI (	<del>.</del> s: K	eler A	pper		sectio	11 2								
Con	tinuc	ous l	Inter	nal Ev	valu	atio	on (CII	E): F	Refer	App	endix s	section 2				
Sem	ester	·En	d Ex	amina	tion	1 <b>(S</b>	EE): R	efer	App	endiz	x sectio	on 2				
							VII.Le	arni	ng R	esour	ces					
VII(a):	Text	book	ks:													
Sl. No.	a): Textbooks:         Title of the Book       Name of the author         Edition and Year       Name of the publisher															

1	A Taythook of	M.N. Avadhanulu and	10th ravised	S Chand & Company
1		DC Valinas and		I tal New Dalla
	Engineering Physics	P.G. Ksnirsagar,	Ea,	Ltd, New Deim
2	An Introduction to	M.N. Avadhanulu and	Revised	S.Chand and Company Ltd -New
	Lasers theory and	P.S. Hemne	Edition 2012.	Delhi.
	applications by			
3	Modern Engineering	S L Gaur and Sanieey	2017.	Dhanpat Rai Publications
-	Physics	Gunta		
4	Cancente of Modern	Authur Deigen	(th E.J. 2006	Tata MaCasar Ikili Edu Dat I ta
4	Concepts of Modern	Arthur Beiser	o ^m Ed; 2006	Tala McGraw Hill Edu Pvi Lid-
	Physics			New Delhi
5	Fundamentals of Fibre	B.P. Pal	2 nd Ed; 2015	New Age International Publishers
	Optics in			
	Telecommunication &			
	Sensor Systems			
6	Introduction to	David Griffith	4th Ed. 2017	Cambridge University Press
U			4 Eu, 2017	Cambridge Oniversity Tress
	Electrodynamics		0 (F 1 0011	
7	Lasers and Non-Linear	B.B. Laud	3 rd Ed; 2011	New Age International Publishers
	Optics			
8	LASERS Principles,	K.R. Nambiar	1 st Ed; 2004	New Age International Publishers
	Types and Applications			
9	Solid State Physics	S O Pillai	8th Ed: 2018	New Age International Publishers
	Sona State I hysies		0 14, 2010	riew rige international ruonshers
10	Engineering physics	G. Aruldhas	1 st Ed;2010	Eastern Economy Edition
VII(	(b): Reference Books:			
1	Engineering Physics	S P Basvaraju	CBCS edition	Subhas Publications
_	8			
2	Applied Physics Lab	Anoon Sing Yaday	1st Ed	Vavu Education of India
-	Manual	r moop sing ruduv	1 1.4	v uyu Education of main
2	Fraincering Dissoine	D K Curthe and D K	Oth Desired	Dhannat Bai Duhliastiana
3	Engineering Physics	R K Guptha and R K	8 th Revised-	Dhanpat Rai Publications
		Gaur	2001	
4	Applied Physics for	P K Diwan	2014	Wiley Publications
	engineers			
VII	(c): Web links and Video	Lectures (e-Resources	):	
Man	tion the links of the online		iala ata	
Men	tion the links of the onlin	e resources, video mater	lais, etc.	
nttp	s://vlab.amrita.edu/?sub	=1 & brch=282 & sim=1:	S12&cnt=1	
http	s://vlab.amrita.edu/?sub	=1&brch=282∼=8	/9&cnt=1	
http	s://vlab.amrita.edu/inde	x.php?sub=1&brch=18	39∼=343&o	ent=1
http	s://bop-iitk.vlabs.ac.in/b	asics-of-physics/List%2	20of%20experi	ments.html
http	s://virtuallabs.merlot.or	g/vl physics.html		
httn	s://phet.colorado.edu	~ _x v		
httn	s://www.mynhysicslah.c	om		
VIII	. A ativity Basad I agent	ng / Draatiaal Dagad I a	orning/Evneri	ontial loarning.
V 11	Activity Dased Learni	ng / Fractical Based Le	arning/Experie	enuar learning:
Sem	inar, assignments, duiz, c	ase studies, self-study ac	tivities, group of	liscussions



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Semester:	I/II	Course Type:		IBSC							
<b>Course Title</b>	: Functi	onal materials ar	nd ma	terials chemistry							
Course Code		23CHI12B/22E	3		Credits:	4					
<b>Teaching Ho</b>	ours/We	eek (L:T:P:O)		2:2:2:0	<b>Total Hours:</b>	40 + Lab slots					
CIE Marks:	5	0 SEE Ma	50	Total Marks:	100						
SEE Type: Theory					Exam Hours:	3					
I. Cour	se Obje	ectives:									
<ol> <li>To en applic</li> <li>To de engine</li> <li>To pr societ</li> </ol>	<ol> <li>To enable students to acquire knowledge on principles of chemistry for engineering applications.</li> <li>To develop an intuitive understanding of chemistry by emphasizing the related branches of engineering.</li> <li>To provide students with a solid foundation in analytical reasoning required to solve societal problems.</li> </ol>										
II. Teaching	g-Learn	ing Process (Ge	neral	Instructions):							
<ul> <li>Tutoria</li> <li>Tutoria</li> <li>Condu</li> <li>Demon</li> <li>Experimenthom</li> <li>Use of</li> <li>Use of</li> </ul>	<ul> <li>These are sample strategies, which teacher can use to accelerate the attainment of the various course outcomes and make Teaching–Learning more effective</li> <li>Tutorial &amp;remedial classes for needy students</li> <li>Conducting Makeup classes/Bridge courses for needy students</li> <li>Demonstration of concepts either by building models or by industry visit</li> <li>Experiments in laboratories shall be executed in blended mode(conventional or non-Convention methods)</li> <li>Use of ICT–Online videos, online courses</li> <li>Use of online platforms for assignments/Notes/Ouizzes(Ex. Google classroom)</li> </ul>										
		III	. CO	URSE CONTENT							
III(a). THE	ORY P	ART				8 Hours					
Green Chem chemistry. Va explanation w Adipic acid – C Green fuel: H Membrane Ele Preparation an as electrolyte). Textbook:Cha Chapter 1,2,4 Pre-requisites construction an	istry: B rious gr ith exam Conventi ydrogen- ectrolysis d Applic apter: S ,6:Section (Self L ind workin	<ul> <li>try: Basic principles of green chemistry -brief discussion on 12 principles of green dous green chemical approaches – Microwave synthesis, Bio catalyzed reaction (onl h examples), Synthesis of typical organic compounds by conventional and green route onventional synthesis from Benzene, Green synthesis from glucose.</li> <li>drogen-production by electrolysis of water (Alkaline water electrolysis, Proton Exchange trolysis and solid oxide electrolysis) and applications in hydrogen fuel cells. Biodiese Applications. Construction, working and applications of Methanol-Oxygen fuel cell (H₂SC pter: Sections-An Introductory Text on Green Chemistry by Indu Tucker Sidhwan Sciention 1.1,2.1-2.13,4.5.2-4.5.3,6.2,6.3</li> <li>(Self Learning) : Atom economy-synthesis of ethylene oxide and methyl methacrylated working of H₂-O₂ fuel cell</li> </ul>									
<b>RBT</b> Levels	RBT Levels: L1,L2,L3										

**Module-2:**Corrosion Science and E-waste Management

8 Hours
Corrosion: Introduction, Electrochemical theory of corrosion, Types of corrosion - Differential metal and differential aeration (pitting and water line). Corrosion Penetration Rate (CPR), numerical problems on CPR.

Corrosion Control: Anodizing - Anodizing of Aluminium, Cathodic protection - sacrificial anode, Metal coatings – Galvanization. Electroplating-Electroplating of Cr.

E-Waste: Introduction, sources of e-waste, Composition, Characteristics, and Need of E-waste management, effects of e-waste on environment and human health, methods of disposal and its advantages. Extraction of copper and gold from e-waste.

Textbook:Chapter: Sections: E-Waste ManagementChallenges and Opportunities in India by VarshaBhagat-Ganguly: Chapter 1.4.6: Section 1.1.4.1.6.1

Engineering Chemistry by R V Gadag: Chapter 6: Section: 6.3, 6.4, 6.5, 6.6, 6.7

Pre-requisites (Self Learning): Organic coatings: Paint, components of paints and their functions. Varnish, definition, differences between paints varnishes. Impact of heavy metals on environment and human health

**RBT Levels:L1,L2,L3** 

Module-3:Renewable and Alternate energy sources Energy Sources: Introduction, definitions of CV, LCV, and HCV determination of calorific value of solid/liquid fuel using bomb calorimeter, numerical problems.

Modern batteries- Components, battery characteristics, construction, working and applications of; i)Na-ion battery,

ii) Li-ion battery.

Super capacitors-Introduction and application in electric vehicles

Electrode System: Introduction, types of electrodes. Ion selective electrode - definition, construction, working and applications of glass electrode. Concentration cell – Definition, construction and Numerical problems

Photovoltaic cells-Introduction, Synthesis of Solar grade silicon by Union Carbide process, Construction, working and applications of photovoltaic cell

Textbook: Chapter: sections-Engineering Chemistry by R V Gadag: Chapter 1,2,3,4: Section 1.5,2.3,3.11,3.12,4.6

**Pre-requisites (Self Learning):** Electrodes for electrostatic double layer capacitors, pseudo capacitors, and hybrid capacitor, semiconductor, insulators and conductors

**RBT Levels: L1,L2,L3** 

**Module-4:Sensors and Display Systems** 

8 Hours

Sensors: Introduction to sensors and transducers. Need for sensors in the modern world. Working principle and applications of Electrochemical sensors, Thermometric sensors, and Optical sensors. Sensor for the measurement of Dissolved Oxygen (DO). Nano sensors- Introduction, properties and applications.

Display Systems: Liquid crystals (LC's) - Introduction, classification, properties and application in Liquid Crystal Displays (LCD's). Properties and application of Organic Light Emitting Diodes (OLED's) and Quantum Light emitting diodes (QLED's). Pervoskite Materials: Introduction, properties and applications in optoelectronic devices.

**Textbook:**Chapter: Sections: Sensors and Transducer by Ian **R.Sinclair**: Chapter 3,6,8:Section3.1,6.8,8.5

Pre-requisites (Self Learning): IR and UV-Visible spectroscopy. Disposable sensors in the detection of biomolecules, advantages of disposable sensors over classical sensors

**RBT Levels: L1,L2,L3** 

**Module-5:Nanomaterials and Analytical Techniques** 

8 Hours

Nanomaterials: Introduction, size dependent properties of Nanomaterials (Surface area, Catalytic, Electrical property), preparation of Nanomaterials by sol-gel, co-precipitation and CVD method with example. Introduction, properties and engineering applications of Nano fibers, Nano rods, Grapheneand CNT's.

Analytical Techniques: Introduction, principle and instrumentation of Colorimetric sensors; its application in the estimation of copper, principle and instrumentation of Potentiometric sensors; principle and instrumentation of its application in the estimation of iron, Conductometric sensors; its application in the estimation of strong acid and acid mixture.

Textbook: Chapter: sections-Engineering Chemistry by R V Gadag: Engineering Chemistry by R V Gadag:Chapter 10:section 10.2,10.3,10.4,10.5,10.6

2) Engineering Chemistry by Dr. B. Mahesh: Chapter 5:Section 5.2

**Pre-requisites (Self Learning)** 

Properties & applications offullerenes, Nano composites, Dendrimers.

8 Hours

RBT L	evels: L	1,L2,I	_3												
III(b). PRACTICAL PART															
SI. No.					Expe	rimen	nts / P	rogra	ms / P	roble	ms				
1	Condu	ctomet	ric esti	matio	n of ac	id mix	ture								
2	Potenti	ometric	e estim	ation o	of FAS	using	K ₂ Cr ₂	O ₇							
3	Determ	ination	ofpK	a of vi	negar	using p	oH sen	sor (G	lass ele	ectrode	:)				
4	Estimat	tion of	Coppe	r prese	ent in e	lectrop	olating	effluer	nt by o	ptical	sensor	(colori	imetry	)	
5	Determ	ination	of Vis	scosity	coeffi	cient o	of lubri	cant (C	Ostwale	d's vis	comete	er)			
6	Estimat	tion of	total h	ardnes	s of wa	ater by	EDTA	meth	od						
7	7   Estimation of iron in TMT bar by diphenyl amine/external indicator method														
8	8 Determination of Chemical Oxygen Demand (COD) of industrial waste water sample														
9	9 Estimation of metal in e-waste by optical sensors														
10   Determination of glucose by electrochemical sensors															
Please	<ul> <li>Instructions for conduction of practical part: Instructions for conduction of practical part:</li> <li>Strict discipline should be maintained inside the laboratory.</li> <li>Lab batches will be allotted at the beginning of the semester.</li> <li>Student should enter into the lab by wearing Apron and having the Lab Manual along with a calculator and observation notebook.</li> <li>The student should conduct one experiments in the specified time of 2hrs duration in regular lab sessions</li> <li>All entries of the observation should be done by using black pen only. Avoid writing by pencil and overwriting</li> <li>The short procedure for the experiment must be prepared for writing in data sheet by the student before coming to the laboratory All calculations pertaining to the experiments should be completed in the laboratory. The results must be got corrected by the batch teacher only Then entry should be made in the record and also enter the marks in index book before leaving the laboratory.</li> <li>Please remember that practical records are evaluated during regular class hours. Therefore it is imperative that each student takes care to see that experiments are well conducted and recorded.</li> </ul>														
CO1	Illustr	ate the	princ	iples o	of Gre	en che	emistr	y in er	nginee	ring 8	z tech	nology	7.		
CO2	Unders	stand tl	ne basi	c conc	epts of	corro	sion ar	id wast	te man	ageme	nt.				
CO3	Apply	the ki	nowle	dge fo	or proc	luction	n and	consu	mptio	n of e	nergy	availa	ble in	differ	ent
C04	Develo	op solu	itions	in the	area (	of App	olied r	nateria	ls and	Energ	gy sys	tems f	or Ei	ngineer	ring
C04	CO4 Applications														
CO5 Analyse engineering materials to achieve practical solutions															
V. CO-PO-PSO MAPPING (mark H=3; M=2; L=1)															
CO1	¹ 2 3 1	1	-	-	-	1	0	- -	-	-	12	51	52	55	54
CO2	3 1	1	-	-	-	1	1	-	-	-	1				
CO3         3         1         1         -         -         1         1         -         -         1         1           CO4         2         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         1         1         1         1         1															
CO4         5         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1         1         -         -         1															
	<u> </u>	<u> </u>	I	VI.	Asses	sment	t Deta	ils (C]	IE & \$	SEE)	<u> </u>	1	I	I	<u> </u>
Genera	General Rules: Refer Annexure section 2														
Continu	uous Int	ernal	Evalu	ation	(CIE)	: Refe	er Anr	nexure	sectio	on 2					
Semest	Continuous Internal Evaluation (CIE): Refer Annexure section 2 Semester End Examination (SEE): Refer Annexure section 2														

		VII. Learn	ing Resources	
SI		VII(a): 1	extbooks:	Name of the
No.	Title of the Book	Name of the author	Edition and Year	publisher
1	Green Chemistry: Theory and Practice	Paul T. Anastas, John Charles Warner	01-Jan-2000	Oxford University Press
2	Green Chemistry: Environ mentally Benign Reactions	V.K. Ahluwalia	02-Jul-2021	Springer Nature
3	Nanotechnology A Chemical Approach to Nanomaterials	G.A. Ozin& A.C. Arsenault	2005	RSC Publishing
4	Linden's Handbook of Batteries	Kirby W.Beard	Fifth Edition, 2019.	McGraw Hill,
5	Corrosion Engineering	M.G.Fontana, N.D.Greene	3 rd Edition, 1996	McGrawHill Publications, NewYork
6	WileyEngineeringC hemistry	Wiley	2 nd Edition-2013	WileyIndiaPvt.Ltd. NewDelhi
7	Engineering Chemistry	R V Gadag	3 rd Edition-2006	I K International house,Pvt.Ltd
		VII(b): Refe	rence Books	
1	Engineering Chemistry	O.G.Palanna	Fourth Reprint 2017	Tata McGraw Hill Education Pvt. Ltd. New Delhi
2	Engineering Chemistry	Shubha Ramesh et.al.	1st Edition, 2011	Wiley India
3	Fundamentals of Analytical chemistry	Douglas A. Skooget.al.	Eighth edition-2004	Thomson Asia pte Ltd
4	OLED Display Fundamentals and Applications	TakatoshiTsujimura	2012	Wiley–Blackwell
5	Super capacitors: Materials, Systems, and Applications	Max Lu, Francois Beguin,ElzbietaFracko wiak	1st edition, 2013	Wiley-VCH
VII(c	e): Web links and V	ideo Lectures (e-Resou	irces):	
http://	/libgen.rs/	X	,	
https:	//nptel.ac.in/downloa	ads/122101001/		
https: https:	//nptel.ac.in/courses/	/104/103/104103019/		
https:	//mai.mkgp.ac.m/ //www.youtube.com	/watch?v=faESCxAWR	9k	
https:	//www.youtube.com	/watch?v=TBqXMWax	<u>zx</u> ZYM&list=PLyhmwFtznRl	nuz8L1bb3X9IbHrD
MjH	<u>WWh</u>	1	,	
https:	//www.youtube.com	/watch?v=j5Hml6KN47	<u>[]</u>	
https:	//www.youtube.com	/watch?v=X9GHBdyYc	<u>Y0</u>	
https:	//www.youtube.com	/watch?v=1xWBPZnEJ	Кð	
VIII:	Activity Based Lea	rning / Practical Base	d Learning/Experiential le	earning:
Semi	nar, Assignments, Q	uiz, Industry visit, self-s	tudy activities, group discu	ssions, etc





BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060 Approved by AICTE, New Delhi.

