

SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University) (Accredited by NBA-AICTE, New Delhi, Accredited by NAAC with "A" Grade)
Madagadipet, Puducherry - 605 107



Department of Computer Science and Business Systems

MINUTES OF SIXTH BOS MEETING

Venue

Lecture Hall, Department of CSBS Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605 107

> Date & Time 19.7.23 & 10 A.M.

SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE



(An Autonomous Institution)

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
(Accredited by NBA-AICTE, New Delhi, Accredited by NAAC with "A" Grade)
Madagadipet, Puducherry - 605 107



Department of Computer Science and Business Systems

Minutes of Board of Studies

The Board of Studies Sixth meeting of Department of Computer Science and Business Systems (CSBS) was held on 19th Jul 2023 at 10:00 A.M in the Staff Room, Department of CSBS, Sri Manakula Vinayagar Engineering College with the Head of the Department in the Chair.

The following members were present for the BOS meeting

SI.No	Name of the Member with Designation and	Members as Per				
31.140	official Address	UGC Norms				
1	Dr. N.Danapaquiame Professor and Head, Department of CSBS, SMVEC Puducherry	Chairman				
	Dr.T. Chithralekha, M.Tech., Ph.D					
	Professor,	pare"				
	School of Engineering and Technology,	*				
2	Pondicherry University,	Subject Expert				
	R.V.Nagar,	(University Nominee)				
	Kalapet,					
	Puducherry					
1 5	Dr. K.Devaki, M.E., Ph.D.,					
	Professor,	Subject Expert				
3	Department of Computer Science and Engineering,	(Academic Council				
	Rajalakshmi Engineering College,	Nominee)				
	Chennai.					
	Dr. M.Chinnadurai, M.E., Ph.D.,					
	Professor,					
4	Department of Computer Science and Engineering,					
1	Controller of Examination,	Subject Expert				
4	E.G.S Pillay Engineering College,	(Academic Council				
w/	Nagapattinam,	Nominee)				
	Tamil Nadu					

	Mr. Asoke Das Sarma				
	BPO Transformation Lead,	_			
5	Tata Consultancy Services,	Representative from			
	Kolkata.	Industry			
	Mr. B. Mageshwaran				
6	Tata Consultancy Services ,	Representative from			
	Region head, Academic Interface Program	Industry			
	Bengaluru.	madotry			
	Dr. P. Victer Paul, M.Tech., Ph.D.,	×			
	Assistant Professor,	Postgraduate Aluman			
6	Department of Computer Science and Engineering,	Postgraduate Alumnus			
	Indian Institute of Information Technology, Kottayam	(nominated by the			
	- 686635,	Principal)			
	Kerala.				
	Dr. N.S.N. Cailassame, M.B.A,Ph.D.,				
7	Professor and Head,				
	Department of Management Studies,	Internal Member			
The state of the s	SMVEC.				
	Dr. G. Bala Sendhil Kumar,				
8	Professor,				
	Department of Management Studies,	Internal Member			
	SMVEC.				
huis only	Dr.R. Saravanan, M.E., Ph.D,	·			
•	Associate Professor,	Internal Member			
9	Department of Information Technology,	internal Member			
	SMVEC.	v *** *** ***			
	Mrs.K. Devika, M.E., ,	× 1			
	Assistant Professor,				
10	Department of Computer Science and Business	Internal Member			
	Systems,				
	SMVEC.				
	Dr.T. Gayathri				
	Professor and Head,	Internal March			
11	Dept of Mathematics,	Internal Member			
	SMVEC				
	Dr.D. Jaichithra				
12	Professor and Head,	Internal Member			
	Dept. of English,				

	SMVEC	
	Dr. T. Jayavarthanan	
10	Professor,	Internal Member
13	Dept. of Physics,	memai wember
i.	SMVEC	

AGENDA	
BOS/2023/C	SBS/UG/6.1
	Welcome address and confirmation of BOS Fifth meeting Minutes was held on 27th
x x	September 2022.
BOS/2023/C	SBS/UG/6.2
a a	To discuss and approve the B.Tech. Degree Regulations (R-2023), Curriculum and
	syllabi of first and second Semester for the B. Tech Computer Science and Business
	Systems students to be admitted from the academic year 2023-24
BOS/2023/C	SBS/UG/6.3
	To discuss about the uniqueness of the Curriculum (R-2023) and to discuss and
	approve the Evaluation Systems for R-2023 Regulation
BOS/2023/CS	SBS/UG/6.4
	To discuss and approve the Honors Degree for R-2023 Regulation
BOS/2023/CS	SBS/UG/6.5
	To apprise about the Professional Elective / Open Elective / Employability
	Enhancement Courses / Skill Development Courses under R-2023 for the students
	admitted from the academic Year 2023-24.
BOS/2023/CS	BS/UG/6.6
	To apprise about the Industry Institute Interactions of the department of
	Computer Science and Business Systems
	Guest lectures Interrebin details
	Internship detailsMOUs
	Industrial Visits
	Value Added Courses
BOS/2023/0	SBS/UG/6.7
	To apprise the End Semester Results of the students admitted in the Academic
	Year 2020-2021 (V sem), 2021-2022 (III sem), 2022-2023 (I sem) and to discuss
27	about Extra-Curricular and Co-Curricular activities

BOS/20	23/CSBS/UG/6.8
	To apprise the schedule of the End Semester Examination to be conducted in the month of July/August 2023 and to discuss and recommend the panel of examiners to the Academic Council
BOS/202	3/CSBS/UG/6.9
	Any other item with the permission of chair

Minutes of the Meeting

Dr. N.Danapaquiame, Chairman, BoS initiated the meeting by welcoming the external members, Industrial Expert, the Alumni and the Internal members and thanked them for the detailed discussions on the agenda items that had been approved by the Chairman.

	and that had been approved by the Chairman.
BOS/2023/CSB	Welcome address and confirmation of BOS Fifth meeting Minutes was held on 27th
S/UG/6.1	September 2022.
	Chairman, BoS, apprised the minutes of fifth BoS its implementation and then it is
	confirmed with the approval in sixth BoS Meeting.
BOS/2023/CSB	To discuss and approve the B.Tech. Degree Regulations (R-2023), Curriculum and
S/UG/6.2	syllabi of first and second Semester for the B.Tech Computer Science and Business
	Systems students to be admitted from the academic year 2023-24.
	24.
	The Regulation of R-2023 was approved in the meeting. The Curriculum of R-2023 was apprised in the meeting. (Annexure I) The first and second semester syllabi of R-2023 were approved in the meeting. (Annexure II)
	The following suggestions were highlighted
	 Honours degree courses needs to be changed and approved in the meeting (Annexure I) Open Elective Courses needs to be changed and approved in the meeting (Annexure I) Research Methodology course is preferred at PG and Ph.D. level.
200/2000/2000	
BOS/2023/CSBS/	
	To discuss about the uniqueness of the Curriculum (R-2023) and to discuss and
To the said the dist	approve the Evaluation Systems for R-2023 Regulation
or and a second	Multi-disciplinary learning based curriculum
14.34	Introduction of Theory cum Practical Courses
	 Introduction of Micro projects Introduction to combination of physics and chemistry as physical science for
	> Introduction to combination of physics and chemistry as physical science for

engineers course and similarly Basics of Electrical and Electronics Engineering

> Awarding of Honours Degree

> Introduction of Design Thinking and Idea Lab

Ability Enhancement Courses (Skill Enhancement Courses)

The uniqueness of Curriculum was apprised. (Annexure I)

The evaluation scheme for the theory cum practical courses were discussed and apprised.

BOS/2023/CSB

To discuss and approve the Honors Degree for R-2023 Regulation

s/UG/6.4

The honors degree was apprised (Annexure I)

BOS/2023/CSB S/UG/6.5

To apprise about the Professional Elective / Open Elective / Employability Enhancement Courses / Skill Development Courses under R-2023 for the students admitted from the academic Year 2023-24.

Professional Elective

Introduced some courses by TCS in V, VI and VII semesters and the corresponding regular courses moved to professional electives.

SI. no	New Course Introduced	Course Code	Year / Sem	Theory/ Practical
1	Cloud, Microservices & Application	U23CBT509	III/V	Theory
2	Cloud, Microservices & Application Laboratory	U23CBP508	III/V	Practical
3	Machine Learning	U23CBT510	III/V	Theory
4	Natural Language Processing	U23CBT612	111/VI	Theory
5	Data Visualization	U23CBT613	111/VI	Theory
6	Generative AI	U23CBT614	111/V11	Theory
7	Generative AI Laboratory	U23CBP711	III/VIII	Practical
8	Information Retrieval	U23CBT615	III/VIII	Theory

To apprise about the Industry Institute Interactions of the department of Computer Science and Business Systems

- Guest lectures
- Internship details
- MOUs
- Industrial Visits

Value Added Courses

The Industry Institute Interaction of B. Tech Computer Science and Business Systems were apprised.

BOS/2023/CSB S/UG/6.6

Guest lectures

The guest lectures held in the department of Computer Science and Business Systems were apprised.

Internship details

Students are undergone internship program from various industries like Exposys Data Labs, Yonity and Encora Innovation Labs Etc.

MOU Signed

The MOU signed with the TCS industry was apprised.

	Industrial Visits The Industrial visit of I, II and III year were apprised.
BOS/2023/CS BS/UG/6.7	To apprise the End Semester Results of the students admitted in the Academic Year 2020-2021 (V sem), 2021-2022 (III sem), 2022-2023 (I sem) and to discuss about Extra-Curricular and Co-Curricular activities
	The End Semester Results of the students admitted in the Academic Year 2020-2021 (V sem), 2021-2022 (III sem), 2022-2023 (I sem) were apprised.
BOS/2023/CS BS/UG/6.8	To apprise the schedule of the End Semester Examination to be conducted in the month of July/August 2023 and to discuss and recommend the panel of examiners to the Academic Council. The end semester exam schedule of First, second and Third year was apprised.
BOS/2023/CSB S/UG/6.9	Any other item with the permission of chair

The meeting was concluded at 12:00 PM with vote of thanks by **Dr. N. Danapaquiame**, Chairman, Board of Studies, Department of Computer Science and Business Systems.

Members Present:

CLNa	Name of the Member with	Responsibility	0:	
SI.No	Designation and official Address	in the BoS	Signature	
1	Dr. N.Danapaquiame Professor and Head, Department of CSBS, SMVEC Puducherry	Chairman	NAM	
2	Dr.T. Chithralekha, M.Tech., Ph.D Professor and Dean, School of Engineering and Technology, Pondicherry University, R.V.Nagar, Kalapet, Puducherry	Subject Expert (University Nominee)	T. Inthable	
3	Dr. K.Devaki, M.E., Ph.D., Professor, Department of Computer Science and Engineering, Rajalakshmi Engineering College, Chennai.	Subject Expert (Academic Council Nominee)	Qu-	
4	Dr. M.Chinnadurai, M.E., Ph.D., Professor, Department of Computer Science and Engineering, Controller of Examination, E.G.S Pillay Engineering College, Nagapattinam, Tamil Nadu	Dr. M.Chinnadurai, M.E., Ph.D., Professor, Department of Computer Science and Engineering, Controller of Examination, E.G.S Pillay Engineering College, Subject Expert (Academic Council Nominee)		
5	Mr. Asoke Das Sarma BPO Transformation Lead, Tata Consultancy Services, Kolkata.	Representative from Industry	Alam	
6	Mr.B.Maheshwaran Region Head, Academic Interface Program, Tata Consultancy Services, Kolkata.	Representative from Industry	B.M.	
7	Dr. P. Victer Paul, M.Tech., Ph.D., Assistant Professor, Department of Computer Science and Engineering, Indian Institute of Information Technology, Kottayam - 686635, Kerala.	Postgraduate Alumnus (nominated by the Principal)	B.v.Ephil	

·			
8	Dr. N.S.N. Cailassame, M.B.A,Ph.D., Professor and Head, Department of Management Studies, SMVEC.	Internal Member	
9	Dr. G. Bala Sendhil Kumar, Professor, Department of Management Studies, SMVEC.	Internal Member	line
10	Dr.R. Saravanan , M.E., Ph.D, Associate Professor, Department of Information Technology, SMVEC.	Internal Member	S
11	Mrs.K. Devika , M.E., , Assistant Professor, Department of Computer Science and Business Systems, SMVEC.	Internal Member	6.19uSD
12	Dr.T. Gayathri Professor and Head, Dept of Mathematics, SMVEC	Internal Member	7-902
13	Dr.D. Jaichithra Professor and Head, Dept. of English, SMVEC	Internal Member	Daichithra
14	Dr. T. Jayavarthanan Professor, Dept. of Physics, SMVEC	Internal Member	Jus

Chairman BoS/ Dept of CSBS

Dr.N.Danapaquiame

amanipalin juli sast

SRI MANAKULA VINAYAGAR

(All Autonomous Insti

Annexure-I

Curriculum of B.TECH. COMPUTER SCIENCE AND BUSINESS SYSTEMS Under Regulation 2023

ACADEMIC REGULATIONS 2023 (R-2023)

CURRICULUM AND SYLLABI



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

(An Autonomous Institution)

Puducherry

B.TECH.

COMPUTER SCIENCE AND BUSINESS SYSTEMS

ACADEMIC REGULATIONS 2023 (R-2023)

CURRICULUM AND SYLLABI



COLLEGE VISION AND MISSION

Vision

To be globally recognized for excellence in quality education, innovation and research for the transformation of lives to serve the society

Mission

M1: Quality Education : To provide comprehensive academic system that

amalgamates the cutting-edge technologies with best

practices

M2: Research and Innovation: To foster value-based research and innovation in

collaboration with industries and institutions globally for

creating intellectuals with new avenues

M3: Employability and : To inculcate the employability and entrepreneurial skills

Entrepreneurship through value and skill-based training

M4: Ethical Values : To instill deep sense of human values by blending societal

righteousness with academic professionalism for the growth

of society

DEPARTMENT VISION AND MISSION

Vision

To envision the technology and business trends in this domain and to create technically competent professionals for meeting out the needs globally

Mission

M1: To foster knowledge sharing through contemporary curriculum and creative teaching learning process

M2: To impart strong computer and business skills to shine and sustain in the agile IT industry

M3: To promote technocrats with rich expertise in innovation and research

M4: To instill moral values and ethical responsibilities by empowering graduates to be socially responsible

Night

PROGRAM OUTCOMES (Pos)

PO1: Engineering knowledge:

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

PO2: Problem analysis:

Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: 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.

PO4: 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.

PO5: 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.

PO6: The engineer and society:

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

PO7: Environment and sustainability:

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

PO8: Ethics:

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work:

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

PO10: 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.

PO11: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.

PO12: Life-long learning:

Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

N. N.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To apply computer science and business concepts to solve the real world problems

PEO2: To develop professional skills in contemporary areas of computer science and business systems to obtain employability and pursue higher education

PEO3: To reconcile business demands with state-of-the art technologies by providing innovative solutions and insightful decisions

PEO4: To ensure ample growth with social and ethical responsibilities

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1: Ability to gain deep knowledge in Computer Science with equal appreciation in humanities, management, sciences and human values.

PSO2: Ability to demonstrate the technical and business skills and provide solutions for the societal needs

PSO3: Ability to engage lifelong learning and bestow innovative contributions to enhance research in the field of computer science and business system

N. Wh

B.Tech. Computer Science and Business Systems - R2023 Curriculum and Syllabi

STRUCTURE FOR UNDERGRADUATE ENGINEERING PROGRAMME

SI. No.	Course Category	Breakdown of Credits
1.	Humanities, Social Sciences and Management Courses (HS)	28
2.	Basic Science Courses (BS)	30
3.	Engineering Science Courses (ES)	18
4.	Professional Core Courses (PC)	58
5.	Professional Elective Courses (PE)	PEGRI 01 ROPY AND DU
6.	Open Elective Courses (OE)	9 PED2: To develop and
7.	Professional Activity Courses (PA)	olgrija nije do 13. jetsys
8.	Mandatory non-Credit Course (MC)	PEOS: To recruite bu
9.	Ability Enhancement Courses (AEC)	n leadhta: il ona anoil: los
	Total	175

SCHEME OF CREDIT DISTRIBUTION - SUMMARY

SI. No.	Course Category		Credits per Semester							Total
	oddise dategory	1	11	111	IV	V	VI	VII	VIII	Credits
1	Humanities, Social Sciences and Management Courses (HS)	5	5	-	6	4	2	2	4	28
2	Basic Science Courses (BS)	11	9	5	5	-	- 1	- 1	-	30
3	Engineering Science Courses (ES)	6	8	-	4	-	-	-	-	18
4	Professional Core Courses (PC)	-	4	18	8	6	13	9	reins.	58
5	Professional Elective Courses (PE)	- 8900	ud bi	is led	3	4	2	4	6	19 302: Abilit
6	Open Elective Courses (OE)	-	-	-	-	3	3	3	-	9 aba
7	Professional Activity Courses (PA)	101 %	1290	bris	SURUI	1 14 gr	1	3	8	13
8	Mandatory non-Credit Course (MC)*	-	ntern	5(0-3)	Sine	id fin	s con	erc - 2 1	mpute	o to blett a
9	Ability Enhancement Courses (AEC)*	1 -	-	-	-	-	-	-	-	-
	Total	22	26	23	26	18	21	21	18	175

* AEC and MC are not included for CGPA calculation

HONOURS DEGREE PROGRAMME:

The student is permitted to opt for earning an honours degree in the same discipline of engineering in addition to the degree in his/her own discipline. To earn an honours degree the student is required to earn an additional 18 - 20 credits (over and above the total 170 credits prescribed in the curriculum) starting from fourth semester onwards by completing 5 additional courses offered in respective semesters. A student is eligible to exercise this option if he/she has passed all the courses offered upto third semester in the first attempt itself and has earned a CGPA / GPA* (*for lateral entry) of not less than 8.0. The prescribed courses offered for Honours degree are given in Annexure V.

SI.	MAK Esne	Category t p Credits		P	erio	ds	ofi	s de dM	ax. Marl	ks
1/10	Course Code	Course Title	Category	L	T	Р	Credits	CAM	ESM	Tota
The	ory									toanl
1	U23MAT101	Discrete Mathematics	BS	3	1	0	4	25	75	100
2	U23MAT102	Introductory Topics in Statistics and Probability	BS	3	1	0	4	25	75	100
3	U23BSTC01	Physical science for Engineers	BS	3	0	0	3	25	75	100
4	U23CBT101	Fundamentals of Computer Science	ES	3	0	0	3	25	75	100
5	U23HSTC01	Universal Human Values-II	HS	2	0	0	2	25	75	100
The	ory Cum Practica	al Table Tab						1717	un acres	th etchance
6	U23ENB101	Business Communication & Value Science - I	HS	2	0	2	3	50	50	100
Prac	tical		i inizale i o			Local	ilenia comer		ANTONI	110205-1
7	U23CBP101	Fundamentals of Computer Science Laboratory	ES	0	0	2	no rosido no deserv	50	50	100
8	U23ESPC02	Design Thinking and IDEA Lab	ES	0	0	2	a ald on	50	50	100
9	U23ESPC03	Engineering Graphics using AutoCAD	ES	0	0	2	han1avi s	50	50	100
Abili	ty Enhancement	Course					ezitio	memes	Enhanc	villed
10	U23CBC1XX	Certification Course-I **	AEC	0	0	4	oite altre	100	- ADPGL	100
Man	datory Course		A-rem	Jo-D	105		menne W	8		175
11	U23CBM101	Induction Programming	MC	21	Nee	ks	Zwelob.	100	100000	1
							22	425	575	1000

		SEMESTER-II								
SI.		VEX.	BEGINES	P	erio	ds		M	ax. Mari	ks
No	Course Code	Course Title	Category	L	T	Р	Credits	CAM	ESM	Total
The	ory			-						
1	U23MAT203	Statistical Methods and Modelling	BS	3	1	0	4	25	75	100
2	U23MAT204	Linear Algebra	BS	3	155	0	4	25	75	100
3	U23HST201	Fundamentals of Economics	HS	2	0	0	2	25	75	100
4	U23ESTC03	Basics of Electrical and Electronics Engineering	ES	3	0	0	3	25	75	100
5	U23ADTC01	Programing in Python	ES	3	0	0	3	25	75	100
6	U23CBT202	Data Structures & Algorithms	PC	3	0	0	3	25	75	100
The	ory Cum Practica			177	913CS	- 1 - 10	71000	le siène	C zep T	DOON'T
7	U23ENB202	Business Communication & Value Science – II	HS	2	0	2	3	50	50	100
Prac	tical	1 6 7 6 3 20 31 31 300			T THE	-CATA			le.	of the post of
8	U23MAP201	Statistical Methods and Modelling Laboratory	BS	0	0	2	1	50	50	100
9	U23ESPC01	Basics of Electrical and Electronics Engineering Laboratory	ES	0	0	2	mm 1 agor	50	50	100
10	U23ADPC01	Programing in Python Laboratory	en ES i go	0	0	2	J mi 1 /hog	50	50	100
11	U23CBP202	Data Structures & Algorithms Laboratory	PC	0	0	2	3 syswife	50	50	100
Abili	ty Enhancement	Course					y was our	71/2000	onedo3	CARLETA
12	U23CBC2XX	Certification Course - II**	AEC	0	0	4		100		100
Mano	datory Course	rolleres		um"	Jones	000	accond Hot			61
13	U23CBM202	Sports Yoga and NSS	МС	0	0	2	on at i alo	100	ed Stat	100
							26	600	700	1300

^{**} Certification Courses are to be selected from the list given in Annexure II



SI.			111-2002	Р	erio	ds		М	ax. Marl	(S
No	Course Code	Course Title	Category	L	T	Р	Credits	CAM	ESM	Tota
The	ory	L					L			
1	U23MAT305	Computational Statistics	BS	3	1	0	4	25	75	100
2	U23CBT303	Computer Organization & Architecture	PC	3	0	0	3	25	75	100
3	U23CBT304	Object Oriented Programming in C++	PC	3	0	0	3	25	75	100
4	U23CBT305	Principles of Operating Systems	PC	3	0	0	3	25	75	100
5	U23CBT306	Advanced Database Systems	PC	3	0	0	3	25	75	100
The	ory Cum Practic	al \$ 0 0 0 \$ 1 30	11-06	TIE	MB	mu	de arm	- 12	one se	
6	U23CBB301	Formal Language and Automata Theory	PC	2	0	2	3	50	50	100
Prac	tical	1 2 12 0 2 1 8H 1 12 cone.	AS BONAN E U	Ul iso	JE MAI	14110	Chiammetr	3 14	5.412/27	
7	U23MAP302	Computational Statistics Laboratory	BS	0	0	2	1	50	50	100
8	U23CBP303	Object Oriented Programming in C++ Laboratory	PC	0	0	2	enterna Sper t tury	50	50	100
9	U23CBP304	Principles of Operating Systems Laboratory	PC	0	0	2	AL SE	50	50	100
10	U23CBP305	Advanced Database Systems Laboratory	PC	0	0	2	1000	50	50	100
Abili	ity Enhancemen	t Course					58710	O topina	Enhano	VIIIIIA
11	U23CBC3XX	Certification Course - III**	AEC	0	0	4	iovisi tina	100	123 <u>0</u> 80	100
12	U23CBS301	Skill Enhancement Course 1- R Programming*	AEC	0	0	2	H notalt	100	rary sea Jasest	100
Man	datory Course	8 00								
13	U23CBM303	Climate Change	МС	2	0	0	-	100	-	100
		Marie Aligna and American Amer					23	675	625	1300

	and the second	SEMESTER-IV								
SI.	AM ESW :	Sategory I T Creditie		Р	erio	ds	160	M	ax. Marl	KS
No	Course Code	Course Title	Category	L	T	P	Credits	CAM	ESM	Total
The	ory		andwis Ni	e e e	2B.		Wis about	2 201	CTAMPGI	
1	U23MAT406	Operations Research	BS	3	1	0	4	25	75	100
2	U23HST402	Introduction to Innovation, IP Management & Entrepreneurship	HS	3	0	0	3	25	75	100
3	U23ITTC03	Programming in JAVA	ES	3	0	0	3	25	75	100
4	U23CBT407	Algorithm Design and Applications	PC	3	0	0	3	25	75	100
5	U23CBT408	Software Engineering & Applications	PC	3	0	0	3	25	75	100
6	U23CBE4XX	Professional Elective I#	PE	3	0	0	3	25	75	100
The	ory Cum Practic	al				-				
7	U23ENB403	Business Communication & Value Science – III	HS	2	0	2	3	50	50	100
Prac	tical							m 16.0v	-0-1	
8	U23MAP403	Operations Research Laboratory	BS	0	0	2	1	50	50	100
9	U23ITPC03	Programming in JAVA Laboratory	ES	0	0	2	ng:10g/	50	50	100
10	U23CBP406	Algorithm Design and Applications Laboratory	PC	0	0	2	gr dingo	50	50	100
11	U23CBP407	Software Engineering & Applications Laboratory	PC	0	0	2	that Proof	50	50	100
Abili	ty Enhancemen	t Course						- I		
12	U23CBC4XX	Certification Course - IV**	AEC	0	0	4	- E - E	100		100
13	U23CBS402	Skill Enhancement Course 2- Presentation Tools using ICT*	AEC	0	0	2	go'i mat	100	MBJas	100
Man	datory Course	35.								
14	U23CBM404	Right to Information and Good Governance	МС	2	0	0	-	100	-	100
		ine ksi grken in Annexure il	ected thom	95	90.0	1.5%	26	700	700	1400

^{**}Professional Electives are to be selected from the list given in Annexure I
** Certification Courses are to be selected from the list given in Annexure II
* Skill Development Courses (1 and 2) are to be selected from the list given in Annexure III

SI.				Р	erio	ds		M	ax. Mari	ks
No	Course Code	Course Title	Category	L	T	Р	Credits	CAM	ESM	Total
The	ory /	1 BB 20 45		I						-10
1	U23HST503	Fundamentals of Management Science	HS	2	0	0	2	25	75	100
2	U23CBT509	Cloud, Microservices & Application	PC	3	0	0	3	25	75	100
3	U23CBT510	Machine Learning	PC	2	0	0	2	25	75	100
4	U23HSTC02	Research Methodology	HS	2	0	0	2	25	75	100
5	U23CBE5XX	Professional Elective II#	PE	2	- 1-	0	3	25	75	100
6	U23CBOCXX	Open Elective I\$	OE	3	0	0	3	25	75	100
Prac	tical	2 : : : : : : : : : : : : : : : : : : :	He!	ē.	1.04	F 3	up⊤shdW	TI OH	greere	4 U
7	U23ENP501	Business Communication & Value Science – IV	HS	0	0	2	's rojaaan 0	100	23GBE	100
8	U23CBP508	Cloud, Microservices & Application Laboratory	PC	0	0	2	Ame/dina	50	50	100
9	U23CBEP5X	Professional Elective II# Laboratory	PE	0	0	2	_ 1	50	50	100
10	U23CBW501	Micro Project	PA	0	0	2	1	100	230,62	100
Abili	ty Enhancemen	Course	Icida i da	الرور	Vide	×I.	numerhay	VTI ST	198089	U 8
11	U23CBC5XX	Certification Course-V**	AEC	0	0	4	sac t a ea	100	a a crise o	100
Vlan	datory Course								1 20	
12	U23CBM505	Essence of Indian Traditional Knowledge	МС	2	0	0		100	S/4/5/0/J	100
- 17	00 100					-	18	650	550	1200

