DEPARTMENT OF SCIENCE AND HUMANITIES
COURSE OUTCOME WITH POS

NAME OF THE PROGRAM : B.TECH

SUBJECT NAME : MATHEMATICS-1

SUBJECT CODE : C102

REGULATION : MR23

ACADEMIC YEAR : 2023-24

SEMESTER : I/I

FACULTY : O.BHAVEENA SRI

After the completion of the course the student will able to learn

CO. NO	COURSE OUT COME	RBTL
C102.1	Determine the rank of a matrix and Solve the system of linear algebraic equations	Understand(L2)
C102.2	Determine the eigen values and eigen vectors of a matrix and Discuss the nature of quadratic forms	Apply(L3)
C102.3	Concepts of various types of convergence and Concepts of various types of Mean Theorems	Apply(L3)
C102.4	Concepts of Total Derivative and Jacobian and Determination of maximum and minimum values of functions of two variables.	Apply(L3)
C102.5	Concept of double and triple integration and Evaluating area and volumes covered by region by applying double and triple integrations.	Apply(L3)

Remember- L 1 **Understand - L 2** **Apply - L 3**

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(AUTONOMOUS)
PULLADIGUNTA, GUNTUR-522017

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WOMEN'S ENGINEERING COLLEGE
(AUTONOMOUS)
PULLADIGUNTA, GUNTUR-522017.

Mapping of course outcomes with program outcomes:

CO&PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C102.1	2	2												
C102.2	2	2												
C102.3	2	2												
C102.4	2	2												
C102.5	3	2												
TOTAL	11	10												
No of Co's Mapping With Po/Pso	5	5												
Average	2.2	2												

* Low: 1 *Medium: 2 *High: 3

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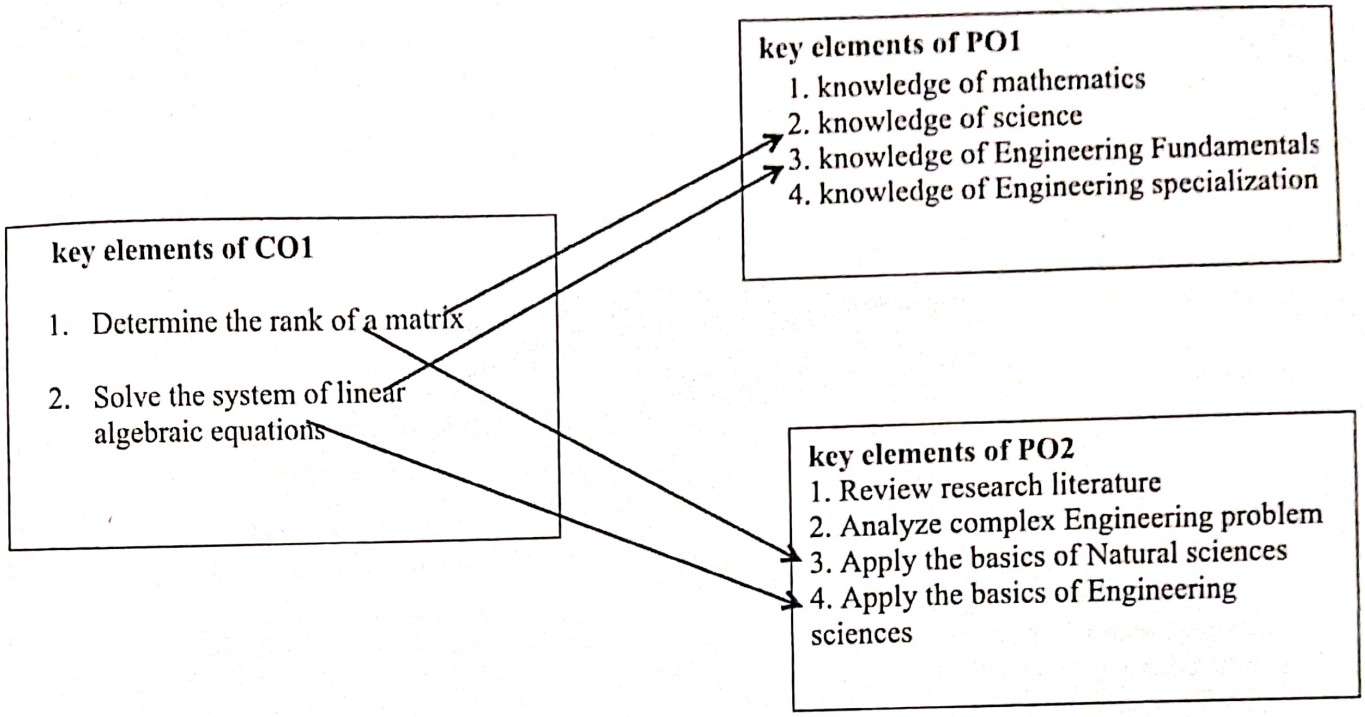
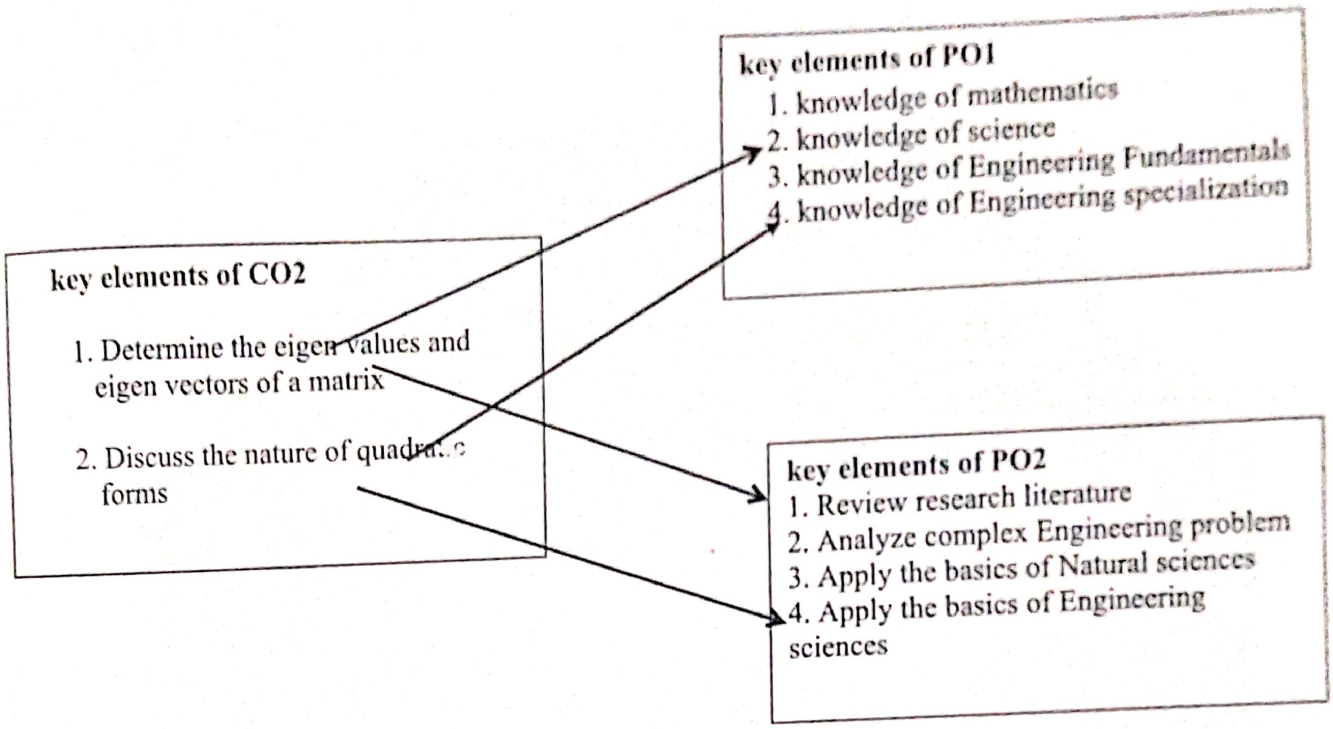
CO1: Determine the rank of a matrix and solve the system of linear algebraic equations



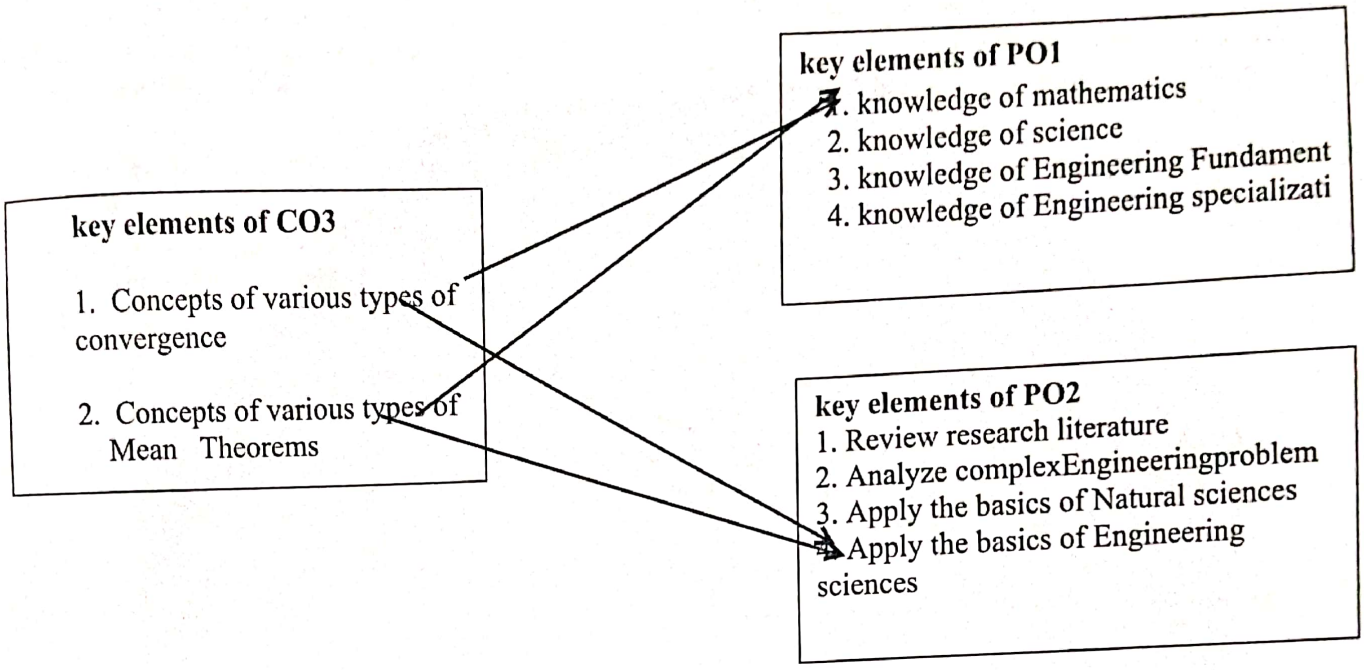
No .of Key elements in PO1=n = 4
No. of key elements of CO1 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO1 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO2: Determine the eigen values and eigen vector of a matrix and discuss the nature of quadratic forms