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8 Insti

Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

Semester:       1/II       Course Type:       HSMC         Course Title:       Balake Kannada (Kannada for Usage)       Course Code:       23BKAH04       Credits:       PP/NP         Teaching Hours/Week (L:T:P:O)       1:0:0:0       Total Hours:       15         CIE Marks:       50       SEE Marks:       Total Marks:       50         SEE Type:       -       Exam Hours:       50         Course Objective :       23## # # # # # # # # # # # # # # # # # #													
Course Title: Balake Kannada (Kannada for Usage)         Course Code:       23BKAH04       Credits:       PP/NP         Teaching Hours/Week (L:T:P:O)       1:0:0:0       Total Hours:       15         CIE Marks:       50       SEE Marks:       Total Marks:       50         SEE Type:       -       Exam Hours:       50         To create the awareness regarding the necessity of learning local language for comfortable and healthy life.       •       To enable learners to Listen and understand the Kannada Language Properly.       •         •       To speak , Read and Write Kannada Language as per requirement.       •       •       •         •       To know about Karnataka State and its Language , Literature and General Information about this State.       Information about this State.       Information about this State.         1       Introduction, Necessity of learning a local language. Methods to learn the Kannada Language       2.       Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation Listening and Speaking activities, Key to Transcription       3.       ajdtb # ajdb # ajdb #	Semester:     I /II     Course Type:     HSMC												
Course Code:         23BKAH04         Credits:         PP/NP           Teaching Hours/Week (L:T:P:O)         1:0:0:0         Total Hours:         15           CIE Marks:         50         SEE Marks:         Total Marks:         50           SEE Type:         -         Exam Hours:         50           Course Objective :         20\$####################################	<b>Course Title:</b> B	Balake K	Kannada (Kannada	a for Usage)									
Teaching Hours/Week (L:T:P:O)       1:0:0:0       Total Hours:       15         CIE Marks:       50       SEE Marks:       Total Marks:       50         SEE Type:       -       Exam Hours:       50         Course Objective : ಬಳ್ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು :       -       Exam Hours:         •       To create the awareness regarding the necessity of learning local language for comfortable and healthy life .       •         •       To create the awareness regarding the necessity of learning local language for comfortable and healthy life .       •         •       To create the awareness regarding the necessity of learning local language for comfortable and healthy life .       •         •       To create the awareness regarding the necessity of learning local language Properly.       •         •       To train the learners for correct and polite conversation.       •         •       To know about Karnataka State and its Language , Literature and General Information about this State.       II.COURSE CONTENT         Module-1       3 Hours       1       Introduction, Necessity of learning a local language .Methods to learn the Kannada Language         2.       Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription         3.       adjwhety : Aragaj adjsta/kaset / XoQQOGA Kase Kasy adjst, adjs, ajjs_ajs_adje fot addres / KoQA Kase	Course Code:	2	3BKAH04		Credits:	PP/NP							
CIE Marks:       50       SEE Marks:       Total Marks:       50         SEE Type:       -       Exam Hours:       -         Course Objective : ಬಳ್ ಕೆ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು :       -       Exam Hours:         •       To create the awareness regarding the necessity of learning local language for comfortable and healthy life .       •         •       To create the awareness regarding the necessity of learning local language Properly.       •         •       To speak , Read and Write Kannada Language as per requirement.       •         •       To train the learners for correct and polite conversation.       •         •       To know about Karnataka State and its Language , Literature and General Information about this State.       ILCOURSE CONTENT         Module-1       3 Hours       1       Introduction, Necessity of learning a local language . Methods to learn the Kannada Language         2.       Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription       3       .         3.	Teaching Hour	·s/Week	x (L:T:P:O)	1:0:0:0	<b>Total Hours:</b>	15							
SEE Type:       -       Exam Hours:         Course Objective : 20ダオ ずえ」は 感じょ すどす い いこく だい やいこく だい やいこく ひ やいこ	CIE Marks:	50	SEE Marks:		<b>Total Marks:</b>	50							
Course Objective : ひずま すろっぱ ಪರ್ಯ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು :         • To create the awareness regarding the necessity of learning local language for comfortable and healthy life .         • To enable learners to Listen and understand the Kannada Language Properly.         • To Speak , Read and Write Kannada Language as per requirement.         • To train the learners for correct and polite conversation.         • To know about Karnataka State and its Language , Literature and General Information about this State.         ILCOURSE CONTENT         Module-1       3 Hours         1. Introduction, Necessity of learning a local language .Methods to learn the Kannada Language       3 Hours         2. Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription         3. ವೈಯಕ್ತಿಕೆ , ಸ್ವಾಮ್ಯಸೂಚಕ / ಸಂಭಂದಿತ ಸರ್ವ ನಾಮಗಳ ಮತ್ತು ಪ್ರಶ್ನಾರ್ಥ ಪ್ರವೆಗಳು - Personal Pronouns, Possessive Forms, Interrogative Words         Tectrequisites (Self Learning)         RBT Levels:L1, L2         Module-2       3 Hours         1. ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥ ಕ ರೂಪಗಳು , ಸಂದೇಹಾಸ್ವದ ಮತ್ತು         2. ಗುಣ ಪರಿಣಾವು ಮತ್ತು ವರ್ಣ ಬಿಣ್ಣ ವಿಶ್ವ ವರ್ಥ ಗಳು ನಾತ್ರುವಿ ವಿಭ ಕ್ರ ಪ್ರಾಮ್ಯ ಗಳು - ಸಪ್ಪವಿ) ವಿಭ ಕ್ರಿ ಪ್ರತ್ವಯ - (ಆ , ಅದು , ಅವು , ಅವು , ಅಲ್ಲೈ ). Predictive Forms, Locative Case         Tecrequisites (Self Learning)         RBT Levels:L1, L2          Pre-requis	SEE Type:		-		Exam Hours:								
Course Objective : シダギ オス は ごろ よ やく え い やく え い やく い やく い やく い やく い やく い													
<ul> <li>To create the awareness regarding the necessity of learning local language for comfortable and healthy life .</li> <li>To enable learners to Listen and understand the Kannada Language Properly.</li> <li>To Speak , Read and Write Kannada Language as per requirement.</li> <li>To train the learners for correct and polite conversation.</li> <li>To know about Karnataka State and its Language , Literature and General Information about this State.</li> <li>ILCOURSE CONTENT</li> <li>Module-1</li> <li>3 Hours</li> <li>Introduction, Necessity of learning a local language .Methods to learn the Kannada Language</li> <li>Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription</li> <li>a. a.guthyte J. A.guthyte J. A.guthyte J. J. J. A.guthyte J. J.</li></ul>	.Course Object	ive : బ	ಳಕೆ ಕನ್ನಡ ಪಂ	<b>ಗ್ಯ ಕಲಿಕೆಯ</b>	ಉದ್ದೇಶಗಳು :								
II.COURSE CONTENT         Module-1       3 Hours         1. Introduction, Necessity of learning a local language .Methods to learn the Kannada Language       2. Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription         3. ವೈಯಕ್ತಿಕ , ಸ್ವಾಮ್ಯಸೂಚಕ / ಸಂಭಂದಿತ ಸರ್ವನಾಮಗಳ ಮತ್ತು ಪ್ರಶ್ನಾರ್ಥಕ ಪದಗಳು- Personal Pronouns, Possessive Forms, Interrogative Words         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2       3 Hours         1. ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಪದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ಗಳು - Possessive forms of Nouns , Dubitive Question and Relative Nouns.       2. ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3. ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-3:       3 Hours	<ul> <li>To create comfortable a</li> <li>To enable</li> <li>To Speal</li> <li>To train</li> <li>To know Information a</li> </ul>	e the aw and hea le learne k , Read the lear about l about th	vareness regarding lthy life . ers to Listen and u l and Write Kann ners for correct a Karnataka State a his State.	g the necessit understand th ada Languag nd polite con and its Langua	y of learning loc e Kannada Lang e as per requiren versation. age , Literature a	al language for uage Properly. nent. und General							
Module-1       3 Hours         1. Introduction, Necessity of learning a local language .Methods to learn the Kannada Language       2. Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription         3. ವೈಯಕ್ತಿಕ , ಸ್ನಾಮ್ಯಸೂಚಕ / ಸಂಭಂದಿತ ಸರ್ವನಾಮಗಳ ಮತ್ತು ಪ್ರಶ್ನಾರ್ಥಕ ಪದಗಳು- Personal Pronouns, Possessive Forms, Interrogative Words         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-2       3 Hours         1. ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಮದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು -Possessive forms of Nouns , Dubitive Question and Relative Nouns.         2. ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶ್ವೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3. ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2       340 ಪ್ರಕ್ತ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-3:       3 Hours	II.COURSE CONTENT												
1. Introduction, Necessity of learning a local language .Methods to learn the Kannada Language         2. Easy Learning of Kannada Language : A few Tips, Hints for Correct and Polite Conversation , Listening and Speaking activities , Key to Transcription         3. ವೈಯಕ್ತಿಕ , ಸ್ವಾಮ್ಯಸೂಚಕ / ಸಂಭಂದಿತ ಸರ್ವನಾಮಗಳ ಮತ್ತು ಪ್ರಶ್ನಾರ್ಥಕ ಪದಗಳು- Personal Pronouns, Possessive Forms, Interrogative Words         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-2       3 Hours         1. ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಪದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು -Possessive forms of Nouns , Dubitive Question and Relative Nouns.         2. ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3. ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2       3 Hours	Module-1					3 Hours							
Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-2       3 Hours         1.       ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಪದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು -Possessive forms of Nouns , Dubitive Question and Relative Nouns.         2.       ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3.       ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-3:       3 Hours	Language 2. Easy Lea Conversation 3. ವೈಯಕ್ತಿ ಪದಗಳು- Per	arning o , Listen , ट , মতু rsonal P	of Kannada Langu ing and Speaking ವಯ್ಯಸೂಚಕ / ಸ ronouns, Possess	age : A few g activities , k ೦ಭ೦ದಿತ ಸಂ ive Forms, In	Tips, Hints for C Key to Transcript ರ್ವನಾಮಗಳ ವ terrogative Word	correct and Polite tion ಬತ್ತು ಪ್ರಶ್ನಾರ್ಧಕ ds							
Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-2       3 Hours         1. ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಪದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು -Possessive forms of Nouns , Dubitive Question and Relative Nouns.         2. ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3. ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections: Pre-requisites (Self Learning)         RBT Levels:L1, L2       3 Hours	Textbook: Cha	pter: se	ections:										
RBT Levels:L1, L2         Module-2       3 Hours         1.       ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಪದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು -Possessive forms of Nouns , Dubitive Question and Relative Nouns.         2.       ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3.       ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-3:       3 Hours	Pre-requisites (	(Self Le	earning)										
Module-2       3 Hours         1. 不可認認在ಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು ,ಸಂದೇಹಾಸ್ಪದ ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು -Possessive forms of Nouns , Dubitive Question and Relative Nouns.         2. ಗುಣ ಪರಿಣಾಮ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು , ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative , Quantitative and Colour Adjectives , Numerals         3. ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ , ಅದು , ಅವು , ಅಲ್ಲಿ )- Predictive Forms, Locative Case         Textbook: Chapter: sections:         Pre-requisites (Self Learning)         RBT Levels:L1, L2         Module-3:       3 Hours	<b>RBT Levels:L</b> 1	1, L2											
<ol> <li>지司 지 지 지 지 지 지 지 지 지 지 지 지 지 지 지 지 지 지</li></ol>	Module-2					<b>3 Hours</b>							
RBT Levels:L1, L2 Module-3: 3 Hours	ಸಂಬಂಧವಾ Relative Nou 2. ಗುಣ ಪ Qualitative , 3. ಕಾರಕ ರ ಅದು , ಅವು Textbook: Cha	oಚಕ ನ ins. ರಿಣಾಮ Quantit ರೂಪಗಳ , ಅಲ್ಲಿ pter: se	ಾಮಪದಗಳು -Po o ಮತ್ತು ವರ್ಣಬ ative and Colour ಳು ಮತ್ತು ವಿಭಕ್ತಿ )- Predictive Form ections:	ossessive for ಣ್ಣ ವಿಶೇಷಣ Adjectives , ಪ್ರತ್ಯಯಗಳ ms, Locative	ms of Nouns , Di ಾಗಳು , ಸಂಖ್ಯಾಂ Numerals ಬ - ಸಪ್ತಮಿ ವಿಭ Case	ubitive Question and ವಾಚಕಗಳು 'ಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ ,							
RBT Levels:L1, L2     Module-3:     3 Hours	Pre-requisites	(Self Le	earning)										
Module-3: 3 Hours	<b>RBT Levels:L</b> 1	1, L2											
	Module-3:												