		SEMESTER-VI								
SI. No	Course Code	Course Title	Category	P	erio	ds	Credits	M	lax. Mar	ks
140	Godise Gode	Odrise Title	Category	L	T	Р	Credits	CAM	ESM	Total
The	ory		STREET		-	-			THEORY	THE T
1	U23HST604	Financial and Cost Accounting	HS	2	0	0	2	25	75	100
2	U23CBT611	Computer Networks Architectures and Protocols	PC	3	0	0	3	25	⊃ 75 _U	100
3	U23CBT612	Natural Language Processing	PC	3	0	0	3	25	75	100
4	U23CBT613	Data Visualization	PC	2	0	0	2	25	75	100
5	U23CBE6XX	Professional Elective III#	PE	2	0	0	2	25	75	100
6	U23CBOCXX	Open Elective II\$	OE	3	0	0	3	25	75	100
The	ory Cum Practic	al								and the met
7	U23CBB602	Information Security	PC	2	0	2	3	50	50	100
Prac	tical	/e 1 2 0 0 0	Those Hares	20.15	in run	year is	ave venderer i	11	15-18F-8	90-1-7
8	U23CBP609	Computer Networks Architectures and Protocols Laboratory	PC	0	0	2	1	50	50	100
9	U23CBP610	Artificial Intelligence & Applications Laboratory	PC	0	0	2	esid ben	50	50	100
10	U23CBW602	Mini Project	PA	0	0	2	1	50	50	100
Abili	ty Enhancemen	t Course								
11	U23CBC6XX	Certification Course - VI**	AEC	0	0	4		100	_	100
	datory Course	Million manager and section	The second second	a La	A PA			Same S		
12	U23CBM606	Gender Equality	MC	2	0	0	-	100	-	100
						1.	21	550	650	1200

^{*}Professional Electives are to be selected from the list given in Annexure I \$ Open Electives are to be selected from the list given in Annexure IV ** Certification Courses are to be selected from the list given in Annexure II



		SEMESTE	R-VII							
SI.				F	Peri	ods			Max. N	larks
No	Course Code	Course Title	Category	L	Т	Р	Credits	CAM	ESM	Total
The	ory		1, F, Mr.		F.	4.45	× *	A 1	-1, 40%	11 3
1	U23HST705	Financial Management	HS	2	0	0	2	25	75	100
2	U23CBT614	Generative Al	PC	3	0	0	3	25	75	100
3	U23CBT615	Information Retrieval	PC	2	0	0	2	25	75	100
4	U23CBT616	IT Workshop Scilab / Matlab	PC	2	0	0	2	25	75	100
5	U23CBE7XX	Professional Elective IV#	PE PE	3	0	0	3	25	75	100
6	U23CBOCXX	Open Elective III\$	OE	3	0	0	3	25	75	100
Prac	ctical		Note the second	See Lo	Chi./S	-92		L 1	20 JE 18	. Fe
7	U23CBP711	Generative Al Laboratory	PC	0	0	2	1 -	50	50	100
8	U23CBP712	IT Workshop Scilab / Matlab Laboratory	PC	0	0	2	1	50	50	100
9	U23CBEP7X	Professional Elective IV# Laboratory	PE	0	0	2	TOTA Office	50	50	100
Proj	ect Work							5/1	THE PERSON	CO CO
10	U23CBW703	Project Phase I	PA	0	0	4	2	50	50	100
11	U23CBW704	Internship/ Industrial	PA	0	0	2	1	100	-	100
							21	450	650	1100

SI.			itestures als	P	erio	ds	J.1 shear	M	ax. Marl	ks
No	Course Code	Course Title	Category	L	T	P	Credits	CAM	ESM	Total
The	ory						T- 100 - 1		raTeon	
1	U23HST806	IT Project Management	HS	3	0	0	3	25	75	100
2	U23CBE8XX	Professional Elective V#	PE	2	0	0	2	25	75	100
3	U23CBE8XX	Professional Elective VI#	PE	3	0	0	3	25	75	100
Prac	tical							Phon	ari mir.	Vrioen
4	U23HSP801	IT Project Management Laboratory	HS	0	0	2	1	50	50	100
5	U23CBEP8X	Professional Elective VI# Laboratory	o s PE cet	0	0	2	k e 1 or	50	50	100
Proj	ect Work									
6	U23CBW805	Project Phase II	PA	0	0	16	8	50	100	150
0	nt loa in	18 - F S G 14 MA -					18	225	485	650

^{*}Professional Electives are to be selected from the list given in Annexure I \$ Open Electives are to be selected from the list given in Annexure IV



ANNEXURE I

PROFESSIONAL ELECTIVE COURSES (18 CREDITS)

SI. No.	Course Code	gralenoM 3 social Course Title 028780800
1	U23CBE401	Business Strategies Voolodove 9 1 158 3 8 3 5 5 5 5 1
2	U23CBE402	Design thinking and its applications
3	U23CBE403	Compiler Design amaiaya mema caadaoasu
	020022100	
4	U23CBEC01	Business Intelligence and Applications (CSBS-CCE, AIDS IT)
5	U23CBE404	Business Process
Profess	sional Elective –	-II (Offered in Semester V)
SI. No.	Course Code	Course Title
	LIGORDETAT	3 U2303E826 Image Processing and Pattern Recognition
1	U23CBE505	Robotics and Embedded Systems
2	U23CBE506	Modern Web Applications
3	U23CBE507	Data Mining and Analytics
4	U23CBE508	E- Commerce and E- Payment Systems
5	U23CBE509	Software Design with UML
Profess	ional Elective –	III (Offered in Semester VI)
SI. No.	Course Code	Course Title
1	U23CBE610	Human Resource Management
2	U23CBE611	Cognitive Science & Analytics
3	U23CBE612	Cryptology
4	U23CBE613	SAP Intelligent Robotic Process Automation
	U23CBE613 U23CBE614	SAP Intelligent Robotic Process Automation Digital Marketing
4 5	U23CBE614	-
4 5	U23CBE614	Digital Marketing
4 5 Profess	U23CBE614 ional Elective –	Digital Marketing IV (Offered in Semester VII)
4 5 Profess	U23CBE614 ional Elective – Course Code	Digital Marketing IV (Offered in Semester VII) Course Title
4 5 Professi	U23CBE614 ional Elective – Course Code U23CBE715	IV (Offered in Semester VII) Course Title Quantum Computation & Quantum Information
4 5 Professi SI. No. 1 2	U23CBE614 ional Elective – Course Code U23CBE715 U23CBE716	Digital Marketing IV (Offered in Semester VII) Course Title Quantum Computation & Quantum Information Advanced Social, Text and Media Analytics

D-Dr

SI. No.	Course Code	Course Title
1	U23CBE819	Behavioral Economics
2	U23CBE820	Computational Finance & Modeling
3	U23CBE821	Psychology
4	U23CBE822	Marketing Research & Marketing Management
5	U23CBE823	Smart Systems
Profess	ional Elective –	VI (Offered in Semester VIII)
SI. No.	Course Code	Course Title
SI. No.	Course Code U23CBE824	Course Title Enterprise Systems
		* UPRCEEDH Business Process
1	U23CBE824	Enterprise Systems (Wantesmed of begatton F - avito size is not seed on S
2	U23CBE824 U23CBE825	Enterprise Systems Services Science and Service Operational Management



PROFESSIONAL ELECTIVE PRACTICAL COURSES (3 CREDITS)

SI. No.	Course Code	Course Title
- 1 5000A	U23CBEP51	Robotics and Embedded Systems Laboratory
2	U23CBEP52	Modern Web Applications Laboratory
3	U23CBEP53	Data Mining and Analytics Laboratory
4	U23CBEP54	E- Commerce and E- Payment Systems Laboratory
5	U23CBEP55	Software Design with UML Laboratory
Profession	nal Elective – IV (O	ffered in Semester VII)
SI. No.	Course Code	Course Title
saboluA. 1 saboluA	U23CBEP71	Quantum Computation & Quantum Information Laboratory
2 1 1	U23CBEP72	Advanced Social, Text and Media Analytics Laboratory
3	U23CBEP73	Usability Design of Software Applications Laboratory
4	U23CBEP74	Introduction to IoT Laboratory
5	U23CBEP75	Virtual Reality Laboratory
rofession	al Elective –VI (Off	ered in Semester VIII)
SI. No.	Course Code	Course Title
SA/A	U23CBEP81	Enterprise Systems Laboratory
2	U23CBEP82	Services Science & Service Operational Managemen Laboratory
3	U23CBEP83	Image Processing and Pattern Recognition Laboratory
4	U23CBEP84	Block chain and Applications Laboratory
5	U23CBEP85	Augmented Reality Laboratory

4-10h

Annexure - II

ABILITY ENHANCEMENT COURSES - (A). CERTIFICATION COURSES

S. No	Course Code	Course Title	Certified By
1	U23XXCX01	Adobe Photoshop	Adobe
2	U23XXCX02	Adobe Animate	Adobe
3	U23XXCX03	Adobe Dreamweaver	Adobe
4	U23XXCX04	Adobe After Effects	Adobe
5	U23XXCX05	Adobe Illustrator	Adobe
6	U23XXCX06	Adobe InDesign	Adobe
7	U23XXCX07	Autodesk AutoCAD -ACU	Autodesk
8	U23XXCX08	Autodesk Inventor - ACU	Autodesk
9	U23XXCX09	Autodesk Revit - ACU	Autodesk
10	U23XXCX10	Autodesk Fusion 360 - ACU	Autodesk
11	U23XXCX11	Autodesk 3ds Max - ACU	Autodesk
12	U23XXCX12	Autodesk Maya - ACU	Autodesk
13	U23XXCX13	Cloud Security Foundations	AWS
14	U23XXCX14	Cloud Computing Architecture	AWS
15	U23XXCX15	Cloud Foundation	AWS
16	U23XXCX16	Cloud Practitioner	AWS
17	U23XXCX17	Cloud Solution Architect	AWS
18	U23XXCX18	Data Engineering	AWS
19	U23XXCX19	Machine Learning Foundation	AWS
20	U23XXCX20	Robotic Process Automation / Medical Robotics	Blue Prism
21	U23XXCX21	Advance Programming Using C	CISCO
22	U23XXCX22	Advance Programming Using C ++	CISCO
23	U23XXCX23	C Programming	CISCO
24	U23XXCX24	C++ Programming	CISCO
25	U23XXCX25	CCNP Enterprise: Advanced Routing	CISCO
26	U23XXCX26	CCNP Enterprise: Core Networking	CISCO
27	U23XXCX27	Cisco Certified Network Associate - Level 2	CISCO
28	U23XXCX28	Cisco Certified Network Associate- Level 1	CISCO

29	U23XXCX29	Cisco Certified Network Associate- Level 3	CISCO
30	U23XXCX30	Fundamentals Of Internet of Things	CISCO
31	U23XXCX31	Internet Of Things / Solar and Smart Energy System with IoT	CISCO
32	U23XXCX32	Java Script Programming	CISCO
33	U23XXCX33	NGD Linux Essentials	CISCO
34	U23XXCX34	NGD Linux I	CISCO
35	U23XXCX35	NGD Linux II	CISCO
36	U23XXCX36	Advance Java Programming	Ethnotech
37	U23XXCX37	Android Programming / Android Medical App Development	Ethnotech
38	U23XXCX38	Angular JS	Ethnotech
39	U23XXCX39	Catia	Ethnotech
40	U23XXCX40	Communication Skills for Business	Ethnotech
41	U23XXCX41	Coral Draw	Ethnotech
42	U23XXCX42	Data Science Using R	Ethnotech
43	U23XXCX43	Digital Marketing	Ethnotech
44	U23XXCX44	Embedded System Using C	Ethnotech
45	U23XXCX45	Embedded System with IOT / Arduino	Ethnotech
46	U23XXCX46	English For IT	
47	U23XXCX47	Plaxis	Ethnotech
48	U23XXCX48	Sketch Up	Ethnotech
49	croiM /	DOE MILA ERSA 198X	Ethnotech
flor	U23XXCX49	Financial Planning, Banking and Investment Management	Ethnotech
50	U23XXCX50	Foundation Of Stock Market Investing	Ethnotech
51 Aoi	U23XXCX51	Machine Learning / Machine Learning for Medical Diagnosis	Ethnotech
52	U23XXCX52	IOT Using Python	Ethnotech
53	U23XXCX53	Creo (Modelling & Simulation)	Ethnotech
54	U23XXCX54	Soft Skills, Verbal, Aptitude	Ethnotech
55	U23XXCX55	Software Testing	Ethnotech
56	U23XXCX56	MX-Road	Ethnotech
57	U23XXCX57	CLO 3D BEXT	Ethnotech
58	U23XXCX58	Solid works	Ethnotech
59	U23XXCX59	Staad Pro	Ethnotech
60	U23XXCX60	Total Station	Ethnotech

2. A.11.25

61	U23XXCX61	Hydraulic Automation	Festo
62	U23XXCX62	Industrial Automation	Festo
63	U23XXCX63	Pneumatics Automation	X3) X5 Festo
64	U23XXCX64	Agile Methodologies	IBM S
65	U23XXCX65	Block Chain	X S / X S S IBM 88
66	U23XXCX66	Devops	IBM
67	U23XXCX67	Artificial Intelligence	X X X X X X X X X X X X X X X X X X X
68	U23XXCX68	Cloud Computing page and average answar at	SCO XEEUITS &
69	U23XXCX69	Computational Thinking	X23 ITS
70	U23XXCX70	Cyber Security	ALL ALLITS
71	U23XXCX71	Data Analytics	X XEZ ITS G
72	U23XXCX72	Databases as para it of sline nots on more of the	XON X & SUITS OF
73	U23XXCX73	Java Programming	X XECUTS
74	U23XXCX74	Networking A rAstu sone a 3 march 1 St	Z STUCES COO
75	U23XXCX75	Python Programming	8 STI J23X CX
76	U23XXCX76	Web Application Development (HTML, CSS, JS)	A STUZBE CXA
77 00	U23XXCX77	Network Security	ITS & Palo alto
78	U23XXCX78	MATLAB	MathWorks
79	U23XXCX79	Azure Fundamentals	Microsoft
80	U23XXCX80	Azure AI (AI-900)	Microsoft
81	U23XXCX81	Azure Data (DP -900)	Microsoft
82	U23XXCX82	Microsoft 365 Fundamentals (SS-900)	Microsoft
83	U23XXCX83	Microsoft Security, Compliance and Identity (SC-900)	Microsoft
84	U23XXCX84	Microsoft Power Platform (PI-900)	Microsoft
85	U23XXCX85	Microsoft Dynamics Fundamentals 365 – CRM	Microsoft
86	U23XXCX86	Microsoft Excel	Microsoft
87	U23XXCX87	Microsoft Excel Expert	Microsoft
88	U23XXCX88	Securities Market Foundation	NISM
89	U23XXCX89	Derivatives Equinity	NISM
90	U23XXCX90	Research Analyst	NISM
91	U23XXCX91	Portfolio Management Services	NISM

92	U23XXCX92	Cyber Security	Palo alto
93	U23XXCX93	Cloud Security	Palo alto
94	U23XXCX94	PMI – Ready	PMI
95	U23XXCX95	Tally – GST & TDS	Tally
96	U23XXCX96	Advance Tally	Tally
97	U23XXCX97	Associate Artist	Unity
98	U23XXCX98	Certified Unity Programming	Unity
99	U23XXCX99	VR Development	Unity

h- bh

ANNEXURE-III

ABILITY ENHANCEMENT COURSES-(B) SKILL DEVELOPMENT COURSES

SI. No.	Course Code	Course Title					
1.	U23CBS301	Skill Enhancement Course 1: R Programming					
2.	U23CBS402	Skill Enhancement Course 2: Presentation Tools using ICT					

hop

ANNEXURE IV

OPEN ELECTIVE COURSES (9 CREDITS)

S. No	Course Code	Course Title	Offering Department	Permitted Departments
Ope	n Elective - I / I	I (Offered in Semester V/VI)		
1	U23CBOC01	Business Applications of Game Theory	CSBS	EEE, ECE, MECH, CIVIL, ICE, Mechatronics, BME, CCE
2	U23CBOC02	Cryptology and Analysis	CSBS	EEE, MECH, CIVIL, ICE, Mechatronics, BME
Open	Elective – III (C	offered in Semester VII)		
1	U23CBOC03	Engineering Economics	CSBS	EEE, ECE, CSE, IT, MECH, CIVIL, ICE, Mechatronics, BME, AIDS, CCE, FT
2	U23CBOC04	Conversational AI	CSBS	EEE, ECE, MECH, CIVIL, ICE, Mechatronics, BME

N-Dh

ANNEXURE FOR COURSES (# CREDITS)

	: : ::::::::::::::::::::::::::::::::::

Annexure - V

Honours Programme - Computer Science and Business Intelligence

			COURSE DETA	AILS							
SI.	Semester	Course Code	Course Title	Category	P	erio	ds	Credits	Ma	ax. Mari	ks
No.).		Oddise Title	Category	L	T	Р	Credits	CAM	ESM	Total
Thec	ory										
1	IV	U23CBH401	Business Analytics and Data Mining	PC	3	1	0	4	25	75	100
2	V	U23CBH502	Digital Technology	PC	3	1	0	4	25	75	100
3	VI	U23CBH603	Neural Network for Data Analysis	PC	3	1	0	4	25	75	100
4	VII	U23CBH704	Enterprise Blockchain Frameworks	PC	3	1	0	4	25	75	100
5	VIII	U23CBH805	Macroeconomic Environment of Business	PC	3	1	0	4	25	75	100
			Total					20	125	375	500
			Equivalent NPTEL of	ourses##							
1			E-Business					3			
2	IV		Business Development fro	m start to s	cale			3	12 Weeks Course		
3	То	U23CBHN01	Deep Learning for comput	er vision				3			
4	VIII		Blockchain and its Applications					3	334.33		
5			Organizational Behavior	7 710 7 8 1				3			

^{##} The student shall be given an option to earn 3 credits through one equivalent 12 weeks NPTEL course instead of any one course listed for honours degree programme that should be completed before the commencement of eighth semester. The equivalent courses are subject to change based on its availability as per NPTEL course list.

N-bh

्रकेशक कुर्वेत करता, इस्टार्क्स किस्सी इस्सार हरता कर है। एक कहाता कुर्वेत - क्रांसालक हुए पनि कर पान कुराई

Frontial squarm and the common topolish to use the common property or commission of weaks NETEL counts and anti-service or the completed before the common service of the common property of the common service or the commo

Annexure-II

Syllabus of
B.TECH. COMPUTER SCIENCE AND BUSINESS SYSTEMS
Under Regulation 2023

H-annxana A

Syllabus of BUTER SCIENCE AND BUSINESS SYSTEMS
Under Regulation 2023

Department	Mati	nematics	Progra	mme:	B.Tecl		иноун вој	4, 51				
Semester	1		Course	e Categ	gory:	BS *Er		ster Exan	п Туре			
_			Peri	ods / V	Veek	Credit		ximum M	larks			
Course Code	U23M	AT101		T	P	С	CAM	ESE	TM			
Course Name	Disci	ete Mathematics	3	1	0	4	25	75 0	100			
1089 208	1)	To understand the concepts and sig	gnificance of Bo	olean al	lgebra.	PO3 PO4	1 902	09				
	2)	To know the fundamental concepts	of Group theor	у.				2 1				
Course Objectives	3)	To understand the basic concepts of	of combinatorics	and gra	aph theo	ory.	1	3 1 3				
Sojectives	4)	To learn the basic of graph theory.							_			
	5)	To extend student's ability to deal w	vith logics and c	onnectiv	es.							
	On co	empletion of the course, the studen	nts will be able	to	1				apping			
	CO1	Understand the basic concepts of	Boolean algebr	a. 65M -	Low, z	- I Hevel from	Correia	(Highes	i Level			
***************************************	CO2											
Course		Understand and apply the basic concents of mathematical induction										
Outcome	CO4 Determine the different types of graphs.											
disomo												
	CO5	Gain knowledge of the concepts no	eeded to test th	e logic o	f a prog	ram.		K	2			
UNIT-I		an Algebra	manissa le	Mod	TAD	(9 Hrs)	Assessm					
orm, Kamaugh ma	ip.	gebra, truth table, basic logic gate, b	pasic postulates	of Boo	lean alg	ebra, principle	of duality,	canonical	CO1			
UNIT-II	Abstr	act Algebra	I opiseU Venivi	oblem so	led I Pic	(9 Hrs)	vá. ×		_1			
UNIT-III easic counting, banduction, pigeonho	lls and	inatorics bins problems, generating functions iple.	s, recurrence re	elations.	Proof to	(9Hrs) echniques, prir	nciple of m	athematica	cO3			
UNIT-IV	Granh	Theory				(9Hrs)		1 3				
Graphs and digraph	hs, com	plement, isomorphism, connectedne niltonian paths and circuits in graphs	ess and reachal	oility, adj	jacency es; Plan	matrix. Euleria	n paths an	d circuits i	n a CO4			
laner graph, indep	endend	e number and clique number, chrom	atic number, sta	atement	of Four-	color theorem.						
L	Logic					(9Hrs)						
autology; Adequate	e set of	positions and connectives, syntax; Se connectives; Equivalence and nom m system; Soundness and completer	nal forms; Com	assignm pactnes	nents an s and re	d truth tables, v esolution; Form	alidity and al reducibi	satisfiabilit lity - natur	a CO5			
Lecture Periods:	60	Tutorial Periods: -	Practica	l Period	ls: -	Tota	Periods:	60				
ext Books 1. I. N. Herste	in John	Wiley and Sons, "Topics in Algebra"										
		rigital Logic & Computer Design", Pea		2014								
3. C. L. LiuMc	Graw H	ill, "Elements of Discrete Mathematic	s", (Second Ed	tion) Ne								
4. J. A. Bondy	and U.	S. R. Murty, "Graph Theory with App	olications", Macr	nillan Pr	ess, Lor	ndon.						
5. L. Zhongwa	n, "Mat	hematical Logic for Computer Science	e", World Scien	tific, Sin	gapore							
eference Books												
		oduction to linear algebra".5th Edition							THE PERSON NAMED OF THE PARTY OF			
		ductory Combinatorics", 5 th Edition,N all, Englewood Cliffs, "Graph Theory v				and Compute	r Science"	Dover Bub	lication			
Inc.; 1stEdition			with Application	S IO LIIE	Juige III (, and Compute	COLETICE	Dovel Pub	noau011			
4. E. Mendelso	ohn, Va	n-Nostrand, "Introduction to Mathema	atical Logic", (S	econd E	dition), l	_ondon.	· · · · · · · · · · · · · · · · · · ·					
eb References												
	outu.be	e/0Dx7r0PFyUM										
		e/rs5S0Ehp3s8			U I							
3 https://w		/al lig6o0PmiV			11/1/							

3. https://youtu.be/aUjq6o0PmjY

- 4. https://youtu.be/fZqfkJ-cb28
- 5. https://youtu.be/oaOm2pnKkyY

COs/POs/PSOs Mapping

COs	5	Program Outcomes (POs)										and the last	Program Specific Outcomes (PSOs)		
	P01	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	-	-		-	vacadi	marci-5)/i	n siner	est lent	ereāauf	tt Gene	. 2	1	1
2	2	1	-		- adk-ra	and the same	- sisonte	audemos	to alors		et sile ten	5 - 5.50	2	1	108
3	3	2	1	1	-		-	-	-	. Toward	an mesod	ad 1 ₁₈₀	2	1	52010
4	3	2	- 1-	1	-	- FORSTON	En Faci	900 Text 12	hou Teas	v 05.00	ال العام الو	. 1	2	-	1
5	2	1	-	-	-		-	-	-	-	-	1	2	1	. 1

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

Assessment	ms	Contin	End	300 -			
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	1	0	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

N.P.F

^{*} TE - Theory Exam, LE - Lab Exam

Department	Math	iematics	Progran	nme: B	.Tech.	5/14p53/mt	908vea sl	ac phagtin	+
Semester	I		Course	Catego	ory: BS	*End	Semeste	er Exam Ty	ype: TI
		22_11_	Perio	ds / W	eek	Credit	Max	imum Mar	ks
Course Code	U23N	ЛАТ102	L	T	P	С	CAM	ESE	TM
Course Name	S	INTRODUCTORY TOPICS IN STATISTICS AND PROBABILITY	3	1	0	4	25	75	100
(2USE) a	1)	To learn the concepts of evaluation using	ng statistica	l analys	is			2081	
42 0801	2)	To Know the central tendency like mea	n, median, r	node et	c.	THE PERSON OF TH	2127	2031	
FCourse Objectives	3)	To study the basic probability concepts						SIF	
35,000,703	4)	To introduce knowledge of standard dis	crete distrib	outions.		k ii Lii'.			
1	5)	To acquire knowledge on probability co	ntinuous dis	stribution	ns			3 1 2	
	On co	ompletion of the course, the students	will be able	e to				BT Mar (Highest	
	C01	Understand the types of data and grap	ohical repres	sentatio	n in statis	tics.		K2	
***************************************	CO2	Apply the concepts of central tendency	y. 1877 - 18 10	(Partingle)	2.7/5.3	1 367 34 167	Men KV	K2	2
Course Outcome	CO3	Recall the concepts of basic probability	y.					K2	<u> </u>
Gutoomo	CO4	Apply the basic rules of discrete rando	m variables				inndtali	K3	<u> </u>
A A A STATE OF THE A	CO5	Apply the fundamentals of probability t	heory and r	andom	processes	3.	30411378	K3	
UNIT-I	Introd	luction To Statistics				(9Hrs)			
	nary an	sic objectives. Applications in various bra d secondary Data. Population and samp riptive Statistics			sample	oles. Collectio	n of Data:	internal and	CO1
Classification and	tabulati	on of univariate data, graphical represent data. Summarization, marginal and cond			rves. Des	criptive measu	ures - centr	al tendency	CO2
UNIT-III		s Of Probability				(9Hrs)			
Concept of expering	ments, s	sample space, event. Definition of Comb	inatorial Pro	bability	. Conditio	nal Probability	, Bayes Th	neorem.	CO3
UNIT-IV	Discre	ete Probability Distributions				(9Hrs)			1
	ns: Pro	bability mass function – Probability dens	ity function-	Distribu			, Geometri	c, Negative	
Binomial, Poisson.								7	CO4
UNIT- V	Conti	nuous Probability Distributions			100	(9Hrs)	Place and extend a place to the		
Continuous Distrib andom variable.	utions:	Uniform, Exponential, Gamma, Weibull	and Norma	al distrib	outions ar	d their prope	rties – Fur	octions of a	CO5
Lecture Periods	: 60	Tutorial Periods: -	Practic	al Perio	ods:	- Tota	al Periods	: 60	
ext Books	1 3								
SM Ross "In	troduct	ion of Probability Models". Academic Pre	V M 22				3,11		

- . S.M. Ross, "Introduction of Probability Models", Academic Press, N.Y.
- A. Goon, M. Gupta and B. Dasgupta, "Fundamentals of Statistics", vol. I & II, World Press.
- 3. Bali N.P. and Dr. Manish Goyal, "Engineering Mathematics", Lakshmi Publications Pvt. Ltd., New Delhi, 9th Edition, 2015
- T. Veerarajan," Probability and Statistics, Random Process and Queuing Theory", McGraw Hill Education, 2018.
- 5. P. Sivaramakrishna Das, C. Vijayakumari, "Probability and Queuing Theory", Pearson Education, 6th Edition, 2019.
- 6. G. Balaji, "Probability and Queuing Theory", Balaji Publication, Revised Edition 2017.