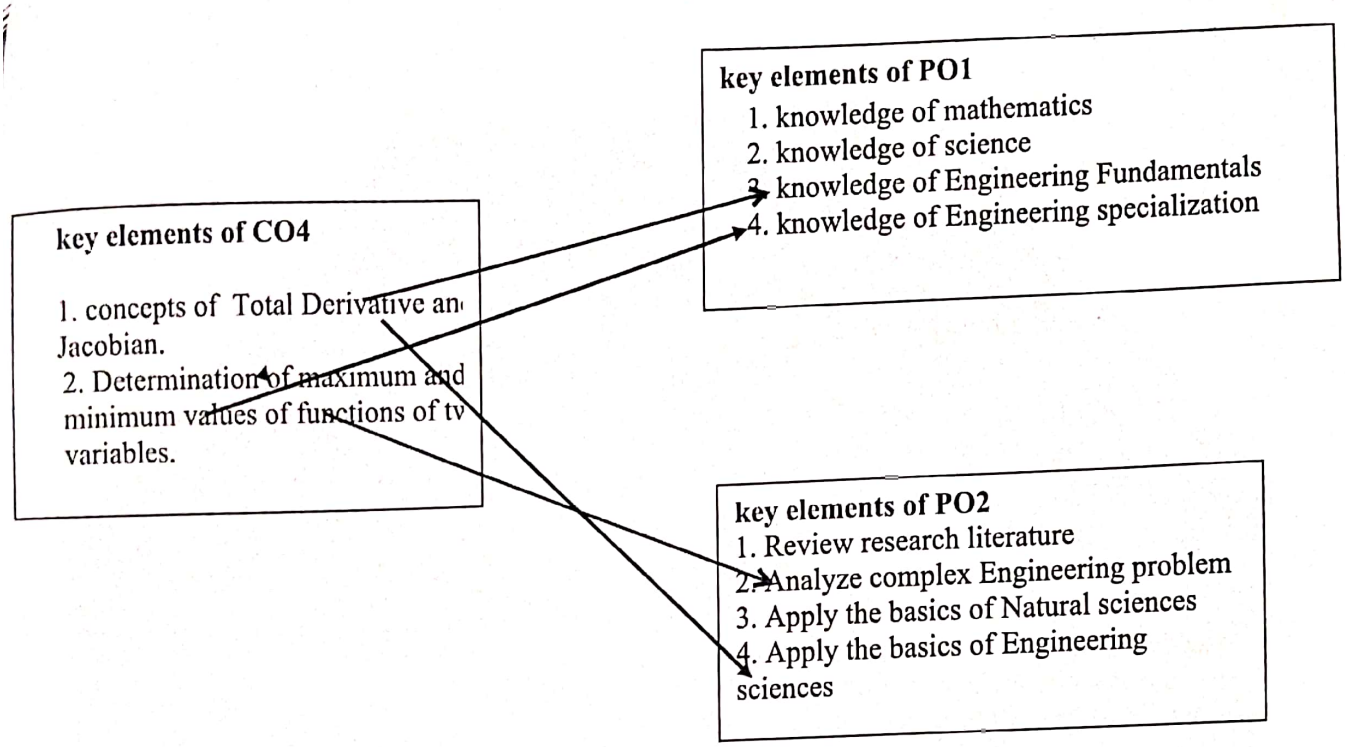
No .of Key elements in PO1=n = 4
No. of key elements of CO2 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO2 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO3: Utilize the Mean Value theorems to real life problems



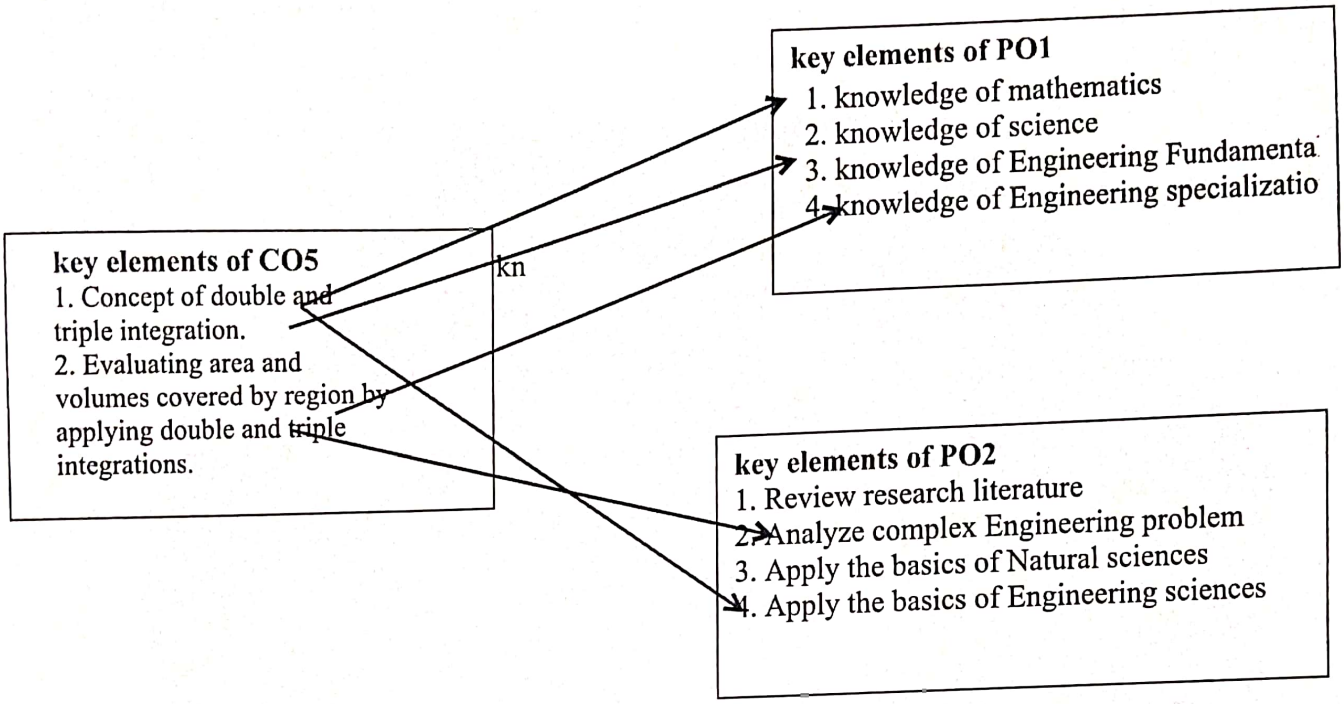
No .of Key elements in PO1=n = 4
No. of key elements of CO3 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO3 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO4: Learning important tools of calculus in higher dimensions



No .of Key elements in PO1=n = 4
No. of key elements of CO4 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO4 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO5: Apply double and triple integration techniques in evaluating areas and volumes covered by region.



No .of Key elements in PO1=n = 4
No. of key elements of CO5 mapping with key elements of PO1=m=3
(m/n)*100=(3/4)*100=75%=3
No .of Key elements in PO2=n = 4
No. of key elements of CO5 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

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DEPARTMENT OF SCIENCE AND HUMANITIES

YEAR/SEMESTER: I.B.Tech, I-SEMESTER

COURSE NAME : COMMUNICATIVE ENGLISH

Lesson Plan

Unit Number	Topic covered	Source	Tools usage	Hours
I	Text: "The Gift of Magi" (Listen & Reading (text)	Pathfinder	Green board & chalk	1-4
	Dialogue practice on self introduction (speaking)	web link	Audio practice on Computer	5
	Skimming & Scanning	Textbook & weblink	Green board & chalk	6
	Capital Letters & Punctuation, Commonly Mis-spelt words, Content & function words	Textbook & weblink	Green board & chalk & PPT	7
	Parts of Speech	Textbook & weblink	Green board & chalk & PPT	8
	Sentence Structure and word order	Textbook & weblink	Green board & chalk & PPT	9
	Word roots, prefixes, suffixes	Textbook & weblink	Green board & chalk & PPT	10
	Synonyms and Antonyms	E-dictionary	Wenlink	11
Unit Number				
II	"The Brook" a poem written by Tennyson & Listen for the main idea of the text	Textbook	Green board & chalk & google	12 -14
	Short talk & Dialogue	Weblink of Google	Computer	15
	Sentence sequencing & Paragraph Writing	Weblink of Google & textbook	Green board & chalk & google Computer	16 -17
	Cohesive devices 53 were observed	Textbook & Google	Green board & chalk & google Computer	18
	Articles & prepositions	Textbook & Google	Green board & chalk & google Computer	19
	Homonyms, homographs & homophones	Textbook & Google	Green board & chalk & google Computer	20
Unit : III	Elon Musk	Textbook & Google	Green board & chalk & google Computer	21 - 24
	Listening Comprehension	Textbook & Google	Weblink of google	25