1. 2 and N	ಕತ. 'um	)	ವಿ	ನಕ್ತಿ :	ಪ್ರತ್ಯ	್ಯಯ	ದ ಒ	) ई र	[?] ಮ	ತ್ತು ಸ	୦୬	୬ ଇଟ	ಾಚಕಗಳ	ಳು .	- Dat	ive Cases
2. ⊼ and P	វO lura	ಖ್ಯಗು il Ma	ह्व <del>र</del> rkei	ರಾಚ rs.	ಕಗ	ಳು ಪ	ರುತ್ತು	, ಬಕ	ಕುವ	ಚನ	<u>ನಾ</u>	<u> </u>	<u>ಂ</u> ಪಗಳ	) - (	Ordiı	nal Numerals
3. <del>~</del>	ನ್ನೂ	್ಯನ / , V~1	ನಿಷ	ៅ ស្រុក	ಾರ್ಥ 1	ಕ ಕ್ರಿ	ಯಾ	ವದ	ಗಳ	) & ल	ರರ್ಣ	ಗುಣ	ಇವಾಚ	ಕಗ	ಳುD	efective /
Toythoo		Cha	os ai		olou	r Auj	ectr	/es								
T extboo	<u>к:</u>		pier		<u></u>	<u>s:</u>										
Pre-req	uis	ites (	Self	Lea	rnin	<b>g</b> )										
RBT Le	vel	s: LI	, L2	2											-	
Module-	4					_								3 H	ours	
1. ಆ ಮತ್ತು (Impe 2. ಸ	ಿಪ ್ತ ವ rati ಸಾರ	್ಪಣೆ / ರಾಕ್ಯi ive W ಯಾನ	ಒಕಿ ಗಳು /ord ರೈ ಸ	ಶ್ಪಿಗೆ o - Pe ls and ೦ಭಾ	, ನಿರ ermis d Ser बब्बह	ರೇ೯ಕ ssion ntenc ತೆಗಳ	ಶನ , , Co xes) 'ಲ್ಲಿ (	ಪ್ರೊ mm ನ್ವಿತಿ	್ರ(ತ್ಸನ ands, (ಯ	ಕ ಮ Encc ವಿಭ	මා Surag භී ඞ	ය <u>ම</u> ging : රාම් ර	್ತುಯ ಅ and urg ಯಗಳು	ರ್ಥ ing v ಮ	ರೂ word ತ್ತು	ಪ ಪದಗಳು s
ಸಂಭ	ಸಂಭವನೀಯ ಪ್ರಕಾರಗಳು Accusative Cases and Potential Forms used in General Communication															
Comm	Communication															
3. જ	ತರು	ು ಮ	ತ್ತು '	ಇರ	ಲ್ಲ ಸ	2000	ಯಕ	<del>کرو ک</del>	ಯಾ	ವದಗ	ಳು,	ಸಂಶ	ಭಾವ್ಯಸ	ಗೋ	ಕಕ ತ	ಮತ್ತು
ನಿಷೇ	ရာ	ರ್ಧಕ	رۍ ځ	ಯಾ	ಪದ	ಗಳು	) - H	elpir	ıg Ve	erbs "	iru"	and '	ʻiralla"	, co	rresp	onding
Future	Future and Negation Verbs.															
4. ð	4. ಹೋಲಿಕೆ (ತರತಮ), ಸಂಬಧ ಸೂಚಕ, ವಸ್ತು ಸೂಚಕ ಪ್ರತ್ಯಯಗಳು ಮತ್ತು															
ನಿಷೇ	ನಿಷೇಧಾರ್ಥಕ ಪದಗಳ ಬಳಕೆ - Comparative , Relationship , Identification and															
Negat	Negation Verbs															
Pre-req	Pre-requisites (Self Learning)															
RBT Le	vel	s: L1	, L2	2												
Module-	5													3 H	ours	5
1. ਰ	ಾಲ	ು ಮ	ತ್ತು	ಸಮ	ಯ	ದ ಹ	ಾಗ್ರ	ى <del>ر6</del>	ಯಾ	ಪದಗ	ಗಳ e	ನಿವಿರ	ನ ಪ್ರಕಾ	ರಗ	ಳು E	Different
types	of	Tense	e, Ti	ime a	and V	Verbs	5									
2. T	স ,	ৰ্জ,	ತು ,	ಇತ	ა, ლ	รก,	అల	ຸ, ກ	°, <del>ਰ</del> ਾ	' , ସ୯	ನೆ,ಕ್ರಿ	n the test	ಾ ಪ್ರತ್ಯ	ಯ	ಗಳೊ	ುಂದಿಗೆ
ಭೂತ	\$,8	ಭವಿಕ	ಷ್ಯತ	ಕ್ ಮ	ುತ್ತು	ವತಣ	-ಮ	ಾನ :	ಕಾಲ	ು ವಾಸ	ಕ್ಯ ರ	ಚನೆ	Format	ion	of Pa	ast, Future
and P	rese	ent To	ense	e Sen	tenc	es w	ith V	erb	Form	1S	- •					
3. K	lanı	nada	voca	abula	ary li	$\operatorname{ist}:\overline{r}$	ર્ગ૦૮	ರಾಷ	ಣೆಯ	టల్లి	ದಿನೆ.	( ಪ	ನೆಯೋಗ	) ਝੋਟ	ನ್ನಡ	ಪದಗಳು -
Kanna	ada	Wor	ds in	<u>n Co</u>	nver	satio	n									
<b>RBT</b> Le	evel	s: LI	, L2	2					0.7.7							
	<u>د</u> و				<u>م_</u>	III.C		SE ∾	OU'		MES	) 	<b>_ )</b> )			<u>_</u>
ಬಳಕ	᠂᠊᠊ᡦ	ನ್ನಡ	ಪ ಆ	ಶ್ಯ ಕ	0२0	သာင	)ದ e	ပင္က	ရှင်္ဂ	ักซุเ	1 ප7 	ນລ	ಅನುಕ	ೂಲ	N	ು ಮತ್ತು
ಫಲತ	303	୭ମଝ	S : A	At the	e enc	loft	he co	ourse	e stuc	lent w	vill n	e abl	e to:	1		6
CO1		o crea	te th	e aw	arene	ess re	gardi	ng tr	le nec	cessity	of le	earnii	ng local	lang	uage	for
CO2	Т	o enal	ole le	earne	rs to	Liste	n and	lund	ersta	nd the	Kan	nada	Langua	ve P	roper	lv.
	CO2 To Sneek Read and Write Kannada Language as ner requirement															
	CO4 To train the learners for correct and polite conversation															
04	To know about Karnataka State and its Language Literature and General Information															
C05	ab	out th	nis S	tate.	<b>X</b> ai iia	пака	State	anu		angua	ge, I	Jucia	ture and	UCI		mormation
			IV	.CO	-PO-	-PSC	) MA	APP	ING	(marl	k H=	3; M	[=2; L=	1)		
PO/PSO	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S3	S4
CO1																
CO2																
CO3																
CO4	CO4															
CO5				1												

# V.Assessment Details (CIE & SEE)

Gener	al Rules: Refer A	Annexure section 7	7	
Contin	uous Internal <b>F</b>	<b>Evaluation (CIE):</b>	Refer Annexure section	n 7
Semes	ter End Examin	ation (SEE): Refe	er Annexure section 7	
		VI.Learn	ing Resources	
VII(a)	: Textbooks:			
Sl. No.	Title of the Book	Name of the author	Name of the publisher	Edition and Year
1	Balake Kannada	Dr. Timmesha	Prasaranga, VTU, Belagavi	2018
VII(c):	: Web links and	Video Lectures (	e-Resources):	
1.	VTU Website			
VIII: A	Activity Based L	earning		
Content	ts related activities	(Activity-based dis	cussions)	
For acti	ve participation of	f students instruct th	e students to prepare Flow	v Charts and Handouts
Organis	sing group wise di	scussions connecting	g to placement activities	
Quizzes	s and Discussions			
Semina	rs and Assignmen	ts		



S

Sri Adichunchanagiri Shikshana Trust (R)



BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060 Approved by AICTE, New Delhi. Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

Semester:	I/II	Course Type:			HSMC						
Course Title:	Course Title: ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ - ಕನ್ನಡ ಬಲ್ಲ ಮತ್ತು ಕನ್ನಡ ಮಾತೃಭಾಷೆಯ										
ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ	ನಿಗದಿಪಡಿ	ಾಸ್ದ ಪಠ್ಯಕ್ರಮ	S		N	1					
Course Code:	:	23SKAH03			Credits:	PP/NP					
Teaching Hou	urs/Weel	k (L:T:P:O)		1:0:0:0	Total Hours:	15					
CIE Marks:	50	SEE Mai	rks:		Total Marks:	50					
SEE Type:		-			Exam Hours:	-					
	0		-								
<ul> <li>ವೃತಿಪಂ ಪರಿಚಯ ಮ</li> <li>ಕನ್ನಡ 7</li> <li>ಕಾವ್ಯಗಳಸಾಂ</li> <li>ವಿದ್ಯಾಥಿ</li> <li>ಮೂಡಿಸುವುಂ</li> <li>ತಾಂತ್ರಿಕ ಪುರಿತಂಬುಸು</li> </ul>	:uve: ಸಾಂ ನ ಪದವಿ ವಿ ಸಾಹಿತ್ಯದ ಪ ಂಕೇತಿಕವಾ ಂಕೇತಿಕವಾ ಂಗಳಲ್ಲಿ ಸ ದು. ನ ವ್ಯಕ್ತಿಗಳ ವರು	2ಸ್ಕೃತಕ ಕನ್ನಡ ಪಠ ದ್ಯಾರ್ಥಿಗಳಾಗಿರುವು ವುಧಾನ ಭಾಗವಾದ ನಿಗೆ ಪರಿಚಯಿಸುವುದ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ ನೆ ಪರಿಚಯವನ್ನು ಹ	್ಯಾ ಕಲ ರಧು ಆಧು ಮ. ಮೈತಿಂ ನಾಗೂ	ನಕ ಪೂವಣ ನಿಕ ಪೂವಣ ಯ ಬಗ್ಗೆ ಅಣ ಅವರುಗಳ	್ದ ಶಗಳು : ಭಾಷೆ , ಸಾಹಿತ್ಯ ಮ F ಮತ್ತು ಆಧುನಿಕ ರಿವು ಹಾಗೂ ಆಸಕ್ತಿ 7 ಸಾಧಿಸಿದ ವಿಷಯ	ತ್ತು ಕನ್ನಡ ಸಂಸ್ಕೃತಿಯ ಯನ್ನು ಗಳನ್ನು					
• ಸಾಂಸ್ಕ	್ರುತಿಕ , ಜಾನ	ನಪದ ಹಾಗೂ ಪ್ರವಾ	ನ ಕಡ	ನನಗಳ ಪರಿ	ುಚಯ ಮಾಡಿಸುವು	ದು .					
		I.COU	RSE	CONTE	NT						
ಘಟಕ- 01 ಕನ	ನ್ನಡ ಸಂ	ುಸ್ಕೃತಿ ಮತ್ತು r	ಭಾಷ	<b>ೆ ಕುರಿತ</b> ್	ಾದ	3 Hours					
	ਮ ਸ , ਹੈ - ਨਾਂ	ಂಪೆ ವಾಗರಾಜಯ.									
02. ಕರ್ನಾಟಕ ಏ 03. ಆಡಳಿತ ಭಾಶ	ಕೀಕರಣ : 2 ತೆಯಾಗಿ ಕನ	ಒಂದು ಅಪೂರ್ವ ಚ ನ್ನಡ - ಡಾ. ಎಲ್. ತಿಾ	ರಿತ್ರೆ - ಮ್ಮೇಶ	ಜಿ ವೆಂಕಟ ್ ಮತ್ತು ಪೆ	ಸುಬ್ಬಯ್ಯ ಠ್ರ. ವಿ. ಕೇಶವಮೂನ	ĴF					
Textbook: Ch డా . <b>డి. </b> జి. చం	napter: so ೇರಲಿಂಗಯ	ections: ಸಾಂಸ್ಕೃತಿ ಶ್ಯ ಮತ್ತು ಡಾ . ಎಲ್	ತಿಕ ಕಾ ' . ತಿವೆ	ನ್ನಡ : ವಿಟಿ ಓ್ಮಶ.	ಯು ನಿಗದಿಪಡಿಸಿಲ	ಾದ ಪುಸ್ತಕ					
Pre-requisites	s (Self Le	earning)									
<b>RBT Levels:</b>	L1, L2										
ಘಟಕ -02 ಆ	ಧುನಿಕ	ಪೂರ್ವದ ಕಾವ	ಕ್ಯ ಭ	ಾಗ		3 Hours					
01.ವಚನಗಳು:ಬ ಲಕಮ್ಮ 02. ಕೀರ್ತನೆಗಳು 03. ತತ್ವಪದಗಳು Textbook: Ch	ಸವಣ್ಣ,ಅ : ಅದರಿಂದ <u>: ಸಾವಿರ ಕ</u>	ಕ್ಕಮಹಾದೇವಿ,ಅಲ್ಲ ಬೇನು ಫಲ ಇದರಿಂದ ಕೊಡಗಳ ಸುತ್ತು- ಶಿಶ ections: ಸಾಂಸ	ಮಪ್ರ ನೇನು ಶುನಾಂ	ಭು,ಆಯ್ದಕೆ ಫಲ - ಪುರಂ <u>ಳ ಶರೀಫ</u> ನ ಡ - ವಿಟಿ	ಕ್ಕಿಮಾರಯ್ಯ, ಜೇಡಂ ಂದರದಾಸರು	ಸದಾಸಿಮಯ್ಯ , ಆಯ್ದಕ್ಕಿ ಇದ ಪುಸತ					
ಡಾ . ಹಿ. ಚಿ. ಬೊ	rextbook. Chapter: sections: ಸಾಂಸ್ಕೃತಕ ಕನ್ನಡ : ಎಐಯು ನಗದಪಡಿಸಲಾದ ಪುಸ್ತಕ ತಾ . ಹಿ. ಚಿ. ಬೋರಲಿಂಗಯ್ಯ ಮತ್ತು ಡಾ . ಎಲ್ . ತಿಮ್ಮೇಶ										
Pre-requisites (Self Learning)											
<b>RBT Levels:</b>	RBT Levels:L1, L2										
ಘಟಕ - 03 ಲ	<b>ಕಿ</b> ಧುನಿಕ	ಕಾವ್ಯಭಾಗ				3 Hours					
01. ಡಿ.ವಿ.ಜಿ. ರವರ 02. ಕುರುಡುಕಾಂ 03. ಹೊಸಬಾಳಿನ	ರ ಮಂಕುತಿ ಚಾಣ : ದಾ ನ ಗೀತೆ : ಕುಣ	ತಿಮ್ಮನ ಕಗ್ಗದಿಂದ ಆ b. ರಾ ಬೇಂದ್ರೆ ವೆಂಪು	ಯ್ಡ ಕ	ಕೆಲವು ಭಾಗ	ಗಗಳು						
Textbook : C ಡಾ . ಹಿ. ಚಿ. ಬೊ	hapter: s ೇರಲಿಂಗಯ	sections: ಸಾಂಸ್ಕ, ಖ್ಯ ಮತ್ತು ಡಾ . ಎಲ್	ೃತಿಕ ಕ '. ತಿವೆ	ಕನ್ನಡ : ವಿ ಟ್ಮೇಶ.	ಟಿಯು ನಿಗದಿಪಡಿಸಿ	ಲಾದ ಪುಸ್ತಕ					
Pre-requisite	s (Self L	earning)									
<b>RBT Levels:</b>	L1, L2										