Reference Books

- S.M. Ross, "A first course in Probability", Prentice Hall.
- 2. I.R. Miller, J.E. Freund and R., "Johnson, Probability and Statistics for Engineers", (Fourth Edition), PHI.
- 3. A.M. Mood, F.A. Graybilland D.C. Boes, "Introduction to the Theory of Statistics", McGraw Hill Education.
- Erwin Kreyszig, "Advanced Engineering Mathematics", John Wiley & Sons, New Delhi, 10th Edition, 2019.
- Ravish R. Singh and Mukul Bhatt, "Engineering Mathematics", Tata McGraw Hill, 1st Edition, New Delhi, 2016.
- 6. Ramana B.V.," Higher Engineering Mathematics", Tata Mc Graw Hill, New Delhi 2018

Web References

- https://youtu.be/BceFKnWh68Y
- https://youtu.be/fjDh4WPTGq4
- 3. https://youtu.be/Hw8KHNgRaOE

N-DY

- 4. https://youtu.be/2CP3m3EgL1Q
- 5. https://youtu.be/wo__Vag3yls
- 6. https://swayam.gov.in/nd1_noc20_ma17/preview

* TE - Theory Exam, LE - Lab Exam

COs/POs/PSOs Mapping

COs	-				Prog	gram O	utcome	s (POs	1				Prog Outc	ram Spe omes (P	ecific SOs)
	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	-	-	-	-	-	-	s, Hybra.	r vilaev	oan Timer	1,000	2	/s 1	1
2	2	1	-	-	-		Ti des	5	h จึงสอ	184 15 9	rostumi.	eralban.	2	-	1
3	2	1	-	-	-	- Æ.			s, - Fins	- .	59, 50	1	2	1	1
4	3	2	1	1	-	-	-	-	-	-	-	1	2	1	-
5	3	2	1	1	-	-	-	ere in part	-	C 3/11 S	. (P-24-3)	1	2	1	1

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

Later/The emisses	No. of the last	Contin	uous Asse	ssment Marks (C	CAM)	End	n ii aann
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	1	0	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

4. Ph

Department	Physi	cs / Chemistry	Progran	nme: B.T	ech.				
Semester	1	ondustrine strettion properties hani		Category		391-70791	End Semes	ster Exam 7	vpe: TI
Course Code	11220	STC01 simados esc. 5. CA CA catagái		ods/Week		Credit		imum Mark	
Course Code	0230	a Length Simanas cas an Tita cur, "seue 28.	L	Т	Р	С	CAM	ESE	TM
Course Name	PHYS	ICAL SCIENCE FOR ENGINEERS	3	0	0	3	25	75	100
	(Com	mon to all Branches)							
Prerequisite	Physic	s of 12 th standard or equivalent / Chemis	try of 12th	standard o	or equiv	alent.	gniquavi s	0898809(a)	107
	On c	ompletion of the course, the students	will be ab	le to	2019				lapping
	CO1	Understand the basic of properties of m	nagnetic d	lielectric a	nd sune	rconducto	nrs	(High	est Leve K2
	CO2			1 1001				101	
	CO3	Identify the wave nature of the particles					ons		K3
Course Outcomes		Understand the basic principles of laser			nmunic	ation			K2
	CO4	Understand and familiar with the water							K2
	CO5	Understand the electrode potential for it uses of various batteries.	ts feasibilit	y in electr	ochemi	cal reaction	n and		K2
	CO6	Understand the specific operating cond suggest a method to control corrosion.	ition under	which co	rrosion	occurs an	d	E	K2
		SECTION	A - PHYS	ICS	- É hiai	2 - Medi	wall Law	al noticlet	aŌ
UNIT-I		tic, Dielectric and Superconducting M				Periods:			
naterials-ferrites-D	ielectric	materials, Ferromagnetism- Domain to materials-Types of polarization – La oelectric materials-Superconducting mate	angevin-De	ebye equa	ation-Fr	steresis-H equency	ard and S effects on	oft magnetion polarization	CO1
UNIT-II	Quanti	ım Mechanics		etrail	TAD	Periods:	7mamzaan	s.Δ.	
Matter Waves - d	e Brogl	e Wavelength - Uncertainty Principle -	Physical S	Significand	e of w	ave functi	ons - Schro	odinger wave	CO2
Equation - Time Do	epende	nt - Time Independent - Application to Pa	rticle in a (One Dime	neional	Boy - Tun	nal Diada		
	1/GT	. 64 1 6 1 6	ntiolo in a	One Dine	Halonai	DOX - Tuli	nei Diode.		
asers - Principles Action –componen	Laser a of Lase ts of las	and Fiber Optics er - Spontaneous and Stimulated Emissi er - Types of Lasers - NdYAG, CO ₂ lase	ons - Eins r, GaAs La	tein's Coe	efficients	Periods: s - Popula - Principle	7 tion Inversion	gation of light	CO3
Lasers - Principles Action –componen n optical fiber - Nu	Laser as of Laser ts of laser merical	and Fiber Optics er - Spontaneous and Stimulated Emissi er - Types of Lasers - NdYAG, CO ₂ lase aperture and acceptance angle - Types SECTION B	ons - Eins r, GaAs La of optical f	tein's Coe aser Fiber fibers (mat	efficients Optics terial, re	Periods: s - Popula - Principle fractive in	7 tion Inversion and Propag dex, mode)	gation of light	CO3
Lasers - Principles Action –componen n optical fiber - Nu UNIT-IV	Laser as of laser	and Fiber Optics er - Spontaneous and Stimulated Emissi er - Types of Lasers - NdYAG, CO ₂ lase aperture and acceptance angle - Types SECTION B And Its Treatment	ons - Eins r, GaAs La of optical f – CHEMIS	tein's Coe aser Fiber fibers (mat	officients Optics terial, re	Periods: 5 - Popula - Principle efractive in	7 tion Inversion and Propag dex, mode)	gation of ligh	CO3
Lasers - Principles Action –componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile	Laser as of Laser as of Laser as of Laser as merical Water and im y, TDS er - Trea	and Fiber Optics er - Spontaneous and Stimulated Emissi er - Types of Lasers - NdYAG, CO2 laser aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Ended to COD and BOD. Desalination of beatment of boiler feed water: Internal trees	ons - Eins r, GaAs La of optical f - CHEMIS Definition prackish v atment (pl	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate,	efficients Optics terial, re ificance verse colloid	Periods: s - Popula - Principle fractive in Periods: of-color osmosis-d	tion Inversion and Propage dex, mode) B odour, to isadvantage	gation of light	CO3
Lasers - Principles Action -componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E	Laser as of Laser as of Laser as of Laser and impy, TDS ar - Treaxternal	and Fiber Optics er - Spontaneous and Stimulated Emissi er - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: E	ons - Eins r, GaAs La of optical f - CHEMIS Definition prackish v atment (pl	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate,	officients Optics terial, re ificance verse colloids	Periods: s - Popula - Principle fractive in Periods: of-color osmosis-d	tion Inversion and Propage dex, mode) B odour, to isadvantage aluminate	gation of light	CO3
Action – componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V valvanic cells, sing ernst equation. Elypes of batteries-	Laser as of Laser as of Laser as merical Water and im y, TDS or - Tree electrolyte alkaline	and Fiber Optics er - Spontaneous and Stimulated Emissiser - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Experiment of boiler feed water: Internal treatment—lon exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential e concentration cell. Reference electrode battery-lead storage battery- nickel-cadr	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s en, calom	officients Optics terial, re ificance verse colloid s. eries. E	Periods: 5 - Popula - Principle efractive in Periods: 6 of-color osmosis-d al, sodium Periods: MF of a co	tion Inversion and Propage dex, mode) and odour, to isadvantage a aluminate aluminate aluminate mell and its mell and it	urbidity, pH, es of using and Calgon easurement. nd fuel cells:	CO3
Lasers - Principles Action -componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V Calvanic cells, sing lernst equation. E types of batteries- UNIT-VI	Laser as of Laser as of Laser as merical Water and im y, TDS or - Treaxternal Electrolytelectrolytelectrolytelectrosic	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Extra CDD and BOD. Desalination of batment of boiler feed water: Internal treatment—lon exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential e concentration cell. Reference electrode battery-lead storage battery- nickel-cadron	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc les-hydrog mium batte	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s en, calom ery- fuel ce	officients Optics terial, re ificance verse colloid s. eries. E lel and	Periods: s - Popula - Principle efractive in Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods:	tion Inversion and Propagatex, mode) and Propagatex, mode) and odour, to isadvantage aluminate aluminate aluminate matteries ar I-application	gation of light urbidity, pH, es of using and Calgon easurement. nd fuel cells:	CO3
Action —componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V Falvanic cells, sing ernst equation. Elypes of batteries- UNIT-VI (orrosion —Introductaterial selection attended Uses of in ectroless plating of	Laser as of Laser as of Laser as merical water and impy, TDS ar - Treexternal Electrolyte alkaline Corrosiction - fa and des ahibitors of nickel	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Description of the streatment of boiler feed water: Internal treatment—Ion exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential e concentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors - types - chemical, electrochemical gin aspects - electrochemical protection, metallic coating - anodic coating, cat	ons - Eins r, GaAs La of optical f - CHEMIS Definition prackish w atment (pl n and zeoli al, electroc les-hydrog mium batte al corrosior n - sacrific	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s en, calom ery- fuel ce in (galvanic sial anode	ificients Optics terial, re ificance verse colloids s. eries. E lel and ell H ₂ -l	Periods: 5 - Popula - Principle efractive in Periods: 6 - of-color osmosis-d al, sodium Periods: 6MF of a ca Ag/AgCl. O2 fuel cel Periods: ential aera d and imp	tion Inversion and Propage dex, mode) and Propage dex, mode) and odour, to isadvantage and aluminate aluminate and its meatheries are I-application and I-application	urbidity, pH, es of using and Calgon easurement. nd fuel cells: ion control – ent cathodic	CO3
Action – componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V I alvanic cells, singular equation. Elypes of batteries- UNIT-VI orrosion – Introduct aterial selection a lethod. Uses of in ectroless plating c Lecture Periods:	Laser as of Laser as of Laser as merical water and impy, TDS ar - Treexternal Electrolyte alkaline Corrosiction - fa and des ahibitors of nickel	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Description of the streatment of boiler feed water: Internal treatment—Ion exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential e concentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors - types - chemical, electrochemical gin aspects - electrochemical protection, metallic coating - anodic coating, cat	ons - Eins r, GaAs La of optical f - CHEMIS Definition prackish w atment (pl n and zeoli al, electroc les-hydrog mium batte al corrosior n - sacrific	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s en, calom ery- fuel ce in (galvanic sial anode ting. Meta	ifficients Optics terial, re ifficance verse colloid s. eries. E el and ell H ₂ - method I claddi	Periods: s - Popula - Principle efractive in Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods: ential aera d and imp ng, Electr	tion Inversion and Propage dex, mode) and Propage dex, mode) and odour, to isadvantage and aluminate aluminate and its meatheries are I-application and I-application	urbidity, pH, es of using and Calgon easurement. nd fuel cells: is. ion control – ent cathodic Copper and	CO4
Action —componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V alvanic cells, sing ernst equation. Elypes of batteries- UNIT-VI 0 corrosion —Introductaterial selection a ethod. Uses of inectroless plating curve Periods: Interval — Controles of inectroless plating curve Periods: Interval — Controles of inectroless plating curve Periods: Interval — Controles of Interval — Controless plating curve Periods: Interval — Controles	Water and im y, TDS ar - Treaxternal lectrolyte alkaline Corrosi ction - fa and des ahibitors of nickel	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Description of the stiment of boiler feed water: Internal treatment—Ion exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential econcentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors — types — chemical, electrochemical gin aspects — electrochemical protection, metallic coating — anodic coating, cat	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc les-hydrog mium batte al corrosior n - sacrific hodic coaf	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s en, calom ery- fuel ce n (galvanic cial anode ting. Meta Periods:-	ifficients Optics terial, re ifficance verse colloid s. eries. E el and ell H ₂ - method I claddi	Periods: s - Popula - Principle efractive in Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods: ential aera d and imp ng, Electr	tion Inversion and Propagatex, mode) and Propagatex, mode) and Odour, to isadvantage aluminate aluminate aluminate are I-application aluminate are I-application are I-app	urbidity, pH, es of using and Calgon easurement. nd fuel cells: is. ion control – ent cathodic Copper and	CO4
Lasers - Principles Action —componen In optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V salvanic cells, sing ernst equation. E ypes of batteries- UNIT-VI corrosion —Introduct saterial selection a sethod. Uses of in ectroless plating of Lecture Periods: Text Books 1. V Rajendra	Water and imply, TDS are - Treaxternal lectrolytalkaline Corrosi athibitors of nickel 45	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Extrement of boiler feed water: Internal treetreatment—lon exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential econcentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors - types - chemical, electrochemical gn aspects - electrochemical protection, metallic coating - anodic coating, cat internal Periods:-	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc les-hydrog mium batte al corrosior n - sacrific hodic coat Practical	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s ien, calom ery- fuel ce in (galvanic cial anode ting. Meta Periods:- 11.	ifficients Optics terial, re ifficance verse colloid s. eries. E el and ell H ₂ c, differe method	Periods: s - Popula - Principle efractive in Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods: d and imp ng, Electr	tion Inversion and Propagatex, mode) and Propagatex, mode) and Odour, to isadvantage aluminate aluminate aluminate are I-application aluminate are I-application are I-app	urbidity, pH, es of using and Calgon easurement. nd fuel cells: is. ion control – ent cathodic Copper and	CO4
Asers - Principles Action —componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V alvanic cells, sing ernst equation. El ypes of batteries- UNIT-VI Orrosion —Introduct aterial selection a ethod. Uses of in ectroless plating of Lecture Periods: Text Books 1. V Rajendra 2. S.S Dara—	Water and im y, TDS er - Treexternal Electrolyte alkaline Corrosi cition - fa and des whibitors of nickel 45	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Extrement of boiler feed water: Internal treatment of boiler feed water: Internal treatment—lon exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential e concentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors — types — chemical, electrochemical gin aspects — electrochemical protection, metallic coating — anodic coating, cat internal Periods:— Tutorial Periods:— inneering Physics", 2nd Edition, TMH, New book of Engineering Chemistry" - 15th Editions.	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc les-hydrog mium batte al corrosion n - sacrific hodic coat Practical v Delhi 20 dition, 202	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s ien, calom ery- fuel ce in (galvanic cial anode ting. Meta Periods:- 11. 1. S.Chan	ificance verse colloid s. eries. E and ell H2 - c, differe method I claddi	Periods: s - Popula Principle Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods: d and imp ng, Electr cations.	tion Inversion and Propage dex, mode) Bodour, to isadvantage aluminate Bell and its medication aluminate are l-application for the corresponding of the co	urbidity, pH, es of using and Calgon easurement. nd fuel cells: is. ion control – ent cathodic Copper and	CO4
Lasers - Principles Action -componen n optical fiber - Nu UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V Galvanic cells, sing lernst equation. El ypes of batteries- UNIT-VI Corrosion -Introduct naterial selection a nethod. Uses of in lectroless plating of Lecture Periods: Text Books 1. V Rajendra 2. S.S Dara - 3. C.Jain, Mo	Water and im y, TDS er - Treexternal Electrolyte alkaline Corrosi cition - fa and des whibitors of nickel 45	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Extrement of boiler feed water: Internal treetreatment—lon exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential econcentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors - types - chemical, electrochemical gn aspects - electrochemical protection, metallic coating - anodic coating, cat internal Periods:-	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc les-hydrog mium batte al corrosion n - sacrific hodic coat Practical v Delhi 20 dition, 202	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s ien, calom ery- fuel ce in (galvanic cial anode ting. Meta Periods:- 11. 1. S.Chan	ificance verse colloid s. eries. E and ell H2 - c, differe method I claddi	Periods: s - Popula Principle Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods: d and imp ng, Electr cations.	tion Inversion and Propage dex, mode) Bodour, to isadvantage aluminate Bell and its medication aluminate are l-application for the corresponding of the co	urbidity, pH, es of using and Calgon easurement. nd fuel cells: is. ion control – ent cathodic Copper and	CO4
UNIT-IV Vater: Sources a ardness, alkalinit ard water in boile onditioning) and E UNIT-V Galvanic cells, sing lernst equation. Elypes of batteries- UNIT-VI Corrosion –Introduct aterial selection and tethod. Uses of indectroless plating of Lecture Periods: Text Books 1. V Rajendra 2. S.S Dara – 3. C.Jain, Moeference Books 1. R.Murugesh 2. William D C 3. Jain & J	Water and im y, TDS ar - Treaxternal Electrolytalkaline Corrosi etion - fand des and imitiation	and Fiber Optics er - Spontaneous and Stimulated Emissister - Types of Lasers - NdYAG, CO2 lase aperture and acceptance angle - Types SECTION B And Its Treatment purities, Water quality parameters: Extrement of boiler feed water: Internal treatment of boiler feed water: Internal treatment—lon exchange demineralization chemical Cells and Storage Devices ode potential, standard electrode potential e concentration cell. Reference electrode battery-lead storage battery- nickel-cadron ctors — types — chemical, electrochemical gin aspects — electrochemical protection, metallic coating — anodic coating, cat internal Periods:— Tutorial Periods:— inneering Physics", 2nd Edition, TMH, New book of Engineering Chemistry" - 15th Editions.	ons - Eins r, GaAs La of optical f - CHEMIS Definition brackish v atment (pl n and zeoli al, electroc eles-hydrog mium batte al corrosior n - sacrific hodic coal Practical v Delhi 20 dition, 202 chanpat Ra ni 2006. 6th Edition, ai Publishir	tein's Coe aser Fiber fibers (mat STRY and sign vater: Re hosphate, ite process chemical s en, calom ery- fuel ce ting. Meta Periods:- 11. 1. S.Chan ai Pub. Co	eries. Eel and ell H2 - c, differer method I claddi	Periods: s - Popula - Principle efractive in Periods: of-color osmosis-d al, sodium Periods: MF of a ca Ag/AgCl. O2 fuel cel Periods: ential aera d and imp ng, Electr cations. Delhi, (200)	tion Inversion and Propagates, mode) Boodour, to isadvantage aluminate Bell and its man Batteries are I-application aluminate for the completing of the co	urbidity, pH, es of using and Calgon easurement. nd fuel cells: is. ion control – ent cathodic Copper and	CO4

- 2. https://www.acs.org/content/acs/en/careers/college-to-career/chemistry-careers/materials science.html.
- 3. https://study.com/academy/lesson/semiconductors-superconductors-definition-properties.html
- 4. https://mechanicalc.com/reference/engineering-materials
- http://ndl.ethernet.edu.et/bitstream/123456789/89589/1/%5BPerez_N.%5D_Electrochemistry_and_corrosion%28 BookZZ.org%29.pdf

COs/POs/PSOs Mapping

COs	l)				Prog	gram O	utcome	s (POs)	se, line s	1,00 983	eron of		ram Spe omes (P	
14	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	2	70 F	nstille	jia 1 511	ydl g jas	air - in	di falen	m., swe.	-Martin	96 - F.O	-	-
2	3	2	3	2	Siziūmi	tits cor	a 1907	br§ta	sal for al	lore™ne.	ize 5 enif	618 7 816	20	7 -	947,50
3	3	2	3	2	-	-	Juni	riceil i	JET ST	dia isa	ese For a	binational	mu = \$6	9 -	89m <u>2</u> 00
4	3	1	vac o si	nuse ta	ive under	atrialis i	1000	oaf n	à i c ito	ded See	Park Fig.	nesses.	an - ao	3 -	-
5	3	1	-	-	-	-	-	-	=	-281	SES SU	re-na	547	-	-
6	3	1	-hŋ	21= 10(net a	08.477.3	wa-hin	esam	1952 mil	#10E5 U/I	1.02 95	begins.	nul ac	7 -	-

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Methods

		Contin	uous Asse	ssment Marks (C	CAM)	End	
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	5	5	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus



Department	Comp Syste	outer Science and Business ms	Program	n: B.T e	ec	h.				
Semester	1		Course	Categ	or	y: ES	*En	d Semest	er Exam T	vpe: T
			Perio	ds / W	Ve	ek	Credit		ximum Ma	
Course Code	U230	CBT101	e (P) J emos	faC n		84P3	С	CAM	ESE	TM
Course Name	F	UNDAMENTALS OF COMPUTER SCIENCE	3	0		0	109 3 50	25	75	100
	1)	To understand the basic concepts of pro-	oblem solvin	g cond	cep	ots.				
	2)	To gain Knowledge about the syntax ar	nd semantics	abou	t p	rogramı	ming languag	e. +		
Course Objectives	3)	To learn the techniques of Pointers, Arr								
- Sjediives	4)	To be exposed to user defined data type							<u></u>	
	5)	To develop program using pre-processo							6 1 6	
		ompletion of the course, the students	7.717		7 -	Low. 2	- Priavalno	inslamu 2	BT Ma	
	CO1	Recognize the basics of programming c	oncepts.						(Highest	
4	CO2	Choose appropriate controls and function	(-	the pr	oh	lems				
Course	CO3	Develop and Manage memory with Poir						pamei	i noitsul K 1	
Outcome									K	3
	CO4	Explore the various Input and Output fu			0,01	Consir			K2	2
UNIT-I	CO5	Create and Manipulate the Files acces	sing and sto	rage.		TAG		ente zorea	K3	3
		luction for problem solving with Sequential Lo		NE KZI			(9Hrs)			
Register Variables-	- Scope	unctions- parameter passing and returning Rules- Block structure- Initialization- Re	g type- C ma cursion- Pre	ain retu e-proce	um ess	as inte or- Star	ger,-External- idard Library	Auto- Loc Functions	al- Static- and return	And the second s
types.			oursion-11c	-proce	,33	oi- Otai	Idald Library	runctions	and return	
		ers, Arrays and Structures		*****************			(9Hrs)			
Functions- Pointer	Arrays-	ointers and Function Arguments- Poin Pointer to Pointer- Multi-dimensional arra	ers and Ar av and Row/o	rays- column	A0	aress /	Anthmetic- cr mats-Initializa	aracter Poi	ointers and	CO3
Command line argu	uments.	 Pointer to functions- complicated declar 	ations and h	now the	ev.	are eva	luated, Basic	Structures	- Structures	000
and Functions- Arra	ay of st	ructures- Pointer of structures- Self-refer	ral structure:	s- Tab	le I	ook up-	typedef,-unio	ns- Bit-field	ds.	
		and Output					9Hrs)			
Standard I/O, Form	atted C	Output – printf, Formated Input – scanf- V	ariable lengt	h argu	me	ent list-	file access inc	luding FIL	E structure-	CO4
		derr,-Error Handling including exit- perror	r and error.h	- Line	I/C	- relate	d miscellaned	us function	ıs.	CO4
UNIT- V	Unix S	ystem Interface					9Hrs)			
Directory- Storage	w ievei allocato	I/O – read and write- open,-create- clos	se and unlin	k- Ran	ıdc	m acce	ss – Iseek- [iscussions	on Listing	
		ougging, Macro, User Defined Header, U	ser Defined	Libran	v F	unction	makefile util	itv	-	CO5
ext Books							, manomo am			
. B. W. Kernigha	n and l	D. M. Ritchì , "The C Programming Langu	uage", Secoi	nd Edit	tior	n, PHI.				
		"Programming in C", Second Edition, Ou		2017						
Reference Books	ју , Рго	gramming in ANSI C", Fourth Edition, , T	MH, 2007.							
	,"C: Th	ne Complete Reference", Fourth Edition,	McGraw Hil	II. 2017	7.					
		Let Us C", BPB Publications 14th Edition		•						
	Manas	Ghosh ,"Computer fundamentals and P	rogramming	in C"	O)	rford Ur	iversity Pres	s,2013	The same was a same and a same a	
Veb References https://codefory	vin oral	,								
	•	eeks.org/c-programming-language/								
. http://learn-c.or	g/									
. https://www.cpr										
. https://www.linu	ıxtopia.	org/online_books/programming_books/g	nu_c_progra	ammin	g ·	tutorial/	index.html			

N-bh

* TE - Theory Exam, LE - Lab Exam

COs/POs/PSOs Mapping

COs					Prog	gram O	utcome	s (POs)			r.i	Prog Outo	ram Spe omes (P	cific SOs)
	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	P011	PO12	PS01	PSO2	PSO3
1	1	-	-	-		medan.	en lang	mel to	n lo an	ep -50 tu	es Edit	กราชาชาว	u o 1	7.5	-
2	1	-	-	-	-	-			-		1		1	-	
3	3	2	1	ust Britis	Third is	nd accord	a sonville	111112 NA	W. 47-80. 1	-	- 12E 11-44	-	3	1	- 92
4	2	1	-	-	*	- 2113	12413 F C	270	37 Y 5 10 X	30 110 0	or paratra		2	3, XX	307/02
5	3	2	1		-	20 EA	2 (17 B)	-	-			- -	3	1	-

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

		Contin	uous Asse	ssment Marks (C	CAM)	End	ACU.
Assessment	CAT	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	PCID_1	0	5	7.00 0152 form	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