	Discussion, reporting and drawing inferences	Textbook & Google	Green board & google link	26
	Paraphrasing, summarizing & Note -making	Text-book & weblinks	Green board & google link	27-28
	Verb & Tense	Text-book & weblinks	Green board & google link	29 & 30
	Concord	Text-book & weblinks	Green board & google link	31& 32
	Compound words & Collocations	Text-book & weblinks	Green board & google link	33
Unit: IV	"The Toys of Peace" written by Saki	Text-book & weblinks	Green board & google link	34-36
	Expressions of Spoken English	Text-book & weblinks	Green board & google link	37
	Data Interpretation	Text-book & weblinks	Green board & google link	38
	Writing Official letters	Text-book & weblinks	Green board & google link	39
	Resume Writing	Text-book & weblinks	Green board & google link	40
	Sentence Transformation: 1.Active & Passive verb & 2. Direct Indirec t Speech	Text-book & weblinks	Green board & google link	41-42
	Words Often Confused / jargon	Text-book & weblinks	Green board & google link	43
Unit: V	The Power of Intrapersonal Communication	Text-book & weblinks	Green board & google link	44-48
	How to make a Presentation	Text-book & weblinks	Green board & google link	49-50
	Reading Comprehension	Text-book & weblinks	Green board & google link	51
	Essay Writing Techniques	Text-book & weblinks	Green board & google link	52
	Correcting Common Errors	Text-book & weblinks	Green board & google link	53-54
	Technical Vocabulary Practice	Text-book & weblinks	Green board & google link	55

Prepard by Dr.D.Subba Rao

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DEPARTMENT OF SCIENCE AND HUMANITIES

YEAR/SEMESTER :I.B.Tech., I-Semester -2023-2024

COURSE NAME: COMMUNICATIVE ENGLISH

Mapping COs with POs/ PSOs

CO&PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1										2				
CO2										1				
CO3										1				
CO4										2				
CO5										3				
TOTAL										9				
No of Co'sMappingWithPo/Pso										5				
Average										1.8				

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DEPARTMENT OF SCIENCE AND HUMANITIES

ACADEMIC YEAR: I.B.Tech, I-SEMESTER- 2023-24
COURSE NAME: CHEMISTRY

S.No	Topic	Teaching Aid	Books
1	Fundamentals of Quantum mechanics,bohr's theory ,debroglie theory	Chalk & Talk	T1, A1
2	Hiesenberg uncertainity principle,	Chalk & Talk	T1,T2,A1
3	Schrodinger Wave equation	Chalk & Talk PPT	A1,T1
4	Significance of Ψ and Ψ^2	Chalk & Talk	R2,T1,T2,A1
5	particle in one dimensional box	Chalk & Talk	R1,T1,T2
6	Molecular orbital theory	Chalk & Talk	T1,T2,R1
7	bonding in homo diatomic molecules – energy level diagrams of O2 , bond order and magnetism	Chalk & Talk	R3,R1,A1
8	bonding in hetero diatomic molecules – energy level diagrams of CO, bond order and magnetism	Chalk & Talk	T1,T2
9	π-molecular orbitals of Butadiene and Benzene,		
	UNIT II Modern Engineering materials		
1	Semiconductors – Introduction	Chalk & Talk	T1,A1
2	Semiconductors – basic concept, applications.	Chalk & Talk	T2,R2
3	Super conductors-Introduction	Chalk & Talk	T2,R3
4	Super conductors- basic concept, applications.	Chalk & Talk	T2,R3

5	Supercapacitors: Introduction, Classification	Chalk & Talk	T2,R1
6	Basic Concept-Applications.	Chalk & Talk	T1,A1
7	Nano materials: Introduction, classification	Chalk & Talk	T2,R2
8	properties and applications of Fullerenes	Chalk & Talk	T2,R3
9	properties and applications of carbon nano tubes	Chalk & Talk	T2,R3
10	properties and applications of Graphenes nanoparticles.	Chalk & Talk	T1,T2
	UNIT III Electrochemistry and Applications		
1	Electrochemical cell	Chalk & Talk	T2,R1
2	single Electrode potential	Chalk & Talk	T1,A1
3	Nernst equation, cell potential calculations and numerical problems	Chalk & Talk	T2,R2
4	Electro chemical series	Chalk & Talk	T2,R3
5	standard hydrogen electrode, calomel electrode.	Chalk & Talk	T2,R3
6	Electrochemical sensors	Chalk & Talk	T2,R1
7	Potentiometric sensors with examples	Chalk & Talk	T1,A1
8	Amperometric sensors with examples.	Chalk & Talk	T2,R2
9	Primary cells – Zinc-air battery	Chalk & Talk	T1,T2
10	Secondary cells –Lithium-ion batteries	Chalk & Talk	A1,T2
11	Lead(Pb)-lead acid storage batteries	Chalk & Talk	W2
12	Fuel cells- Hydrogen-Oxygenfuel cell– working of the cells	Chalk & Talk	T1,A1
	Polymer Electrolyte Membrane Fuel cells (PEMFC).	Chalk & Talk	T1,T2,A1
	UNIT IV Polymer Chemistry		
1	Introduction to polymers functionality of monomers,	Chalk & Talk	W3
2	Chain growth polymerization with specific examples and mechanisms of polymer formation.	Chalk & Talk	T2,R3
3	step growth polymerization with specific examples and mechanisms of polymer formation.	Chalk &Talk	T2,R1,A1

4	coordination polymerization with specific examples and mechanisms of polymer formation.	Chalk & Talk	T1,A1
5	Plastics –Thermo Plastics	Chalk & Talk	T2,R3
6	Thermosetting plastics	Chalk & Talk	A1,T1,T2
7	Preparation, properties and applications of – PVC, Teflon		
8	Preparation, properties and applications of Bakelite	Chalk & Talk	T1,T2
9	Preparation, properties and applications of Nylon-6,6 ,carbon fibres.		
10	Elastomers–Buna-S, Buna-N–preparation, properties and applications	Chalk & Talk	R1,R2,T2
11	Conducting polymers – polyacetylene mechanism of conduction and applications	Chalk & Talk	T1,R2,R3
12	polyaniline, – mechanism of conduction and applications	Chalk & Talk	T2,A1
13	Bio-Degradable polymers - Poly Glycolic Acid (PGA), Polyl Lactic Acid (PLA).	Chalk & Talk	T2,R1
	UNIT V Instrumental Methods and Applications		
1	Electromagnetic spectrum	Chalk & Talk	TT1,R2,R3
2	Absorption of radiation: Beer-Lambert's law	Chalk & Talk	W7
3	UV-Visible Spectroscopy, electronic transition	Chalk & Talk	W4
4	Instrumentation of UV	Chalk & Talk	TT
5	IR spectroscopy and Instrumentation of IR	Chalk & Talk	T2,R3,A1
6	Magnetic resonance image(MRI) procedure and applications		W7
7	CT scan -procedure and applications of CT scan	Chalk & Talk	T1,R3

Text Books:

1. P.C. Jain and M. Jain "Engineering Chemistry", 15/e, Dhanpat Rai & Sons, Delhi, (Latest

edition).

2. Shikha Agarwal, "Engineering Chemistry", Cambridge University Press, New Delhi, (2019).
3. S.S. Dara, "A Textbook of Engineering Chemistry", S.Chand & Co, (2010).
4. Shashi Chawla, "Engineering Chemistry", Dhanpat Rai Publicating Co. (Latest edition).

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Mapping of course outcomes with program outcomes:

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DEPARTMENT OF SCIENCE AND HUMANITIES

ACADEMIC YEAR: I.B.Tech, I-SEMESTER- 2023-24
COURSE NAME: CHEMISTRY

Mapping of course outcomes with program outcomes:

CO&PO	PO1	PO 2	PO3	PO4	PO 5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO2
C105.1										2				
C105.2										1				
C105.3										2				
C105.4										3				
C105.5										1				
TOTAL										9				
No of Co's Mapping With Po/Pso										5				
Average										1.8				

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SIGNATURE OF THE FACULTY

(D.SUVARCHALA)

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Malineni Lakshmaiah Women's Engineering College :: Guntur
Department of Science and Humanities

COURSE OUTCOMES

Subject Name : ENGINEERING PHYSICS
Year / Semester : I / I
Degree / Branch : B. Tech / ECE
Academic Year : 2023 – 2024
Regulation : Mr23

After the completion of course, the student will be able to

CO No.	Course Outcome Statement	Taxonomy Level
C101.1	Analyze the differences between interference and diffraction with Applications	Analyze l4
C101.2	Familiarize with the basics of crystals and their structures.	Apply L3
C101.3	Explain the application of dielectric and magnetic materials.	Understand L2
C101.4	Understand the significance of wave function	Understand L2
C101.5	Identify applications of semiconductors in electronic devices.	Understand L2

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DEPARTMENT OF SCIENCE AND HUMANITIES

Subject Name : ENGINEERING PHYSICS
Year / Semester : I / I
Degree / Branch : B. Tech / ECE
Academic Year : 2023 – 2024
Regulation : Mr23

Name of the Course:	ENGINEERING PHYSICS	Course Code:	C101

Course Outcomes:
After the completion of course, the student will be able to

CO No.	Course Outcome Statement	Taxonomy Level
C101.1	Analyze the differences between interference and diffraction with Applications	Analyze L4
C101.2	Familiarize with the basics of crystals and their structures.	Apply L3
C101.3	Explain the application of dielectric and magnetic materials	Understand L2
C101.4	Understand the significance of wave function	Understand L2
C101.5	Identify applications of semiconductors in electronic devices.	Understand L2

Mapping of course outcomes with program outcomes:
High -3 Medium -2 Low-1

Course Articulation Matrix: Mapping Course Outcomes (COs) with Program Outcomes (POs)

PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO
C101.1	2	3	1											
C101.2	3	1	2											
C101.3	3	2	1											
C101.4	3	2	1											
C101.5	2	3	1											