ಪ್ ಟಿ ಸ	.04	ക്കി	.a.≠	; ವ		ಲ್ ಸ	582	ടപ	5					3 H	ours	
ಭ ಬರ್ - 04 ತಿಂತ್ರಕ ವ್ಯಕ್ತಗಳ ಬರಚಿಯ 01. ಡಾ . ಸರ್ . ಎಂ . ವಿಶ್ಯೇಶ್ವರಯ್ಯ : ವ್ಯಕ್ತಿ ಮತ್ತು ಐತಿಹ್ಯಾ - ಎ. ಎನ್ . ಮೂರ್ತಿರಾವ್																
02. ಕರಕು	ಶಲ	ಕಲೆಗಳ	ಳು ವ	ುತ್ತು	ಪರಂ	ಪರೆಂ	ರು ವಿ	ಸ್ಥಾನ	ರ : ಕರಿ	ೀಗೌಡ	ಬೀಬ	ಕನಹ	ಳ್ಳಿ ಘಟ	ಕ		
Textboo డా . డి. బ	ok: ಕಿ. ಬೆ	Chap ശേരം	)ter: ಲಿಂಗ	sec ಯ್ಯ	tions ಮತ್ತು	::ಸ ಡಾ	ಾಂಸ್ಕ . ಎಲ್	ಕ್ರಿ ಕಿ. ತಿಕ	' ಕನ್ನ ಮ್ಮೇಶ	ಡ : ವಿ ಗ	ಟಿಯ	ು ನಿಗ	ದಿಪಡಿಸಿ	ಲಾದ	ರ ಪುಸ <u></u>	್ರಕ
Pre-rec	uis	ites (	Self	Lea	rnin	<u>.</u> g)										
RBT L	evel	ls: LÌ	, L2	2		8/								-		
ಘಟಕ 	ಘಟಕ - 05 ಸಾಂಸ್ಕೃತಿಕ , ಜಾನಪದ ಕಥೆ ಮತ್ತು ಪ್ರವಾಸ ^{3 Hours} ಕಥನ															
$\phi \phi \delta$		<u> </u>	<b>.</b>													
01. ಯುಗ 02 ಮೆಗಾತ	ಾದ : ನೆ ಎಂ	ವಸು ೧೭೭೯	ದೇರಿ ಗಿಜ್ಜಾ	ದ್ರ ನ ಪರ್	१८ च .	2. 29	2	್ಗಗ	ಿಂಗ	<b>പ</b>						
Textho		<u>Char</u>	uter:	Sec	tion		<u>r. ద</u> ు ంచ	<u>ನಿ - :</u>	ತನ ಗ	<u></u> പറിം	<u></u>	ಿಗಣ	್ಷ ಕ್ಷಾ	ಾರ		2
a. 2.	ಕಿ. ಬೆ	്നപ്പ ശ്രദ്ദ	ಸಿಂಗ	ಯ್ಯ	ಮತು	ം . അ	. ಎಲ	.3ª	ರ ನ್ನು ರ ಮೇಶ	s		CIIC			എഹ് പ്ര	,
Pre-rea	uisi	tes (S	Self	Lea	rning	<u>,</u> 7)										
RBT L	evel	ls: L1	, L2	2		5/										
<b>,</b>	9			م د	]	II.CO	DUR	SE	CUO مەر	CON	1ES		a	•		۹_ د
ಸಾಂಸ್ಕ	<u>ු</u> ප	<del>* *</del>	ನ್ನರ	<u>s (2</u>	<u>38K</u>	AH0	<u>3)</u> ē	<u>50</u> §	<u> </u>	<u>+</u>	<u>) ನಂ</u>	਼ਤਰ	<u>್ಷಿದ್ದಾ</u>	<u>္စထ</u> ု	FN&	າຍ:
CO	<u>क</u>	ನ್ನಡ ಇ	ಭಾಷ	, ਸਹ	య <b>త్య</b> ,	, ಮತ	ನ್ನಿ ಕನ	ನ್ನಡ :	ಸಂಸ್ಕ	්දුරු	0 <del>3</del> 00	<u>తు</u> అ	ರವು ಮ	ವಾ	ವುದು	).
CO2	ੇ ਰੋ ਰ	ನ್ನಡ ಾವ್ಯಗ	ಸ ಳಸಾ	ಾಹತ ೧೦ಕೇ	್ಯದ ತಿಕವ	ಫ್ರಥ ಕ ಗೆಠ	ಾನ ಲಿತು	ಭಾ ಹೆಚ್ಚಿ	ುಗವಾ ್ಚನ ಓ	ದ ೯ ವಿಗೆ ,ಕ	ಆಧುಂ ರುತ್ತು	ನಿಕ ಜ್ಞಾಾನ	ಪೂರ್ವ ನಕೆ ಸ್ಕೂ	- ಕ ೃರ್ತಿ:	ತ್ತು ಮೂರ	ಆಧುನಿಕ ತುತ್ತದೆ.
COS	ະ ສ	)ದ್ಯಾರೆ ಕೆಚ್ಚಾಗ	ರ್ಶಿಗೆ ಗುತ್ತೇ	ಳಲ್ಲಿ ನೆ	ಸಾಂ	ಹತ್ಯ	ಮತ	ತ್ತು ಸ	ಸಂಸ್ಕ	ಿತಿಯ	201	ಗ್ಗೆ ಆ	<b>ಾ</b> ರಿವು	ಹಾಗ	ೂಲ	೫ಸಕ್ತಿಯನ್ನು ೨
CO4	। जु	ಾ0ತ್ರಿಕ ಳಿದುಕ	ಾ ವ್ಯ ಕೊಂ	₃ ಕ್ತಿಗಳ ಡು ನ	7 ಪರಿ ಗಾಡಿನ	ಚಯ 'ಇನ್ಕಿ	ವನು ್ಮತರ ಸ	್ನ ಹಾ ವ್ಯಕ್ತಿಗ	ುಗೂ ( ಗಳ ಬ	ಅವರು ುಗ್ಗೆ ತಿಳ	ಗಳ 7 ಳಿದುಕ	ಸಾಧಿಸಿ ಕೊಳ್ಳ	ಗದ ವಿಷ ಲ್ಲು ಕೌ:	ಯಗ ತುಕರ	ಳನ್ನು ನೆ ಹೆಚ	್ಷ ಕ್ವಾಗುತ್ತದೆ
CO	;	ಾಂಸ್ಕ	್ರತಿಕ	, ಜಾ	ನಪದ	ಹಾಗ	ೂ ಪ್ರ	್ರವಾಸ	ನ ಕಥ	ನಗಳ	ಪರಿಚ	ಕಯ ಕ	ಮಾಡಿಕೆ	ಂಡು	ವುದು	· ·
			III	CO-	PO-I	PSO	MA	PPT	NG	mark	H=2	R∙ M=	=2· L=	1)		
PO/PSO	1	2	3	4	5	6	7	8	9	10	11	12	<u>_, _</u>	<u>s</u> 2	<b>S</b> 3	<u>S4</u>
CO1	-				0	1	,			1			51	~_		~ 1
CO2	1					1				1						
CO3						1				1						
CO4						1				1						
CO5						1				1						
	•	•	•	Ι	V.As	sess	men	t De	tails	(CIE	& \$	SEE)				
Genera	R	iles:	Refe	er Ai	inexu	ire se	ectio	n 7								
Contin	10119	s Inte	rna	l Ev	aluat	tion	(CII	E): R	Refer	Anne	exure	esect	ion 7			
Somost	n F	nd F	von	ina	tion	(SFL	(CH	ofor	Ann	ovuro	soot	ion				
Schest	л I.	nu E	AII	ша		V.	Leai	rnin	g Re	sourc	es	.1011				
VII(a):	Tex	tboo	ks::						8 -							
Sl.	Ti	itle of	f the	2	Nai	me o	f the	2	I	Name	of t	he	Т	diti	on a	nd Voor
No.		Boo	k		a	utho	or			publi	sher	•		Juiti		uu i tai
1	ম	ಾಂಸ್ಕ ಕನ್ನ	ೃತಿಕ ಡ		ಡ್ ಬೋ ಮತ್ತು	ಾ . ಹಿ. 'ರಲಿಂ ್ಡಾ ತಿಮ್ಮೇ	. ಚಿ. ೧ಗಯ . ಎಲ ಶ	o₅ ∙.	ವಿಟಿ	ಯು ಪ	ಗ್ಗೆಸಾರ	ರಾಂಗ			201	8
VII(c): Web links and Video Lectures (e-Resources):																
VIII: A	ctiv	ity B	asec	l Le	arnir	ıg										
Assignn	Assignments, quiz.															



Autonomous Institute affliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

Semester:	I/II	Course Type:	HSMC			
Course Title:	Profes	ssional Skills and	English			
Course Co	de:	23ENGH01			Credits:	PP/NP
Teach	ing Ho	ours/Week (L:T:	:P:O)	0:1:1:0	Total Hours:	30
CIE Marks	8: 5	50 SEE Ma	arks:		Total Marks:	50
SEE Type	5:		-		Exam Hours:	
	i a a time					

#### I. Course Objective

- This course aims at achieving fluency and confidence in spoken and written English.
- Acquiring wide range of vocabulary and linguistic competence that is required for functional performance.
- Building elementary foundations for the knowledge related to conventions and use of language in society, particularly in speaking and listening skills
- Developing the basic skills for creative reading and writing with precision

#### II. COURSE CONTENT

#### Module-1: Introduction to Communicative English

Hrs: T/4 L/1

Fundamentals of Communicative English- Barriers to Effective Communication, Different styles in Technical Communication. Interpersonal Communication Skills, Types of communication Interpersonal Communication Skills, Non-Verbal Communication Skills (Body Language), Barrier in communication, how to improve it.

Grammar Focus: Basic English Grammar, Parts of speech.

Activity: Peer- Based Exercises to Ignite conversation. Allow students to interact with each other; talk about their Special Skill, Hobbies and Passion.

**Textbook: Chapter: sections:** Discussion and coverage of contents as suggested in PART-01: .1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.11, 1.13 of textbook 1.

Pre-requisites (Self Learning): Basics Of Grammar learnt in PUC- Parts of Speech.

**RBT Levels:**L1, L2 and L3

#### Module-2: Listening Skills

**Introduction to Phonetics**: Sounds and Symbols of vowels, Consonants, Diphthongs, Syllables Silent and Non-Silent letters. Pronunciation of 'The', Homophones and Homonyms.

**Importance Of Listening**: Difference between Hearing and Listening, Active Listening, Types of Listening, Barriers in Listening, Note taking, Active response, Empathy and Perspective- taking, Building Listening Habits.

Activity: Scenario – Based Activity

Hrs: T/4 L/1

**Textbook: Chapter: sections:** Discussion and coverage of contents in **Part -02**: 7.1, 7.2, 7.6, 8.7. **Part-03**: 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12 of textbook 01.

**Pre-requisites (Self Learning):** Audio Track listening such as Podcasts, Audio Books, Language Learning to improve Pronunciation, Comprehension and over all Language Skills. **RBT Levels:**L1, L2 and L3

#### Module-3: Introduction to Speaking Skills

Hrs: T/4 L/1

Developing Vocabulary, Paraphrasing conversations, Paraphrasing content, Common Errors in Pronunciation. Importance of Non verbal communication [Body Language, Para linguistic features] Presentations on a various themes by organizing a larger unit of discourse and giving information and Expressing opinions, Group Discussions: Significance of GD and Do's & Don'ts. Assertive Communication skills, Answering to the Point following 7C's of communication. Extempore and Public Speaking.

Grammar focus: Reported Speech, Voice, One -word Substitution, Prefix and Suffix. Activity: GD

Textbook : Chapter: sections: Discussion and coverage of contents in

**Part- 04:** 10.1, 10.2, 10.3, 11,1, 11.2, 11.3, 12, 13 of textbook 01.

**Pre-requisites (Self Learning)** 

Basic English Grammar, Pronunciation, Speaking on general topics

**RBT Levels:** L1, L2 and L3

Module-4: Introduction to Reading Skills

Hrs: T/4 L/1

Types of reading [Skimming, and Scanning, Extensive and intensive reading], Oral skills with emphasis on conversational practice. Reading Comprehension. Analytical and Comparative Reading, Usage of Dictionary.

Reading Job advertisements, understanding Job specifications, requirements in application form [Job or for higher studies].

Grammar focus: Subject verb agreement, use of Active verbs, Sequence of Tenses.

Activity: Book review [Fiction& Non- Fiction], News Paper article reading, Magazine and Journals review.

Textbook: Chapter: sections: : Discussion and coverage of contents in

PART-05: 17.1, 17.2, 17.3, 17.7, 17,8, 17.9, 17.10, of textbook 01.

Pre-requisites (Self Learning): Basic Reading skills.

**RBT Levels:** L1, L2 and L3

Module-5: Introduction to Writing Skills

Hrs: T/4 L/1

Techniques in Paragraph Writing, Organizing Principles of Paragraphs in Documents, Report writing; Long and Short, Punctuations, Emails, Blog writing, Resume and Cover Letter writing. **Grammar focus :** Misplaced Modifiers, Idioms and Phrases

Activity: Students write a short Article and Report on Recent Technological Innovations.

Textbook: Chapter: Sections: Discussion and coverage of contents in

Part-06: 20, 20.1, 20.2, 20.3, 20.4, 22.7, 23.5, 23.13, 25.1, 25.2, 25.3, 25.6, of textbook 01.

Pre-requisites (Self Learning): Basic English Grammar, Vocabulary.

**RBT Levels:** L1, L2 and L3

# **III. COURSE OUTCOMES**

**CO1** Develop the ability to speak English language with the right way of pronunciation.

**CO2** Practice listening effectively to communication in English.

CO	3	Express	the v	viewp	oints w	vith co	onfider	nce i	n Engli	sh.						
CO	4	Implement English vocabulary at command and language proficiency.														
CO	5	Perform examina	well witions	in ca	ampus 1	recrui	tment,	engi	neering	g and a	ıll oth	er gen	eral	compet	titive	
			]	[V. (	CO-PC	)-PSC	) MAI	PPIN	G (ma	rk H=3	3; M=	2; L=	1)			
PO/PS	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S3	S4
0																
CO1									2	2						
CO2									2	2						
CO3									2	2						
CO4									2	2						
CO5										2						
					V.	Asses	ssmen	t De	tails (C	IE &	SEE)					
Gener	ral I	Rules: F	Refer	Anne	exure S	ectior	n 7									
Conti	nuo	us Inte	rnal I	Eval	uation	(CIE)	): Refe	er Ar	nnexure	Sectio	on 7					
Seme	ster	End Ex	xami	natio	on (SEF	E): Re	fer An	inexi	are Sec	tion 7						
						VI.	Lea	ırnir	ng Reso	ources						
VII(a)	/II(a): Textbooks:															
Sl. No.	Tit	le of th	e Bo	ok	Name	of the	e auth	or	Nam	e of th	e pub	olishe	r	Editio	n and	Year
1	С	ommun Skil	icatic ls	on	San Pu	jay K spa L	umar atha		Oxfo	rd Uni	versit	y Pres	s	02 th 1	E <b>d., 2</b> 0	015.
VII(b	): R	eferenc	e Bo	oks:	(Insert	or de	lete rov	ws as	s per re	quiren	nent)					
1	1       How to Analyze People: The Ultimate Guide to Speed Reading People Through Proven       A         People: The Ultimate Guide to Speed Reading People Through Proven       Sebastian       Oxford English Dictionary Croft       02 nd Ed., 2018         Psychological Techniques, Body Language Analysis and Personality       Sebastian       Oxford English Dictionary Croft       02 nd Ed., 2018															
2	2English GrammarKrishnaswamy, Subashree .New York: Cambridge University Press.04th Ed., 2018															
VII(c)	): W	eb link	s and	l Vid	leo Lec	tures	(e-Re	sour	ces):							