N. PY

Department	Syste	outer Science and Business ems	Progran	nme: B.	Tech.					
Semester	I		Course	Catego	ry: HS	Er	nd Semeste	er Exam	Тур	e: TE
Course Code	11231	STC01	Perio	ds / We	eek	Credit	Maxi	mum Ma	arks	2.
	02311		L	T	Р	C	CAM	ESE	The state of the s	TM
Course Name	UNIV	ERSAL HUMAN VALUES - II	2	0	0	2	25	75		100
B	10.57	(Common to all Branch)								
Prerequisite	UHV -	1					enidaeM z	O BT	Ma	oping
Specific	On co	mpletion of the course, the students v	vill be able to					1		Level)
. Gadas, a Voiss 10	CO1	Evaluate the significance of value in life and profession	puts in forma	l educati	ion and	start applyin	g them in the		K	in i
Course	CO2	Distinguish between values and skill Self and the Body, Intention and Co					al facilities, th	ne	K2	
Outcomes	CO3	Analyze the value of harmonious reprofession	elationship ba	ased on	trust ar	d respect in	their life ar	nd	K2	
	CO4	Examine the role of a human being	in ensuring h	amony	in socie	ty and natur	е		K2	
	CO5	Apply the understanding of ethical profession.	conduct to i	formulate	e the st	rategy for e	thical life ar	nd note	K2	ca)
UNIT - I	Introd	uction To Value Education				Periods: 0	6 aborti	ation Met	tile	νB
	s the Pr	ionship and Physical Facility (Holistic Dev ocess for Value Education - Basic Human rations								CO1
UNIT - II	Harmo	ony In The Human Being				Periods: 0	6			
Programme to en	sure se	an Instrument of the Self-Understan If-regulation and Health	and the Body ding Harmor	-	-	armony of	he Self with	n the Boo	dy-	CO2
Programme to en UNIT - III Harmony in the Fai Other Feelings, Jus	Harmo Harmo mily - Ba tice in H	an Instrument of the Self-Understan If-regulation and Health Ony In The Family And Society sic Unit of Human Interaction- 'trust' - Fo uman-to-Human Relationship - Understa	ding Harmor	ny in the	Self-H	Periods: 0 p - 'Respect' ision for the	the Self with 6 - as the Right Universal Hur	t Evaluatio	on -	CO2
Programme to en UNIT - III Harmony in the Fai Other Feelings, Jus UNIT - IV	Harmo Harmo mily - Ba tice in H	an Instrument of the Self-Understan If-regulation and Health ony In The Family And Society sic Unit of Human Interaction- 'trust' - Foundary uman-to-Human Relationship - Understa	ding Harmor oundational Va nding Harmon	ny in the	e Self-H lationsh Society-V	Periods: 0 Periods: 0	the Self with 6 - as the Right Universal Hur	t Evaluatio man Ordei	on - r.	
Programme to en UNIT - III Harmony in the Fai Other Feelings, Jus UNIT - IV Understanding H	Harmo Harmo mily - Ba tice in H Harmo armony g Existe	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In The Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Health Interconnectedness in the Nature of the Na	oundational Vanding Harmon	alue in Re by in the S and Mi	e Self-H lationshi Society-V utual Fu	Periods: 0 p - 'Respect' ision for the Periods: 0	the Self with 6 - as the Right Universal Hur 6 ong the Fou	t Evaluatio man Ordei	on - r.	
Programme to en UNIT - III Harmony in the Fai Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V	Harmo mily - Ba tice in H Harmo armony g Existe Implic Profes	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In The Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understanding In The Nature Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understanding Interconnectedness	oundational Vanding Harmon self-regulation olistic Percep	alue in Relay in the Son and Motion of H	e Self-H lationshi Society-V utual Fu larmony	Periods: 0 p - 'Respect' ision for the Periods: 0 diffilment am in Existence	the Self with as the Right Universal Hur ong the Fou	t Evaluatio man Order	on - r.	CO3
Programme to en UNIT - III Harmony in the Fal Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mon	Harmony Existe Implication of Hulling Profestore of Hulling Curious dels-Tyj	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature I Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Values - Definitiveness of (Ethicial Human Order-Competence in Propical Case Studies-Strategies for Transition and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case Studies-Strategies for Transitions and Human Order-Competence in Propical Case	oundational Vanding Harmon celf-regulation colistic Percep ctanding - al) Human Cofessional Eth	ny in the solution of H A Loo onduct - ics-Holis ds Value	e Self-H lationshi Society-V utual Fu larmony ok At Basis fo stic Tec - based	Periods: 0 p - 'Respect' ision for the Periods: 0 diffilment amount in Existence Periods: 0 r Humanistic nnologies, F Life and Pri	the Self with a sthe Right Universal Hur cong the Fouce cong the Section, roduction Section	t Evaluation man Orders or Orders Humanis ystems a	on - r.	CO3
Programme to en UNIT - III Harmony in the Fal Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mod Lecture Periods	Harmony Existe Implication of Hulling Profestore of Hulling Curious dels-Tyj	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature I Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand In The Nature I Existence at All Levels - Heations Of The Holistic Understand I Ethics I Human Order-Competence in Pro	oundational Vanding Harmon elf-regulation olistic Perceputanding - al) Human Cofessional Eth	ny in the solution of H A Loo onduct - ics-Holis ds Value	e Self-H lationshi Society-V utual Fu larmony ok At Basis fo stic Tec - based	Periods: 0 p - 'Respect' ision for the Periods: 0 diffilment amount in Existence Periods: 0 r Humanistic nnologies, F Life and Pri	the Self with as the Right Universal Hur cong the Four e Cong the Self with	t Evaluation man Orders or Orders Humanis ystems a	on - r.	CO3
Programme to en UNIT - III Harmony in the Far Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mod Lecture Periods Text Book 1. R. R. Gaur, F	Harmony g Existe Implication of Hulling Profession of Hulling Pro	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand In Values - Definitiveness of (Ethical Human Order-Competence in Propical Case Studies-Strategies for Tranditude In Tutorial Periods: -	oundational Vanding Harmon self-regulation olistic Perceptanding - al) Human Cofessional Eth sition toward	ny in the solute in Re solute in the Solution of Honoconduct - lics-Holisds Value	e Self-H lationshi Society-V utual Fu larmony k At Basis fo stic Tec - based s: -	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 or Humanistic nnologies, F Life and Pr	the Self with as the Right Universal Hur bong the Fouce Education, Production Systems of ession Total Period	t Evaluation man Orders Ir Orders Humanis ystems a	of of	CO3
UNIT - III Harmony in the Far Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mod Lecture Periods Text Book 1. R. R. Gaur, F Revised Edit	Harmony g Existe Implication of Hurivers dels-Type: 30 R. Asthaion, Nevignal and the second	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand only In The Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Science In The Holistic Understand Human Order-Competence in Propical Case Studies-Strategies for Trantutorial Periods: -	oundational Vanding Harmon self-regulation olistic Perceptanding - al) Human Cofessional Eth sition toward	ny in the solute in Re solute in the Solution of Honoconduct - lics-Holisds Value	e Self-H lationshi Society-V utual Fu larmony k At Basis fo stic Tec - based s: -	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 or Humanistic nnologies, F Life and Pr	the Self with as the Right Universal Hur bong the Fouce Education, Production Systems of ession Total Period	t Evaluation man Orders Ir Orders Humanis ystems a	of of	CO3
Programme to en UNIT - III Harmony in the Fal Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mod Lecture Periods Text Book 1. R. R. Gaur, F Revised Edit Reference Book	Harmony Existe Implication Hulling Existe Implication Hu	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature I Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Values - Definitiveness of (Ethical Human Order-Competence in Propical Case Studies-Strategies for Trantutorial Periods: - Ina, G. P. Bagaria, "A Foundation County Delhi, 2019.	oundational Vanding Harmon celf-regulation colistic Percep ctanding - al) Human Colessional Eth sition toward Practical	ny in the salue in Re say in the San and Motion of H A Loo onduct - nics-Holis say Value Periods n Values	e Self-H lationshi Society-V utual Fu larmony ok At Basis fo stic Tect - based s: -	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 or Humanistic nnologies, F Life and Pr	the Self with as the Right Universal Hur bong the Fouce Education, Production Systems of ession Total Period	t Evaluation man Orders Ir Orders Humanis ystems a	of of	CO3
Programme to en UNIT - III Harmony in the Fal Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Modecture Periods Text Book 1. R. R. Gaur, F Revised Edit Reference Books 1. A Nagraj, Jee 2. A.N. Tripathi,	Harmony Existe Implication Frofes Ce of Hu Universidels-Typ: 30 R. Asthation, Nevis evan Vicinary	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature I Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Values - Definitiveness of (Ethical Human Order-Competence in Propical Case Studies-Strategies for Transtand International Periods: - Ina, G. P. Bagaria, "A Foundation County Delhi, 2019. Indian Prakashan, Amarkantak, "Jeevann Values", New Age International Publications and I	oundational Vanding Harmon celf-regulation colistic Percep ctanding - al) Human Cofessional Eth sition toward Practical urse in Huma Vidya: EkPa olishers, New	ny in the salue in Re say in the San and Motion of H A Loo onduct - sics-Holis Is Value Periods n Values	e Self-Halationshi Society-V Larmony ok At Basis for stic Tect - based s: -	Periods: 0 p - 'Respect' ision for the Periods: 0 diffilment ame in Existence Periods: 0 r Humanistic nologies, F Life and Pro- ofessional E	the Self with as the Right Universal Hur bong the Fouce Education, Production Systems of ession Total Period	t Evaluation man Orders Ir Orders Humanis ystems a	of of	CO3
Programme to en UNIT - III Harmony in the Fal Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mol Lecture Periods Text Book 1. R. R. Gaur, F Revised Edit Reference Books 1. A Nagraj, Jec 2. A.N. Tripathi, 3. Annie Leonal 4. Mohandas Ka	Harmony Existe Implication From	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature I Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Values - Definitiveness of (Ethical Human Order-Competence in Propical Case Studies-Strategies for Transtand International Periods: - Ina, G. P. Bagaria, "A Foundation County Delhi, 2019.	oundational Vanding Harmon celf-regulation colistic Percep ctanding - al) Human Cofessional Eth asition toward Practical urse in Huma Vidya: EkPa clishers, New cdition, 2011.	ny in the salue in Record in the Salue in the Salue in the Salue in the Salue in Value in Values in Values in Values in Delhi, 3	e Self-Halationshi Society-V utual Fularmony ok At Basis fo stic Tect - based s: -	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 r Humanistic nologies, F Life and Priods: 0 ofessional E	the Self with 6 - as the Right Universal Hur 6 ong the Found e 6 c Education, Production Symptotics of ession Total Period Ethics", Exce	t Evaluation man Orders Ir Orders Humanis ystems a ds: 30 I Books, 2	of of	CO3
UNIT - III Harmony in the Fail Other Feelings, Justin UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Molecture Periods Text Book 1. R. R. Gaur, Freevised Edit Reference Books 1. A Nagraj, Jee 2. A.N. Tripathi, 3. Annie Leonal 4. Mohandas Kreublisher, 20 5. E. F Schuma	Harmony Existe Implication Profession, Newser Sevan Vice "Humand, "The aram chiog. cher, "Seven Profession, Newser Seven Vice "Humand, "The aram chiog. cher, "Seven Profession, Newser Seven Vice "Humand, "The aram chiog. cher, "Seven Profession, Newser Profes	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature I Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand In Values - Definitiveness of (Ethical Human Order-Competence in Propical Case Studies-Strategies for Transitional Periods: - Ina, G. P. Bagaria, "A Foundation County Delhi, 2019. Indian Prakashan, Amarkantak, "Jeevan Natures", New Age International Put Story of Stuff", Free Press, Reprint Emand Gandhi, "The Story of My Experismal is Beautiful", Vintage Publisher,	oundational Vanding Harmon celf-regulation colistic Percep ctanding - al) Human Cofessional Eth sition toward Practical urse in Huma Vidya: EkPa clishers, New cidition, 2011. ments with To	ny in the salue in Record on the salue in A Loo onduct - ics-Holis ds Value Periods n Values n Values n Delhi, 3	e Self-Halationshi Society-V utual Fularmony ok At Basis fo stic Tect - based s: -	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 r Humanistic nologies, F Life and Priods: 0 ofessional E	the Self with 6 - as the Right Universal Hur 6 ong the Found e 6 c Education, Production Symptotics of ession Total Period Ethics", Exce	t Evaluation man Orders Ir Orders Humanis ystems a ds: 30 I Books, 2	of of	CO3
UNIT - III Harmony in the Fail Other Feelings, Justin UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Modecture Periods Text Book 1. R. R. Gaur, F. Revised Edit Reference Books 1. A Nagraj, Jee 2. A.N. Tripathi, 3. Annie Leonar 4. Mohandas K. Publisher, 20 5. E. F Schuma 6. Cecile Andre 7. J C Kumarap	Harmony Dexiste Implication of Human o	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand only In The Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Interest of Existence at All Levels - Heations Of The Holistic Understand Human Order-Competence in Propical Case Studies-Strategies for Transtand Periods: - Ina, G. P. Bagaria, "A Foundation County Delhi, 2019. Idya Prakashan, Amarkantak, "Jeevan In Values", New Age International Put Story of Stuff", Free Press, Reprint Exand Gandhi, "The Story of My Experional is Beautiful", Vintage Publisher, ow is Beautiful", New Society Publisher, New Soci	oundational Vanding Harmon dielf-regulation olistic Perceptatanding - al) Human Coffessional Ethesition toward Practical urse in Huma Vidya: EkPa olishers, New Edition, 2011. ments with Till 1993. ers, 2006. Sangh Praka	ny in the salue in Re say in the Salue in Re say in the Salue in A Loo conduct - sics-Holis de Value in Values in Values in Delhi, 3 ruth – Marchaya", Delhi, 3 ruth – Marchaya", Delhi, 3 ruth – Marchaya in Values in	e Self-He lationshi Society-V larmony	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 r Humanistic nologies, F Life and Priods: 0 ofessional E	the Self with 6 - as the Right Universal Hur 6 ong the Found e 6 c Education, Production Symptotics of ession Total Period Ethics", Exce	t Evaluation man Orders Ir Orders Humanis ystems a ds: 30 I Books, 2	of of	CO3
UNIT - III Harmony in the Fai Other Feelings, Jus UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mod Lecture Periods Text Book 1. R. R. Gaur, F Revised Edit Reference Books 1. A Nagraj, Jee 2. A.N. Tripathi, 3. Annie Leonar 4. Mohandas K Publisher, 20 5. E. F Schuma 6. Cecile Andre 7. J C Kumarap 8. Pandit Sunde	Harmony g Existe Implication Profession News Sevan Violation, News Sevan Violation, "The aram choose cher, "Sws, "Slopa, "Ecordal, "Britanian chopa, "Ecordal chopa, "Eco	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand In the Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand In Company In The Holistic Understand In Indian Order-Competence in Proposal Ethics Iman Values - Definitiveness of (Ethical Human Order-Competence in Proposal Case Studies-Strategies for Trandian International Published In Indian In Values, New Age International Published In Indian In Indian In Indian In Indian In Indian Indian In Indian In Indian India	oundational Vanding Harmon distingther Perception of the Perceptio	ny in the salue in Re say in the Salue in Re say in the Salue on and Mintion of Harings-Holis ds Value Periods Trichaya", Delhi, 3 Truth – Maringshan, 20 her, 202	e Self-He lationshi Society-V latrony	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 r Humanistic nologies, F Life and Priods: 0 ofessional E	the Self with 6 - as the Right Universal Hur 6 ong the Found e 6 c Education, Production Symptotics of ession Total Period Ethics", Exce	t Evaluation man Orders Ir Orders Humanis ystems a ds: 30 I Books, 2	of of	CO3
UNIT - III Harmony in the Fail Other Feelings, Justin UNIT - IV Understanding H Nature - Realizing UNIT - V Natural Acceptan Constitution and Management Mode Lecture Periods Text Book 1. R. R. Gaur, F. Revised Edit Reference Books 1. A Nagraj, Jee 2. A.N. Tripathi, 3. Annie Leonar 4. Mohandas K. Publisher, 20 5. E. F Schuma 6. Cecile Andre 7. J C Kumarap 8. Pandit Sunde 9. Dharampal, "	Harmony g Existe Implication Profession News Sevan Violation, News Sevan Violation, "Human ch, "The aram ch 109. Cher, "Sws, "Slopa, "Ecorlal, "Br Redisco	an Instrument of the Self-Understand If-regulation and Health only In The Family And Society sic Unit of Human Interaction- 'trust' - Fourman-to-Human Relationship - Understand only In The Nature / Existence in the Nature-Interconnectedness, since as Co-existence at All Levels - Heations Of The Holistic Understand Interest of Existence at All Levels - Heations Of The Holistic Understand Human Order-Competence in Propical Case Studies-Strategies for Transtand Periods: - Ina, G. P. Bagaria, "A Foundation County Delhi, 2019. Idya Prakashan, Amarkantak, "Jeevan In Values", New Age International Put Story of Stuff", Free Press, Reprint Exand Gandhi, "The Story of My Experional is Beautiful", Vintage Publisher, ow is Beautiful", New Society Publisher, New Soci	oundational Vanding Harmon celf-regulation colistic Percept ctanding - al) Human Cofessional Eth sition toward Practical urse in Huma Vidya: EkPa clishers, New cdition, 2011. ments with Toward crs, 2006. Sangh Prakas ashan Publis oks Division F	ny in the salue in Re say in the Salue in Re say in the Salue in and Mintion of Hamilton o	e Self-He lationshi Society-V latrony	Periods: 0 p - 'Respect' ision for the Periods: 0 Iffilment ame in Existence Periods: 0 or Humanistic Innologies, P Life and Pr ofessional E n, 2019. Gandhi Auto	the Self with 6 - as the Right Universal Hur 6 ong the Found e 6 c Education, Production Symptotics of ession Total Period Ethics", Exce	t Evaluation man Orders Ir Orders Humanis ystems a ds: 30 I Books, 2	of of	CO3

N-DA

- 12. Life of Vivekananda, "Romain Rolland (English)", Advaita Ashrama Publisher, India, 4th Edition, 2010.
- 13. Mahatma Gandhi, "Romain Rolland (English)", Srishti Publishers & Distributors, 2020.

Web References

- 1. https://www.uhv.org.in/uhv-ii
- 2. http://www.storyofstuff.com
- 3. https://www.youtube.com/channel/UCQxWr5QB_eZUnwxSwxXEkQw
- 4. https://fdp-si.aicte-india.org/8dayUHV_download.php
- 5. https://www.youtube.com/watch?v=8ovkLRYXIjE

COs/POs/PSOs Mapping

COs	gar-	iad no	TENIO CE	odnos r	Pro	gram O	utcome	es (POs	10/1 - 37 i s 	ince of v.s.	- 381 (1971) - 311 (1971)	emile ac	Prog Outo	gram Spe omes (P	ecific SOs)
2.0	P01	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1,	-	arit <u>r</u> ans	Aparta	RECT, T	- 10 <u>-1</u> 164)	2	3	2	2	rs ¿£/s	n-zv+s	3	810 <u>-</u> SE	-	-
2	_			-	179 ,11	2	3	2	2	a ri <u>ş</u> alıas	an zpot	3	16°L_	-	9: Library
3	-	- Barr	Maria M	- 10 <u>-</u>	E 18 X	3	3	2	2	Charles St	- TA	3	- 1,		-
4	-	-	-		-	2	3	2	2		-	3	-	-	-
5		-	-	-	-	2	3	2	2	-	-	3	-	-	-

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Methods

Will sold to be a first	A CARLE CO.	Conti	nuous Asses	sment Marks (CAN	A)	End Semester	Total
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Examination (ESE) Marks	Marks
Marks	bû tê Naistr aid î	0	5	5	gaiail armui 5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus



Department	Englis	sh	Progran	nme: B	. iecn	gold agle - :			
Semester	I		Course	Catego	ory: HS	*En	d Semeste	er Exam Ty	pe: T
Course Code	11225	:NB101	Perio	ds/We	ek	Credit		ximum Ma	
Course Code	UZSE	Compagnation Compagnion S. Chand	aalon3 <u>Loo</u> a	8 nTrH	P./	nenviros ne	CAM	ESE	TM
Course Name	Busi	ness Communication & Value	2 san	0	2	iq rabnu mo	50	50	100
Prerequisite	Basics	of English Language	real count they	· Enderson	d de de d cast di co	de Pormandold dut sud Indilled	050 000	un dinigit	
	On co	empletion of the course, the student	s will be able	to	sh.re-se	na-namizinal-su	nvi ree an.	BT Ma	pping
Course		Analyst and a second se			257	sans releasi	oaT set	(Highes	
Course Outcome	CO1	Apply the knowledge of grammar in o	rai and writter	ı comm	unication			w K	3
	CO2	Understand the basic tenets of comm	unication	ulayir.		restance a		K	2
	CO3	Build strong technical communication	skills to meet	out the	organiza	tional anticin	ation	1/	•
	003	Daily strong technical communication	Skills to meet	out the	organiza	ational anticip	alion	K	3
	CO4	Identify own strengths and opportuniti						 	
	C04	dentity own strengths and opportunit	C3				оОз Марри	1209\eK	2
হাইচেন্ট্ৰ	CO5	Develop the multivariate skills requisi	tes for life	auiO ans	sipni 9			К	3
(8044) at	Gramm		1			D		1803	1
21401 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	100		804 504 tonago on Eur	(009	209	Periods:10	9 209	109	1 00
		of Speech – Tenses - Applications of ors-Voices -Sentence Sequence	tenses on Fur	ictional	Gramma	ir -Sentence	rormation -(General an	a CO
INIT-II	Funda	mentals in Communication			-1 -	Periods:10		1	
ypes of commun	ication:	Verbal and Non – verbal – Role-play -l	mportance of	Questi	oning - L	stening Skills	: Importance	e	CO2
ILTIIAI	Organ	izational Communication		doll	1 - 8 .m	Poriode:10	evel: 1 = L	coirgison	
Seneral Service L	mal and	lizational Communication I informal -Verbal communication: Pro	terms, phras	es, idior	ms, signi	ficant abbrevi	ocabulary	nal busines	CO3
Email writing: Fon General Service L ocabulary - GD -	mal and ist (GSI Written	l informal -Verbal communication: Pro L), Academic word list (AWL) technical Communication -Narrative writing – cr	terms, phras	es, idior	ms, signi	of speech- \ licant abbrevinanagement	ocabulary	Enrichment	COS
mail writing: For General Service L ocabulary - GD - INIT-IV	mal and ist (GSI Written Peopl	I informal -Verbal communication: Pro -), Academic word list (AWL) technical	terms, phras	es, idior	ms, signi	of speech- \	ocabulary	Enrichment	CO3
Email writing: For General Service L ocabulary - GD - JNIT- IV .ist of Exercises .istening	mal and ist (GSI Written People	l informal -Verbal communication: Pro -), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection	terms, phras eating CV –Li	es, idior fe skill -	ms, signi - Stress r	of speech- \ ficant abbrevinanagement Periods:15	/ocabulary lations, forn and teamwo	Enrichment nal busines ork	CO
Email writing: For Seneral Service L ocabulary - GD - JNIT- IV .ist of Exercises .istening Listen to	mal and ist (GSI Written People recordir	I informal -Verbal communication: Pro L), Academic word list (AWL) technical Communication -Narrative writing – cr E Skills and Self-introspection ag and answer questions, Record conv	terms, phras eating CV –Li	es, idior fe skill -	ms, signi - Stress r	of speech- \ ficant abbrevinanagement Periods:15	/ocabulary lations, forn and teamwo	Enrichment nal busines ork	CO
Email writing: For General Service L ocabulary - GD - JNIT- IV list of Exercises istening Listen to identity, b	mal and ist (GSI Written People recordir	l informal -Verbal communication: Pro -), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection	terms, phras eating CV –Li	es, idior fe skill -	ms, signi - Stress r - Stress r - Stress r	of speech-\ iicant abbrevinanagement Periods:15	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO
Email writing: For General Service L ocabulary - GD - INIT- IV list of Exercises istening Listen to identity, b	mal and ist (GSI Written People recording aw	I informal -Verbal communication: Pro L), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management.	tems, phras eating CV –Li	es, idior fe skill -	ms, signi - Stress r - Stress r - Stress r	of speech- \ ficant abbrevinanagement Periods:15	/ocabulary iations, forn and teamwo	Enrichment nal busines ork	CO
Email writing: For General Service L locabulary - GD - JNIT- IV List of Exercises Listening Listen to identity, b Speaking Presentar Interview	mal and ist (GSI Written People recording ody aw	I informal -Verbal communication: Pro L), Academic word list (AWL) technical Communication -Narrative writing – cr E Skills and Self-introspection ag and answer questions, Record conv	terms, phras eating CV –Li ersation betw es they demo	es, idior fe skill - een a constrate	ms, signi - Stress r	of speech-\ iicant abbrevinanagement Periods:15 and an intervie	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO3
Email writing: For General Service L ocabulary - GD - INIT- IV ist of Exercises istening Listen to identity, b peaking Presentar Interviewice	mal and ist (GSI Written People recording awaition on ting a mainstead and a mainstead and a mainstead are a m	I informal -Verbal communication: Pro L), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. Favourite cricket captain-skills and valuated watchman – sweeper- cabdriver- be	terms, phras eating CV –Li ersation betw es they demo	es, idior fe skill - een a constrate	ms, signi - Stress r	of speech-\ iicant abbrevinanagement Periods:15 and an intervie	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO
imail writing: For General Service L ocabulary - GD - INIT- IV ist of Exercises istening Listen to identity, b peaking Presentar Interviewice eading	mal and ist (GSI Written People recording awaition on ting a mainstead and a mainstead and a mainstead are a m	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid-watchman – sweeper- cabdriver- besiness communication	terms, phraseating CV –Li ersation betwees they demo	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r	of speech-\ iicant abbrevinanagement Periods:15 and an intervie	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO3
mail writing: For General Service L ocabulary - GD - INIT- IV ist of Exercises istening Listen to identity, b peaking Presentar Interview eading Over view	mal and ist (GSI Written People recording away and ing a may wing bus	I informal -Verbal communication: Pro L), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. Favourite cricket captain-skills and valuated watchman – sweeper- cabdriver- be	terms, phraseating CV –Li ersation betwees they demo	es, idior fe skill - een a constrate	ms, signi - Stress r	of speech-\ iicant abbrevinanagement Periods:15 and an intervie	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO
Email writing: For General Service L ocabulary - GD - INIT- IV List of Exercises Listen to identity, b speaking Presental Interview leading Over view Vriting Newspap	mal and ist (GSI Written People recording awaying a maying buser Reported to the control of the	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. favourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- be- siness communication	terms, phraseating CV –Li ersation betwees they demo	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r	of speech-\ iicant abbrevinanagement Periods:15 and an intervie	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO3
Email writing: For General Service L ocabulary - GD - INIT- IV List of Exercises Listen to identity, b speaking • Presental • Interview leading • Over view Vriting • Newspap INIT-V	mal and ist (GSI Written People recording awaying a maying buser Reported to the control of the	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- beiness communication ort – football- hockey	terms, phraseating CV –Li ersation betwees they demo	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement appearation of the property o	/ocabulary iations, forn and teamwo	Enrichment nal busines ork wareness -	CO
Email writing: For General Service L rocabulary - GD - JNIT-IV List of Exercises Listen to identity, b Speaking Presental Interview Reading Over view Writing Newspap INIT-V List of Exercises istening	mal and ist (GSI Written People recording awaying a main wing bus er Report Incorp	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual-watchman – sweeper- cabdriver- beliness communication ort – football- hockey orating Life Skills with Values	terms, phraseating CV –Li ersation betwees they demo	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO4
mail writing: Formal Service Locabulary - GD - INIT- IV ist of Exercises istening Listen to identity, beaking Presental Interview eading Newspap NIT-V ist of Exercises istening fe Skills: Movie eamwork, Manage	mal and ist (GSI Written People recording awaying busing a market Incorp	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- beiness communication ort – football- hockey	terms, phraseating CV –Li ersation betwees they demo	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO2
mail writing: Fortieneral Service Lecabulary - GD - INIT- IV ist of Exercises istening Listen to identity, beaking Presental Interview eading NIT-V ist of Exercises istening Exercises istening Exercises istening For Skills: Movie eamwork, Managpeaking	mal and ist (GSI Written People recording a main wing busing a main wing busing a main wing busing Street Incorp	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- becomes communication art – football- hockey corating Life Skills with Values earning – identifying skills and valueses, Motivation, and Creativity	terms, phrase eating CV – Li ersation betwees they demoneggar- narrat	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO
imail writing: For General Service L ocabulary - GD - INIT- IV ist of Exercises istening Listen to identity, b peaking Presenta Interview leading Over view friting Newspap NIT-V ist of Exercises istening ife Skills: Movie eamwork, Manag peaking fork with an NGO	mal and ist (GSI Written People recording a main wing busing a main wing busing a main wing busing Street Incorp	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- beliness communication art – football- hockey corating Life Skills with Values earning – identifying skills and value	terms, phrase eating CV – Li ersation betwees they demoneggar- narrat	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO
imail writing: For General Service L ocabulary - GD - INIT- IV ist of Exercises istening Listen to identity, b peaking Presenta Interview leading Virting Newspap NIT-V ist of Exercises istening ife Skills: Movie eamwork, Manag peaking fork with an NGO eading	mal and mal an	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- becomes communication art – football- hockey corating Life Skills with Values earning – identifying skills and valueses, Motivation, and Creativity	terms, phrase eating CV – Li ersation betwees they demoneggar- narrat	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO
Email writing: Formal Service Locabulary - GD - INIT- IV List of Exercises Listen to identity, because Presental Interview Reading Newspap NIT-V List of Exercises Interview Reading Newspap NIT-V List of Exercises Interview Reading Reading Reading Reading Reading Newspap Viriting Reading Newspap	mal and ist (GSI Written People recording a main wing busing the Incorporate of the Incor	I informal -Verbal communication: Pro .), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- becomes communication art – football- hockey corating Life Skills with Values earning – identifying skills and value ass, Motivation, and Creativity akes a presentation, Table Topics special agazine - Journal	terms, phrase eating CV – Li ersation betwees they demoneggar- narrat	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO4
mail writing: Formal Service Locabulary - GD - INIT- IV ist of Exercises istening	mal and ist (GSI Written People recording a main wing busing street plants and main pers - Neurrent pers - Neu	I informal -Verbal communication: Pro), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- becomes communication out – football- hockey porating Life Skills with Values earning – identifying skills and value ass, Motivation, and Creativity akes a presentation, Table Topics special dagazine - Journal political scenario	terms, phrase eating CV – Li ersation betwees they demoneggar- narrat	es, idior fe skill - een a co nstrate e values	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO4
imail writing: Formal Service Locabulary - GD - INIT- IV ist of Exercises istening Listen to identity, beaking Presental Interview is adding Newspap NIT-V ist of Exercises istening Formal Skills: Movie earnwork, Managpeaking Interview is the standard of the skills: Movie earnwork, Managpeaking Interview is the standard of the skills: Movie earnwork, Managpeaking Interview is the standard of the skills: Movie earnwork, Managpeaking Interview is the standard of the skills: Movie earnwork, Managpeaking Interview is the skills: Movie earnwork, Managpeaking Interview is the skills: Movie earnwork, Managpeaking Interview is the skills: Movie earnwork is the skills	mal and ist (GSI Written People Peopl	I informal -Verbal communication: Pro -), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- besiness communication ort – football- hockey orating Life Skills with Values earning – identifying skills and value ess, Motivation, and Creativity akes a presentation, Table Topics special agazine - Journal political scenario on a topic	terms, phrase eating CV –Li ersation betwees they demoneggar- narrates s - Critical life	es, idior fe skill - een a constrate e values e skills	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwork sewer- Self-a	Enrichment nal business ork awareness -	CO4
mail writing: Formitieneral Service Lecabulary - GD - INIT- IV ist of Exercises istening	mal and ist (GSI Written People Peopl	I informal -Verbal communication: Pro), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- becomes communication out – football- hockey porating Life Skills with Values earning – identifying skills and value ass, Motivation, and Creativity akes a presentation, Table Topics special dagazine - Journal political scenario	terms, phrase eating CV – Li ersation betwees they demoneggar- narrat	es, idior fe skill - een a constrate e values e skills	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15	ocabulary fations, forn and teamwo	Enrichment nal business ork awareness -	CO4
mail writing: Formitieneral Service Lecabulary - GD - INIT- IV ist of Exercises istening Listen to identity, beaking Presental Interview eading Newspap NIT-V ist of Exercises istening Newspap NIT-V ist of Exercises istening fe Skills: Movie eamwork, Managpeaking /ork with an NGO eading Reading Newspa /riting ccident report - croject: Create a pecturePeriods:3	mal and ist (GSI Written People vector) with the people vector on the people vector on the people vector of the pe	I informal -Verbal communication: Pro -), Academic word list (AWL) technical Communication -Narrative writing – cr e Skills and Self-introspection ag and answer questions, Record convareness - stress management. avourite cricket captain-skills and valual- aid- watchman – sweeper- cabdriver- besiness communication ort – football- hockey orating Life Skills with Values earning – identifying skills and value ess, Motivation, and Creativity akes a presentation, Table Topics special agazine - Journal political scenario on a topic	terms, phrase eating CV –Li ersation betwees they demoneggar- narrates s - Critical lifech	es, idior fe skill - een a constrate e values e skills	ms, signi - Stress r elebrity a	of speech-\ ficant abbrevious anagement Periods:15 and an intervious anagement Periods:15 e Intelligence	ocabulary fations, forn and teamwork sewer- Self-a	Enrichment nal business ork awareness -	CO4