Name and Signature of the Course Coordinator:	M. Bramaiah

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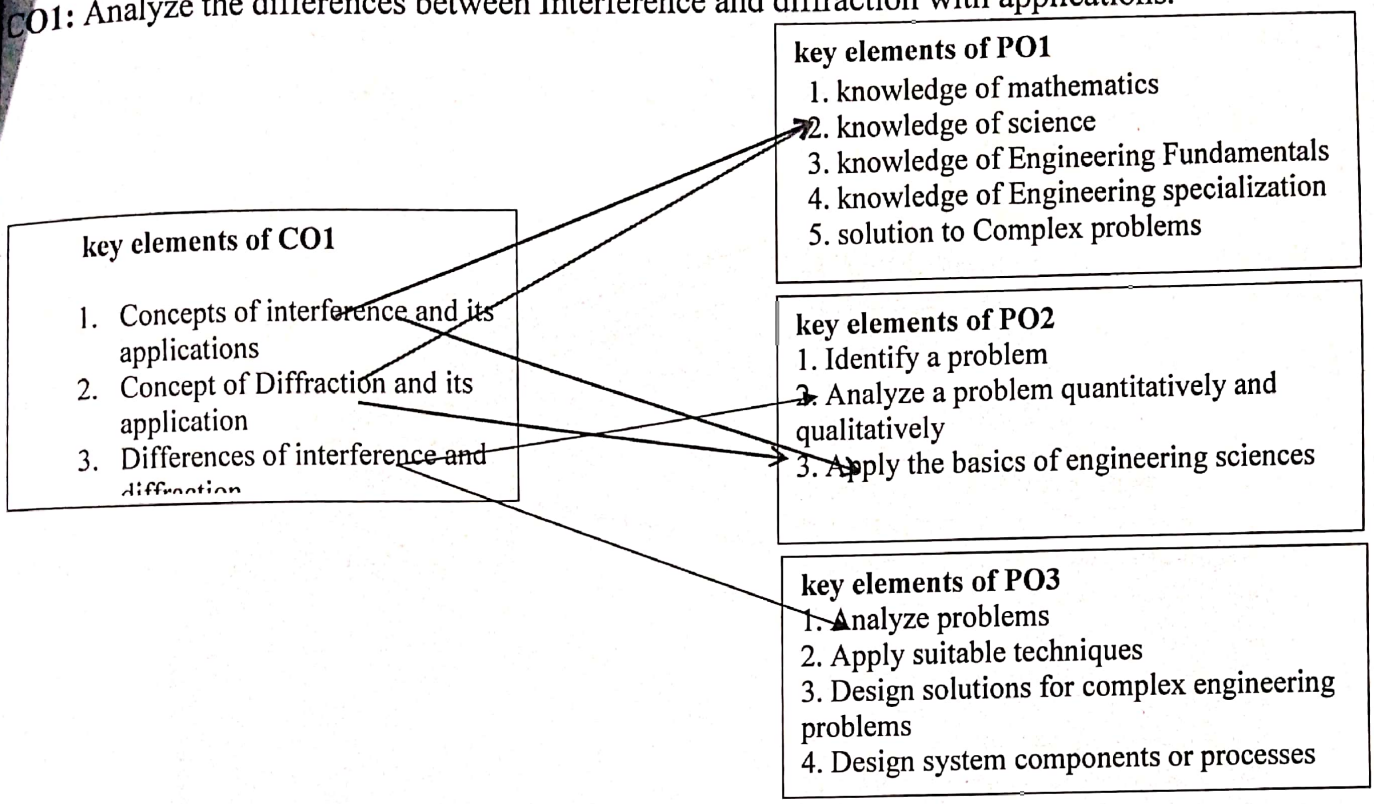
CO1: Analyze the differences between Interference and diffraction with applications.



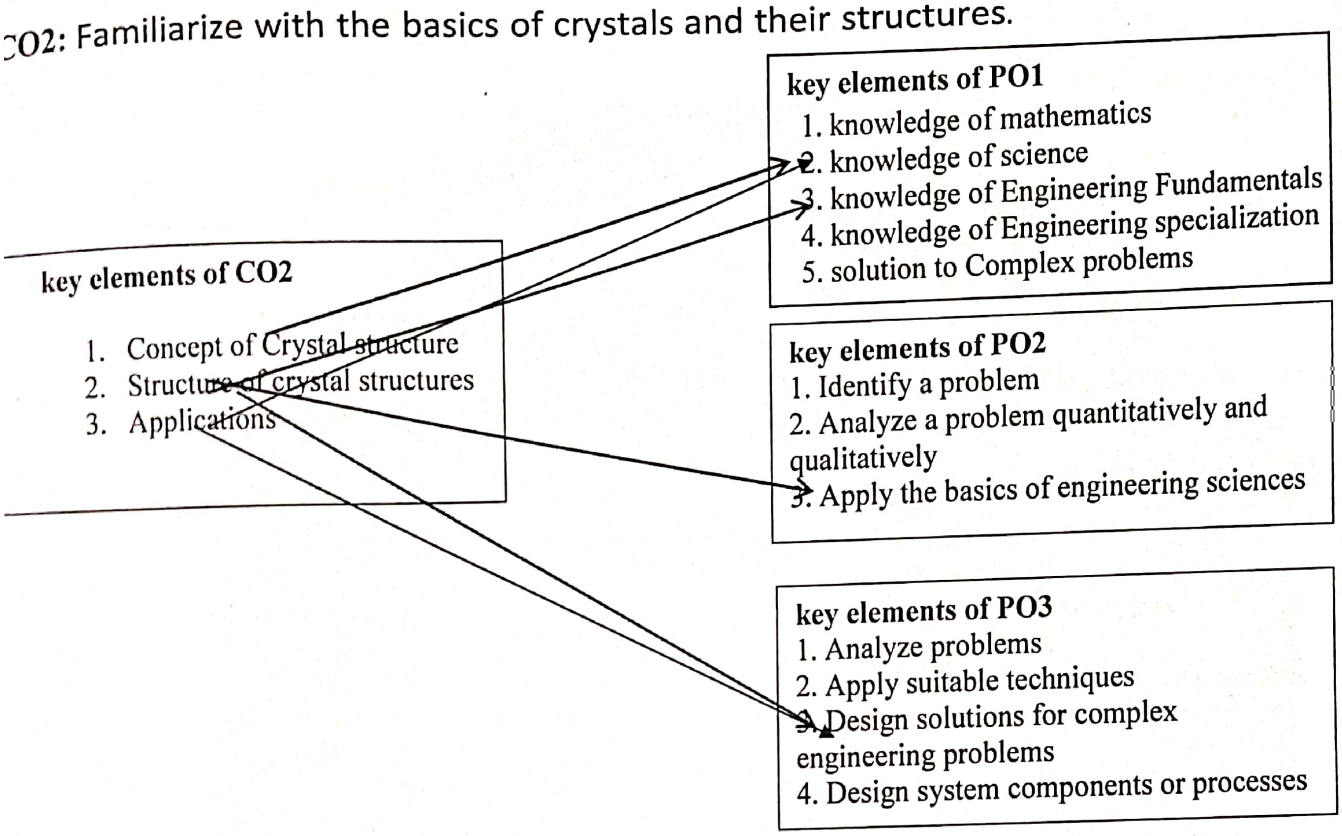
No .of Key elements in CO1: n = 3

No. of key elements of CO1 mapping with key elements of PO1=m=2, (m/n)*100=(2/3)*100=66%==2

No. of key elements of CO1 is mapping with key elements of PO2= m=3, (m/n)*100=(2/3)*100=100%==3

No. of key elements of CO1 is mapping with key elements of PO3= m=1, (m/n)*100=(1/3)*100=33%==1

CO2: Familiarize with the basics of crystals and their structures.



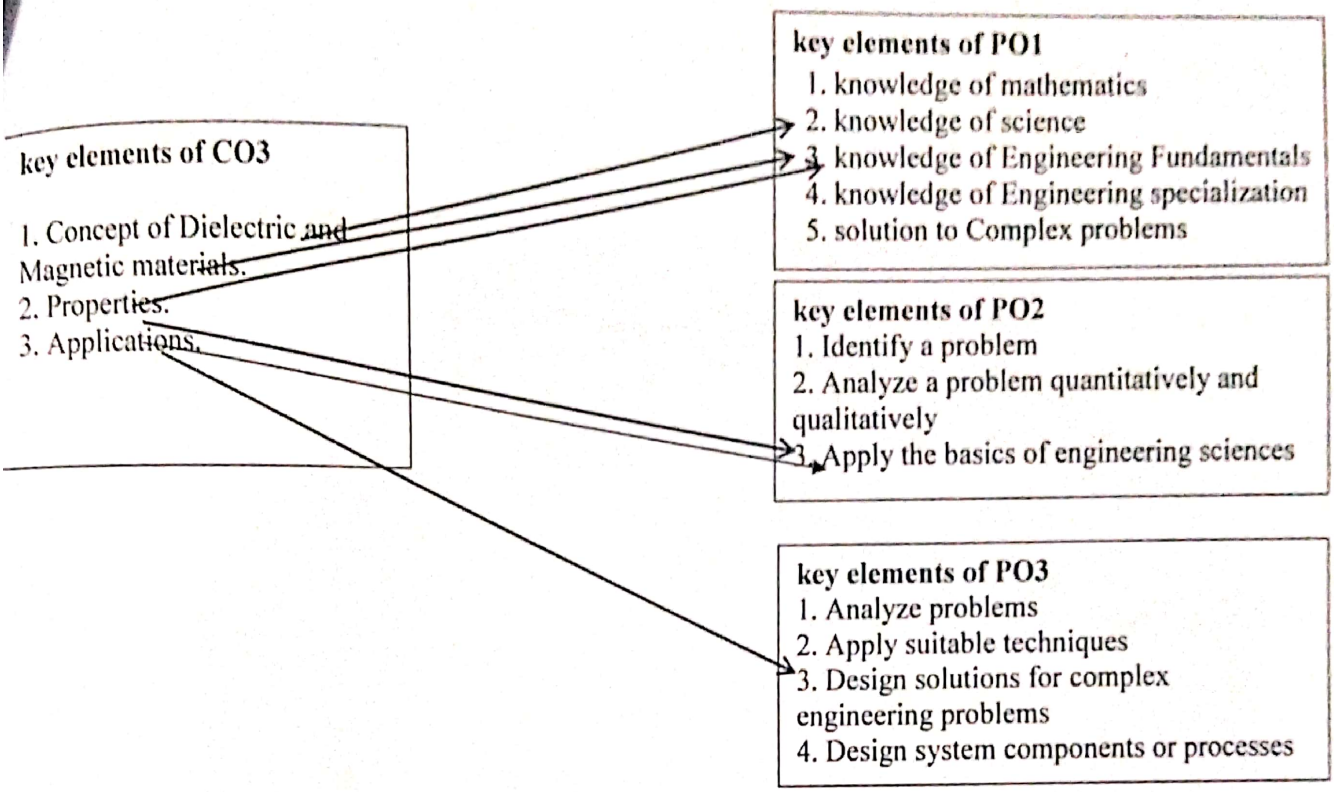
No .of Key elements in CO1: n = 3

No. of key elements of CO1 mapping with key elements of PO1=m=3,(m/n)*100=(3/3)*100=100%==3

No. of key elements of CO1 is mapping with key elements of PO2= m=1,(m/n)*100=(1/3)*100=33%==1

No. of key elements of CO1 is mapping with key elements of PO3= m=1,(m/n)*100=(2/3)*100=66%==2

CO3: Explain the applications of Dielectrics and Magnetic materials.