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Semester:	I/II	Cou	rse Type:			HSMC					
<b>Course Title</b>	: Constitut	ion of	India & Pr	ofessi	onal Ethics						
<b>Course Code</b>	<b>.</b>	23	CIPH05			Credits:	1				
<b>Teaching Ho</b>	ours/Week	(L:T	:P)		1:0:0:0	Total Hours:	15				
CIE Marks:	50		SEE Ma	rks:	50	Total Marks:	100				
SEE Type:			Theory			Exam Hours:	2				
I. Cours	e Objectiv	ves:									
<ul> <li>The course Indian Constitution will enable the students,</li> <li>To know about the basic structure of Indian Constitution.</li> <li>To know the Fundamental Rights (FR's), DPSP's and Fundamental Duties (FD's) of our constitution.</li> <li>To know about our Union Government, political structure &amp; codes, procedures.</li> <li>To know the State Executive &amp; Elections system of India.</li> <li>To learn the Amendments and Emergency Provisions, other important provisions given by the constitution.</li> <li>II. Teaching-Learning Process (General Instructions):</li> <li>The pedagogy shall involve the combination of different methodologies which suit modern technological tools. (i) Direct instructional method (ii) Advanced Technological tools (iii)</li> <li>Enquiry and evaluation based learning (iv) Personalized learning</li> <li>Apart from conventional lecture methods, various types of innovative teaching techniques through videos may be adapted so that the delivered lesson can progress the students.</li> </ul>											
	os may ee	uuupte		URSF							
Module-1: Ind	lian Consti	tution					3 Hours				
Indian Constit adoption. Intro Constituent A & Key concep Text Book: "In RBT Levels:	tution: Nec oduction to ssembly. S ots of the P ntroductior L1, L2	essity the In Salient reamb to the	of the Conn ndian const features of le. Salient t e Constituti	stituti itution India featur on of	on, Societies n, Making of t Constitution es of India Co India", (Studo	before and after the the Constitution, Ro The Preamble of In onstitution. ents Edition.) by Du	Constitution le of the dian Constitution rga Das Basu.				
Module-2: Fl	R's, FD's a	and D	PSP's				3 Hours				
FR's, FD's a Complex Situ society with e Text Book: "C RBT Levels:	<b>ER's</b> , FD's and DPSP's: Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building. <b>Text Book:</b> "Constitution of India" by M V Pylee. <b>RBT Levels:</b> L1, L2										
Module-3: U	nion Execu	utive					3 Hours				
Union Execu Cabinet, Parli Terminologie: Text Book: "In RBT Levels:	<ul> <li>Jnion Executive: Parliamentary System, Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary</li> <li>Ferminologies. Supreme Court of India, Judicial Reviews and Judicial Activism.</li> <li>Fext Book: "Introduction to the Constitution of India", (Students Edition.) by Durga Das Basu.</li> <li>RBT Levels: L1, L2</li> </ul>										

Mod	ule-	4: State	Executi	ive &	k Ele	ections										3 H	ours
State	Б	time	e Ela	ation		mandm	anta	and				Duar	icion		Stat	o Ev	antina
State	E ion	Commi	e & Ele	ction lection	IS, A	<b>menam</b> & Electo	ents vral	and Procé	E PSS	Amer	ncy Idme	prov		IS: Istit	State	e Ex n (H	ow and
Whv	) an	d Impo	rtant Co	nstiti	ition	al Amen	ıdme	nts t	ill 1	today.	Eme	rgend	v Pr	ovi	sion	s.Tex	t Book:
"Con	stitı	ition of	India" by	M	V Py	lee.				5		0	5			-	
RBT	Le	vels: L1	, L2														
Mod	ule-	5: Prof	essional	Ethi	cs											3 H	ours
Profe	essi	onal Et	hics: Et	hics	& \	alues.	Гуре	s of	Et	hics. S	cope	& 1	Aims	of	Pro	ofessi	onal &
Engi	neer	ing Eth	nics. Pos	itive	and	l Negati	ve I	Faces	0	f Engi	neeri	ng E	Ethics	s. (	Clas	n of	Ethics,
Cont	licts	of Inte	erest. Th	e 1m	pedi	ments to	Res	spons	51b1	11ty. 11	ust o	& Re	eliabi	lıty	1n .	Engii	ieering,
IPKS Toxt	(Int Roo	effectua k. "Eng	i Properi	y Kl Ethi	gnis)	, KISKS, F	Sale	ion S	u na 2 Ni	ability	$\frac{10}{10}$ Er	igine	ering		0		
RBT	Le	vels: L1	. L2	Lun	.5,1	vi.00viii	uaraj	jan, c	<b>).</b> 1N	atarajai	1, v.,	5.501	IUIIIK	uIII	a		
	LU		, 22		IV	V.COUR	RSE (	OUT	CC	OMES							
CO	1	Analyse	the basic	stru	cture	e of India	an Co	onstit	uti	on.							
00		Dutline	the Fund	ame	ntal	Rights I	OPSI	P's a	nd	Fundar	nent	al Dr	ities	(FF	)'s)	ofou	r
CO	2	constitut	ion.	unit	Inter	itigiitis, i	51 51	l b u	iiu -	i undui	nenta		ules.	(1 L	. 5)	01 00	1
<u> </u>	, I	Extend 1	knowleds	ze al	oout	Union a	and S	State	Go	overnm	ent.	Elect	tions	SVS	stem	of I	ndia &
CO	<b>3</b>	Amendn	nents.								,			5			
CO	4 (	Dutline t	the impor	rtanc	e of	Engineer	ring	Ethic	S								
			V.	C <b>O-</b> ]	PO-I	PSO MA	PPI	NG (	ma	rk H=3	; M=	=2; L=	=1)				
PO/PSC	) 1	2	3	4	5	6	7	8	9	10	11	12	S1		S2	S3	S4
CO1	3					2						3					
CO2	3					2						3					
CO3	3					2						3					
CO4	3					2		3				3					
				V	T. As	ssessmen	nt De	etails	(C	IE & S	SEE)						
Ge	nera	al Rules	: Refer A	Anne	xure	Section	6										
Co	ntin	uous In	ternal <b>F</b>	valı	iatio	n (CIE):	Ref	èr Aı	nne	xure Se	ection	n 6					
Ser	nes	ter End	Examin	atio	n (SI	EE): Ref	er A	nnex	ure	Section	n 6						
					,	VII. Lea	rnin	g Re	sou	rces							
VII(a	<b>i):</b> ]	ſextboo	ks														
Sl. No.	r	<b>Fitle of</b>	the Bool	K	Na	ame of tl	he au	ıthor	•	Editio	n an	d Ye	ar		Nan pul	ne of blish	the er
1.	"In Cor	troduction	on to the	<b>,</b> "	]	Durga D	as Ba	asu		Stude	nts E 2008	ditio	n,	F	rent	ice –	Hall
2		Istitutio		ı		M Govin	Idara	ian			2008	,					
2.	"Er	gineerii	ng Ethics	"		S.Nata	raiar	). ).			2004	-		F	Prent	ice –	Hall
V.S.Senthilkumar																	
VII(b): Reference Books																	
1	"C	natituti	on of Ind	10	s	Shubborn	Sin	alac									
1	Pro	fessiona	off of file of Ethics :	and	Chai	rles F H	aries	and	et	Lates	t Edi	tion	_	Ce	ngag	ge Le	arning
	1 10 H111	nan Rio	hts"	anu	Cha	al	arres	, and	υ		2019	)			l	ndia	
2	"Co	onstitutio	on of Ind	ia"		MVI	Pylee	2		16 th	Editi	ion		Vi	kas l	Publi	cation
VII(	:): V	Veb lin	ks and V	ideo	Lec	tures (e-	Res	ourc	es):								
https	//w	ww.stud	via.com/	artic	les/i	mportant	-arti	cles-o	of-t	he-indi	an-co	onstit	ution	/			
https	//by	jus.com	n/free-ias	-pre	o/cor	stitution	-of-i	ndia-	an-	-overvi	ew/			_			

# VIII: Activity Based Learning / Practical Based Learning/Experiential learning:

Contents related activities (Activity-based discussions)

For active participation of students instruct the students to prepare Flowcharts and Handouts Organising Group wise discussions Connecting to placement activities

Quizzes and Discussions



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Semester:	I/II	С	Course Type:			HSMC	
<b>Course Titl</b>	e: Env	iroi	nmental Studi	es			
Course Cod	e:		23ENVH02			Credits:	01
<b>Teaching H</b>	lours/	Wee	ek (L:T:P)		1:0:0:0	<b>Total Hours:</b>	15
CIE Marks	: 50	)	SEE N	larks:	50	Total Marks:	100
SEE Type:			, T	Theory		Exam Hours:	2
	•			I.Co	urse Objectives:		
1. To cr	eate en	nvir	conmental awa	reness	among the students.	• •	
2. To ga	ain kno	owle	edge on differ	ent type	es of pollution in the	environment.	
	1 0	1	I.Teaching-L	earning	g Process (General I	Instructions):	
These are sar	mple S	trat	tegies; which t	eacher	can use to accelerate	the attainment of	the various
course outco	mes.					<b>C</b> ¹ <b>1</b>	
I. Apar	t from	con	iventional lect	ure met	thods various types o	f innovative teach	ing techniques
through v	ideos,	and	animation fil	ms may	be adopted so that t	he delivered lesso	n can progress the
students 1	n theor		cal, applied an	d pract	ical skills.		
2. Envir	ronmei	ntal	awareness pro	ogram i	for the in-house camp	bus	
3. Enco	urage	coll	aborative (Gro	Sup Lea	(rning) Learning in th	ne class.	
4. Semi	nars, s	urp	rise tests and (	Quizzes	s may be arranged for	r students in respec	ctive subjects to
develop s	kills.		T				
			1	11.COU	RSE CONTENT		2.11
Nodule-1	( <b>F</b>						3 Hours
Introduction	to E	nvii Sta	ronmental Stu	idies: 1	ntroduction: Environ	nent - Component	s of Environment
Ecosystem: 1	ypes &		ructure of Ecos	system,	Balanced ecosystem F	iuman Activities –	rood, Sneller, And
Impacts of A	oriculti	ure	#11.y. & Housing Im	nacts o	f Industry Mining &	Transportation Fns	vironmental Impact
Assessment, S	Sustain	able	$\approx$ Development.	ipuets o	r mausary, winning a	Transportation En	nonmentar impaet
Textbook: Bl	narucha	и. Е.	(2015). Textbo	ok of E	nvironmental Studies		
<b>RBT Levels:</b>	L1, L2	.,	()				
Module-2							3 Hours
Natural Res	ources	: W	ater resources	– Avai	lability & Quality as	pects, Water borne	diseases & water
induced disea	ses, Fl	uori	ide problem in	drinking	g water Mineral resou	rces, Forest Wealth	Material Cycles -
Carbon Cycle	, Nitrog	gen	Cycle & Sulph	ur Cycle	).		
Energy – Di	fferent	typ	es of energy, 0	Convent	ional sources & Non	Conventional source	es of energy Solar
energy, Hydro	o electr	ic e	energy, Wind E	nergy, N	Juclear energy, Bioma	ss & Biogas Fossil	Fuels, Hydrogen as
an alternative	energy	•					
Textbook: "	Enviro	onm	nental Studies'	', by Be	enny Joseph		
<b>RBT</b> Levels:	LI, L2						0.11
Module-3							3 Hours
Environment	tal Poll	utio	on (Sources, In	pacts, C	Corrective and Prevent	ive measures, Relev	ant Environmental
Acts, Case-stu	idies):	Surf	face and Groun	d Water	Pollution; Noise pollu	tion; Soil Pollution	and Air Pollution.
waste Mana	gemen	t &	Public Healt	1 Aspec	ets: Bio-medical Waste	es; Solid waste; Ha	zardous wastes; E-
wastes; Indus	trial and		unicipal Sludge	$\mathbf{t}$	nd Prostings by Dar D		
RRT Levels	L1 L2	ICIII	iai Science- PTII	icipies a	ind Fractices, by Das R		
Module_4	L1, L2						3 Hours
TTOULIC-T							

**Global Environmental Concerns** (Concept, policies and case-studies): Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology. **Textbook:** "Environmental Studies – From Crisis to Cure" by R Rajagopalan

RBT Levels: L1, L2 Module-5

3 Hours

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications) G I S. &Remote Sensing, Environment Impact Assessment, Environmental Management Systems ISO14001; Environmental Stewardship- NGOs.

**Field work:** Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation

**Textbook:** Environmental and Pollution Science. Pepper I.L., Gerba C.P. & Brusseau M.L. **RBT Levels:** L1, L2

# IV.COURSE OUTCOMES

CO1	To identify the major challenges in environmental issues and evaluate possible solutions.
CO2	Develop analytical skills, critical thinking and demonstrate socio-economic skills for sustainable development

CO3 To analyze an overall impact of specific issues and develop environmental management plan.

	V. <b>CO-PO-PSO MAPPING</b> (mark H=3; M=2; L=1)															
PO/PSO	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S3	S4
CO1	3					2						2				
CO2	3	2					2					2				
CO3	3	2				2	2					2				

## VI. Assessment Details (CIE & SEE)

General Rules: Refer Annexure Section 5

Continuous Internal Evaluation (CIE): Refer Annexure Section 5

Semester End Examination (SEE): Refer Annexure Section 5

#### VII. Learning Resources

Sl. No.	Title of the Book	Name of the author	Edition and Year	Name of the publisher
1	Textbook of Environmental Studies	Bharucha, E.	(2015)	-
2	Environmental Studies	Benny Joseph	2nd Edition, 2012	Tata Mc Graw – Hill.
3	Environmental Studies – From Crisis to Cure	R Rajagopalan	2005	Oxford Publisher
4	Environmental Science- Principles and Practices	Das, R.C.	2008	I Ed., Printice Hall of India,New Delhi.
5	Environmental and Pollution Science.	Pepper, I.L., Gerba, C.P. & Brusseau, M.L.	2006	Elsevier Academic Press.
VII(b	): Reference Bo	oks		

1	Principals of Environmental Science and Engineering	Raman Sivakumar	2 nd Edition, 2005	Cengage learning, Singapur.								
2	Fundamentals of Ecology.	Odum, E.P., Odum, H.T. & Andrews, J.	1971	-								
3	Environmental Pollution and Control	Vesilind, P.J., Peirce, J.J., & Weiner R.F	1990.	.Butterworth- Heinemann, USA								
VII(c	): Web links and	d Video Lectures (e-Reso	urces):									
<u>https:</u> https:	//www.youtube.c //www.youtube.c	com/watch?v=or-z0Q03pc com/watch?v=qS8mfAX1t	<u>Y</u> <u>Ak</u>									
VIII:	Activity Based	Learning / Practical Base	ed Learning/Experiential l	earning:								
	'III: Activity Based Learning / Practical Based Learning/Experiential learning:											





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Semester:	Ι	Course Type:			NCMC							
Course Title: Skills for Success: An approach to Aptitude and Soft Skills												
Course Code:23PDSN01Credits:PP/NP												
Teaching Hours/Week (L:T:P:O)0:0:0:2Total Hours:24												
CIE Marks:     50     SEE Marks:      Total Marks:												
SEE Type	:			-	Exam Hours:	00						
I. Course Objectives:         > Explore techniques to boost self-esteem and overcome self-doubt         > Learn effective techniques for structuring and delivering presentations         > Recognizing the Role of Aptitude in Placement         > Learn to express thoughts and ideas clearly and confidently.         > Improve overall language proficiency and grammatical accuracy.												
II. Teaching-	Learn	ing Process (Ge	neral	Instructions):								

I nese are samp course outcomes.