2. A. 11. 45

- Comfort, Jeremy, etal., "Speaking Effectively: Developing Speaking Skills for Business English", Cambridge University Press, Cambridge, Reprint 2011.
- Boove, Courtland L, "Business Communication Today", Pearson Education, New Delhi, 2002.

Reference Books

- English vocabulary in use Alan Mc'carthy and O'dell
- 2. APAART: Speak Well 1 (English language and communication) 3. APAART: Speak Well 2 (Soft Skills)
- 4. Business Communication Dr.SarojHiremath
- 5. Wren, Percival Christopher, and Wren Martin. "High School English Grammar and Composition". S Chand, 2005

Web References

- Train your mind to perform under pressure- Simon sinek https://curiosity.com/videos/simon-sinek-on-training-your-mind-to-perform-under-pressure-capture-your-flag/
- Brilliant way one CEO rallied his team in the middle of layoffs https://www.inc.com/video/simon-sinek-explains-why-you-should-put-people-before-numbers.html
- 3. Will Smith's Top Ten rules for success
 - https://www.youtube.com/watch?v=bBsT9omTeh0
- https://www.coursera.org/learn/learning-how-to-learn
- https://www.coursera.org/specializations/effective-business-communication
 - * TE Theory Exam, LE Lab Exam

COs/POs/PSOs Mapping

COs					Pro	gram O	utcome	es (POs) Selepai					gram Spe omes (P		
	P01	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3	
1	11000	nenen	กตุร ระก	Mag-	E.mms	onal o	Spud n	1 1 0 8 1 8	3 <u>1</u> 0 3 110	3	endas	100860	10311	d_naman	nii ar (<u>I</u> r)	
2	1	-	-	-	-	-	-	-	-	3	-	1	-	-	-	
3	1	-	- Util	Pames	-	-	-	1	-	m3/4pp	Len EUN LO	O 1 ni elel	1 1 msbn	JE '	- 14-	
4	1 - 50	ehogri	Skilis_i	<u>O</u> muek	i I - gm	nesign	D <u>P</u> a sa	1	Lyriq.	3	ālāv - ir	1000	1 40	Jao.hu.rb	8 <u>8</u> 0 18 2	
5	1	-	-	-	4 8 10	-	STILL RICE	1	Cio non	3	รถิเพิ่ม เกอ	1	1	er jugane ersa hida	- Rounnin	

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

na seus No		- Anna	station to	Continuous	Assessm	ent Marks (CA	M)	AX FO		End Semester		g Lucten
Assessment		Co		Assessment eory)		Conti	nuous Asse (Practical		rgs/"nn	(ESE) Marks (Practical –	End Semester Examination (ESE) Marks (Theory)	Total Marks
	CAT 1	CAT 2	Model	Attendance	Total	Conduction of Practical	Report	Viva	Total	Internal Evaluation)		reser- laterys
Marks	5	5	5	5	20*	15	10	5	30*	30 00 82	75**	v 7 9 7Ö
*To	be we	•	for 10 M		10	*To be weighted for 10 Marks				rar" disato 5) - lats air Lumba	*To be weighted for 50 Marks	100

Department	Comp Syste	outer Science and Business ms	Progra	ımme: B.	Tech.				
Semester	I		Course	e Catego	ry: ES	*End	d Semeste	r Exam T	уре:
Course Code	U230	CBP101	Per	iods / We	eek	Credit	Max	imum Mai	rks
omaso8-	ogran		plant Los	n tuc T min	P	C	CAM	ESE	TM
Course Name	And the second	DAMENTALS OF COMPUTER ENCE LABORATORY	09 70	0 309	2	PO3 PO4	50	50	100
Course	 To 	understand the basic concepts of proble	em solving	concepts.	ε	1 (;)	2	6 1	
Objectives	 To 	gain Knowledge about the syntax and s	emantics a	bout prog	ramming	g language.		8 8	
	 To 	learn the techniques of Pointers, Arrays	and Funct	ions in C.					
	 To 	be exposed to user defined data types t	to handle th	e files.				7	
	 To 	develop program using pre-processor d	irectives ar	d files.	\$	T , f		4 3	
		ompletion of the course, the students			3		<u> </u>	BT Ma (Highest	
Course Outcome	CO1	Develop Algorithm and Flowcharts.	desta _ c	em atro M .	C was f	- hilera Luon	- Levesta	K	3
Outcome	CO2	Develop program using tricky codes ar	nd paramete	er passing		- 4 1150 17 1101	Method	nolleui K	3
	CO3	Analyze problems and implement th	ose using	functions	5			K	3
	CO4	Design applications using Files concep	ots	COM SEUR	niimo0			K3	
	CO5	Analyze and discover searching progra	ms	ractical	ni ean	Perroma		K3	
List of Experime	10000	Lones Evantina			epocol.		l dnama	possa ()

List of Experiments:

- 1. Algorithm and flowcharts of small problems like GCD
- 2. Develop a Small but tricky codes
- 3. Develop a program with Proper parameter passing
- 4. Write a C program using Command line Arguments
- 5. Write a Program to understand about Variable parameter
- 6. Develop a program to illustrate the use of Pointer to functions
- 7. Write a program to explain the concept of User defined header
- 8. Write a program to analyze the importance of Make file utility
- Develop a program to elucidate Multi file program and user defined libraries
- 10. Develop a program with Interesting substring matching / searching programs
- 11. Write programs with Parsing related assignments

Lecture Periods: -	Tutorial Periods: -	Practical Periods: 30	Total Periods: 30
--------------------	---------------------	-----------------------	-------------------

- 1. B. W. Kemighan and D. M. Ritchi, "The C Programming Language", Second Edition, PHI.
- 2. B. Gottfried, Schaum, "Programming in C", Second Edition, Outline Series, 2017
- 3. E Balagurusamy ,"Programming in ANSI C", Fourth Edition, , TMH, 2007

Reference Books

- 1. Herbert Schildt ,"C: The Complete Reference", Fourth Edition , McGraw Hill, 2017.
- 2. Yashavant Kanetkar "Let Us C", BPB Publications 14th Edition, 2019
- 3. Pradip dey and Manas Ghosh, "Computer fundamentals and Programming in C", Oxford University Press, 2013

Web References

- 1. https://codeforwin.org/
- 2. https://www.geeksforgeeks.org/c-programming-language/
- 3. http://leam-c.org/
- 4. https://www.cprogramming.com/
- 5. http://cse02-iiith.vlabs.ac.in
 - * TE Theory Exam, LE Lab Exam

NON

COs/POs/PSOs Mapping

COs	83	MAC		5	Prog	gram O	utcome	es (POs)	Z T II CDW	m 20	e lasmi		Program Specific Outcomes (PSOs)		
	P01	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
1	3	2	1	1	3	2 4 0,31	not-gn	ale - mi	ido - n li	ยอะวาก	o si e nd	of the Edit	3	∉1	-931	
2	3	2	1_3	an 1 na	00 3 m	argeng.	uods a	drizma	s bas v	anya erti	nude s	ibuyyoni	3	_ 1	7.0%2.05	
3	3	2	1-	1	3	Q III	STODON STODON	ri ens	ATE BYS	Political Post Hos	tela ven	FARITE A	3	1	-	
4	3	2	1	1	3	- 26	ii bīna :	สนา สนาโมสา	o idead	วศาจ-ีะกจ	อกระบาทา	icola de	3	₃ 1	-	
5	8 3	ż	1	1	3	-	ab <u>i</u> de ti	ac llive	rinebu	e, the st	umaa at	to non	3	· 1	-	

Correlation Level: 1 - Low, 2 - Medium, 3 - High Evaluation Method

	C	Continuous	Assessi	ment Marks (CAN	A) parteu and i solli	geingund Mad	Total Marks	
Assessment		ce in practi asses	cal	ansigora gain Model	on securor seas	End Semester Examination		
	Conduction of practical	Record work	viva	Practical Examination	Attendance	(ESE) Marks		
Marks	15	5	5	15	remug 10 on the	50 20 75	100	

4.04

Department	Med	chanical Engineering	Progra	amme :	B.Tech.			synt latel				
Semester	ı		Cours	e Categ	ory: ES	End	Semeste	r Exam 7	ype: LE			
Course		Sacre yla ovar spiniceso	Pe	riods/We	eek	Credit	Max	imum M	arks			
Code	U23E	ESPC02	Las	T	Р	С	CAM	ESE	TM			
Course Name	DESI	GN THINKING AND IDEA LAB	0 0 2 1 50 50 1									
	(C	ommon to ALL Branches)	r onlice by	S EBOLDE	alla mw b	en 35 profe	O omiutas	, pairams	ioaaa .			
Prerequisite	Basic	Knowledge of Science	tiC brate	16-8 107F	J pogg	ethis biggs	WA.W.	vinod, PK	uneV .			
	On c	ompletion of the course, the students	will be able	e to	Pagy Vet	ir riseli que	.t, "Morks		apping est Level)			
	CO1 Demonstrate a comprehensive understanding of the tools and inventory associated with the IDEA Lab.											
	CO2	Develop proficiency in ideation technique various design challenges and problem		erate cre	ative and	innovative s	olutions for	•	K3			
Course		Acquire practical knowledge of mechan				•	** LUI 101 LUI 1017		COMP			
Outcomes	CO3	hands-on experience with machinery, to assembly of physical components.	ools, and to	echnique	s used in	the manufac	cturing and		K3			
		Cultivate the skills necessary for develo	ping innova	ative and	desirable	products, in	cluding the		800			
10084	CO4	ability to integrate user needs, marke design process.	t trends, a	nd techn	ological a	advancemen	ts into the	P01	K4			
	CO5	Apply iterative design methodologies to user testing, and evaluation of functions					feedback,	4 1	K4			

Design process: Traditional design, Design thinking, Existing sample design projects, Study on designs around us, Compositions/structure of a design, Innovative design: Breaking of patterns, Reframe existing design problems, Principles of creativity Empathy: Customer Needs, Insight-leaving from the lives of others/standing on the shoes of others, Observation

Design team-Team formation, Conceptualization: Visual thinking, Drawing/sketching, New concept thinking, Patents and Intellectual Property, Concept Generation Methodologies, Concept Selection, Concept Testing, Opportunity identification Prototyping: Principles of prototyping, Prototyping technologies, Prototype using simple things, Wooden model, Clay model, 3D printing; Experimenting/testing.

Sustainable product design, Ergonomics, Semantics, Entrepreneurship/business ideas, Product Data Specification, Establishing target specifications, Setting the final specifications. Design projects for teams.

List of Lab Activities and Experiments

- 1. Schematic and PCB layout design of a suitable circuit, fabrication and testing of the circuit.
- 2. Machining of 3D geometry on soft material such as softwood or modelling wax.
- 3. 3D scanning of computer mouse geometry surface. 3D printing of scanned geometry using FDM or SLA printer.
- 4. 2D profile cutting of press fit box/casing in acrylic (3 or 6 mm thickness)/cardboard, MDF (2 mm) board using laser cutter & engraver.
- 5. 2D profile cutting on plywood /MDF (6-12 mm) for press fit designs.
- 6. Familiarity and use of welding equipment.
- 7. Familiarity and use of normal and wood lathe.
- 8. Embedded programming using Arduino and/or Raspberry Pi.
- 9. Design and implementation of a capstone project involving embedded hardware, software and machined or 3D printed enclosure.
- 10. Discussion and implementation of a mini project.
- 11. Documentation of the mini project (Report and video).

Lecture Periods: -	Tutorial Periods: -	Practical Periods: 30	Total Periods: 30
Text Books			
1. Tim Brown, Change by [Design: How Design Thinking Tra	ansforms Organizations and Inspires In	novation, HarperCollins Publishers
Ltd		-	
2. Workshop / Manufacturi	ng Practices (with Lab Manual), l	Khanna Book Publishing.	

Reference Books

N-BK

- 1. Ulrich and Eppinger, Product Design and Development, 3rd Edition, McGraw Hill, 2004
- 2. The Big Book of Maker Skills: Tools & Techniques for Building Great Tech Projects. Chris Hackett. Weldon Owen; 2018.
- 3. The Total Inventors Manual (Popular Science): Transform Your Idea into a Top-Selling Product. Sean Michael Ragan, Weldon Owen; 2017.
- 4. The Art of Electronics. 3rd edition. Paul Horowitz and Winfield Hill. Cambridge University Press.
- 5. Practical Electronics for Inventors. 4th edition. Paul Sherz and Simon Monk. McGraw Hill.
- Make Your Own PCBs with EAGLE: From Schematic Designs to Finished Boards. Simon Monk and Duncan Amos. McGraw Hill Education.
- 7. Programming Arduino: Getting Started with Sketches. 2nd edition. Simon Monk. McGraw Hill.
- 8. Venuvinod, PK., MA. W., Rapid Prototyping Laser Based and Other Technologies, Kluwer
- 9. Chapman W.A.J, "Workshop Technology", Volume I, II, III, CBS Publishers and Distributors, 5th Edition, 2002.

Web References

1. https://onlinecourses.nptel.ac.in/noc23_mg72

COs/POs/PSOs Mapping

COs	=	Program Outcomes (POs)												Program Specifi Outcomes (PSO		
421	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PS01	PSO2	PSO3	
1	3	2	2	2	2	2	-	-	2	-	3	2	design	-	-	
2	3	3	3	2	2	2	THE EAST	elli J	2	lou arre.	3	2	Addie.	808	_	
3	3	3	3	2	3	2	-	-	2		3	2	7 7 5 5 W	-	-	
4	3	3	3	2	3	2	-		2	-	3	2	-	-	-	
5	3	3	3	2	3	2	C QPT BA	Quies	2	Battite I	3	2	er erinos t	12-5311	ed th	

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Methods

			Assessn	nent Marks (CAM	nullingun to the re	mur E marebia	v na eldsn	
Assessment	Performance i	in practical	classes	Model	dice lons. Design	End Semester Examination	Total Marks	
	Conduction of practical	Record work	viva	Practical Examination	Attendance	(ESE) Marks	Sohen 30	
Marks	sod (m15 ²⁾ 304	5 5	Vec 5	mrn (15 %) oilsi	6 of 2010 10 and	1 e 29 m 50 m 100	100	



Department	Med	hanical Engineering	Progra	amme: I	B.Tech.				
Semester	i s ii teo	0.00	Cours	e Categ	ory: ES	En	d Semeste	r Exam T	ype: LE
Course	P801	ross Port Port Pos	Per	iods/W	eek	Credit	Max	kimum M	arks
Code	U23E	SPC03	- L -	- T	- P	С	CAM	ESE	TM
Course Name	ENGII AUTO	NEERING GRAPHICS USING ICAD	0	Q	2	1	50	50	100
2	3	(Common to all Branches)			- 1	-		1	ε .
Prerequisite	Nil	. E - S	!		- 1 5	*	- 4	ε	b i
	On c	ompletion of the course, the students w	rill be able	e to	- : &		- 1	1	apping est Level)
	CO1	Familiarize with the fundamentals and st	andards o	f engine	ering grapl	nics.	tileval m	A slavano	K3
Course	CO2	Perform drawing of basic geometrical co	nstruction	s and mu	ultiple view	s of object	s.		K2
Outcomes	CO3	Visualize the isometric and perspective s	sections of	simple	solids.		NETTY:	. The triangle	K3
	CO4	Connect side view associate on front vie	sment f.W	assea a	enonaino:	9			K4
	CO5	Correlate sectional views and lateral sur	face devel	opments	of various	solids.			K4

List of Experiments

- Study of capabilities of software for Drafting and Modeling Coordinate systems (absolute, relative, polar, etc.) Creation of simple figures like polygon and general multi-line figures.
- Drawing a Title Block with necessary text and projection symbol.
- Drawing 2D sketch by applying modify tools like fillet, mirror, array, etc.,
- Drawing front view and top view of simple solids like prism, pyramid, cylinder, cone, etc., and Dimensioning.
- Drawing front view, top view and side view of objects from the given pictorial views (eg. Simple stool, V-block, Mixie Base).
- Drawing a plan of residential building (Two bed rooms, kitchen, hall, etc.)
- 7. Drawing sectional views of prism, pyramid, cylinder, cone, etc,
- Drawing lateral surface development of prism, pyramid, cylinder, cone, etc,
- Drawing isometric projection of simple objects.
- 10. Creating 3D model of simple object and obtaining 2D multi-view drawings.
- 11. Note: Plotting of drawings must be made for each exercise and attached to the records written by Students.

Lecture Periods: -	Tutorial Periods: -	Practical Periods: 30	Total Periods: 30
Reference Books			
1. James D. Bethune, En	gineering Graphics with AutoCA	D A Spectrum book 1st Edition, Macro	media Press, Pearson, 2020.
2. NS Parthasarathy and	Vela Murali, Engineering Drawin	ng, Oxford university press, 2015.	
3. M.B Shah, Engineering	Graphics, ITL Education Solution	ons Limited, Pearson Education Public	cation, 2011.
4. Bhatt N.D and Pancha	V.M, Engineering Drawing: Plan	ne and Solid Geometry, Charotar Publi	shing House, 2017.
5. Jeyapoovan T, Engine	ering Drawing and Graphics Usin	g AutoCAD, Vikas Publishing House Pv	t Ltd., 7th Edition, New Delhi, 2016
6. C M Agrawal, Basant A	grawal, Engineering Graphics, N	McGraw Hill, 2012.	
7. Dhananjay A. Jolhe, Er	ngineering Drawing: With An Intr	oduction To CAD McGraw Hill, 2016.	
8. James Leach, AutoCAI	D 2017 Instructor, SDC Publicati	ons 2016	

- 1. http://vlabs.iitb.ac.in/vlabs-dev/labs/mit_bootcamp/egraphics_lab/labs/index.php
- 2. http://www.nptelvideos.in/2012/12/computer-aided-design.html
- https://mech.iitm.ac.in/meiitm/course/cad-in-manufacturing/ 3.
- 4. https://autocadtutorials.com
- https://dwgmodels.com

COs/POs/PSOs Mapping

COs	E mass :	Program Outcomes (POs)											Prog Outo	ram Spe omes (P	ecific SOs)
والريد	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3
1	3	114	J=		3			- j- ;	3	-	-	2	3	3	3
2	3	1	a -	11-	3	-	3-	13.	3	o'Yio	. S-180.	3	3	3	3
3	3	1	-	-	3	-	=	-	3	-	es nānm	3	3	3	3
4	3	1	-	-	3	-	-	-	3	-	-	2	3	3	3
5	3	1	-	-	3	-	CH sh	in sd v	3	but • 6 d	,682.0J	3	3	3	3

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

		Continuous	Assess	ment Marks (CAN	(I) en docase aren	Phanacal ards	00	
Assessment	100	ce in practi asses	cal	Model		End Semester Examination	Total Marks	
notice () - Creation	Conduction of practical	Record work	viva	Practical Examination	Attendance	(ESE) Marks	atury or cap	
Marks	15	5	5	varia no15m felmi	avi alo 10 diboni	50	100	

N-BX

2.A.11.52

Department	Comp Syster	uter Science and Business ns	Progra	mme: B	.Tech.					
Semester	1		Course	Catego	ory: MC	Er	d Semest	er Exa	am Tv	pe: -
Course Code	11230	BM101	Peri	ods / W	eek	Credit			m Mar	·
	0230		L	T	ng P.	The or Camp	CAM	ES	SE	TM
Course Name	Induc	ction Programmักg	5134 TUT . 2011.0	gair <u>t</u> a-	- Innegn	Non-Cred	it 200		<u>a</u>	-
Prerequisite	-									
	On co	mpletion of the course, the stude	ents will be ab	le to					BT Ma Highes	
Course Outcomes	CO1	Develop holistic attitude and harm	nony in the ind	vidual, f	amily, an	d Society				(2
	CO2	Acquire grammar skills and capat	ole to write and	speak	English c	onfidently	zi fa	erdia e	no in K	(2
	CO3	Understand the basic concepts in	Mathematics	and Pro	grammin	a				(2
	CO4	Know about the art and culture, la					tion			2
	CO5	Identify the inherent talent and de				or occuran me				
UNIT-I		rsal Human Values	velop it profes	Sicrially		Periods: 1	laconses.	ALL		(3
Expectations of F Management, An Hostel life, Rela Competition and	Family, I ger, Str itionship Cooper	ons - Getting to know each other Peers, Society, Nation, Fixing one's ess Personality Development, Self-i os - Home sickness, Gratitude to ation, Peer Pressure, Society - Part tion, Need for a Holistic Perspective	s Goals, Self-N mprovement, l wards Parent ticipation in So	lanager lealth - s, Teac ciety, N	nent - Se Health is hers and atural Er	elf-confidence sues, Health d others Ra avironment -	e, Peer Pre y diet, Heal gging and Participatio	ssure, thy life intera	Time style, ction.	CO-
ILTINU		iency in English	, John Grandan		T	Periods: 12				
		Prognostic test on Grammar - Sy	nonvms. Anto	nvms	Tenses			Idioms	and	
Agreement - Wri	ting - Pa	stitution, Homophones, Homonyms aragraph writing, Letter writing, Essa	ay writing, Stor							CO2
UNIT-III Mathematics:	Bridge	Course in Mathematics and C Pr	rogramming		-	Periods: 12				
Fundamentals of Continuity of a functions containing Definite integrated by Programming: Programming: Programming: Eatures of C and Statements - Continuity of Continuity Con	unction mentary erentiati ing linea als. Sim surface tits bas trol and	ic Structure - Keywords - constants Looping statement - Arrays - Funct	ept of derivati vatives of inver ntiation of impl decomposition of Definite in - variables - o	ve - Slo se funct icit func method, itegrals perators	pe of a cions - Lo tions - Hi method - Reduc	curve -Differ garithmic diff igher order c of substitutio tion formula types - Form C programs.	entiation To erentiation erivatives. n, integration e - Area ar atted input	echniq - Meth Integra on by p nd volu	ues - od of als of parts) ime -	CO3
VI-TINU		y Activities				Periods: 12				
Гeam building act மரபு மற்றும் தமிழ		Quiz - Oral Exercises - Group discu ல்நுட்பம்.	ission, Debate	Extemp	oore, Rol	e play, சிறப்ப	ு சொற்பொழ	pிவு - த	மிழர்	CO4
JNIT-V	Creativ	ve Arts				Periods: 12			L	
ntroduction to pa Classical, Cinema	ainting a atic - Mir	and renowned artworks - Documer micry - Mime.	ntary and Sho	ort films	-Music	-Vocal, Instr	umental - D	ance ·	-	CO5
ecture Periods:	60	Tutorial Periods: -	Practical	Period	s: -	T	otal Period	s: 60		
eference Books						<u></u>				
2 nd Revised 2. Kumar Moha	Edition, an R, "E	na, G.P. Bagaria," A Foundation Co 2019. nglish Grammar for all (Functional a d A-Z of Grammar and Punctuation,	and Applied G	ammar)	", Unicar			l Book	s, New	Delhi

- Seely, John," Oxford A-Z of Grammar and Punctuation, Oxford Publication, 2013.