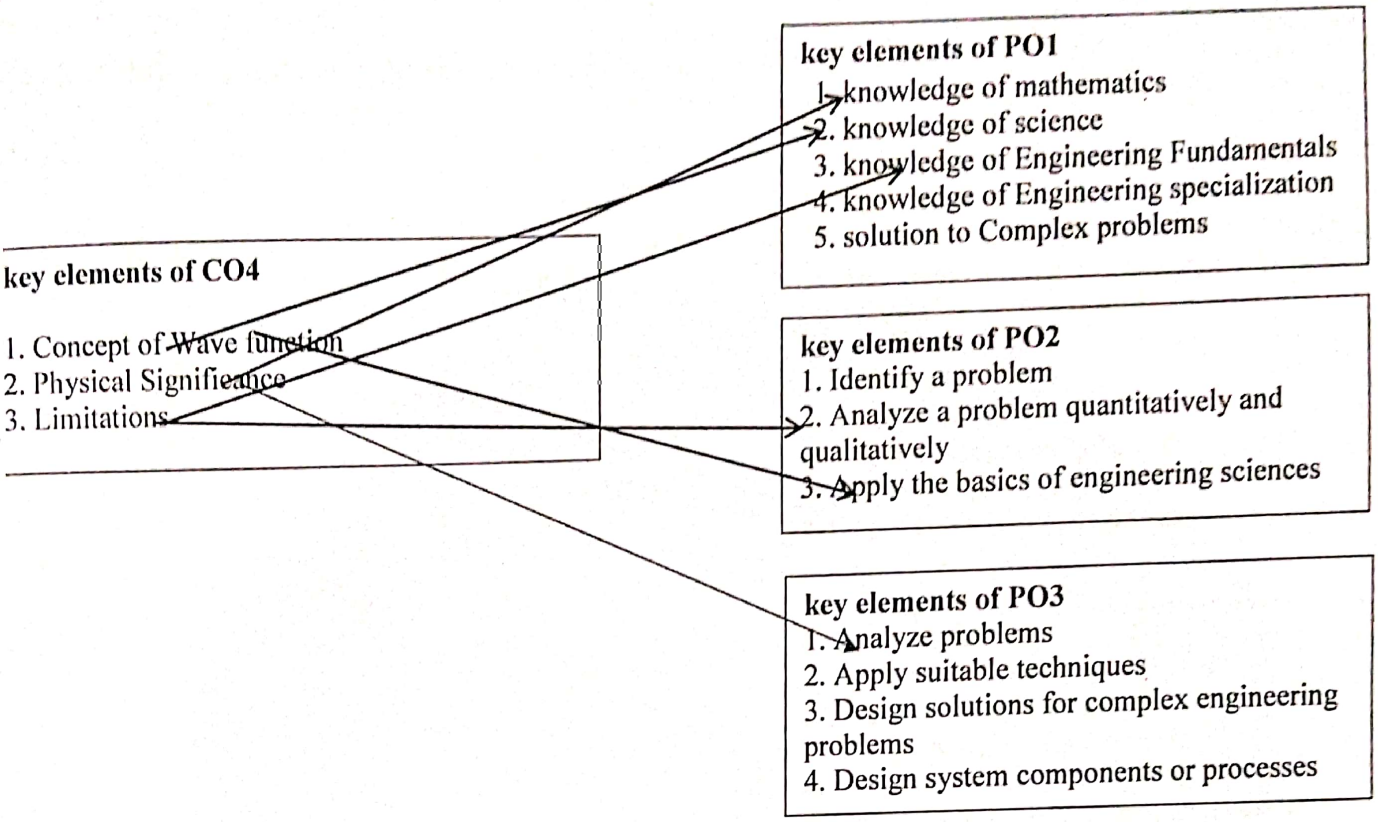
No .of Key elements in CO1: n = 3

No. of key elements of CO1 mapping with key elements of PO1=m=3, (m/n)*100=(3/3)*100=100%==3

No. of key elements of CO1 is mapping with key elements of PO2= m=2, (m/n)*100=(2/3)*100=66%==2

No. of key elements of CO1 is mapping with key elements of PO3= m=1, (m/n)*100=(1/3)*100=33%==1

CO4: Analyze the physical significance of wave function.



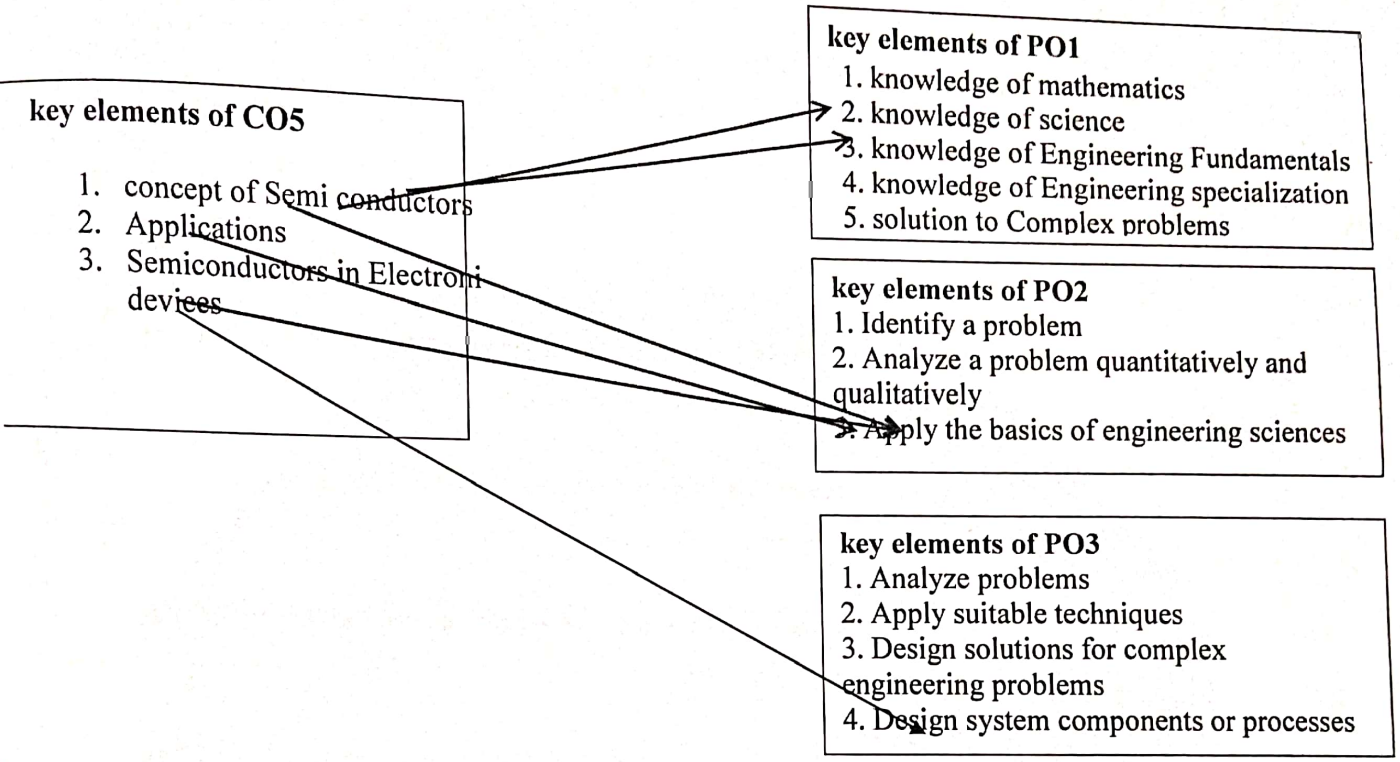
No .of Key elements in CO1: n = 3

No. of key elements of CO1 mapping with key elements of PO1=m=3, (m/n)*100=(3/3)*100=100%==3

No. of key elements of CO1 is mapping with key elements of PO2= m=2, (m/n)*100=(2/3)*100=66%==2

No. of key elements of CO1 is mapping with key elements of PO3= m=1, (m/n)*100=(1/3)*100=33%==1

CO5: Identify applications of semiconductors in electronic devices..