1. Lecturer method (L) need not to be only a traditional lecture method, but alternative effective Teaching methods could be adopted to attain the outcomes.

2. Use of Video/Animation to explain functioning of various concepts.

3. Encourage collaborative (Group Learning) Learning in the class.

4. Ask at least three HOT (Higher order Thinking) questions in the class, which promotes critical Thinking.

5. Adopt Problem Based Learning (PBL), which fosters students Analytical skills, develop design thinking skills such as the ability to design, evaluate, generalize, and analyze information rather Than simply recall it.

6. Introduce Topics in manifold representations.

7. Show the different ways to solve the same problem with different circuits/logic and encourage The students to come up with their own creative ways to solve them.

8. Discuss how every concept can be applied to the real world - and when that's possible, it helps Improve the students' understanding.

III. COURSE CONTENT	
III(a).Theory PART	
Module-1: Personality Development and Presentation skills	05 Hrs
Self-Introduction Tips, Ways to Improve Self Confidence, Art of Story Telling and	presentation
Skills, Five beats of storytelling, Activity(Story narration by students) and basics of	f presentation
slides making, Body language and postures.	
Pre-requisites: Emotional intelligence and self-awareness	

Modu	Module-2: Overview of Problems on Number series and Simplification       05 Hrs         Aptitude concept, Basic idea on how Aptitude helps in getting placed. What are the benefits in															
Aptitu	Aptitude concept, Basic idea on how Aptitude helps in getting placed, What are the benefits in learning Aptitude, Basic Vedic Maths Techniques, Problems on Number series and puzzles.															
learnin Proble	learning Aptitude, Basic Vedic Maths Techniques, Problems on Number series and puzzles, Problems on Simplification.															
Pre-re	Pre-requisites: Basic mathematics															
Modu	Module-3: Public Speaking and Etiquettes04Hrs															
Art of Netwo Socia	Art of improving Communication skills, Public Speaking, Stage Presence, Formal dressing, Networking, Etiquettes, Campus Interview and Portfolio, Business Etiquettes, Meeting Etiquettes, Social Etiquettes.															
Pre-re	Pre-requisites Basic Communication Skills															
Modu	Module-4: Grammar and Verbal Aptitude06Hrs															
Articl	es, l	Prepos	sitions	and	Spotti	ng th	e Erro	ors, V	/erbal a	aptituc	le cor	icept,	Probl	ems o	n seat	ting
arrang	geme	$\frac{1}{1}$ A	ctivity	(Tea	m Buil	lding)	•									
Pre-re	quis	Ites: I	Basic g	gramn	nar											
Modu Data a	lle-5	: Rea	soning	Aggog	mont									0	94Hrs	
Pre-re	quis	ites: I	Basic 1	nathe	matica	ıl Kno	wledg	ge								
					]	IV. C	OURS	SE O	UTCO	MES						
CO1		Го im	prove	verba	l abilit	ty skil	l and o	comr	nunicat	ive sk	ill of t	he stu	Idents			
CO2	2	Го imj	prove	verba	l abilit	ty skil	l and o	comr	nunicat	ive sk	ill of t	he stu	dents			
CO3	; :	Studer	nts wil	l com	munic	ate ef	fective	ely &	z approj	priatel	y in re	eal life	e situa	tion		
CO4	1	t will	enhan	ice sti	idents	probl	em-so	lving	g skill.							
CO5		Studen olacen	nts wi nent d	ll be rives.	able	to pr	epare	for	various	s publ	ic and	d priv	vate s	ector	exams	&
				V.C	O-PO-	-PSO	MAP	PIN	G (marl	k H=3	; M=2	; L=1	)			
PO/PS O	1	2	3	4	5	6	7	8	9	10	11	12	S1	S2	S3	S4
CO1	2							2		2		1				
CO2	2							2		2		1				
CO3	2							2		2		1				
CO4	2							2		2		1				
CO5	2							2		2		1				
		1	1	1	•	VI. A	ssessi	ment	Detail	s (CII	E)	1	1	1	1	
Contin CII sub The CII the	E wi E wi oject e qu E Pa exa	Is Into 11 be c estion ttern v minat	ernal conduc paper will be ion is	Evalu eted as will in M 01 Ho	nation s per tl have 5 CQ M our.	(CIE) he sch 60 que lodel (	): edulec stions. (Multij	d tim . Eac ple C	etable, h quest Choice (	with c ion is Questi	commo set for ons) fo	on que r 01 m or 50 :	estion nark. marks	papers	s for th duratio	ne on of
						VII.	Lea	arniı	ng Reso	ources	5					
VII(b)	: Re	feren	ce Bo	oks:												
1	The habi	powe t	r of	C I	CHAR DUHIC	LES GG'S I	BLOG	r	2007				0	Bood re	eaders	

2	Never Split the Difference: Negotiating as if Your Life Depended on It	Chris Voss	2015	Good readers
3	Thinking, Fast and Slow Hardcover	Daniel Kahneman	2011	Good readers
VII(c	c): Web links and V	ideo Lectures (e-Reso	urces):	
https:	//swayam.gov.in/exp	<u>olorer</u>		
https:	//nptel.ac.in/courses			
https:	//youtu.be/6B-dvOM	ITeV8?si=Mx0GqAVa	<u>jh6VtDRP</u>	
https:	//youtu.be/MFj7QIX	<u>in-mM?si=AQlxLi086</u>	k1GrJuk	
VIII:	Activity Based Lea	rning / Practical Base	ed Learning/Experiential lea	rning:
Ment	ion suggested Activi	ties like		
•	Seminar			
•	Assignments			
•	Quiz			
•	Mini projects			
•	Activity Based lea	rning		





SJB Institute of Technology BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060 Approved by AICTE, New Delhi. Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

|| Jai Sri Gurudev || Sri Adichunchanagiri Shikshana Trust (R)

Semester:	II	Course Type:		NCMC										
Course Title:	: Skilful	Harmony: Brid	ging A	ptitude and Soft sk	ills									
Course Coo	le:	23PDSN02			Credits:	PP/NP								
Teachir	ıg Hour	s/Week (L: T:	P: 0)	0:0:0:2	Total Hours:	24								
CIE Mark	s: 50	O SEE Ma	arks:		Total Marks:	50								
SEE Typ	e:				Exam Hours:	00								
I. Course Objectives:														
<ul> <li>Demonstrate the ability to write clear, concise, and grammatically correct messages.</li> <li>Craft comprehensive curriculum vitae (CV) suitable for academic and professional pursuits.</li> <li>Apply problem-solving strategies to real-world situations.</li> <li>Collaborate effectively with peers in group activities and projects.</li> <li>Develop a systematic approach to creative problem solving</li> </ul>														
II. Teaching	-Learni	ing Process (Ge	neral	Instructions):										
<ul> <li>II. Teaching-Learning Process (General Instructions):</li> <li>These are sample Strategies, which teachers can use to accelerate the attainment of the various course Outcomes.</li> <li>1. Lecturer method (L) need not to be only a traditional lecture method, but alternative effective Teaching methods could be adopted to attain the outcomes.</li> <li>2. Use of Video/Animation to explain functioning of various concepts.</li> <li>3. Encourage collaborative (Group Learning) Learning in the class.</li> <li>4. Ask at least three HOT (Higher order Thinking) questions in the class, which promotes critical Thinking.</li> <li>5. Adopt Problem Based Learning (PBL), which fosters students' Analytical skills, develop design thinking skills such as the ability to design, evaluate, generalize, and analyze information rather Than simply recall it.</li> <li>6. Introduce Topics in manifold representations.</li> <li>7. Show the different ways to solve the same problem with different circuits/logic and encourage The students to come up with their own creative ways to solve them.</li> <li>8. Discuss how every concept can be applied to the real world - and when that's possible, it helps Improve the students' understanding.</li> </ul>														
		111												
Madul: 1.0		A	111 (a).	. Theory PART										
Niodule-1:Qu		ve Aptitude	<b>100</b> C C C	d distance al - 1-	nd color dana	U6 Hrs								
Problems on I	Deriand	a LUM, Speed the	ine and	a distance, clocks a	nu calendars									
Pre-requisites	: Basic 1	mathematics	1 11	1: 1		04 Ц.								
Niodule-2:(V	erbal co	mmunication ar	ia Hano	a writing skills)		04 Hrs								
Written and writing skills	oral co	mmunication, I	Resume	e and CV building	g, Hand writing skill	ls, Technical								
Pre-requisite	s: Basi	c Communicatio	on											
Module-3:L	ogical re	easoning and Pu	zzles			06 Hrs								
Vocabulary Challenge/Co	reasonii ode Deb	ng, Logical deo ougging Challeng	luction ge)	n, Cross word pu	zzles, Activity (Brid	lge Building								
Pre-requisite	s : Lang	uage proficienc	y and $\overline{B}$	Basic logic skills										

Modu	Module-4:Team Building and Team work04 HrsEssentials of team building Responsibility Collaboration Coordination Activity																	
Essent (Mars)	Essentials of team building, Responsibility, Collaboration, Coordination, Activity (Marshmallow Challenge)																	
Pre-re	Pre-requisites: Effective communication and Collaboration skills																	
Modu	Module-5:Brain storming and Assessment04 Hrs																	
Indivia approa Assess Pre-re	Individual Brainstorming, Group, Brainstorming, Stepladder Technique, Crawford Slip writing approach, Reverse brainstorming, Star bursting, Round robin brainstorming and Final Assessment Pre-requisites: Willingness to explore new creative ideas																	
	IV. COURSE OUTCOMES																	
CO1	IV. COURSE OUTCOMES         CO1 To improve verbal ability skill and communicative skill of the students																	
CO2	CO1       To improve verbal ability skill and communicative skill of the students         CO2       To improve verbal ability skill and communicative skill of the students																	
CO3	CO2       To improve verbal ability skill and communicative skill of the students         CO3       Students will communicate effectively & appropriately in real life situation																	
CO4	CO3       Students will communicate effectively & appropriately in real life situation         CO4       It will enhance students problem solving skill.																	
CO5	CO4       It will enhance students problem solving skill.         CO5       Students will be able to prepare for various public and private sector exams & placement drives.																	
	CO5       Students will be able to prepare for various public and private sector exams & placement drives.         V. CO-PO-PSO MAPPING (mark H=3: M=2: I=1)																	
V. CO-PO-PSO MAPPING (mark H=3; M=2; L=1)           PO/PS         1         2         3         4         5         6         7         8         9         10         11         12         S1         S2         S3         S4																		
0																		
C01	2								$\frac{2}{2}$			2		1 1				
CO2 CO3	2								$\frac{2}{2}$	,		2		1				
CO4	2								2	,		2		1				
CO5	2								2			2		1				
Contin		a Int	annal	Eval	mat	V	$\frac{\mathbf{I}}{\mathbf{C}}$	ssessn	nen	t D	etails	of Cl	E					
Contin	Ref	er ann	nexure	Evai ;	แลเ	1011	(CIE)	):										
							VII.	Lea	arn	ing	g Reso	ources						
VII(b)	: Re	feren	ce Bo	oks:														
1	The	power	of habi	t	CHA BLC	ARLI DG	ES DU	HIGG'S	5	20	007				G	ood rea	ders	
2	Neve Diffe Nego Life	er Split erence: otiating Depend	the as if Y ded on 1	our It	Chri	is Vo	SS			20	)15				G	ood rea	ders	
3	Thin Slow	king, F ' Hardc	ast and over		Dan	niel K	ahnem	an		20	)11				G	ood rea	ders	
VII(c):	: W	eb lin	ks and	d Vio	leo	Lec	tures	(e-Re	sou	irce	es):				•			
https://s https://r https://y https://y	v II(c): web links and video Lectures (e-Kesources):         https://swayam.gov.in/explorer         https://nptel.ac.in/courses         https://youtu.be/6B-dvOMTeV8?si=Mx0GqAVqjh6VtDRP         https://youtu.be/MFj7QIXn-mM?si=AQlxLi086k1GrJuk																	
VIII: A	Acti	vity B	ased	Lear	nin	ng / 1	Practi	ical Ba	ase	d L	earni	ing/Ex	perie	ntial	earni	ng:		
Mention • •	sugg Sen Ass Qui Min	gested , iinar ignmen z i projec	Activiti its cts	es lik	e							-						

• Activity Based learning



SJ

В



**Institute of** Technology BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060 Approved by AICTE, New Delhi. Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

|| Jai Sri Gurudev || Sri Adichunchanagiri Shikshana Trust (R)

r

Semester:	Ι	Co	urse Type:	AEC	1									
Course Title	Course Title: WEB 2.0 (HTML, CSS & JAVASCRIPT)													
{Skill Development Course-1 (EWDP)}														
Course Code	e:			2	3EEAE11		Credits:	1						
Teaching Ho	ours/We	ek (l	L:T:P:O)		0:1:1:1	Total Hours	4	0						
CIE Marks:	5	0	SEE Ma	rks:	50	Total Marks	10	00						
<b>SEE Type:</b> Theory/practical/other assessment(practical) <b>Exam Hours:</b> 02														
I. Course Objectives:														
<ul> <li>Learn HTML, XHTML tags with utilizations.</li> <li>Know CSS with dynamic document utilizations.</li> <li>Learn JavaScript with Element access in JavaScript</li> <li>Logically plan and develop web pages</li> </ul> II. Teaching-Learning Process (General Instructions):														
<ul> <li>course</li> <li>outcomes.</li> <li>1. Lecturer m teaching n</li> <li>2. Use of Vid</li> <li>3. Encourage</li> <li>4. Ask at leas thinking.</li> <li>5. Adopt Prol thinking sk than simply</li> <li>6. Introduce 7</li> <li>7. Show the c the student</li> <li>8. Discuss ho improve th</li> </ul>	ethod (I nethods eo/Anir collabo t three I olem Ba tills sucl y recall fopics in lifferent s to con w every ne stude	L) net could natio rative HOT sed I n as t it. n man way: ne up cond nts' u	ed not to be of d be adopted n to explain to e (Group Lea (Higher orde Learning (PB he ability to nifold repress s to solve the with their or cept can be a inderstanding III.	only a to att funct urning er Thi L), w desig entati e sam wn cr pplie g. CO	a traditional lecture r tain the outcomes. ioning of various cor g) Learning in the cla inking) questions in t which fosters students in, evaluate, generaliz ions. e problem with diffe reative ways to solve d to the real world -	nethod, but alter neepts. iss. he class, which a' Analytical skil ze, and analysed rent circuits/logi them. and when that's	promotes c ls, develop informatio c and enco	ctive ritical design on rather urage helps						
Module-1	Module-1 8 Hours													
Introduction MIME, HTT Textbook 1: Pre-requisite	n to We P, Secur Chapter es (Self	b Pro ity, 7 <u>1 (1</u> Lear	ogramming: The Web Pro .1 to 1.9 ) ning)	Inter gram	rnet, WWW, Web Br mers Toolbox.	rowsers, and We	b Servers,	URLs,						
110-10quistu	b (Deff.	Llai	iiiig <i>)</i>											