 B.V. Ramana," Higher Engineering Mathematics", Tata McGraw Hill, New Delhi, 6th Edition, 2018.

 Dr. A. Singaravelu, "Engineering Mathematics I", Meenakshi publications, Tamil Nadu, 2019.

 E. Balagurusamy, "PROGRAMMING IN ANSI C", Mc Graw Hill, 8th Edition, 2019.
- 5.
- Dr.K.K.Pillay, "Social Life of Tamils", A joint publication of TNTB & ESC and RMRL
- 8. R.Balakrishnan, "Journey of Civilization", Roja muthiah research publishers, 1st Edition 2019
- தமிழக வரலாறு மக்களும் பண்பாடும், பிள்ளை, கே. கே. , சென்னை : உலகத் தமிழாராய்ச்சி நிறுவனம் , 2002.
- 10. கணினித்தமிழ் முனைவர் இல.சுந்தரம், விகடன் பிரசுரம்.

11. கீழடி - வைகை நதிக்கரையில் சங்க கால நகர நாகரிகம், தமிழக தொல்லியல் துறை

Web References

- 1. http://www.newsociety.com/Books/S/Slow-isBeautiful
- 2. https://www.aplustopper.com/formal-letter/
- 3. https://www.javatpoint.com/c-programming-language-tutorial
- http://www.math.cum.edu/~wn0g/2ch6a.pdf
- https://education.nsw.gov.au/teaching-and-learning/curriculum/creative-arts

Evaluation methods

Assessment	G121.3833589	Continuous A	Assessment Marks (CAM)	Total Marks	
	Attendance	MCQ Test	Presentation / Activity / Assignment	- rechricher	
Marks	10 121	30 4 9 4	(Lonality Developmoo) Primprove that	100	



2.A.11.54

Department	Mati	nematics	Prograr	nme: B.	Tech.		F - ; JEE		
Semester	11		Course	Catego	ry: BS	*En	d Semeste	er Exam T	ype: T
			Perio	ds / We	eek	Credit		imum Ma	
Course Code	U231	WAT203	e 201 Letter	PET ST	Р	С	CAM	ESE an	TM
Course Name		STATISTICAL METHODS AND MODELLING	3		0	10%	25	75	100
	1)	To learn basic concepts of a few statis problems occurring in engineering and	tical and give technology.	e proced	lures for s	olving nume	rically differ	ent kinds o	f
Course	2)	It is framed to address the issues and	the principle	s of estir	nation the	eory.	*	3 2	
Objectives	3)	To learn the concept of testing of hypo	thesis using	statistica	al analysi	s.	\$ 1	4 3	
	4)	Identify the direction and strength of a	linear correla	ation bet	ween two	factors.		9 3	
	5)	Analyze the data on agriculture field ex	periments u	sing vari	ous types	of designs t	hev learned		
		ompletion of the course, the students						BT Ma	
CIO	CO1	Understand the basic concepts of Stati	stics					(Highest	
		Consistency, efficiency and unbiased r		atore m	othod of	maximum like	ماناه	- AND THE REAL PROPERTY.	
	CO2	estimation and Central Limit Theorem.	icaa or caliir	iators, m	elilou oi i	naximum iiki	elinood	K	3
Course Outcome	CO3	Apply the concept of testing of hypothe	sis for small	and larg	je sample	s in real life	problems.	K	2
	CO4	Concept of linear regression, correlati	on, and its a	pplicatio	ns.	Page as	vv A	K	3
	CO5	List the guidelines for designing exp Design of Experiments.	eriments an	d recog	nize the	key historica	I figures in	K	
UNIT-I	Meas	ures of Dispersion			-	(9Hrs)	c/w/d	.L	
Standard Devia		Mean Deviation – Quartile Deviation –	Range -M	easures			earson's co	efficient o	f
kewness– Mome	nts abo	out the arbitrary origin and moments bas	ed on measi	ires of sl	kewness	and kurtosis.	00.00.10 00	CITIOICITE O	CO1
UNIT-II	Estim	ation Theory			T				ļ
- · · · · ·		audii illediy			1 (9Hrs)			
=		s, Consistency, Efficiency and sufficience	y – Maximur	n likeliho		(9Hrs) ation – Metho	od of mome	nts.	CO2
stimators: Unbias	sednes		y – Maximur	n likeliho	ood estim	ation – Metho	od of mome	nts.	CO2
stimators: Unbias UNIT-III ampling distributi	Testir	s, Consistency, Efficiency and sufficience ng of Hypothesis Small and large samples –Tests based o	on Normal, t,	Chi squ	ood estim	ation – Metho			
stimators: Unbias UNIT-III ampling distributi	Testir	s, Consistency, Efficiency and sufficienc	on Normal, t,	Chi squ	ood estim	ation – Metho			THE CONTRACTOR OF THE CONTRACT
stimators: Unbias UNIT-III ampling distributi	Testir ons – S ortions	s, Consistency, Efficiency and sufficience ng of Hypothesis Small and large samples –Tests based o	on Normal, t,	Chi squ	ood estim (are, and	ation – Metho			CO2
Stimators: Unbias UNIT-III ampling distributi ariance and proport UNIT-IV orrelation –Rank	Testirions – Sortions Corre	s, Consistency, Efficiency and sufficience ng of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent)	on Normal, t, ent) Goodne correlation	Chi squ ss of fit.	ood estim (are, and	ation – Metho 9Hrs) F distribution 9Hrs)	s for testing	of means,	The state of the s
Stimators: Unbias UNIT-III ampling distributi ariance and proport UNIT-IV orrelation –Rank	Testirions – Sortions Corre correlaple con	s, Consistency, Efficiency and sufficience ong of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent lation and Regression ation— Regression—Multiple and partial	on Normal, t, ent) Goodne correlation	Chi squ ss of fit.	are, and (d of leas	9Hrs) F distribution 9Hrs) t squares –	s for testing	of means,	CO3
Stimators: Unbias UNIT-III ampling distributi ariance and propo UNIT-IV orrelation —Rank oefficient of multi	Testirions — Sortions Corre correlaple con	s, Consistency, Efficiency and sufficience ong of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent lation and Regression ation— Regression –Multiple and partial relation – Coefficient of partial correlation n of Experiments	on Normal, t, ent) Goodne correlation	Chi squ ss of fit. – Metho	are, and (d of leas	9Hrs) F distribution 9Hrs) t squares –	s for testing	of means,	CO3
stimators: Unbias UNIT-III ampling distributi ariance and propo UNIT-IV orrelation –Rank oefficient of multi UNIT-V nalysis of variance	Testirions — Sortions Corre correlaple con Desig	s, Consistency, Efficiency and sufficience ong of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent lation and Regression ation— Regression –Multiple and partial relation – Coefficient of partial correlation of Experiments we way and two-way classifications – Co	on Normal, t, ent) Goodne correlation	Chi squ ss of fit. – Metho	are, and (d of leas	9Hrs) F distribution 9Hrs) t squares –	s for testing	of means,	CO3
stimators: Unbias UNIT-III ampling distribution ariance and proportion —Rank coefficient of multion —Nationally sis of variance quare design - 22 ext Books	Testirions — Sortions Corre correla ple con Desig Factori	s, Consistency, Efficiency and sufficience ong of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent lation and Regression ation— Regression –Multiple and partial relation – Coefficient of partial correlation of Experiments we way and two-way classifications – Coefficient of coefficients and design.	on Normal, t, ent) Goodne correlation n. mpletely ran	Chi squ ss of fit. – Metho	ood estim (are, and (d of leas (d design -	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize	s for testing Plane of re d block des	of means, gression – ign – Latin	CO4
UNIT-III ampling distributivariance and proportion —Rank poefficient of multivaries of variance design - 22 ext Books Richard A. John	Testirions — Sortions Corre correla ple con Desig Factori	s, Consistency, Efficiency and sufficience ong of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent lation and Regression ation— Regression –Multiple and partial relation – Coefficient of partial correlation of Experiments we way and two-way classifications – Co	on Normal, t, ent) Goodne correlation n. mpletely ran	Chi squ ss of fit. – Metho	ood estim (are, and (d of leas (d design -	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize	s for testing Plane of re d block des	of means, gression – ign – Latin	CO4
unit-iii ampling distribution ariance and proportion —Rank coefficient of multion —National proportion —Rank coefficient of multional proportional	Testirions — Sortions Corre correlaple com Desig ce — On Factori nnson,	s, Consistency, Efficiency and sufficience or of Hypothesis Small and large samples –Tests based of Contingency table (test for independent) lation and Regression ation – Regression –Multiple and partial relation – Coefficient of partial correlation of Experiments we way and two-way classifications – Coefficient of the company of the coefficient	correlation n. mpletely ran bility and Sta	Chi squ ss of fit. – Metho	d of leas d design -	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize ers", Pearson	s for testing Plane of re d block des n Education	gression – ign – Latin , Asia, 9 th	CO2
UNIT-III ampling distribution ariance and proposition and proposition ariance ariance ariance ariance ariance design - 2° axt Books Richard A. John 2018. Murray R. Spe Gupta. S. C., a Mood, A.M., G	Testirions — Sortions Corre correlaple com Desig ce — On Factori nnson, ggel, La and Kap raybill,	s, Consistency, Efficiency and sufficience on of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent lation and Regression ation— Regression –Multiple and partial relation – Coefficient of partial correlation of Experiments are way and two-way classifications – Coefficient of the coefficient o	correlation n. mpletely ran bility and Statistics" Mc. cal Statistics	Chi squ ss of fit. – Metho adomized atistics for Graw Hi ", Sultan of Statist	d of leas I design Trengine II Educati Chand a	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize ers", Pearson on, 6th Editind Sons, 11th	s for testing Plane of re d block des n Education on ,2017.	gression – ign – Latin , Asia, 9 th	CO2
stimators: Unbias UNIT-III ampling distribution ariance and proposition and proposition ariance aria	Testirions — Sortions Corre correlaple com Desig ce — On Factori nnson, egel, La and Kap raybill, and W	ng of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent) Indication and Regression ation— Regression—Multiple and partial relation— Coefficient of partial correlation of Experiments The way and two-way classifications— Coefficient of the coefficient o	correlation n. mpletely ran bility and Statistics" Mc. cal Statistics on to theory	Chi squ ss of fit. – Metho adomized atistics for Graw Hi ", Sultan of Statistis", Pear	d of leas The Engine Il Educati Chand a tics", McGson Educati	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize ers", Pearson on, 6th Edition ond Sons, 11th Graw Hill. ucation, Asia	s for testing Plane of re d block des n Education on ,2017. h Edition, 20	gression – ign – Latin , Asia, 9 th	CO2
UNIT-III ampling distribution ariance and proportion ariance and proportion of the control of th	Testirions — Sortions Corre correlaple com Desig ce — On Factori nnson, egel, La and Kap and Kap and W g, "Adva nd Gre	ng of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent) Interpolation and Regression ation— Regression — Multiple and partial relation — Coefficient of partial correlation of Experiments It was and two-way classifications — Coefficient of partial correlations and design. It win Miller and John E. Freund, "Probatory J. Stephens, "Schaum's Outlines—Stephens, "Schaum's Outlines—Stephens, U.K., "Fundamentals of Mathematic A.M. and Boes, D.C. (1974): "Introduction of the company of the coor, V.K., "Applied Multivariate Statistic anced Engineering Mathematics", John Wester St., "Numerical Methods in Engine	correlation n. mpletely ran bility and Statistics" Mc. cal Statistics on to theory stical Analys Wiley & Sons ering and Sc	Chi squ ss of fit. – Metho domized atistics for Graw Hi ", Sultan of Statistis", Pear	ood estim (are, and (d of leas r Engine Il Educati Chand atics", McG son Ed	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize ers", Pearson on, 6th Edition od Sons, 11th Graw Hill. ucation, Asia Edition, 2019 on, Khanna I	s for testing Plane of re d block des n Education on ,2017. h Edition, 20 n, 6th Edition	gression – ign – Latin , Asia, 9 th 102. , 2007.	CO4
UNIT-III ampling distribution ariance and proportion ariance and proportion of multiple of the proportion of the proport	Testirions — Sortions Corre correlaple com Desig ce — On Factori nnson, egel, La and Kap and Kap and W g, "Adva nd Gre	ng of Hypothesis Small and large samples –Tests based of — Contingency table (test for independent) Indication and Regression ation— Regression—Multiple and partial relation— Coefficient of partial correlation of Experiments The way and two-way classifications— Coefficient of the coefficient o	correlation n. mpletely ran bility and Statistics" Mc. cal Statistics on to theory stical Analys Wiley & Sons ering and Sc	Chi squ ss of fit. – Metho domized atistics for Graw Hi ", Sultan of Statistis", Pear	ood estim (are, and (d of leas r Engine Il Educati Chand atics", McG son Ed	9Hrs) F distribution 9Hrs) t squares – 9Hrs) - Randomize ers", Pearson on, 6th Edition od Sons, 11th Graw Hill. ucation, Asia Edition, 2019 on, Khanna I	s for testing Plane of re d block des n Education on ,2017. h Edition, 20 n, 6th Edition	gression – ign – Latin , Asia, 9 th 102. , 2007.	CO4

Web References

- 1. 1.://nptel.ac.in/courses/110/105/110105087/
- 2. https://nptel.ac.in/courses/111/105/111105077/
- 3. https://www.coursera.org/learn/basic-statistics
- 4. https://www.youtube.com/watch?v=k3lUo0XYG3E

NOW

* TE - Theory Exam, LE - Lab Exam

COs/POs/PSOs Mapping

COs	HAUHUA BAJI	pAA.	, 100	i Su Gr	Prog	gram O	utcome	es (POs	5)		ŭ,	Program Specific Outcomes (PSOs)			
	P01	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3
1	2	1		-	-	-	-	-	-	. <u>-</u>	F11:0 2:=15	Colonia Coloni	1	1	_
2	3	2	1	1		-	-,3	байрс	b Tab	na_=inn	in prop	000 - 2 115	2	1	1
3	2	1	-	-10-	arit-no	gripes e	'c ## gi	Hold 60	, -cs ×	tug-4 and	8-820 4	şi deme.	1	ti.	-
4	3	2	1	1	arra h	19-55	N/v=	v == 5.	sugurl le	gm4s at	Q R 4-3 dr	and in	2	6.1	1000
5	3	2	1	ad a	pv(÷ n.:	r/v/ev i	5-7-s	7 Y 140	81.1	<u>-1</u> 1- [:	E NOTE OF	et s <u>u</u> b vi	2	7	1

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

		Contin	uous Asse	ssment Marks (C	CAM)	End	i e
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	1	0	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

4.of

Department	Math	ematics	Progran	nme: B	.Tech.				
Semester	11		Course	Catego	ry: BS	*En	d Semeste	r Exam T	ype: T
Course Code	11231	WAT204	Perio	ds / W	eek	Credit	Maxi	mum Mai	rks
	0201		<u> </u>	T	P	C	CAM	ESE	TM
Course Name	.g.covti	LINEAR ALGEBRA	[8 9 3 mo	14(11)	0	4	25	75 200	100
	1)	To familiarize the concept of Linear		9 20	1 809	1.409 . 604	9 309 1	09	
FCourse	2)	To know determinant of a matrix an	d the solution o	f simu	taneous	linear equatio	ns.	<u> </u>	
Objectives	3)	To learn linear dependence and line		ce in ve	ctor spac	e.			
	4)	Understand the characteristics of m				+			
)	5)	To acquaint with the concepts of dif	ferential and int	egral ca	lculus		1 2		
, f	On c	ompletion of the course, the stude	nts will be able	to				BT Ma	
	CO1	Analyze the concepts of Linear Alge	ebra.	auie off	. C. wo.	I- Fileveli n	Correlatio	(Highest	
	CO2	Solve systems of linear equations.						K3	
Course		Recognize and use basic propertie		and ve	ctor spac	es Identify th	e dimension		
Outcome	CO3	of a vector space.					bonten	K2	
	CO4	Find Eigen values and eigen ver Positive definite and similar matrice		zation (of a mat	rix, Symmetri	c matrices,	K3	3
	CO5	Evaluate double integral and triple		аА, гис	urbne2			K2)
UNIT-I	Matri		3	Marke	TAC	(9Hrs)	smease 3A	112	-
using the tools of I		r Space				(9Hrs)			
ector space, Sub	space,	Dimension, Geometric interpretations	s, Linearly inde	endeni	. Basis, (CO3
UNIT-IV	Eigen	Values and Eigen Vectors				(9Hrs)			
Eigenvalues and	Eigenv	ectors; Positive definite matrices; Lin	ear transformat	ons; He	ermitian a		trices.		CO4
UNIT-V	Calcu	lus			and protective and	(9Hrs)		r	
sasic concepts of I	Differer	ntial and integral calculus, application	of double and t	riple int	egral.				CO5
ext Books					N. M. C. T. TANKS THE RESIDENCE SECTION.				<u> </u>
. Gregory Hartn . G. Balaji, "Line Reference Books . Peter V. O'Nei . Michael. D. Gr . Gilbert Strang, . P. N. Wartikar	nan, "Frankar Alga I, "Adva eenber "Introc & J. N.	a Publishers, "Higher Engineering Ma undamentals of Matrix Algebra", Virgi ebra and Partial Differential Equations anced Engineering Mathematics", (Se og, "Advanced Engineering Mathemat duction to linear algebra", (Fifth Edition Wartikar, "Applied Mathematics" (Vo evanced Engineering Mathematics", P	nia Military Insti s: Balaji Publish eventh Edition), ics", Pearson, 2 n), Wellesley-Call I & II), Pune V	tute, AF er,3 rd E Cengaç nd Editio ambridç 'idyarth	PEX Calc dition 20 ge Learni on 2013. ge Press, GrihaPr	ulus <u>.</u> Copyrigh 17 ng,7 th Edition 2016 akashan, 201	nt Year: 2011		
leb References	3, 7,0				Jona Luli				
https://mashir-l-		mastery.com/introduction-matrices-m		7					

^{*} TE - Theory Exam, LE - Lab Exam

3. https://nptel.ac.in/courses/111108098/

4. https://youtu.be/wo - Vag3yls

N-ph

COs/POs/PSOs Mapping

COs	āŸ	Program Outcomes (POs) Program Specific Outcomes (PSOs)															
	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3		
1	2	1	anoltar	os san	l'ages	sramia	Эё на	nyle t s	u b a an	atem a j	uni c uiri.	éyska muli	101	(8 _	_		
2	3	2	1	1	rostia i	otasir ni	ecifieh	is 15h n	raejail.	ne Bons	en électé a	arru jub	2	err _			
3	2	1	-	-	-	-	-	-,191	tha - d Mi	aad i ntan		e i i i jagen	OF 1	78	1		
4	3	2	1	1	-201	ist te	e sted b		1672 N 1	1 (r=45/r)	e uet dit	e ingalija.	2	2	1		
5	2	1	_	_	-	_	_	_	_	_		_	2	1	1		

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

		Contin	uous Asse	ssment Marks (C	CAM)	End SV	70.3
Assessment	CAT	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	5 % B III	0 5 7 7	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Michael: D. Gasenoger, "Edval nonlibrighe oung Mathematics", Repeace 21th Edition 2018

4-DK

Semester	<u>lii</u>		Course	Catego	ory: HS	*Er	nd Semeste	r Exam	Type: 1
0		IOTO04	Perio	ods / W	eek	Credit	1	imum Ma	
Course Code	U231	IST201	L	T	P	C	CAM	ESE	TN
Course Name	FUN	DAMENTALS OF ECONOMICS	2	0	0	2	25	75	100
T t nbode	1)	To develop an understanding of the fra response to incentives and consider he	mework that ow these ch	it econo oices ca	mists use n also se	to analyse c	hoices made I interest.	by indivi	duals ir
	2)	To Measure how changes in price and	income affe	ect the b	ehaviour	of buyers and	d sellers	J. 1 36	7-2
Course Objectives	3)	To analyze how buyers and sellers into	eract in a fre	e and co	ompetitive	e market to de	etermine pric	es and q	uantitie
	4)	To evaluate macro-economic performa	ince using ir	ndicators	that incl	ude output m	easures and	unemplo	yment
	5)	To understand the strengths and weak stabilization policy for a given macroed	ness of fisca	al and m ation	onetary p	olicy to deter	mine an app	propriate	*
	On co	ompletion of the course, the students	will be able	e to			The state of the s	BT Ma	apping
	CO1	Infer how competitive markets organize of goods and services.						i K	(1
Course	CO2	Relate the basic economic theory and evaluate related public policy.				nomic issues	and	K	(2
Outcome	CO3	Analyze the various types of markets a	nd compare	their eff	ficiency.		h estro A	K	2
	CO4	Determine the major economic indicate	tors used to	assess	the state	of the macro	economy.	K	(3
	CO5	Choose an appropriate fiscal and mor	netary policy	for a giv	ven state	of the econor	my.	К	(1
UNIT-I	Dema	nd and Supply				(9Hrs)			
UNIT-II Consumers' and F	roduce	re Analysis and Consumer Behaviours' Surplus - Price Ceilings and Price Flo	ors; Consun	ner Beha	aviour- Ax	(9Hrs)	ce - Budget (Constrain	ts CO
and indiπerence (Demand Curve: A	oplication	Consumer's Equilibrium- Effects of a ons- Tax and Subsidies -Intertemporal C	Price Chang Consumption	ge, Incol - Suppl	me and S iers' Inco	Substitution E me Effect	ffects -Deriv	vation of	а
UNIT-III		ection Concept and Cost Concept	onoumption	Сиррі		(9Hrs)			1
		oduction Function and Iso-quants - Cos	t Minimizatio	n: Cost			e and Margi	nal Costs	
		Costs; Equilibrium of a Firm Under Perf							co
UNIT- IV		economic Measures of Performance				(9Hrs)			
lational Income a ncome Determina nports.	nd its (ition an	Components- GNP, NNP, GDP, NDP; of the Keynesian Multiplier; Governme	Consumptiont Sector- 7	n Functi Faxes a	ion; Inves nd Subsi	stment; Simpledies; Externa	le Keynesiar al Sector- Ex	n Model o oports an	of d CO4
UNIT- V	Stabili	zation Policy				(9Hrs)			
loney- Definition	s; Dem	and for Money-Transactionary and Sp	eculative D	emand;	Supply	of Money- F	Bank's Credi	t Creation	n
lultiplier; Integrati	ng Mon	ey and Commodity Markets- IS, LM Mod	lel; Business	Cycles	and Stab	ilization- Mon	etary and Fi	scal Polic	y co
Central Bank and	the Go	vernment; The Classical Paradigm- Price	e and Wage	Rigiditie	s - Voluni	ary and Invol	untary Unem	ploymen	t.
ext Books								_	
. Pindyck, Robe		ad Doniel I. Dubiefeld "N"		LIGHT E		17			
		nd Daniel L. Rubinfeld, "Microeconomics							
. Dornbusch, Fi	scher a	nd Startz, "Macroeconomics", Tata McG	raw Hill, Tw	elfth Edi	ition, 201	8.	10		
Dornbusch, Fi Paul Anthony eference Books	scher a Samuel	nd Startz, "Macroeconomics", Tata McG Ison, William D. Nordhaus, "Economics"	raw Hill, Tw , Tata McGr	elfth Edi aw Hill, I	ition, 201 Nineteen	8. th Edition, 20			
Dornbusch, Fi Paul Anthony eference Books Hal R, Varian,	scher a Samuel "Interm	nd Startz, "Macroeconomics", Tata McG Ison, William D. Nordhaus, "Economics" rediate Microeconomics: A Modern Appr	raw Hill, Tw , Tata McGr oach", W.W	velfth Edi aw Hill, I	Nineteen	8. th Edition, 20			
Dornbusch, Fi Paul Anthony Reference Books Hal R, Varian, N. Gregory Ma	scher a Samuel "Interm ankiw, F	nd Startz, "Macroeconomics", Tata McG Ison, William D. Nordhaus, "Economics"	Fraw Hill, Tw , Tata McGr coach", W.W , Eighth Edit	velfth Edi aw Hill, I . Norton tion, 201	ition, 201 Nineteen & Comp 5.	8. th Edition, 20 any, Eighth E	dition, 2010.		

Program: B.Tech.

Web References

Department

Master of Business Administration

1. http://economics.mit.edu/

Hill/Irwin, 21st Edition, 2018.

- http://hbswk.hbs.edu/
- 3. http://www.cbsnews.com/moneywatch/

N-10/V

McConnell, Campbell R., Stanley L. Brue, and Sean Masaki Flynn, "Economics: Principles, problems, and policies", Boston McGraw-

Froyen, Richard T., and Stephen J. Perez, "Macroeconomics: Theories and policies", Macmillan, 1990.

Koutsoyiannis, Anna. Modern microeconomics. Springer, Second Edition, 1975.

Goodwin, Neva, et al, "Macroeconomics in context", ME Sharpe, Third Edition, 2013.