No .of Key elements in CO1: n = 3

No. of key elements of CO1 mapping with key elements of PO1=m=2,(m/n)*100=(2/3)*100=67%==2

No. of key elements of CO1 is mapping with key elements of PO2= m=3,(m/n)*100=(3/3)*100=100%==3

No. of key elements of CO1 is mapping with key elements of PO3= m=1,(m/n)*100=(1/3)*100=34%==1

Malineni Lakshmaiah Womens Engineering College : : Guntur

Department of Science and Humanities

LESSON PLAN FOR TUTORIALS

Faculty Name : M.PRASAD
Course Name : ENGINEERING PHYSICS
Academic Year : 2023-24 I Semester-2023-2024
Degree & Branch : I B. Tech ECE

S.No	Topic	Teaching Aid	Books
1.	Interference in thin films by reflection.(Qualitative method).	Chalk & Talk	T1,T3 R1
2.	Newton's rings construction and working and its applications.	Chalk & Talk	T1,T3 R1
3.	Fraunhoffer diffraction at single slit, Maxima & Minima conditions.	Chalk & Talk	T1,T3 R1
4.	Grating equation, Resolving power of a grating	Chalk & Talk	T1,T3 R1
5.	Quarter wave plate and half wave plates, Nicols prism.	Chalk & Talk	T1,T3 R1
6.	packing fraction of SC, BCC & FCC	Chalk & Talk	T1,T3 R1
7.	Miller indices	PPT	T1,T3 R1
8.	separation between successive (hkl) planes.	Chalk & Talk	T1,T3 R1
9.	Properties of matter waves, De brogely hypothesis.	Chalk & Talk	T1,T3 R1
10.	Schrodinger Time dependent & Independent wave equation.	Chalk & Talk	T1,T3 R1

11.	Difference between C.F.T& Q.F.T.	Chalk & Talk	T1,T3, R1
12.	Origin of magnetic materials.	Chalk & Talk	T1,T3 R1
13.	Classification of magnetic materials, Dia, Para, Ferro materials.	Chalk & Talk	T1,T3 R1
14.	Hysteresis Loop. Soft & Hard magnetic materials	Chalk & Talk	T1,T3 R1
15.	Types of polarizations, Electrics ,Ionic ,Orientation.	Chalk & Talk	T1,T3 R1
16.	Local internal flieds.	Chalk & Talk	T1,T3 R1
17.	Drift & Diffusion, Relevance of Einstein's equation.	Chalk & Talk	T1,T3 R1
18.	Hall effect in semiconductors	Chalk & Talk	T1,T3 R5

Textbooks:

5. A Text book of Engineering Physics, M. N. Avadhanulu, P.G.Kshirsagar & TVS ArunMurthy, S. Chand Publications, 11th Edition 2019.
6. Engineering Physics - D.K.Bhattacharya and Poonam Tandon, Oxford press (2015)
7. Basic Engineering Physics Dr.P.Sreenivasarao and Dr.K.muralidhar, Himalaya publishing house 2013.
8. Engineering Physics Dr.P.Sreenivasarao and Dr.K.muralidhar,Himalaya publishing house 2017.

Reference Book

5. Engineering Physics - B.K. Pandey and S. Chaturvedi, Cengage Learning 2021.
6. Engineering Physics - Shatendra Sharma, Jyotsna Sharma, Pearson Education,2018.
7. Engineering Physics" - Sanjay D. Jain, D. Sahasrabudhe and Girish, UniversityPress. 2010
8. Engineering Physics - M.R. Srinivasan, New Age international publishers (2009).

Web Resources: https://www.loc.gov/rr/scitech/selected-internet/physics.

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(An ISO9001:2008 Certified Institution)
Pulladigunta (Village), Vatticherukuru (Mandal),
Guntur-522017, Andhra Pradesh, India

LESSON PLAN

Subject Name : ENGINEERING GRAPHICS
Year / Semester : I / I
Degree / Branch : B.Tech / ECE
Academic Year : 2023-24

S.No	Topic(s)	No. of Periods	Reference Book	Teaching Aid
	UNIT – I			
1	Introduction to engineering drawing, lettering, dimensioning & polygons	2	T1, R3	Chalk & talk
2	Parabola,Ellipse, Hyperbola - General method	2	T2, R1	Chalk & talk
3	Cycloids & Involutes	4	T3, R3	Chalk & talk
4	Scales- Plain, Diagonal & Vernier scales	4	T2, R1	Chalk & talk
	UNIT – II			
5	Projections of points	4	T2, R3	Chalk & talk
6	Projections of straight lines parallel to both the planes and inclined to one plane	4	T1, R1	Chalk & talk
7	Projections of straight lines inclined to both	4	T1, R1	Chalk & talk
8	Determination of true length	2	T1, R2	Chalk & talk
9	Projection of planes inclined to H.P/V.P and parallel to V.P/H.P	4	T1, R3	Chalk & talk
10	Projections of planes inclined to both	4	T2, R2	Chalk & talk
	UNIT – III			
11	Projection of cylinder and prisms in simple position	2	T1, R1	Chalk & talk
12	Projection of cone and pyramid in simple position	2	T1, R1	Chalk & talk
13	Projection of cylinder and prism in inclined position	3	T1, R1	Chalk & talk
14	Projection of cone and pyramid in simple position	3	T1, R1	Chalk & talk
	UNIT – IV			
15	Sections of solids parallel to HP/VP	2	T1, R1	Chalk & talk
16	Sections of solids inclined to HP/VP	4	T1, R1	Chalk & talk
17	Development of surfaces for cylinder and Prism	2	T2, R3	Chalk & talk

UNIT – V				
18	Conversion of isometric into orthographic	4	T2, R1	PPT
19	Conversion of Orthographic to isometric	4	T1, R3	PPT
TOTAL NO.OF CLASSES		60		

TEXT BOOKS

1. Engineering Drawing by N.D. Butt, Chariot Publications.
2. Engineering Drawing by K.L.Narayana & P. Kannaiah, Scitech Publishers.
3. Engineering Graphics by PI Varghese, McGrawHill Publishers

REFERENCES

1. Engineering Graphics for Degree by K.C. John, PHI Publishers.
2. Engineering Drawing by Agarwal & Agarwal, Tata McGraw Hill Publishers.
3. Engineering Drawing + AutoCad – K Venugopal, V. Prabhu Raja, New Age Publishers.

Web References:

W1. https://nptel.ac.in/courses/112103019/

W2. https://www.smartdraw.com/cad/technical-drawing-software.htm

W3. https://www.autodesk.com/solutions/technical-drawing

W4. http://home.iitk.ac.in/~anupams/ME251/EDP.pdf

W5. http://www.staff.city.ac.uk/~ra600/ME1105/Lectures/ME1110-02.pdf

W6. https://www.teachengineering.org/activities/view/cub_engrdrawings_activity01

W7. https://ocw.mit.edu/courses/mechanical-engineering/2-007-design-and-manufacturing-i-spring-2009/related-resources/drawing_and_sketching/

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Pulladigunta (Village), Vatticherukuru (Mandal),
Guntur-522017, Andhra Pradesh, India

Subject Name : Engineering Graphics
Year / Semester : I / I Sem
Degree / Branch : B.Tech / ECE
Academic Year : 2023 - 2024

MAPPING CO WITH PO/PSO

Cos / Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	-	3	-		-	-	-	-	-	-	-	-	-
CO2	3	1		-		-	-	-	-	-	-	-	-	-
CO3	-	-	3	-	2	-	-	-	-	-	-	-	-	-
CO4	-	3	2	-		-	-	-	-	-	-	-	-	-
CO5	-	-	3	-	2	-	-	-	-	-	-	-	-	-
AVG	2.5	2	2.75	-	2	-	-	-	-	-	-	-	-	-

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DEPARTMENT OF SCIENCE AND HUMANITIES
COURSE OUTCOME WITH PO S

NAME OF THE PROGRAM : I B.TECH

SUBJECT NAME : MATHEMATICS-II

SUBJECT CODE : C102

REGULATION : MR23

ACADEMIC YEAR : 2023-24

SEMESTER : I/II

BRANCH : CSE

NAME OF THE COURSE CO-ORDINATOR: Dr P.SRILAKSHMI

After the completion of the course the student will able to learn

CO. NO	COURSE OUT COME	RBTL
C102.1	Solving the first order differential equations and applications of first order differential equations	Understand(L3)
C102.2	Solving the linear differential equations of higher order and Applications	Apply(L3)
C102.3	Concepts and solving of Homogeneous linear partial equations	Apply(L3)
C102.4	Concepts on Vector Differentiation ,scalar potential and proofs on vector operators	Apply(L2)
C102.5	Concepts on Vector Integration , vector integrals and problems on vector integral theorems	Apply(L2)

Remember- L 1 **Understand - L 2** **Apply - L 3**

Mapping of course outcomes with program outcomes:

CO&PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C102.1	2	2												
C102.2	2	2												
C102.3	2	2												
C102.4	3	2												
C102.5	3	2												
TOTAL	12	10												
No of Co's Mapping With Po/Pso	5	5												
Average	2.4	2												