RBT I	leve	els: L	and	L2												
Modul	e-2:													8 H	Iours	
HTML docume Color ,l HTML	and ent s HTN and	d XH' tructu /IL At XHT	<b>FML</b> ire, Ba tribut ML.	: Orig asic tex es ,. Fo	ins of xt mai orms,	⁷ HTM rkup, 1 Frame	IL and Image es in F	l XHT s, Hy _f ITML	ML, I pertext and X	Basic s t Links XHTM	syntax s, List IL, Sy	a, Stan s, Tab rntactio	dard X les , F c diffe	TAMES TRANCES	L , HT s betw	ML een
Textbo	ok 1	: Cha	pter 2	2 (2.1 1	to 2.10	))										
Pre-re	quis	sites (	Self I	Learni	ng) :	ΉТМ	L									
RBT I	Leve	els:L1	, L2													
Modu	le-3	:												8	Hours	
CSS: In value for	<b>CSS</b> : Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, Background images, tags. Textbook 1 : Chapter 3 (3.6 to 3.12)															
Textbo	JK I	: Cha	ipter :	5 (3.0)	.0 3.12	2)										
Pre-re	quis	sites (	Self I	Learni	ng) ;	HTM	L									
RBT I	leve	els: L2	2,L3	8												
Modu	e-4:	:												8	Hours	
Java S	rip	t – I:	Objec	t oriei	itation	1 and .	JavaSo	cript;	Gener	al synt	tactic	charac	eteristi	cs; Pr	imitiv	es,
Operations, and expressions; Screen output and keyboard input.																
Reference Book : Chapter 4(4.1 to 4.5)         Pre-requisites (Self Learning) : HTML and CSS																
RBT I	Leve	els: L2	2, L3		8/ 1											
Modu	le-5	:												8	Hours	
Java So	rip	t - II	: Cont	trol sta	temer	nts, Ol	bject c	reatio	n and	Modi	ficatio	on: var	iables	, data	types	
Arrays; JavaSci	Fur ipt 1	nction DOM	s; Cor and E	nstruct BOM (	or; Pa Object	attern : s .	match	ing us	ing ex	pressi	ons; I	Errors,	Elem	ent ac	cess ir	1
Text Bo	ook	$1 \cdot \mathbf{C}$	hantei	$\cdot 4(4.6$	to 4 1	4)										
Pre-re	quis	sites (	Self I	Learni	$\frac{10 + 11}{ng}$	(										
RBT I	Leve	els: L3	3		0,											
					]	<b>V. C</b>	OURS	E OU	TCO	MES						
CO1	D	escrit	e the	funda	menta	ls of v	veb ar	nd con	cept o	of HTN	ЛL.					
CO2	U	se the	Conc	cepts o	f HTN	ML, X	KHTM	IL to c	constru	uct the	web	pages	•			
CO3	CO3 Interpret CSS for Dynamic Documents.															
CO4	CO4 Evaluate different concepts of JS and Construct Dynamic Documents															
CO5	D	esign	a sma	all proj	ject us	ing H	TML	,CSS	and Ja	waScr	ipt					
				V. CO	)-PO	PSO	MAP	PING	(mar	k H=3	; M=2	2; L=1	)			
PO/PS	1	2	3	4	5	6	7	8	9	10	11	12	PS1	PS2	PS3	PS4
$\begin{array}{c} 0 \\ 0 \\ 0 \\ \end{array}$	2		r		2											
CO1 CO2	$\frac{2}{2}$		2		2											
CO3	2		2		2											

<b>CO4</b>	2		2		2												
CO5	2		2		2												
		1		1	VI.	Asses	ssmen	t Deta	ails (C	IE &	SEE)	)					
Genera	al Ru	ules: F	Refer a	pper	ndix sec	tion 5											
Contin	uou	s Inte	rnal E	valu	ation (	CIE):	Refer	appen	dix se	ction 5	í						
Semest	er E	Ind Ex	kamin	atio	n (SEE)	Refe	er appe	endix s	section	5							
						VII.	Lea	arnin	g Res	ources							
						1	VII(a)	: Tex	t Bool	KS							
Sl. No	).	Title B	e of th look	ie	Name	of the	e auth	or	Ed	lition	and Y	Year		ľ	Namo pub	e of t lishe	he r
1	Programmin g the World Wide WebRobert W Sebesta6th Edition, 2008Pearson EducationVII(b): Reference Books																
VII(b): Reference Books																	
Sl. No	Sl. No. Title of the Book			ie	Name of the author				Ec	lition	and Y	Year		ľ	Namo pub	e of ti lishe	he r
1	1 Castro Elizabeth and Hyslop			lop	Eight	Editi	on An	nd 20	13	Pea	ch pi	t Pres	38				
2		Bas Web	sics of Desig	gn	Fel	lke-M	orris		Fifth	Editic	on An	d 20	19	Pea	rson	Educ	ation
3		Beg HT M	inning ML5 Iedia	g	Silvia	a, and Tom	Greer	n	First	Editio	on An	d 201	15		Aŗ	press	
VII(c):	We	eb linl	ks and	l Vio	leo Leo	ctures	(e-Re	esour	ces):								
Introduction to web Development : <u>https://www.youtube.com/watch?v=l1EssrLxt7E&amp;list=PLfqMhTWNBTe3H6c9OGXb5_6wcc1M</u> ca52n																	
Introdu	Introduction to HTML, CSS, Java Script :																
https://www.youtube.com/watch?v=6mbwJ2xhgzM&list=PLu0W_9III9agiCUZYRsvtGTXdxkzP yItg																	
Tutorial Link:																	
1. http://www.tutorialspoint.com 2. http://www.w3schools.com																	
VIII: Activity Based Learning / Practical Based Learning/Experiential learning:																	
Demon	stra	tion of	f Simj	Demonstration of Simple Projects													

DATE:



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Semester:	Π	Course Type:	AEC				
Course Title	: INTR( {Skill ]	DUCTION TO Development Co	PYTH ourse-2	HON PROGRAMMI 2 (EWDP)}	NG		
Course Coo	Credits:	1					
Teach	ing Ho	urs/Week (L:T:	0:1:1:1	Total Hours:	40		
CIE Marks: 50 SEE Marks: 50					Total Marks:	100	
SEE Typ	02						

## **I. Course Objectives:**

- Learn the syntax and semantics of the Python programming language.
- Illustrate the process of structuring the data using lists, tuples.
- Demonstrate the use of built-in functions to navigate the file system.
- Implement the Object-Oriented Programming concepts in Python.

#### **II. Teaching-Learning Process (General Instructions):**

These are sample Strategies, which teachers can use to accelerate the attainment of the various course

outcomes.

- 1. Lecturer method (L) need not to be only a traditional lecture method, but alternative effective teaching methods could be adopted to attain the outcomes.
- 2. Use of Video/Animation to explain functioning of various concepts.
- 3. Encourage collaborative (Group Learning) Learning in the class.
- 4. Ask at least three HOT (Higher order Thinking) questions in the class, which promotes critical thinking.
- 5. Adopt Problem Based Learning (PBL), which fosters students' Analytical skills, develop design thinking skills such as the ability to design, evaluate, generalize, and analysed information rather than simply recall it.
- 6. Introduce Topics in manifold representations.
- 7. Show the different ways to solve the same problem with different circuits/logic and encourage the students to come up with their own creative ways to solve them.
- 8. Discuss how every concept can be applied to the real world and when that's possible, it helps improve the students' understanding.

# **III. COURSE CONTENT**

#### Module-1

8 Hours

**Python Basics**: Difference between basic programming Language and Python, Python History, Python Operators and Operator Precedence, Keywords & Identifier, Statements & Comments, Python Data types.

Lists: The List Data Type, Working with Lists, Augmented Assignment Operators, Methods,

Example.

**Dictionaries and Structuring Data:** The Dictionary Data Type, Pretty Printing, Using Data Structures to Model Real-World Things.

Textbook 1: Chapter 1-3

Pre-requisites (Self Learning)

**RBT Levels: L1 and L2** 

## Module-2:

8 Hours

8 Hours

Flow control: Python if...else, Python for and while Loop, break, Continue and Pass Statement.

**Functions:** def Statements with Parameters, Return Values and return Statements, The None Value, Keyword Arguments and print(), Local and Global Scope, The global Statement, Exception Handling.

Textbook 1 : Chapter 2 (2.1 to 2.1

**Pre-requisites (Self Learning) : HTML** 

RBT Levels:L1, L2

Module-3:

Manipulating Strings: Working with Strings, Useful String Methods.

**Exception Handling:** Common Exceptions, User-defined Exception Declaring multiple Exception, Raising Exception, Python Directory.

Textbook 1 : Chapter 6, 8

Pre-requisites (Self Learning) ; HTML

RBT Levels: L2, L3

Module-4:

**File handling:** Reading from a file, writing to a file, Reading and writing CSV file Reading and writing Excel file, Python Classes, Python Objects, Operator Overloading.

**Python Modules:** Create Module and Standard module.

Textbook 1: Chapter 9-10

**Pre-requisites (Self Learning) : HTML and CSS** 

RBT Levels: L2, L3

Module-5:

8 Hours

8 Hours

**Classes and objects:** Inheritance, Multiple Inheritance, Python Namespace, Programmer-defined types.

**Classes and methods:** Object-oriented features, Printing objects, Another example, A more complicated example, Theinit method, The_str__ method, Operator overloading, Type-based dispatch.

Text Book 2 : Chapter 15-17

**Pre-requisites (Self Learning) :** 

**RBT Levels: L3** 

**IV. COURSE OUTCOMES** 

SCHEM	EME: 2023 DATE:															
CO1	Demonstrate proficiency in handling loops and creation of functions.															
CO2	Id	lentify	y the r	nethoo	ls to c	reate a	and ma	anipul	ate lis	sts, tup	les an	d dict	ionarie	es.		
CO3	D	evelo	p prog	grams	for str	ing pr	ocessi	ng an	d file	organi	zatior	1				
CO4	In	terpre	et the	conce	ots of	Objec	t-Orie	nted F	rogra	mming	g as u	sed in	Pytho	n.		
CO5	D	esign	a sma	all pro	ject us	ing H	TML	,CSS	and Ja	waScr	ipt					
				V. CO	D-PO-	PSO	MAP	PING	(mar	k H=3	; M=2	2; L=1	)			
PO/PS	1	2	3	4	5	6	7	8	9	10	11	12	PS1	PS2	PS3	PS4
0																
CO1	2		2		2											
CO2	2		2		2											
CO3	2															
<b>CO4</b>																
CO5 2 2 2 2																
1. (Ava (Cha link: func 2. Editi http: (Cha <b>VII(c):</b>	VI Learning Resources         1. Al Sweigart, "Automate the Boring Stuff with Python", 1 st Edition, No Starch Press, 2015. (Available under CC-BY-NC-SA license at https://automatetheboringstuff.com/) (Chapters 1 to 18, except 12) for lambda functions use this link: https://www.learnbyexample.org/python-lambda- function/         2. Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2 nd Edition, Green Tea Press, 2015. (Available under CC-BY-NC license at http://greenteapress.com/thinkpython2/thinkpython2.pdf (Chapters 13, 15, 16, 17, 18) (Download pdf/html files from the above link)															
<ul> <li>Introduction to web Development :</li> <li>https://www.learnbyexample.org/python/</li> <li><u>https://www.learnpython.org/</u> <u>https://pythontutor.com/visualize.html#mode=edit</u></li> </ul>																
VIII: Activity Based Learning / Practical Based Learning/Experiential learning:																
Demon	strat	ion o	f Sim	ple Pro	ojects	Quizz	es for	list, ti	uple, s	string o	liction	nary sl	licing	operat	ions u	sing
below l	ink	<u>https:</u>	//gith	ub.con	<u>n/sush</u>	antkh	ara/Da	<u>ta-Str</u>	<u>ucture</u>	es-And	<u>1-Algo</u>	orithm	<u>is-with</u>	<u>l-</u>		
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## CIE & SEE Evaluation strategy for Autonomous Scheme 2023 (Tentative)

		Continuous Internal Evaluation (CIE)												S	emester	End E	kamina	tion (SE	E)									
						I. Th	eory Co	mpone	ent				П.	Practica	l Com	ponent						Theory		P	Practical			Total
SI.	Course Type	Total	Min.		Min	A. U	nit test	B. Fo Asses	rmative ssments	Tot		Min	C. W Evalu	eekly ation	D.	Internal	Test	Tot marks	Total CIE	n hrs.	Max.	Max.	min.	Max.	Max.	min.	Total SFF	Marks
110.	/Cruits	marks	Eligty.	Marks	Eligty.	Nos.	Marks / Each	Nos.	Marks/ Each	Theory marks (I)	Marks	Eligty.	Each week	Tot. marks	Nos.	Marks/ Each	Total marks	(II)	marks	Dur. I	cond. marks	red marks	pass %	cond. marks	ered marks	pass %	marks	EE)
1	BSC/ESC/PCC/ETC/ PEC/OEC (3 or 4 Credit courses)	50	50%	50	50%	3	50	2	50	50 (avg. of 5)					-				50 (I)	03	100	50	40%			-	50	100
2	IBSC/IESC/IPCC (4 Credit courses)	50	50%	50	50%	3	50			50 (avg. of 3)	50	50%	50	50 (Avg. of all)	1	50	50	50 (Avg. of C & D)	50 (Avg. of I & II)	03	100	50	40%	-		-	50	100
3	IESC - CAED (4 credit course)	50	50%								50	50%	50	50 (Avg. of all)	1	50	50	50 (Avg. of C & D)	50	03				100	50	40%	50	100
4	PCCL (1 Credit courses)	50	50%								50	50%	50	50 (Avg. of all)	1	50	50	50 (Avg. of C & D)	50 (II)	03				100	50	40%	50	100
5	AEC- IDT, Skill Development courses (1 credit course)	50	50%	50	50%	2	50	1	50	50 (Avg. of 3)									50 (I)	02	50	50	40%				50	100
6	HSMC- CIP, Env studies, SFH, UHV (1 credit course)	50	50%	50	50%	2	50	1	50	50 (Avg. of 3)									50 (I)	02	50	50	40%				50	100
7	HSMC - English, Kannada (No credits)	50	50%	50	50%	2	50	1	50	50 (Avg. of 3)									50 (I)									50
8	NCMC - Personality Development courses, PE, Yoga, NCC, NSS, IKS (No credits)	50	50%	50	50%			1	50	50									50 (I)									50

Formative (Successive) Assessments: Assignments/quiz/ seminars/field survey and report presentation/course project/etc. based on the faculty & dept. planning

Practical Conduction: The conduction of each experiment/program per week should evaluate for 50 Marks and average of all shall be taken.

In case of Integrated course, minimum eligibility shall be attained as prescribed in both the theory and practical components.

Self Learning Courses (SLC) Courses, Internship, Mini project & Major Project: Rubrics & Methodology shall be defined seperately







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Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Accredited by NAAC with 'A+'grade, Certified by ISO 9001 - 2015 Recognized by UGC, New Delhi with 2(f) & 12 (B)

# CIE and SEE guidelines based on course Type for Autonomous Scheme 2023

Note:

- > The CIE conduction coordination will be done by the office of Controller of Examination (COE).
- > The SEE will be conducted by the office of Controller of Examination (COE).

<b>Continuous Internal Evaluation (CIE)</b>	Semester End Examination (SEE)	Final Passing requirement									
1. BSC/ESC/PCC/ ETC/PEC/OEC – Theory Course (03 &	04 Credit courses)										
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 50% of the maximum marks (25	The minimum passing mark for SEE is 40%	The student is declared									
marks out of 50).	of the maximum marks (20 out of 50 marks).	as a pass in the course									
		if he/she secures a									
Continuous Internal Evaluation:	Semester-End Examination:	minimum of 45% (45									
CIE will be conducted by the department and it will have only 01	Duration of 03 hours and total marks of 100.	marks out of 100) in									
component:		the sum total of the									
I. Theory component.	• The question paper will have ten questions.	CIE and SEE taken									
Theory Component will consist of	Each question is set for 20 marks.	together.									
A. Internal Assessment Test	• There will be 2 questions from each										
B. Formative assessments	module. Each of the two questions under a										
	module (with a maximum of 3 sub-										
A. Internal Assessment Test:	questions), should have a mix of topics										
• There are 03 tests each of 50 marks conducted during 6 th week, 10 th week & 15 th week, respectively.	under that module.										