4. 5. http://mruniversity.com/

- http://www.economist.com/
- http://www.bloomberg.com/
- 6. 7. http://www.moneyweek.com/

COs/POs/PSOs Mapping

COs		. laeta - etall	mi Isaac oo baac	e adi av	Prog	gram O	utcome	s (POs	ja teltis Liaus sai	mra phil an alsen			Prog Outc	ram Spe omes (P	cific SOs)
	P01	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3
1	1	d an n	7120 20	F	Ne Kanadasa a	r tell tell	1	•	-	-	-	- 3,0	1	T ^Q 1	p-artrit
2	na.1 bi	ne Earl	išem Ji	alua eti	ulty a t he	d fale	1	ku 50.	erc i ra	a aiman	:00° =0 084	m alkal at	3.01	0	
3	1	e dis a	rimmets.	ALT-CE	in viote	nom ha	1	V	Jacob H	ne etime	mis=vai	id state		1	
4	1	-	-	-	-	_ (1	sin <u>i</u> eno	544 <u>7</u> HS	r na g	SOL ADMO	G 19758	1983	13 ·	
5	⊌ ₁	_	_	_			et alde	art fire	er i idei	te near c	2011.04	H Incord	assamme.	-	

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

. 57.4 1081	orio nan	Contin	uous Asse	ssment Marks (0	CAM)	End	
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	- 1	0	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus



^{*} TE – Theory Exam, LE – Lab Exam

	LLL	and ECE		mme: E		owa A sic	raja, A. K. Ther.	B L The	E
Semester	II	2574 IN 18: 19 Fith 61 MB7	Course			rs applicat E	nd Semester E	Exam Ty	pe: T
Course Code	1123F	STC03	Per	iods/We	ek	Credit	Maximu	ım Mark	S
	OZOL		L	T	P	C	CAM	ESE	TN
Course Name	-	cs of Electrical and Electronics neering	3	0	0	3	25	75	100
		(Common to CSE, IT, MECH, CIVIL,	MCTR, CCE	E, AI&DS	S, FT and	CSBS Bra	nches)	uogasaltu	.41
Prerequisite	Mathe	ematics and Physics				1379/11/11/18	SK BRODAR DEFINA	dunistan	* 1
		empletion of the course, the students			*		_{ултевій з} авсі	BT Ma (Highes	t Lev
- Papage	CO1	Apply the basic concepts and various	27 144 2 22 291		ELDAMS.			K	
Course	CO2	Analyze the AC circuits and develop re Gain the knowledge of power system						K	3
Outcomes	CO3	and real time applications of transform	ner and mot	s, import or.	ance or e	electrical sai	ety measures	K	2
	CO4	Understand the operator of semicondu			pplication	ns.		K	2
	CO5	Explain the characteristics and operati	ion of BJT a	and FET.				K	2
	C06	Relate and Explain Different Commun						K	
		Section A – E			ng				
UNIT - I	DC Ci	rcuits				Periods: 8			***************************************
sources - ideal an combination of I transformation, N	nd pract R, L, C	ference, Current, Resistance, Inductanc ical sources - concept of dependent and C components, Voltage Divider and C Theorems - Superposition, Thevenin, N	independer Current Div	nt source ider Rul	s, Ohm's es, Mes	law, Kirchh h and Nod	off's law, Series	parallel	CO1
UNIT - II	AC Ci	rcuits				Periods: 8			
		ttmeter method.	iacioi, i ille	e Phase	balance		s (Y-∆ and Y-Y)	- Power	CO ₂
UNIT - III Layout of electrica and cables, Safet Faraday's Law of principle, load tes	Electronial power by device felectronial and period to the control of the control	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo	sories, Type isors and its d Left han rmer, Single	es of don s types. d rule - I	nestic wi	Periods: 7 ing, Necess	ity of earthing, in	nsulators truction,	CO2
UNIT - III Layout of electrica and cables, Safet Faraday's Law of principle, load tes	Electronial power by device felectronial and period to the control of the control	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor – Load tes	sories, Type isors and its d Left han rmer, Single st.	es of don s types. d rule - I e phase	nestic win	Periods: 7 ing, Necess	ity of earthing, in	nsulators truction,	
UNIT - III Layout of electrica and cables, Safet Faraday's Law of principle, load tes	Electronial power by device felectronial and per pacitor	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo	sories, Type isors and its d Left han rmer, Single st.	es of don s types. d rule - I e phase	nestic wind DC Genetransform	Periods: 7 ing, Necess	ity of earthing, in	nsulators truction,	
UNIT - III Layout of electrical and cables, Safet Faraday's Law of orinciple, load testingle phase catteristics - catteristics	Electrial power by device felectron transporter and perparenter semiconductiffusion gulator	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor – Load tes Section B – Ele onductor Diodes And Applications etor materials – Doping - Intrinsic ar and depletion capacitance - Rectifier, I – Light Emitting Diode (LED) - Solar Ce	sories, Type isors and its d Left han rmer, Single st. ctronics E	es of don s types. d rule - I e phase i	nestic wind DC Genetransform	Periods: 7 ing, Necess rator and D ner- construct Periods: 7 — PN june	ction diode, str	nsulators truction, oad test	CO3
UNIT - III Layout of electrica and cables, Safet Faraday's Law of orinciple, load tes - Single phase ca UNIT - IV ntroduction sem characteristics - o zener diode as re	Electrical power by device of electron transparent per pacitor semiconductiffusion gulator Transi	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor - Load tes Section B - Ele conductor Diodes And Applications eter materials - Doping - Intrinsic ar and depletion capacitance - Rectifier, I - Light Emitting Diode (LED) - Solar Ce stors	sories, Type isors and its d Left han rmer, Single st. ctronics E detrinsion Half wave a ll.	es of don s types. d rule - I e phase i ngineeri c Semic and Full v	nestic wind process of the control o	Periods: 7 ing, Necess rator and D ner- construct Periods: 7 PN junctifier - zener	ction diode, str	nsulators truction, oad test ructure, ristics -	CO3
UNIT - III Layout of electrica and cables, Safet Faraday's Law of principle, load tes - Single phase ca UNIT - IV Introduction sem characteristics - c zener diode as re UNIT - V Bipolar Junction characteristics - E Transistor, EMOS	Electrical power by device of electron transition of the conduction of the conductio	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor - Load tes Section B - Ele conductor Diodes And Applications eter materials - Doping - Intrinsic ar and depletion capacitance - Rectifier, I - Light Emitting Diode (LED) - Solar Ce stors tor - construction - operation - Commo - numerical application. Junction Field E MOSFET operation characteristics - Nur	sories, Type isors and its d Left han rmer, Single st. ctronics E determines and Extrinsional Half wave a ll.	es of don s types. d rule - I e phase i ngineeri c Semic and Full v	nestic wind process of the control o	Periods: 7 ing, Necess rator and D ner- construct Periods: 7 — PN junctifier - zener Periods: 7 Common coal oxide sem	ction diode, str	ructure, ristics -	
UNIT - III Layout of electrica and cables, Safet Faraday's Law of principle, load tes - Single phase ca UNIT - IV Introduction sem characteristics - co zener diode as re UNIT - V Bipolar Junction characteristics - E Transistor, EMOS UNIT - VI Need for Modulation of digital and analy	Electrical power by device of electron transicion duction diffusion gulator Transist Biasing SFET-Di Communion – Bloog communel – E	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor - Load tes Section B - Ele onductor Diodes And Applications etor materials - Doping - Intrinsic ar and depletion capacitance - Rectifier, I - Light Emitting Diode (LED) - Solar Ce stors tor - construction - operation - Commo - numerical application. Junction Field E MOSFET operation characteristics - Nur unication Systems ock diagram of analog communication S munication system- Block diagram of dig Block diagram of communication system	sories, Type isors and its d Left han rmer, Single st. ctronics E d Extrinsion Half wave a ll. on Base, Co effect Trans merical app	es of don s types. d rule - I e phase ngineeri c Semic and Full v ommon I istor (JFI lication. I, FM, PM nication	nestic wind DC General transform onductor wave recommended in the control of the	Periods: 7 ing, Necess rator and D her-construct Periods: 7 Priods: 7 Common coal oxide sem Periods: 8 ons and Wa Electromage	ction diode, str diode characte	ructure, ristics - d Effect	CO3
UNIT - III Layout of electrical and cables, Safet Faraday's Law of principle, load test Single phase catteristics - Caner diode as results. JNIT - V Bipolar Junction characteristics - Eransistor, EMOS JNIT - VI Need for Modulation digital and analytical and analytical Competence (Competence).	Electrial power by device felectron tand per pacitor semiconductiffusion gulator Transist Biasing BFET-DI Communion – Bloog communication – Enmunication – E	ttmeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor - Load tes Section B - Ele onductor Diodes And Applications etor materials - Doping - Intrinsic ar and depletion capacitance - Rectifier, I - Light Emitting Diode (LED) - Solar Ce stors tor - construction - operation - Commo - numerical application. Junction Field E MOSFET operation characteristics - Nur unication Systems ock diagram of analog communication S munication system- Block diagram of dig Block diagram of communication system	sories, Type isors and its d Left han rmer, Single st. ctronics E d Extrinsion Half wave a ll. on Base, Co effect Trans merical app	es of don s types. d rule - I e phase i ngineeri c Semic and Full v ommon istor (JFI lication.	nestic wind DC Genetransform Ing	Periods: 7 ing, Necess rator and D her-construct Periods: 7 Periods: 7 Common co al oxide sem Periods: 8 ons and Wa Electromag Cellular Me	ction diode, str diode characte	ructure, ristics -	CO2
UNIT - III Layout of electrica and cables, Safet Faraday's Law of principle, load testing and cables, Safet Faraday's Law of principle, load testing and cables and cables and safet and wireless Characteristics – Eransistor, EMOS UNIT - VI Need for Modulation of digital and analy and wireless Characteristics — Eransistor, EMOS UNIT - VI Need for Modulation of digital and analy and wireless Characteristics — Eransistor, EMOS UNIT - VI Need for Modulation of digital and analy and wireless Characteristics — Extra Books R. K. Rajput, "Extra Books R. K. Rajput, "Extra Books R. K. Rajput, "Extra Books R. Muthusubra McGraw Hill, 2	Electrical power by device felectron transition and personal conduction of the felectron felectr	timeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor - Load tes Section B - Ele onductor Diodes And Applications etor materials - Doping - Intrinsic ar and depletion capacitance - Rectifier, I - Light Emitting Diode (LED) - Solar Ce stors for - construction - operation - Commo - numerical application. Junction Field E MOSFET operation characteristics - Nur unication Systems ock diagram of analog communication S munication system- Block diagram of dig Block diagram of communication system ation System. Tutorial Periods:- lectrical and Electronics Engineering", U r, Dr.V. Jegathesan, Dr. K. Vinoth Kumai	sories, Type isors and its immer, Single ist. Indextrinsic Half wave a ll. In Base, Confect Transmerical appropriate community of the commun	es of don s types. d rule - I e phase i ngineeri c Semice and Full v ommon I istor (JFI lication. I, FM, PM nication communication I Periods cience Pr vsalya, "I	nestic wind process and proces	Periods: 7 ing, Necess erator and D ner- construct Periods: 7 — PN junctifier - zener Periods: 7 Common coal oxide sem Periods: 8 ons and Wa Electromage - Cellular Me	ction diode, straignetic Spectrum obile Communication Configuration of the Communication of t	ructure, ristics - d Effect parison . Wired eation —	CO4
UNIT - III Layout of electrical and cables, Safet Faraday's Law of principle, load testing the principle phase call the principle p	Electrical power by device of electron transition of the service o	timeter method. ical Safety and Electrical Machines r system and its functions, Wiring Acces es - fuse, relay and circuit breaker - Sen magnetic induction, Fleming's Right an erformance characteristics - Auto transfo start and run induction motor - Load tes Section B - Ele conductor Diodes And Applications efformaterials - Doping - Intrinsic ar and depletion capacitance - Rectifier, I - Light Emitting Diode (LED) - Solar Ce stors for - construction - operation - Commo - numerical application. Junction Field E MOSFET operation characteristics - Nur unication Systems ock diagram of analog communication S munication system- Block diagram of dig Block diagram of communication system ation System. Tutorial Periods:- lectrical and Electronics Engineering", U r, Dr.V. Jegathesan, Dr. K. Vinoth Kuman 2022. In, S. Salivahanan and K. A. Mureleed II. Shyam Mohan, "Circuits and Networks"	sories, Type sors and its d Left han rmer, Single st. ctronics En d Extrinsic Half wave a ll. on Base, Co effect Trans merical app system - AM gital commu s - satellite Practical Iniversity So r, Dr. K. Kov haran, "Bas	es of dons types. d rule - I e phase in mgineeri common listor (JFI lication. I, FM, PM nication communication communication in Periods	nestic wind process and proces	Periods: 7 ing, Necess erator and Deter-construct Periods: 7 — PN junctifier - zener Periods: 7 Common coal oxide sem Periods: 8 ons and Water - Cellular Motor - Cellular And Edition, 201 ectrical and Editronics and	ction diode, street diode character of the computer Engineering Computer	ructure, ristics - d Effect parison . Wired eation —	CO3 CO4 CO5 CO6 Wiley

N-DW

- 3. B. L. Theraja, A. K. Theraja, "A Textbook of Electrical Technology Volume II", S Chand & Co. Ltd., New Delhi, 23rd Edition, 2009.
- 4. David. A. Bell, "Electronic Devices and Circuits", PHI Learning Private Ltd, India, 4th Edition, 2020
- 5. Wayne Tomasi, "Electronic Communication Systems- Fundamentals Theory Advanced", Pearson Education, 6th Edition, 2018.

Web References

- 1. https://nptel.ac.in/courses/108/108/108108076/
- 2. https://www.electrical4u.com/
- 3. https://nptel.ac.in/courses/108/102/108102146/
- 4. https://onlinecourses.nptel.ac.in/noc21 ee55/
- 5. https://nptel.ac.in/courses/117/102/117102059

COs/POs/PSOs Mapping

COs	,etu	ONO TEV	isoen bi	ts region	Prog	gram O	utcome	s (POs) 15/00			vice the	Prog Outc	ram Spe omes (P	cific SOs)
150	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PS01	PSO2	PSO3
1	3	3	3		2	-	30000	(10) 75	- VUISIU	Fan Auch	ed ⁷	1	3	2	_
2	3	3	3	-	2	- 19 SI	ALTE STA	WE 10	-		-	1	3	2	-
3	3	3	3	-	2		Lorder III	U U T U	- 1	-	-	1	3	2	
4	3	3	3		2		10 0- 15 11 - 2	-	A	-	-	1	3	2	
5	3	3	3	-	2	-	-	-	-	-	_	1	3	2	
6	3	3	3		2			11		A	-3/-7 -	1	3	2	761

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Methods

	Oanda Kir	Co	ntinuous Assess	ment Marks (CAM) mast teen tot	End	al na ala
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	5 ab	11 → 5	5 Search to eacyT	Sonufacilio E-mac-sono Appul M	iconio 5d inti	175.000 Sefet	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus



Department	Artif	icial Intelligence and Data Science	Progran	nme: B.	Tech				
Semester	11		Course			ĮE	nd Semeste	er Exam Ty	pe: T
Course Code	1123/	ADTC01	Perio	ods / We	eek	Credit		ximum Mar	
Occirco Code	OLO		L	T	P =	С	CAM	ESE	TM
Course Name	Prog	ramming In Python	94) 3 mo	0	1009	3	25	75	100
Imay Iso	(Cor	mmon to All Branches)	09 150	1804	1 . 694	1 NOS 6	09 1 209	104	
Prerequisite	NIL				8			7 11	
	On co	ompletion of the course, the students w	vill be able	e to				BT Ma	
Course	C01	Interpret the basic concepts of Python pr	rograms				A COMMENTAL OF THE PROPERTY OF	(Highest	
Outcome	CO2	Articulate the concepts of Sets, Dictionar		hiect Ori	ontod co	nconte	3	K	
8 +	CO3	Experiment with Numpy package.	ies and O	ojeci-On	ented of	nicepis.			
	CO4							K	
		Apply and analyze Data Manipulation wit						K3	
UNIT-I	CO5	Illustrate programming concept for Visua	lization wi	h Matple	otlib.	i - Likevadi	Carrelanna	K3	}
Parameter at the		duction To Python ram – Underlying mechanism of Module	Evecution	- Bran	china ar	Periods: 0		ahrina Haina	
Branches and Loo	ps – Fu	unctions – Lambda Functions – Lists and I	Mutability -	- Problei	m Solvin	g Using List	s and Functi	ons.	CO
UNIT-II		ence Datatypes and Object-Oriented Pr			Continu	Periods: 0			J
Sequences – Map o Regular Expres	ping an sions u	nd Sets – Dictionaries. Classes: Classes a sing "re" module.			eritance	Exception	Handling –	Introduction	CO
UNIT-III	Using	Numpy			MATERIAL PROPERTY.	Periods: 0	9		<u> </u>
Basics of NumPy - Arrays – Fancy Inc	- Comp dexing -	outation on NumPy – Aggregations – Com – Sorting Arrays – Structured Data: NumP	putation or y's Structu	n Arrays Ired Arra	– Comp		asks and Bo		co
		snderffs attration manner m	Harri Yoshir	11028001	T. March		48 ₄ 8 (400 cm) as a solid Colored Co	and the same	
UNIT-IV		Manipulation with Pandas ojects – Data indexing and Selection – Op	erating on	Data in	Dandas	Periods: 0			
lierarchical Indexi	ng - C	ombining Data Sets. Aggregation and Gro Performance Pandas – eval() and query().	uping – Pi	vot Tabl	es –Vec	torized Strin	g Operations	s – Working	CO4
UNIT-V	Visua	lization with Matplotlib				Periods: 0	9		
asic functions of l customizing Plot L	Matplot	lib – Simple Line Plot – Scatter Plot – Der s – Colour Bars – Three-Dimensional Plot	nsity and C ting in Mat	ontour F plotlib.	Plots – H			d Density –	COS
ecture Periods: 4	45	Tutorial Periods:	Practical	Periods	: -	.[-	Total Period	s: 45	
ext Books								0. 10	
Zhang.Y,	"An Inti	s, "Python Data Science Handbook - Esse roduction to Python and Computer Progra "Core Python Programming", Pearson Edu	mming", S	pringer F	Publicati	Data", O'R ons, 2016.	eily Media In	c, 2016.	
eference Books			(a.)						
 Jesus Rog Brian Draj 	gel-Sala per, "Py	er, Luca Massaron, "Python for Data Scier azar, "Data Science and Analytics with Py ython Programming A Complete Guide for teSpace Independent Publishing Platform	thon", CR0 r Beginner	Press	Taylor a	nd Francis C	Froup, 2017.		mmin
Mark Lutz	, Laura	Lewin, Frank Willison, "Programming Pyt Veena A, "Introduction to Python Progran	hon", O'Re	eilly Med RC Press	ia, 3 rd Ed s, 2018.	dition, 2006.			
leb References					***************************************				
		/courses/106/106/106106212/							
		sforgeeks.org/data-analysis-visualization-	python/						
https://www	W COLLE	sera org/learn/python-data-analysis							

N. PY

https://www.coursera.org/learn/python-data-analysis

https://www.programiz.com/python-programming

https://www.python.org/

COs/POs/PSOs Mapping

COs			8	Prog	gram O	utcome	es (POs	5)		Actify	ing ta +	Program Specific Outcomes (PSOs)			
	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	P011	PO12	PS01	PSO2	PSO3
1	2	1	-	-	3		-	-		=	7-1	-	3	_	3
2	2	2	1	3	•	-	C 405	Sea been	emph	re ario as	0 12 <u>0</u> 0 0	2	2	2	3
2	3	2	2	3	-	-	- 5	as Sour	nothing!	1-, 51,15:	odađum	2	3	2	3
3	3	3	2	3				-	-	-	-	3	3	3	3
2	- 3	3	2	3	-	-		-	-	-	U	2	3	3	3
3	3	3	2	3	-	-	-	-	-		arcii ca i a	3	3	3	3

Correlation Level: 1 -Low, 2 - Medium, 3 - High

Evaluation Methods

	90 tab	Con	ntinuous Assess	ment Marks (CAM	Ness and Obje	End	4
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	5 5	5	5 1 : yer A 30 no	islugno5 – andes	signa 5 gimila	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

W. Oh

Department	Comp Syste	outer Science and Business ms	Prograr	nme: B	.Tech.		30	oneisien	dsW
Semester	II	(A) (A)	Course	Catego	ory: PC	*Er	nd Semeste	r Exam T	ype: T
			Perio	ods / W	eek	Credit		mum Mar	
Course Code	U230	CBT202	L	T _{inn}	Р	C	CAM	ESE	TM
Course Name	DAT	TA STRUCTURES & ALGORITHMS	3	0	0	3	25	75	100
	1)	To understand performance analysis of	an algorith	m				4	
	2)	To learn linear data structures	The state of the s	***************************************					
Course Objectives	3)	To learn non-linear data structures							_
	4)	To understand sorting, searching and ha	shing algo	rithms	Marie Marie II. Millard and a specific for any plant or			21-91-191-9ET	
	5)	To learn file organization and accessing	methods	micim	editoria.			200	34
15019 180	On co	ompletion of the course, the students w	ill be able	e to	9 ' 609	93 PO4	P02 P	BT May (Highest	
	CO1	Understand the usage and analysis of al	gorithms i	n compu	ıting.	THE RESERVE OF THE PARTY OF THE	***************************************	K1	
	CO2	Implement and apply linear data structur	es to solve	various	problem	3		K3	3
Course	CO3	Represent and apply non-linear data stru	ctures to	solve rea	al time pro	blems		K2	2
Outcome	CO4	Develop and analyse algorithms for son Linear data structures.	ting and se	earching	data orga	anized in line	ear and non-	K3)
	CO5	Understand various file organization and	d accessin	g metho	ods		/	K2	<u> </u>
UNIT-I	Conc	epts of Algorithm and Data Organisatio	n			(9Hrs)			
		Recursion - Performance analysis - As nement of Coding - Time-Space Trade Of					a and Theta	notation -	CO1
UNIT-II		r Data Structure				(9Hrs)	Dx size(e	ACHELIEV	
Array - Stack - Qu		inked-list and its types - Various Represer	ntations - C	Operation	Continue		near Data St	ructures.	CO2
		eaded Binary Tree - Binary Search Tree –	D Troo	P. Troo		(9Hrs)	Assessmor	Davis	1
「erminologies - Di	rected -	– Undirected - Various Representations - lications of Non-Linear Data Structures.	Operations	s - Grapl	h search a	nd traversal	ee. Grapns: algorithms -	Basic	CO3
UNIT- IV	Searc	hing And Sorting On Various Data Stru	ctures	wos ms	aderia i Prebi	9Hrs)	Jega *		
		y Search - Comparison Trees - Breadth F onquer Sort - Merge Sort - Quick Sort- Hea					n Sort - Selec	ction Sort -	CO4
UNIT- V	File C	oncepts				9Hrs)			
ile Organisation -	- Seque	ential – Direct - Indexed Sequential - Hash	ed and va	rious typ	es of acc	essing scher	mes.	PETER CONTROL OF THE PETER CON	CO5
ext Books				Protective Schoolstern additional Superior Superior of	THE STATE STATE COLUMN				
E Horowitz C	Cohni	C A Frond "Fundamentals of Data Cta	-4 7 II				2000		

- E. Horowitz, S. Sahni, S. A-Freed, "Fundamentals of Data Structures", Universities Press, Second Edition, 2008.
- 8. A. V. Aho, J. E. Hopperoft, J. D. Ullman, "Data Structures and Algorithms", Pearson, First Edition, 2003.
- Gregory L. Heilman, Data Structures, Algorithms and Object Oriented Programming, Tata Mcgraw-Hill, New Delhi, 2002.
- Jean-Paul Tremblay and Paul G. Sorenson, An Introduction to Data Structures with Applications, Second Edition, Tata McGraw-Hill, New Delhi, 1991.
- 11. Alfred V. Aho, John E. Hopcroft and Jeffry D. Ullman, Data Structures & Algorithms, Pearson Education, New Delhi, 2006

Reference Books

- Donald E. Knuth, "The Art of Computer Programming: Volume 1: Fundamental Algorithms", Third Edition, Dorling Kindersley Pvt Ltd, Third Edition, 1997.
- Thomas, H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, "Introduction to Algorithms", The MIT Press, Third Edition, 2009.
- 8. Pat Morin, "Open Data Structures: An Introduction (Open Paths to Enriched Learning)", UBC Press, Thirty First Edition, 2013.

N-ON

Web References

- 1. https://www.tutorialspoint.com/data_structures_algorithms/index.htm
- 2. https://nptel.ac.in/courses/106/102/106102064/
- 3. https://www.geeksforgeeks.org/data-structures/
- 4. https://www.javatpoint.com/data-structure-tutorial

COs/POs/PSOs Mapping

COs	-		y	_	Prog	gram O	utcome	es (POs) 1885.00	as ene no			Prog Outc	ram Spe omes (P	ecific SOs)
asW	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	P011	PO12	PS01	PSO2	PSO3
1	1	-	- 8			citue co	อ คื ลก	nthegia	to Ethy	end bns	- ecseu 9	t bris.as	bn 1 .	33	-
2	3	2	1	-	em e leto	n ston	ol-F. ve	of ten	itourda.	tec sa	ly a ga b	ns Inem	2	no 1	-
3	2	1	-	h=&K	573 - 2471	the-	na =at	5 L# 25	e visb	នេខប!-៣០	7 Y 40 S J	nt <u>(</u> 0325	2)O 1	Jan 1
4	3	2	51	- DEEM	at io ea	in out	-5- <u>-</u> 2 U	a <u>Li</u> usa	e <u>D</u> isi	The second	geviene militari	e n a galo Ricksone	3	2	-
5	2	1	- 1	-	-	reflacds	n galas	ope no	s a <u>o</u> ris.	(CSM) E	er s alem Pa	0 1512 0	1 3	331	

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

		Contin	uous Asse	ssment Marks (C	CAM)	End	
Assessment	CAT 1	CAT 2	Model Exam	Assignment*	Attendance	Semester Examination (ESE) Marks	Total Marks
Marks	1	0	5	5	5	75	100

^{*} Application oriented / Problem solving / Design / Analytical in content beyond the syllabus