*** Low: 1** ***Medium: 2** ***High: 3**

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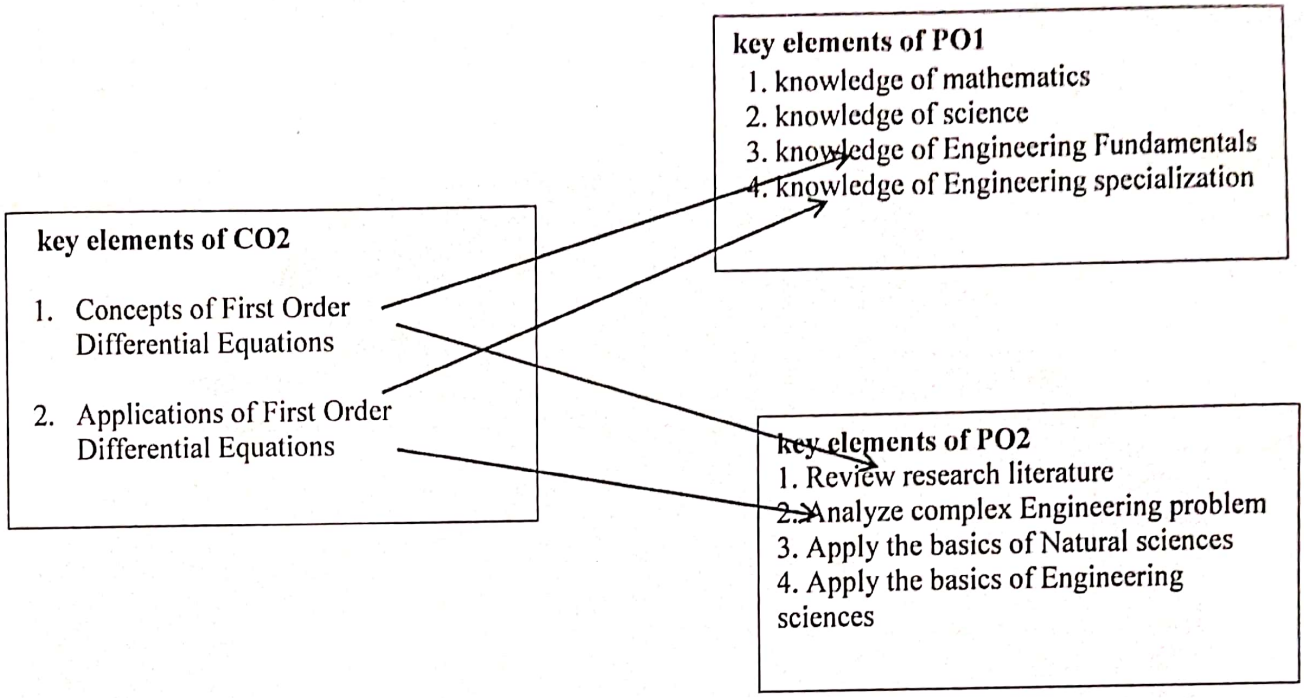
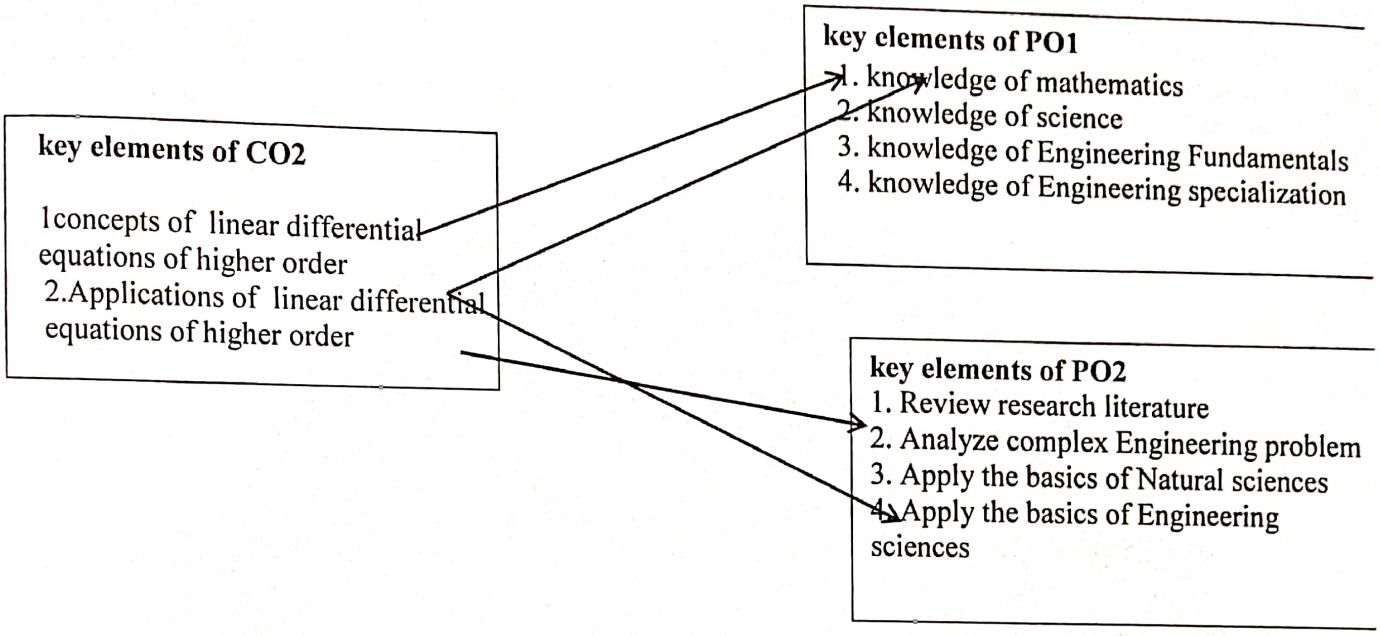
CO1: Solving thefirst order differential equations and applications of first order differential equations



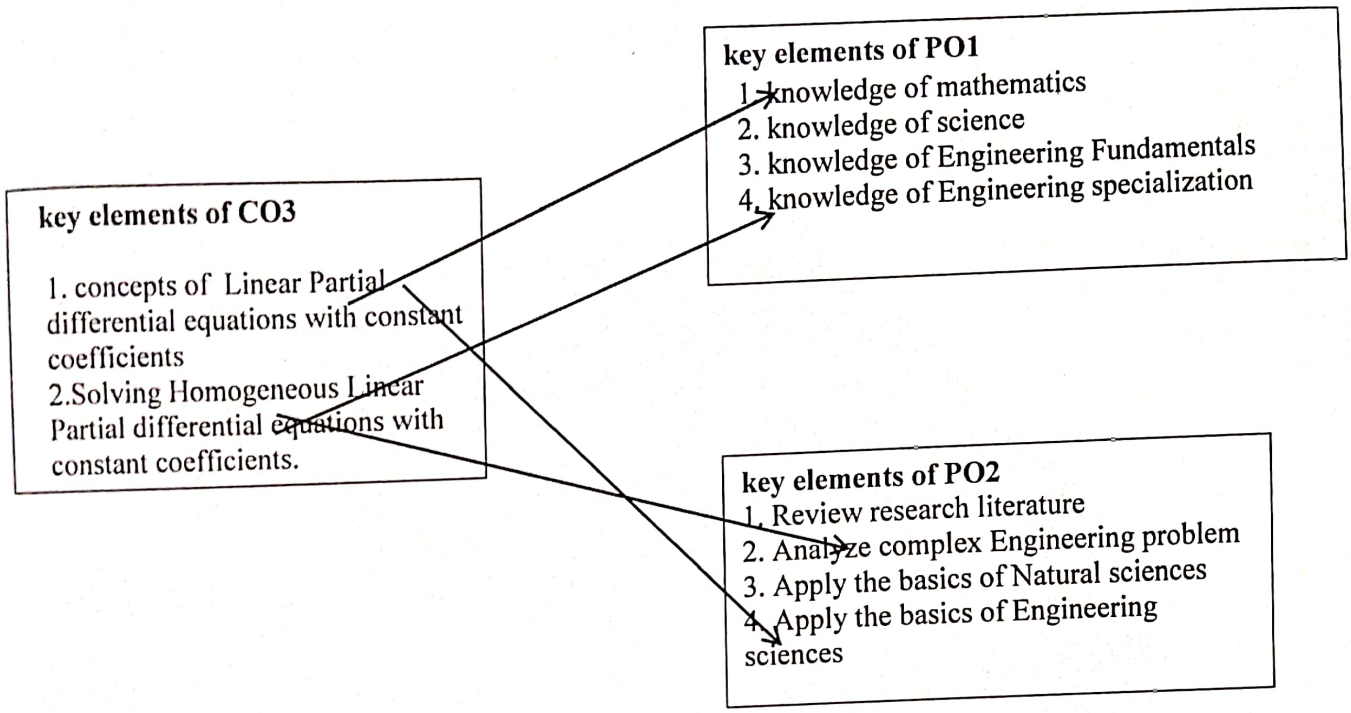
No .of Key elements in PO1=n = 4
No. of key elements of CO1 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO1 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO2: Solving the linear differential equations of higher order and Applications



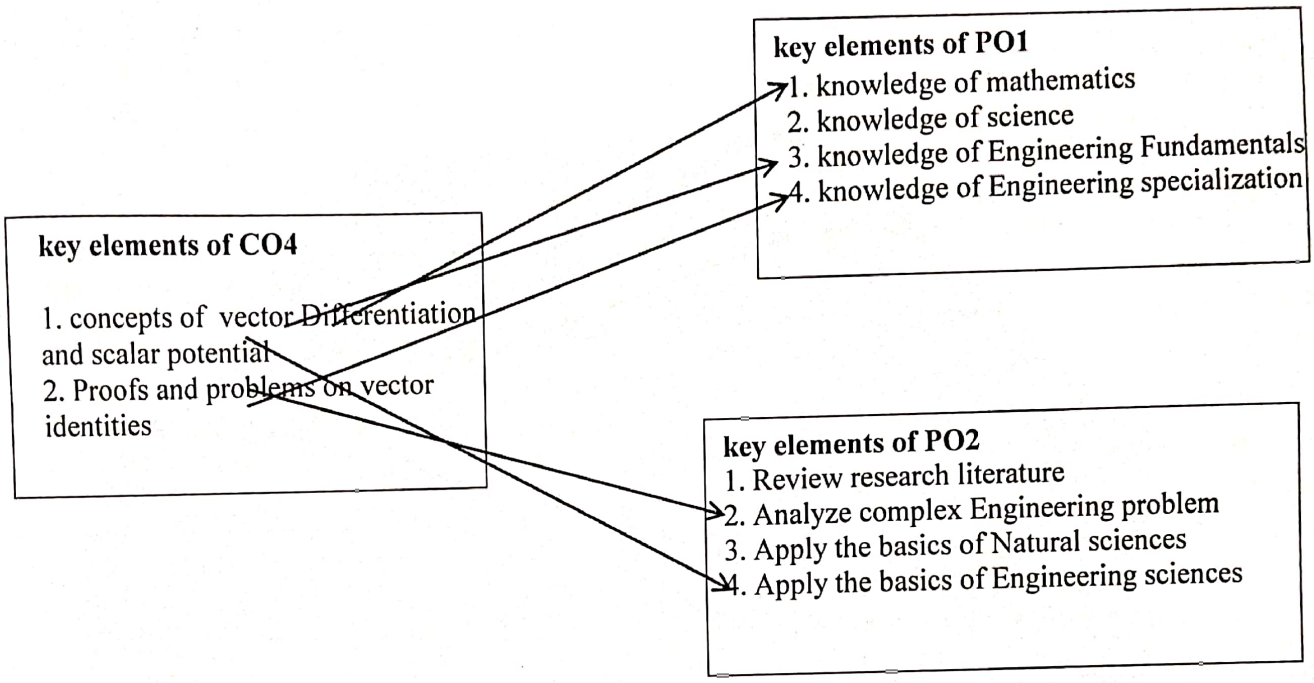
No .of Key elements in PO1=n = 4
No. of key elements of CO2 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO2 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO3: Concepts and solving of Homogeniouslinear partial equations