<ul> <li>The question paper will have four questions (max of 3 sub questions) from the notified syllabus. Each question is set for 25 marks.</li> <li>The student have to answer 2 full questions (one from 1st &amp; 2nd questions and another from 3rd &amp; 4th question).</li> <li>Internal Assessment Test question paper shall be designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.</li> </ul>	<ul> <li>The students have to answer 5 full questions, selecting one full question from each module.</li> <li>Marks scored shall be proportionally reduced to 50 marks.</li> </ul>	
<ul> <li>B. Formative assessments:</li> <li>• 02 formative assessments each of 50 marks shall be conducted by the</li> </ul>		
<ul> <li>•One formative assessment shall be completed before 5th week and second shall be completed before 12th week.</li> </ul>		
• The syllabus content for the formative assessment shall be defined by the course coordinator.		
• The formative assessments include Assignments/ Quiz/ seminars/case study/field survey/ report presentation/ course project/etc.		
• The assignment QP or Quiz QP shall indicate marks of each question and the relevant COs & RBT levels.		
• The rubrics required for the other formal assessments shall be defined by the departments along with mapping of relevant COs & POs.		
The final CIE marks will be 50:		
Average of all 05 events of Internal Assessment test and formative assessments.		
The documents of all the assessments shall be maintained meticulously.		

# 2. IBSC/IESC/IPCC – Integrated with Theory & Practical (04 credit courses)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Sen	nester End Exam (SEE) is 50%.	
The minimum passing mark for the CIE is 50% of the maximum marks (25	The minimum passing mark for SEE is 40%	The student is declared
marks out of 50).	of the maximum marks (20 out of 50 marks).	as a pass in the course
Minimum eligibility of 50% marks shall be attained separately in both the		if he/she secures a
theory component and practical component.	Semester-End Examination:	minimum of 45% (45
	Only theory SEE for duration of 03 hours and	marks out of 100) in
Continuous Internal Evaluation:	total marks of 100.	the sum total of the
CIE will be conducted by the department and it will have 02 component:		CIE and SEE taken
I. Theory Component.	• The question paper will have ten questions.	together.
II. Practical Component.	Each question is set for 20 marks.	
	• There will be 2 questions from each	
I. Theory Component will consist of	module. Each of the two questions under a	
A. Internal Assessment Test	module (with a maximum of 3 sub-	
B. Formative assessments (Not required for Integrated courses)	questions), should have a mix of topics	
	under that module.	
A. Internal Assessment Test:	• The laboratory content must be included in	
• There are 03 tests each of 50 marks conducted during 6 th week, 10 th	framing the theory question papers.	
week & 15 th week, respectively.	• The students have to answer 5 full	
• The question paper will have four questions (max of 3 sub questions)	questions, selecting one full question from	
from the notified syllabus. Each question is set for 25 marks.	each module.	
• It is suggested to include questions on laboratory content in the	• Marks scored shall be proportionally	
Internal Assessment test Question papers.	reduced to 50 marks.	
• The student have to answer 2 full questions (one from 1 st & 2 nd		
questions and another from $3^{rd} \& 4^{th}$ question).	No Practical SEE for Integrated	
• Internal Assessment Test question paper shall be designed to attain the	Course.	
different levels of Bloom's taxonomy as per the outcome defined for		
the course.		
	Note: CAED Course shall not be considered	
B. Formative assessments:	here, it shall be considered as in sl. No. 3 in	
• Not required for Integrated courses.	the next row	

<ul> <li>II. Practical Component:</li> <li>C. Conduction of each experiments and average of all the furth of the published of the published of the 14th week for 50 marks conduction committee)</li> <li>The final CIE marks will be 50 = Avg. {I [Avg. of 03 Internal assesses of all the assessesses of all the assesses of all th</li></ul>	nent/program s ne experiments, by the lab condi- ssessment tests s. (rubrics will = ssment tests] + nents shall be m considered here	hould be evaluation commination commination commination commination will be conducted be published.	uated for 50 all be taken. ittee) icted during d by the lab C & D)]} eticulously.		
3. IESC: CAED Course (4	credits)				
The weightage of Continuous Inte	rnal Evaluation	nester End Exam (SEE) is 50%.			
<ul> <li>The minimum passing mark for the marks out of 50).</li> <li>CIE shall be conducted for may to 50 marks</li> <li>CIE component should comprisitive. 50% manual and 50% component should comprisitive of students as and when the mark of students as and when the students as a students.</li> </ul>	e CIE is 50% of a. marks of 100 se of both Manu puter drafting o se of Continuo he modules are	The maximum and shall be s al and comput at of total 100 us evaluation	n marks (25 scaled down uter drafting 0 marks of drawing	The minimum passing mark for SEE is 40% of the maximum marks (20 out of 50 marks). Semester-End Examination: SEE for duration of 03 hours and total marks of 100.	The student is declared as a pass in the course if he/she secures a minimum of 45% (45 marks out of 100) in the sum total of the CIE and SEE taken together.
detailed weightage.	ine modules ure			maximum marks of 100 and shall be	
Module Module Module Max. Marks	Evaluation W mar Computer display and print out	/eightage in ks Manual Sketching		<ul> <li>scaled down to 50 marks.</li> <li>Question paper shall be made available for each batch as per schedule.</li> <li>Evaluation shall be carried jointly by both the internal &amp; external examiners.</li> </ul>	
Module 1 20	10	10		<ul> <li>Scheme of Evaluation: To be defined by</li> </ul>	
Module 2 20	10	10		both the examiners jointly	
Module 3 20	10	10		• Maximum 3 questions shall be set as per	
Module 4 20	10	10		the following nattern.	
TOTAL         100	<b>50</b>	50			

<ul> <li>At least one Test covering all the modules is to be conducted for 100 marks during 14th week and the same is to be scaled down to 25 Marks.</li> <li>Assignments = 10 Marks from each module. (50 marks scaled down to 25 Marks)</li> <li>The final CIE 50 marks = Test (25 marks) + Assignment (25 marks).</li> </ul>	Modu Modu Q. No.	From Mod ile 01 (Choid Lines or Pla dule 02 (Con question ale 03 or Mod Module ( TOTAI Manual Sketching	dule ce between anes) mpulsory b) bdule 04 or 05 L Computer display and print out	Marks Allotted 30 40 30 100 TOTAL MARKS	
	1	15	15	30	
	2	20	20	40	
	TOT.	50	50	100	
4. PCCL: Laboratory course (01 credit course)					
The weightage of Continuous Internal Evaluation (CIE) is 50% and for Sem	nester En	d Exam (SE	E) is 50%.		
<ul> <li>The minimum passing mark for the CIE is 50% of the maximum marks (25 marks out of 50).</li> <li>Continuous Internal Evaluation:</li> <li>CIE will be conducted by the department and it will have only 01 component:</li> <li>I. Theory Component. (Not required for Laboratory course)</li> <li>II. Practical Component:</li> <li>C. Conduction of each experiment/program should be evaluated for 50 marks and average of all the experiments/program shall be taken (rubrics will be published by the lab conduction committee).</li> <li>D. One laboratory Internal Assessment test will be conducted for 50 marks (rubrics will be published by the lab conduction committee).</li> </ul>	The min of the m Semest Only 1a jointly 1 examine schedul • The examine schedul • The examine propo • All lat be inc • Break	nimum passi naximum ma er-End Exa aboratory S by the intern er appointer ed timetable xamination s and shall rtionately. boratory exp cluded for pri- tup of main ctions printer	ing mark for arks (20 out of <b>mination:</b> SEE will be al examiner d by COE for duration thall be condu- be reduced to periments/pro- actical exam- rks (Rubric d on the cove	SEE is 40% of 50 marks). e conducted and external as per the of 03 hours. ucted for 100 to 50 marks ograms are to ination. s) and the	The student is declared as a pass in the course if he/she secures a minimum of 45% (45 marks out of 100) in the sum total of the CIE and SEE taken together.
The final CIE marks will be 50 = Avg. of (C & D)	exami	iners (OR)	based on	the course	

The documents of all the assessments shall be maintained meticulously.	<ul> <li>requirement evaluation rubrics shall be decided jointly by examiners.</li> <li>Students can pick one question (experiment/program) from the questions lot prepared by the internal /external examiners jointly.</li> <li>Evaluation of test write-up/ conduction procedure and result/viva will be conducted jointly by examiners.</li> <li>General rubrics suggested for SEE: writeup-20%, Conduction procedure and results -60%, Viva-voce 20% of maximum marks.</li> </ul>	
	• Change of experiment is allowed only once	
	and shall be assessed only for 85% of the	
	maximum marks.	
5. AEC: Ability Enhancement Courses (01 credit courses)		
The weightage of Continuous Internal Evaluation (CIE) is 50% and for Ser	nester End Exam (SEE) is 50%.	
The minimum passing mark for the CIE is 50% of the maximum marks (25 marks out of 50).	The minimum passing mark for SEE is 40% of the maximum marks (20 out of 50 marks).	The student is declared as a pass in the course if he/she secures a
Continuous Internal Evaluation:	Semester-End Examination:	minimum of 45% (45
CIE will be conducted by the department and will have only 01 component:	Theory SEE will be conducted by COE as per	marks out of 100) in
1. Theory component.	the scheduled timetable for duration of 02	the sum total of the
Theory Component will consist of	hours and total marks of 50.	CIE and SEE taken
A. Internal Assessment Test B. Formative assessments	• Multiple shoins Question name	together.
D. Pormative assessments	• Multiple choice Question paper. • The students have to answer all questions	
A. Internal Assessment Test:	• The students have to answer an questions.	
• There are 02 tests each of 50 marks conducted during 6 th week & 15 th week, respectively.		
• The question paper will be of Multiple-Choice Questions (MCQ).		
• The student have to answer all questions.		
• Internal Assessment Test question paper shall be designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course		

<ul> <li>B. Formative assessments:</li> <li>01 formative assessments of 50 marks shall be conducted by the Course coordinator based on the dept. planning before 14th week.</li> <li>The formative assessments include Assignments/seminars/case study/field survey/ report presentation/course project/etc.</li> <li>The assignment QP shall indicate marks of each question and the relevant COs &amp; RBT levels.</li> <li>The rubrics required for the other formal assessments shall be defined by the departments along with mapping of relevant COs &amp; POs.</li> <li>The final CIE marks will be 50: Average of all 03 events (02 Internal Assessment test and 01 formative assessment).</li> <li>The documents of all the assessments shall be maintained meticulously.</li> </ul>		
6. HSMC: (01 credit course)		
The weightage of Continuous Internal Evaluation (CIE) is 50% and for Ser	nester End Exam (SEE) is 50%.	
The minimum passing mark for the CIE is 50% of the maximum marks (25 marks out of 50).	The minimum passing mark for SEE is 40% of the maximum marks (20 out of 50 marks).	The student is declared as a pass in the course if he/she secures a
Continuous Internal Evaluation:	Semester-End Examination:	minimum of 45% (45
CIE will be conducted by the department and will have only 01 component:	Theory SEE will be conducted by COE as per	marks out of 100) in
L Theory component	the scheduled timetable for duration of 02 hours and total marks of 50	the sum total of the
Theory Component will consist of	nours and total marks of 50.	together.
A. Internal Assessment Test	• Multiple choice Question paper.	
B. Formative assessments	• The students have to answer all questions.	
A. Internal Assessment Test:	• Marks scored shall be proportionally reduced to 50 marks.	
• There are 02 tests each of 50 marks conducted during 6 th week & 15 th week respectively.		
• The question paper will be of Multiple-Choice Questions (MCQ)		
The question puper will be of multiple choice Questions (MeQ).		1
• Internal Assessment Test question paper shall be designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course		
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------	---------------------------------------------------------------------------
<ul> <li>B. Formative assessments:</li> <li>01 formative assessments of 50 marks shall be conducted by the faculty based on the dept. planning before 14th week.</li> <li>The formative assessments include Assignments/seminars/case study/field survey/ report presentation/course project/etc.</li> <li>The assignment QP shall indicate marks of each question and the relevant COs &amp; RBT levels.</li> <li>The rubrics required for the other formal assessments shall be defined by the departments along with mapping of relevant COs &amp; POs.</li> </ul>		
<b>The final CIE marks will be 50:</b> Average of all 03 events (02 IA test and 01 formative assessment). <b>The documents of all the assessments shall be maintained meticulously.</b>		
7. HSMC: (0 credit courses)		
The weightage is only for Continuous Internal Evaluation (CIE).		
The minimum passing mark for the CIE is 50% of the maximum marks (25 marks out of 50).	<ul> <li>No Semester End Examination.</li> </ul>	The student is declared as a pass in the course if he/she secures a
<ul> <li>Continuous Internal Evaluation:</li> <li>CIE will be conducted by the department and it will have only 01 component:</li> <li>I. Theory component. Theory Component will consist of C. Internal Assessment Test D. Formative assessments</li> </ul>		minimum of 50% (25 marks out of 50) in the CIE.
<ul> <li>A. Internal Assessment Test:</li> <li>There are 02 tests each of 50 marks conducted during 6th week &amp; 15th week, respectively.</li> <li>The question paper will be of Multiple-Choice Questions (MCQ).</li> <li>The student have to answer all questions.</li> </ul>		

• Internal Assessment Test question paper shall be designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course		
<ul> <li>B. Formative assessments:</li> <li>01 formative assessments of 50 marks shall be conducted by the faculty based on the dept. planning during random times.</li> <li>The formative assessments include Assignments/seminars/case study/field survey/ report presentation/course project/etc.</li> <li>The assignment QP shall indicate marks of each question and the relevant COs &amp; RBT levels.</li> <li>The rubrics required for the other formal assessments shall be defined by the departments along with mapping of relevant COs &amp; POs.</li> <li>The final CIE marks will be 50 = Average of all 03 events (02 IA test and 01 formative assessment).</li> <li>The documents of all the assessments shall be maintained meticulously.</li> </ul>		
The weightage is only for Continuous Internal Evaluation (CIE).		
<ul> <li>The minimum passing mark for the CIE is 50% of the maximum marks (25 marks out of 50).</li> <li>Continuous Internal Evaluation:</li> <li>CIE will be conducted by the department and it will have only 01 component:</li> <li>I. Theory component.</li> <li>Theory Component will consist of only 01 assessment</li> <li>A. Internal Assessment Test (not required for NCMC course).</li> <li>B. Formative assessments:</li> </ul>	• No Semester End Examination.	The student is declared as a pass in the course if he/she secures a minimum of 50% (25 marks out of 50) in the CIE.
<ul> <li>Of formative assessments.</li> <li>Of formative assessments of 50 marks shall be conducted by the faculty based on the dept. planning during random times.</li> <li>The formative assessments include Quiz/Assignments/seminars/case study/field survey/ report presentation/course project/etc.</li> <li>The assignment QP shall indicate marks of each question and the relevant COs &amp; RBT levels.</li> </ul>		

• The rubrics required for the other formal assessments shall be	
defined by the departments along with mapping of relevant COs &	
POs.	
The final CIE marks will be 50	
The documents of all the assessments shall be maintained meticulously.	



## **Program Outcomes (POs)- Graduate Attributes**

## **Engineering Graduates will be able to:**

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

9. Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