^{*} TE - Theory Exam, LE - Lab Exam

COMMUNICATION & VALUE SCIENCE - II anches except CSBS) mmunication Skills on of the course, the students w tand tools of structured written con the mechanics of creative writing w the skill to work in team and profe to the art of reviewing and giving fe tands varied effective communicate and Expertise Writing tsues - Theory to introduce the pa	L 2 ill be able mmunicati ith precisi essionally	to on and c groom t	ek P 2	Credit C 3	50	Simum Ma ESE 50 BT Ma (Highes	TM 100 apping at Level;
SCIENCE - II anches except CSBS) mmunication Skills on of the course, the students we tand tools of structured written con the mechanics of creative writing we the skill to work in team and profe to the art of reviewing and giving fee tands varied effective communicate to and Expertise Writing	L 2 ill be able mmunicati ith precisi essionally	to on on and con groom t	P 2	C 3	50	BT Ma (Highes	apping at Level
SCIENCE - II anches except CSBS) mmunication Skills on of the course, the students we tand tools of structured written con the mechanics of creative writing we the skill to work in team and profe to the art of reviewing and giving fee tands varied effective communicate to and Expertise Writing	2 ill be able mmunicati ith precisi essionally	to on on and c	2	3	50	BT Ma (Highes	apping at Level
SCIENCE - II anches except CSBS) mmunication Skills on of the course, the students w tand tools of structured written con the mechanics of creative writing w the skill to work in team and profe to the art of reviewing and giving fe tands varied effective communicate and Expertise Writing	ill be able mmunicati ith precisi essionally edback	to on on and c groom t	larity	209 2 9		BT Ma (Highes	apping apping t Level 2
mmunication Skills on of the course, the students we tand tools of structured written conce mechanics of creative writing we the skill to work in team and profess the art of reviewing and giving featands varied effective communicate and Expertise Writing	mmunicati ith precisi essionally edback	on on and c groom t		personality	2002 Magazi	BT Ma (Highes K	t Level 2 3
tand tools of structured written con the mechanics of creative writing we the skill to work in team and profe to the art of reviewing and giving feat tands varied effective communicates and Expertise Writing	mmunicati ith precisi essionally edback	on on and c groom t		personality	1 163.1.1	BT Ma (Highes K	t Leve 2 3
tand tools of structured written con the mechanics of creative writing we the skill to work in team and profe to the art of reviewing and giving fe tands varied effective communical and Expertise Writing	mmunicati ith precisi essionally edback	on on and c groom t		personality		(Highes	t Leve 2 3
ne mechanics of creative writing we the skill to work in team and profest the art of reviewing and giving festands varied effective communicate and Expertise Writing	ith precisionally essionally edback	on and c		personality		K	.3
the skill to work in team and profe the art of reviewing and giving fe tands varied effective communical and Expertise Writing	essionally edback	groom t		personality			
o the art of reviewing and giving fe tands varied effective communicat and Expertise Writing	edback		he overal	personality		K	3
tands varied effective communicat		and ever	£ -	·		3.	
and Expertise Writing	ion skills a	and ever				ΔK	3
		ina expir	ess the id	eas with clar	rity and focu	s K	2
auga. Theory to introduce the no		dell'i	- E am 3	Periods:10	Je I deved	neitslamo	0
of technical words. Refer Catherine	ev	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			seltali ne la	usievii il	
ate Vision, Mission, Value statement	ent, tagline	and De	sign a log	o. Introducti	on to basic		CO
Skills				Periods:10			
on Practical to identify individual p	esearch o ersonality	n team w traits wit	ork, Belb h Belbin's	in's 8 Team 8 8 team play	Roles and L yer styles. D	indgren's esign a	CO
STOCKET SKILLS	75 - 15 TO	7	1	Periods:15	Ti		
L SOE 3 AT	2.0	3 <u>0</u> 6	1		1 8	NIGM	CO4
ical Film: "The fish and I" by Bab icident or film based on the topic o	ak Habibi f your res	far" (1.37 pective N	IGO and				
	groups. Sł	nare the	recording	s in FB			COS
ifferent forms of Diversity in socie		arch					
			:30	To	tal Periods	:60	
na," Communication Skills". Oxford	Universit	y Press,	2018.				
the state of the s	Skills To of Dr. Meredith Belbin and his report of Dr. Meredith Individual personal skills "Join Hands Movement", A short fill tical Film: "The fish and I" by Bablicident or film based on the topic of y — 10 minutes of a person's life at the Dr. Meredith Individual Periods: a TCS values on the topics they are covering in Tutorial Periods: - Mahapragya ,Acharya "The Familina," Communication Skills". Oxforce tha Sharma," Communication Skills oxforce that Sharma," Communication Skills oxforce that Sharma," Communication Skills oxforce that Sharma, "Communication Skills oxforce that Sharma," Communication Skills oxforce that Sharma, "Communication Skills oxforce that Sharma," Communication Skills oxforce that Sharma, "Communication Skills oxforce that Sharma," Communication Skills oxforce that Sharma, "Communication Skills oxforce that Sharma ox	eate Vision, Mission, Value statement, tagline kimming and Scanning. Skills To of Dr. Meredith Belbin and his research or con Practical to identify individual personality ersonal skills "Join Hands Movement", A short film on diversitical Film: "The fish and I" by Babak Habibit incident or film based on the topic of your respondent or film based on the topic of your respondent or skills interviews of people from diverse groups. Short TCS values Different forms of Diversity in society on the topics they are covering in their reservation the topics they are covering in their reservation." The Family and the ma," Communication Skills". Oxford University eetha Sharma," Communication Skills", New in Kotler, "Abundance: The Future is Better Tile.	eate Vision, Mission, Value statement, tagline and Dekimming and Scanning. Skills To of Dr. Meredith Belbin and his research on team won Practical to identify individual personality traits witersonal skills "Join Hands Movement", A short film on diversity tical Film: "The fish and I" by Babak Habibifar" (1.37 incident or film based on the topic of your respective Nay – 10 minutes of a person's life affected by the social memory of people from diverse groups. Share the national TCS values Interviews of people from diverse groups. Share the national periods: Tutorial Periods: - Practical Periods Mahapragya ,Acharya"The Family and the Nation"; na," Communication Skills". Oxford University Press, eetha Sharma," Communication Skills", New Delhi: On Kotler, "Abundance: The Future is Better Than You	eate Vision, Mission, Value statement, tagline and Design a log kimming and Scanning. Skills To of Dr. Meredith Belbin and his research on team work, Belbin and Practical to identify individual personality traits with Belbin's ersonal skills "Join Hands Movement', A short film on diversity traits with Belbin's ersonal skills "Join Hands Movement', A short film on diversity tical Film: "The fish and I" by Babak Habibifar" (1.37mins), incident or film based on the topic of your respective NGO and by — 10 minutes of a person's life affected by the social issue grommunication Skills TCS values interviews of people from diverse groups. Share the recording on TCS values Different forms of Diversity in society on the topics they are covering in their research Tutorial Periods: - Practical Periods: 30 Mahapragya ,Acharya "The Family and the Nation"; 2015;: na," Communication Skills". Oxford University Press, 2018. eetha Sharma," Communication Skills", New Delhi: OUP,2018.	Periods:10 Skills Periods:10 To of Dr. Meredith Belbin and his research on team work, Belbin's 8 Team on Practical to identify individual personality traits with Belbin's 8 team playersonal skills "Join Hands Movement", A short film on diversity traits with based on the topic of your respective NGO and give feedbay — 10 minutes of a person's life affected by the social issue groups are work munication Skills Periods:15 "To values Interviews of people from diverse groups. Share the recordings in FB	Rate Vision, Mission, Value statement, tagline and Design a logo. Introduction to basic kimming and Scanning. Skills Periods:10 To of Dr. Meredith Belbin and his research on team work, Belbin's 8 Team Roles and Lon Practical to identify individual personality traits with Belbin's 8 team player styles. Dersonal skills Periods:15 "Join Hands Movement", A short film on diversity tical Film: "The fish and I" by Babak Habibifar" (1.37mins), cident or film based on the topic of your respective NGO and give feedback. by —10 minutes of a person's life affected by the social issue groups are working on the munication Skills Periods:15 Interviews of people from diverse groups. Share the recordings in FB	Rate Vision, Mission, Value statement, tagline and Design a logo. Introduction to basic kimming and Scanning. Skills Periods:10 Iro of Dr. Meredith Belbin and his research on team work, Belbin's 8 Team Roles and Lindgren's con Practical to identify individual personality traits with Belbin's 8 team player styles. Design a ersonal skills Periods:15 "Join Hands Movement', A short film on diversity tical Film: "The fish and I" by Babak Habibifar" (1.37mins), incident or film based on the topic of your respective NGO and give feedback. by —10 minutes of a person's life affected by the social issue groups are working on permunication Skills Periods:15 Interviews of people from diverse groups. Share the recordings in FB a TCS values Offerent forms of Diversity in society on the topics they are covering in their research Tutorial Periods: - Practical Periods:30 Mahapragya ,Acharya"The Family and the Nation"; 2015;: na," Communication Skills". Oxford University Press, 2018.

- Sinek,simon, "Start With Why: How Great Leaders Inspire Everyone to Take Action" Penguin, Grussendorf, Marion, "E nglish for Presentations". Oxford University Press, Oxford, 2007. Seely John, "The Oxford Guide to Writing and Speaking", Oxford University Press, 2006. Dr.Kalam, Abdul A.P.J, "Guiding Souls: Dialogues on the purpose of life", 2005

Web References

- 1. https://www.indeed.com/career-advice/finding-a-job/how-to-write-an-application-letter
- 2. https://owlcation.com/humanities/Four-Types-of-Writing
- 3. https://targetstudy.com/languages/english/paragraph-writing.html
- 4. https://www.businessnewsdaily.com/8262-email-etiquette-tips.html
- 5. https://www.youtube.com/watch?v=UOceysteljo

COs/POs/PSOs Mapping

COs		Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
A	P01	PO2	PO3	PO4	PO5	P06	PO7	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3	
N1	1	-	-	-	-1-1	DATE OF	The Division of	3 4 - 4.1	3007.44	3	6 <u>U</u> Fs/F	1	closse. Fr	1.7 <u>-</u>	6-200	
2	1	-	√7 ⁷² ±1	us (Bull	s ieffure	H mad	u Car	areanux =	h bird n	3	Say Ships	_ a.1 a.	515 E	,:, -	-	
3	1	-	-	-	-	-	-	-	-	3	-	1	-	-	-	
4	1	-	-	-	-	-	133	TRECIS	KHANG D	3	VELL A	(5 1 c)	75 L <u>.</u> 31	70 -	-	
-5	1	ni l 'a res	du 7s. d	-	office		në 516 d	a en Reg	ru, Albums	3	s Kālere	1	ov 17 b.		-	

Correlation Level: 1 - Low, 2 - Medium, 3 - High

Evaluation Method

				Continuous	Assessm	ent Marks (CA	M)			End Semester	SIN IC DE	DAS CIUDA	-
Assessment	Continuous Assessment (Theory)					Continuous Assessment (Practical)				Examination (ESE) Marks (Practical –	End Semester Examination	Total Marks	III - III rmea l
	CAT 1	CAT 2	Model	Attendance	Total	Conduction of Practical	Report	Viva	Total	Internal Evaluation)	(ESE) Marks	Frau	me di Veni
Marks	5	5	5	5	20*	15	10	5	30*	30	75**	-	
*To	be we	ighted	for 10 M	arks	10	the state of the	eighted for Narks	10	10	d to Join Haw	*To be weighted for 50 Marks	100	st of 1 stenia seakia

N.BY

^{*} TE - Theory Exam, LE - Lab Exam

Department	Comp Syste	uter Science and Business ms	Progran	nme: B.	Tech.		100 100 100 100 100 100 100 100 100 100			
Semester	II		Course	Catego	ry: BS	End Semester Exam Type: L E				
Course Code	11231	//AP201	Perio	ods / We	eek	Credit	Max	imum Ma	arks	
Course Code	0231	NAF 20 I	L_tax	adoa T yr	P	nome C	CAM	ESE	TM	
Course Name	11.000,000,000,000	TISTICAL METHODS AND ELLING LABORATORY	0	0	2	1.	50	50	100	
	On co	On completion of the course, the students will be able to								
Course	CO1									
Outcome	CO2	Trained for data collection on various fields of survey enabling them to classify them statistically.								
	CO3	Familiarized in various statistical softwa	ire.						< 3	
	CO4	Find the correlation between two variab	les.				Anne Malliche (Malliche Malliche Mallic	I	<2	
	CO5	Compute regression lines.					THE STATE AND THE COMMENT AND THE STATE AND THE COMMENT OF THE COMMENT AND THE COMMENT AND THE COMMENT AND THE	I	₹3	

List of Experiments

- 1. Descriptive Statistics
- 2. Test for Single mean
- 3. Test for difference of mean
- 4. Standard Deviation
- 5. Sampling distributions
- 6. ANOVA One-way Classification
- 7. Two-way ANOVA
- 8. Chi-Square Test
- 9. Correlation and Regression (Simple and Multiple)
- 10. Maximum likelihood estimation

Lecture Periods:	Tutorial Periods:	Practical Periods: 30	Total Periods: 30	

Web references

- 1. https://www.mathworks.com/help/matlab/ref/std.html
- 2. https://www.mathworks.com/help/stats/mle.html
- 3. https://wwhw.mathworks.com/help/stats/two-way-anova.html
- 4. https://youtu.be/ullVTCmQdpl
- 5. www.youtube.com/watch?v=ullVTCmQdpl

COs/POs/PSOs Mapping

COs		Program Outcomes (POs)													Program Specific Outcomes (PSOs)		
	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3		
1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	=		
2	2	2	1	1	-	-	-	-	-	-	-	-	-	; - :	-		
3	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-		
4	2	1	-	-	-	_	-	-		-			1		ų - <u>.</u>		
5	2	2	1	1	-	-	-	-		-	-	-	1	1	-		
1	2	1		-	-	-	-			-	-	-	-	-	-		

Correlation Level: 1 - Low, 2 - Medium, 3 - High

N. Afr

^{*} TE - Theory Exam, LE - Lab Exam

COs/POs/PSOs Mapping

COs		Program Outcomes (POs)													Program Specific Outcomes (PSOs)		
11.	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	P011	PO12	PSO1	PSO2	PSO3		
1	3	2	1 =	1	3	- 1 <u>-</u>		-		awz	8991	ouan	3	1	neM se		
2	3	2	1	1	3	-	-	-	-	ADDR)	IOSAJ	SMALL	3 JA	1	-		
3	3	2	1	1	3	-27	STR DIC	(HW ES)	SOUNCE	alir Tree and	ov <u>a</u> ir i	1710/22/2014	3	1	-		
4	3	2	1	101/	3	BULSIR	100 <u>1</u> 001	suī Bu	үшдөр	VO TIBIO	AQ BETE	em_Date	3	1	eme		
5	3	2	1	1	3	-		-		-	-	-	3	1	-		

Evaluation Method

	C	Continuous	Assessi	ment Marks (CAN	(I) elsimonylor		
Assessment	Performan cla	ce in practi	cal	Model	a gymani jedy:	End Semester Examination	Total Marks
otal Periods: 30	Conduction of practical	Record work	viva	Practical Examination	Attendance	(ESE) Marks	tabolis
Marks	baros 15 moltes	5 A 2	5	sinC o15	10	50	100

N. Perk

Course Name Sports Yoga and NSS Q Q Non-Credit Naximum Marks L T P C CAM ESE TM	Department,	Comp Syste	outer Science and Business ms	Program	nme: B.	Tech.	Marie Control			***************************************	,
Course Name Sports Yoga and NSS Q Q Q Non-Credit Maximum Marks	Semestier	11		Course	Catego	ry: MC	E	nd :	Semester	Exam Tv	'pe: -
Course Name Sports Yoga and NSS D D 2 Non-Credit 100 - 100 1	Course Code	11230	CRM202	Perio	ods / We	ek					
Prerecjuisite Course Outcomes On completion of the course, the students will be able to CO1 Practice Physical activities and Hatha Yoga focusing on yoga for strength, flexibility and flexibility, balance and coordination. CO2 Understand basic skills associated with yoga and physical activities including strength and flexibility, balance and coordination. CO3 Develop understanding of psychological problems associated with age and lifestyle. CO4 Recognize the importance of national service in community development. K2 CO5 Convert existing skills into socially relevant life skills. UNIT-I Introduction To Physical Education Periods: 06 Definition, Aims and Objectives of Physical Education - Changing trends in Physical Education Physical Fitness, Wellness and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical fitness - Components of Health related fitness - Components of vellness - Preventing Health Threats through Lifestyle Change - Concept of Positive Lifestyle UNIT-II Yoga and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical Fitness and Vellness - Components of Physical Fitness and Wellness - Components of Physical Fitness and Wellness - Components of Physical Fitness of Planting Lifestyle Change - Concept of Positive Lifestyle UNIT-II Yoga and Lifestyle Importance of Yoga - Elements of Yoga - Introductiog - Asanas, Pranayama, Meditation and Yogic Kriyas - Yoga for concentration - Open-indra. Asanas as preventive measures - Hypertension - Obesity - Back Pain-Diabetes - Asthema. UNIT-II Training And Planning In Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions		020		L	T	Р	С		CAM	ESE	TM
On completion of the course, the students will be able to Course Outcomes	Coursie Name	Spor	rts Yoga and NSS	0	Ω	.2	Non-Cre	edit	100		100
Course Outcomes	Prerequisite	-1						1-1	TALK PARE		-1
Course Outcomes Cot Practice Physical activities and Hatha Yoga focusing on yoga for strength, flexibility and relaxation. Cot Understand basic skills associated with yoga and physical activities including strength and flexibility, balance and coordination. Cot Understand basic skills associated with yoga and physical activities including strength and flexibility, balance and coordination. Cot		On c	ompletion of the course, the studer	nts will be ab	le to						188 1
Unit Introduction To Physical Education Periods: 06		CO1	Practice Physical activities and Harelaxation.	atha Yoga fo	cusing o	n yoga	for streng	th, f	lexibility a	nd (7.7.91.	
CO3 Develop understanding of psychological problems associated with age and lifestyle. CO4 Recognize the importance of national service in community development. K2 CO5 Convert existing skills into socially relevant life skills. K2 UNIT-I Introduction To Physical Education Definition, Aims and Objectives of Physical Education - Changing trends in Physical Education Physical Fitness, Wellness and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical fitness - Components of Health related fitness - Components of wellness - Preventing Health Threats through Lifestyle Change - Concept of Positive Lifestyle. UNIT-II Yoga and Lifestyle Importance of Yoga - Elements of Yoga - Introduction - Asanas, Pranayama, Meditation and Yogic Kriyas - Yoga for concentration and related Asanas (Sukhasana, Tadasana, Padmasana and Shashankasana) - Relaxation Techniques for improving concentration - Yog-nidra. Asanas as preventive measures - Hypertension - Obesity - Back Pain-Diabetes - Asthema. UNIT-II Training And Planning In Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategic UNIT-IV Introduction To National Service Scheme Periods: 06 Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs-and NGOs in communit	Outcomes	CO2			physical	activiti	es including	stre	ngth and		K2
CO4 Recognize the importance of national service in community development. CO5 Convert existing skills into socially relevant life skills. CO6 Convert existing skills into socially relevant life skills. LE2 UNIT-1 Introduction To Physical Education Definition, Aims and Objectives of Physical Education - Changing trends in Physical Education Physical Fitness, Wellness and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical Fitness - Components of Physical Fitness - Components of Health related fitness - Components of Wellness - Preventing Health Threats through Lifestyle Change - Concept of Positive Lifestyle. UNIT-II Yoga and Lifestyle Periods: 06 UNIT-II Yoga and Lifestyle Periods: 06 Importance of Yoga - Elements of Yoga - Introduction - Asanas, Pranayama, Meditation and Yogic Kriyas - Yoga for concentration and related Asanas (Sukhasana, Tadasana, Padmasana and Shashankasana) - Relaxation Techniques for improving concentration - Yog-nidra. Asanas as preventive measures - Hypertension - Obesity - Back Pain-Diabetes - Asthema. UNIT-II Training And Planning In Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports UNIT-IV Introduction To National Service Scheme Periods: 06 Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs and NGOs in community development		CO3			s associa	ated with	n age and lif	esty	le.		K2
UNIT-I Introduction To Physical Education Periods: 06 Definition, Aims and Objectives of Physical Education - Changing trends in Physical Education Physical Fitness, Wellness and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical Fitness - Components of Physical Education All Wellness - Components of Physical Education and Palated Asanas (Sukhasana, Tadasana, Panayama, Meditation and Yogic Kriyas - Yoga for concentration and related Asanas (Sukhasana, Tadasana, Padmasana and Shashankasana) - Relaxation Techniques for improving concentration - Yog-nidra. Asanas as preventive measures - Hypertension - Obesity - Back Pain-Diabetes - Asthema. UNIT-III Training And Planning In Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategies UNIT-IV Introduction To National Service Scheme Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree planta		CO4	Recognize the importance of national	al service in c	ommunit	y devel	opment.				
Definition, Aims and Objectives of Physical Education - Changing trends in Physical Education Physical Fitness, Wellness and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical fitness - Components of Health related fitness - Components of Wellness - Preventing Health Threats through Lifestyle Change - Concept of Positive Lifestyle. UNIT-II Yoga and Lifestyle Periods: 06 Importance of Yoga - Elements of Yoga - Introductiog - Asanas, Pranayama, Meditation and Yogic Kriyas - Yoga for concentration and related Asanas (Sukhasana, Tadasana, Padmasana and Shashankasana) - Relaxation Tachniques for concentration - Yog-nidra. Asanas as preventive measures - Hypertension - Obesity - Back Pain-Diabetes - Asthema. UNIT-III Training And Planning in Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategies UNIT-IV Introduction To National Service Scheme Periods: 06 Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs-and NGOs in community development - CSR - Life skills and youth development-extension activities in HEIs - various clubs and schemes like RRC, ELC, YRC, UBA, SBA, etc., UNIT-IV Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its s		CO5	Convert existing skills into socially re	elevant life sk	ills.			-			
Definition, Aims and Objectives of Physical Education - Changing trends in Physical Education Physical Fitness, Wellness and Lifestyle: Importance of Physical Fitness and Wellness - Components of Physical fitness - Components of Health Threats through Lifestyle Change - Concept of Positive Lifestyle. UNIT-II Yoga and Lifestyle Periods: 06 Importance of Yoga - Elements of Yoga - Introduction - Asanas, Pranayama, Meditation and Yogic Kriyas - Yoga for concentration and related Asanas (Sukhasana, Tadasana, Padmasana and Shashankasana) - Relaxation Techniques for improving concentration - Yog-nidra. Asanas as preventive measures - Hypertension - Obesity - Back Pain-Diabetes - Asthema. UNIT-III Training And Planning In Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategies UNIT-IV Introduction To National Service Scheme Periods: 06 Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs-and NGOs in community development - CSR - Life skills and youth development-extension activities in HEIs - various clubs and schemes like RRC, ELC, YRC, UBA, SBA, etc., UNIT-V Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its suitability - Sustainability -	UNIT-I	Introde	uction To Physical Education				Periods:	06			****
UNIT-III Training And Planning In Sports Periods: 06 Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategies UNIT-IV Introduction To National Service Scheme Periods: 06 Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs and NGOs in community development - CSR - Life skills and youth development-extension activities in HEIs - various clubs and schemes like RRC, ELC, YRC, UBA, SBA, etc., UNIT-V Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its suitability - Sustainability - Value addition to agricultural products - Service learning and youth volunteering - Shramdaan - Campus cleaning - Field visit to nearby communities - village survey - Initiatives to clean and green environment - preservation of water bodies in adopted villages. Lecture Periods: - Tutorial Periods: - Practical Periods: 30 Reference Books	Importance of S	roga - nd relat	Elements of Yoga - Introduction - ted Asanas (Sukhasana, Tadasana,	Padmasana	and Sha	ashanka	ation and Y	ogic	tion Tech	niques for	CO2
Training - Warming up and limbering down-Skill, Technique and Style - Objectives of Planning - Tournament - Knock-Out, League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategies UNIT-IV										Astricina.	<u> </u>
League/Round Robin and Combination. Psychology and Sports - Important of Psychology in Physical Education and Sports - Differentiate Between Growth and Development - Adolescent problems and their Management - Emotion: Concept, Type and Controlling of emotions - Concepts and Types of Aggressions in Sports - Psychological benefits of exercise - Anxiety and Fear and its effects on Sports Performance - Motivation, its type and techniques - Understanding Stress and Coping strategies UNIT-IV Introduction To National Service Scheme Periods: 06 Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs and NGOs in community development — CSR - Life skills and youth development-extension activities in HEIs - various clubs and schemes like RRC, ELC, YRC, UBA, SBA, etc., UNIT-V Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its suitability - Sustainability - Value addition to agricultural products - Service learning and youth volunteering - Shramdaan - Campus cleaning - Field visit to nearby communities - village survey - Initiatives to clean and green environment - preservation of water bodies in adopted villages. Lecture Periods: - Tutorial Periods: - Practical Periods: 30 Reference Books				and Style - (Objective	s of Pla	enning – To	บช	ment - Kr	ock-Out	1
Orientation of NSS volunteers: History, motto, symbol, awards, structure and activities of NSS - Days of National and International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs and NGOs in community development - CSR - Life skills and youth development-extension activities in HEIs - various clubs and schemes like RRC, ELC, YRC, UBA, SBA, etc., UNIT-V Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its suitability - Sustainability - Value addition to agricultural products - Service learning and youth volunteering - Shramdaan - Campus cleaning - Field visit to nearby communities - village survey - Initiatives to clean and green environment - preservation of water bodies in adopted villages. Lecture Periods: - Tutorial Periods: - Practical Periods: 30 Total Periods: 30	Psychology and Development - A and Types of A Performance - M	Robin ai d Spor dolesci ggress lotivatio	nd Combination. ts - Important of Psychology in Phys ent problems and their Management - ions in Sports - Psychological bene on, its type and techniques - Understa	sical Education Emotion: Con efits of exercinding Stress	on and S ncept, Ty se - An	ports - pe and xiety ar	Differentiate Controlling	e Be	tween Gra	owth and	CO3
International Importance - Sensitizing about the thrust areas and awareness activities - Importance of tree plantation and voluntary blood donation - The role of SHGs and NGOs in community development - CSR - Life skills and youth development extension activities in HEIs - various clubs and schemes like RRC, ELC, YRC, UBA, SBA, etc., UNIT-V Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its suitability - Sustainability - Value addition to agricultural products - Service learning and youth volunteering - Shramdaan - Campus cleaning - Field visit to nearby communities - village survey - Initiatives to clean and green environment - preservation of water bodies in adopted villages. Lecture Periods: - Tutorial Periods: - Practical Periods: 30 Total Periods: 30						D.					
UNIT-V Community Issues and The Use Of Technology Periods: 06 Common Problems of rural India - Technology development and its suitability - Sustainability - Value addition to agricultural products - Service learning and youth volunteering - Shramdaan - Campus cleaning - Field visit to nearby communities - village survey - Initiatives to clean and green environment - preservation of water bodies in adopted villages. Lecture Periods: - Tutorial Periods: - Practical Periods: 30 Total Periods: 30	International Imp	ortance	e - Sensitizing about the thrust area n- The role of SHGs and NGOs in cor	s and awarei	ness acti	vities -	Importance	of t	ree planta	tion and	CO4
Common Problems of rural India - Technology development and its suitability - Sustainability - Value addition to agricultural products - Service learning and youth volunteering - Shramdaan - Campus cleaning - Field visit to nearby communities - village survey - Initiatives to clean and green environment - preservation of water bodies in adopted villages. Lecture Periods: - Practical Periods: 30 Total Periods: 30 Reference Books	UNIT-V	Comm	unity Issues and The Use Of Techr	rology		- "	Periods: (06			J
Lecture Periods: - Tutorial Periods: - Practical Periods: 30 Total Periods: 30 Reference Books	products - Servic survey - Initiative	ms of relearning to the contract of the contra	ural India - Technology development ing and youth volunteering – Shramda	and its suitat an - Campus	cleaning	- Field	oility - Value	add	lition to ag ommunities	ricultural s - village	CO5
	Lecture Periods	:-						Tota	al Periods	: 30	
						101091					

- 1. Brar Ajmer Singh, Gill Jagtar Singh, Bains Jagdish, "Modern Textbook of Physical Education Health and Sports- I", Kalyani Publishers, 6th Edition, 2014
- 2. B.K.S. lyengar, "Light on Yoga: The Definitive Guide to Yoga Practice", Thorsons Publishers, Thorsons Classics edition, 2015
- 3. Joseph, Siby K, Mahodaya, "Bharat Essays on Conflict Resolution", Institute of Gandhian Studies Publishers, 2007 4. Barman Prateeti, Goswami, "Document on Peace Education", Triveni Akansha Publishing House, New Delhi, 2009

- 5. Prof R.B.S. Verma, "Field Work Practicum in Social Work-Emerging Concerns", Rapid Publisher, Lucknow, 2020 6. Sibereisen, K, Richard M, "Lerner Approaches to Positive Youth Development", Sage Publications, New Delhi, 2007
- 7. Hoshiar Singh, "Administration of Rural Development in India", Sterling Publisher, the University of Michigan, 2009

- 1. http://www.thebetterindia.com/140/national-service-scheme-nss
- http://en.wikipedia.org/wiki/national-service-scheme 19=http://nss.nic.in/adminstruct 2.
- http://nss.nic. in 3.
- http://socialworknss.org/about.html
- Young Journal on Youth published by SAGE: http://you.sagepub.com

Evaluation methods

Assessment		Total Mark		
	Attendance	MCQ Test	Presentation / Activity / Assignment	
Marks	10	30	60	100

N.Ph