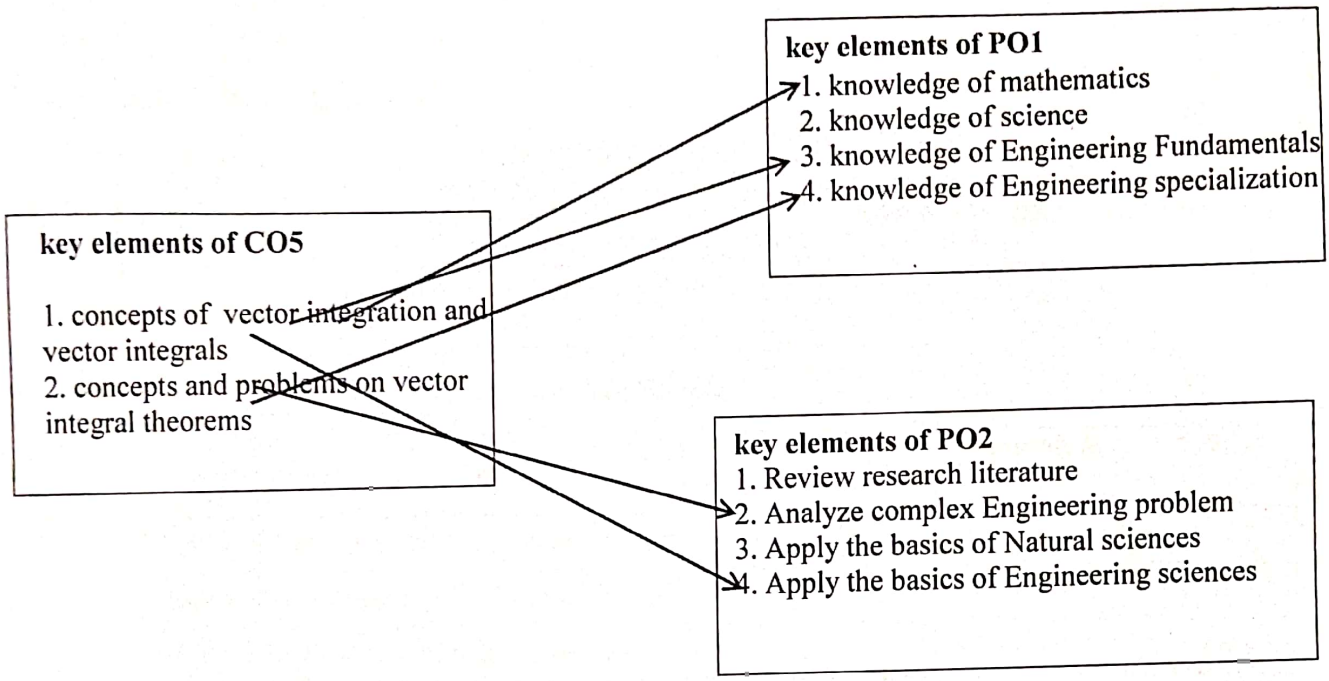
No .of Key elements in PO1=n = 4
No. of key elements of CO3 mapping with key elements of PO1=m=2
(m/n)*100=(2/4)*100=50%=2
No .of Key elements in PO2=n = 4
No. of key elements of CO3 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO4: Concepts on Vector Differentiation ,scalar potential and proofs on vector operators



No .of Key elements in PO1=n = 4
No. of key elements of CO4 mapping with key elements of PO1=m=3
(m/n)*100=(3/4)*100=75%=3
No .of Key elements in PO2=n = 4
No. of key elements of CO4 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

CO5: Concepts on Vector Integration ,vector integrals and problems on vector integral theorems



No .of Key elements in PO1=n = 4
No. of key elements of CO5 mapping with key elements of PO1=m=3
(m/n)*100=(3/4)*100=75%=3
No .of Key elements in PO2=n = 4
No. of key elements of CO5 is mapping with key elements of PO2= m=2
(m/n)*100=(2/4)*100=50%=2

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LESSON PLAN

Academic Year: **2023-24**

Year / Semester: **II**

Faculty Name: **Dr.P.Srilakshmi**

Credits: 3

Regulation: **MR23**

Branch: **I.B.TECH., CSE**

COURSE : **MATHEMATICS-II (DE&VC)**

LESSON PLAN

S.No	Topic	Teaching Aid	Books
UNIT I : Differential Equations of first order and first degree			
1	First order and first degree of Differential Equations	Chalk & Talk	T1,T2
2	Fundamentals on First order Differential Equations	Chalk & Talk	T1,T2
3	Exact Differential Equations	Chalk & Talk	T1,T2
4	Non Exact Differential Equations Type-I	Chalk & Talk	T1,T2
5	Non Exact Differential Equations Type-II	Chalk & Talk	T1,T2
6	Non Exact Differential Equations Type-III	Chalk & Talk	T1,T2
7	Non Exact Differential Equations Type-IV	Chalk & Talk	T1,T2
8	Linear differential equations	Chalk & Talk	T1,T2
9	Non Linear differential equations	Chalk & Talk	T1,T2
10	Bernoulli's equations	Chalk & Talk	T1,T2
11	Newton's Law of cooling	Chalk & Talk	T1,T2
12	Problems on Law of natural growth and decay	Chalk & Talk	T1,T2

13	Problems on Electrical circuits L-R and C-R circuit	Chalk & Talk	T1,T2
14	Problems	Chalk & Talk	T1,T2
Unit:II : Linear differential equations of higher order (Constant Coefficients)			
15	Definition of Non-Homogenous L.D.E with constant coefficients,General Solution	Chalk & Talk	T1,T2
16	Find Complementary Solution		
17	To find yp, if Q(x)=e^{ax}	Chalk & Talk	T1,T2
18	To find yp, if Q(x) = Sin (ax +b)	Chalk & Talk	T1,T2
19	To find yp, if Q(x) = Cos (a x+ b),	Chalk & Talk	T1,T2
20	To find yp , If Q(x)= x^n	Chalk & Talk	T1,T2
21	To find yp , If Q(x)= e^{ax} v(x)	Chalk & Talk	T1,T2
22	To find Y p if Q(x)= x V(x),	Chalk & Talk	T1,T2
23	Problems using Definitions	Chalk & Talk	T1,T2
24	Problems on LCR circuit	Chalk & Talk	T1,T2
25	Problems on Simple Harmonic Motion	Chalk & Talk	T1,T2
26	Problems	Chalk & Talk	T1,T2
UNIT:III: Partial Differential Equations			
27	Basics on Partial Differential Equations	Chalk & Talk	T1,T2
28	Formation of Partial Differential Equations by elimination of arbitrary constants	Chalk & Talk	T1,T2
29	Formation of Partial Differential Equations by elimination of arbitrary functions	Chalk & Talk	T1,T2
30	Solutions of first order linear equations using Lagrange's method	Chalk & Talk	T1,T2
31	Homogeneous Linear Partial differential equations with constant coefficients	Chalk & Talk	T1,T2

32	Problems on Homogeneous Linear Partial differential equations with constant coefficients	Chalk & Talk	T1,T2
33	Non Homogeneous Linear Partial differential equations with constant coefficients	Chalk & Talk	T1,T2
34	Problems	Chalk & Talk	T1,T2
UNIT IV : Vector differentiation			
35	Vector Differentiation	Chalk & Talk	T1,T2
36	Vector operator, Div, Del, Grad, curl, Scalar Potential	Chalk & Talk	T1,T2
37	Directional derivative, Scalar potential	Chalk & Talk	T1,T2
38	Problems on Scalar potential	Chalk & Talk	T1,T2
39	Problems on Directional derivative	Chalk & Talk	T1,T2
40	Problems on Evaluation of Angle between Vectors	Chalk & Talk	T1,T2
41	Proofs on Vector operator.	Chalk & Talk	T1,T2
42	Problems on Solenoidal, irrotational	Chalk & Talk	T1,T2
43	Problems on Unit Normal Vectors	Chalk & Talk	T1,T2
44	Vector Identities	Chalk & Talk	T1,T2
45	Vector Identities	Chalk & Talk	T1,T2
46	Vector Identities	Chalk & Talk	T1,T2
UNIT V: Vector integration			
47	Fundamentals on Vector Integrals	Chalk & Talk	T1,T2
48	Concepts Line integral	Chalk & Talk	T1,T2
49	Problems on Line integral	Chalk & Talk	T1,T2
50	surface integral	Chalk & Talk	T1,T2
51	Problems on surface integral	Chalk & Talk	T1,T2
52	Problems on surface integral	Chalk & Talk	T1,T2
53	Volume integral	Chalk & Talk	T1,T2
54	Problems on Volume integral	Chalk & Talk	T1,T2
55	Problems on Volume integral	Chalk & Talk	T1,T2
56	Green's theorem in the plane	Chalk & Talk	T1,T2
57	Problems on Green's theorem in the plane	Chalk & Talk	T1,T2

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58	Problems on Green's theorem in the plane	Chalk & Talk	T1,T2
59	Stoke's theorem	Chalk & Talk	T1,T2
60	Problems on Stoke's theorem	Chalk & Talk	T1,T2
61	Problems on Stoke's theorem	Chalk & Talk	T1,T2
62	Divergence theorem	Chalk & Talk	T1,T2
63	Problems on Divergence theorem	Chalk & Talk	T1,T2
64	Problems on Divergence theorem	Chalk & Talk	T1,T2
65	applications of these theorems	Chalk & Talk	T1,T2

Textbooks:

1. Higher Engineering Mathematics, B. S. Grewal, Khanna Publishers, 2017, 44th Edition

2. Advanced Engineering Mathematics, Erwin Kreyszig, John Wiley & Sons, 2018, 10th Edition.

Reference Books:

1. Thomas Calculus, George B. Thomas, Maurice D. Weir and Joel Hass, Pearson Publishers, 2018, 14th Edition.

2. Advanced Engineering Mathematics, Dennis G. Zill and Warren S. Wright, Jones and Bartlett, 2018.

3. Advanced Modern Engineering Mathematics, Glyn James, Pearson publishers, 2018, 5th Edition.

4. Advanced Engineering Mathematics, R. K. Jain and S. R. K. Iyengar, Alpha Science International Ltd., 2021 5th Edition (9th reprint).

5. Higher Engineering Mathematics, B. V. Ramana, McGraw Hill Education, 2017

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