

**SACRED HEART COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF MATHEMATICS**

**BACHELOR OF SCIENCE**

**[MATHEMATICS]**

**Course plan**

**Academic Year 2018-19**

**Semester 2**

## PROGRAMME OUTCOME

PROGRAMME OUTCOME	
PO 1	<b>Critical Thinking:</b> Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	<b>Effective Communication:</b> Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the word by connecting people, ideas, books, media and technology.
PO 3	<b>Effective Citizenship:</b> Demonstrate empathetic social concern and equity centered national development, and the ability to act an informed awareness of issues and participate in civic life through volunteering.
PO 4	<b>Environment and Sustainability:</b> Understand the issues of environmental contexts and sustainable development.
PO5	<b>Ethics:</b> Recognise different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	<b>Global Perspective:</b> Understand the economic, social and ecological connections that link the world's nations and people.

## BACHELOR OF SCIENCE [MATHEMATICS]

PROGRAM SPECIFIC OUTCOMES	
PSO 1	Understand the basic concepts and tools of mathematical logic, Set theory, Theory of Equations and Number Theory
PSO 2	Understand the concepts of Geometry, Trigonometry, Calculus and Analysis, Abstract structures, Algebra, Methods of proofs and Differential Equations
PSO 3	Translate real world problems into mathematical problems and find its solutions
PSO 4	Understand the application of mathematics in other science, engineering and discuss Human rights and mathematics for environmental studies

### COURSE PLAN

PROGRAMME	<b>BSc. MATHEMATICS</b>	SEMESTER	2
COURSE CODE & TITLE	15U2CCENG3: CRITICAL THINKING, ACADEMIC WRITING AND PRESENTATION	CREDIT	4
HOURS/WEEK	5	HOURS/SEM	72
FACULTY NAME	TOM C. THOMAS		

	<b>COURSE OUTCOMES</b>	<b>PO</b>	<b>PSO</b>
CO 1	Comprehends fundamental concepts of critical reasoning and develops the capacity to read and respond critically, drawing conclusions, generalizing, differentiating fact from opinion and creating their own arguments.	1,2,5	2,4,5,6
CO 2	Develops appropriate and impressive writing styles for various contexts	1,2,6	1,2,,4
CO 3	Write and correct structural imperfections and edit what they have written.	1,2,5	1,3,
CO 4	Develops capacity for making academic presentations effectively and impressively	1,2,5	2,4,6
CO 5	Synthesize information from various written sources and present them in the form of summaries.	1,2,6	2,3,4,5
CO6	Write original literary creations in different genres as directed, with/without using prompts.	2,3,4,6	1,3,5

<b>CO - PO/PSO Mapping</b>												
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
<b>CO 1</b>	1	3	0	0	1	1	0	3	0	2	3	2
<b>CO 2</b>	3	3	1	0	2	2	2	3	1	2	0	0
<b>CO 3</b>	2	3	0	0	1	0	3	1	3	1	0	1
<b>CO 4</b>	3	2	0	0	1	0	0	3	0	2	0	2
<b>CO 5</b>	2	0	0	0	0	1	1	3	3	2	2	2
<b>CO 6</b>	3	3	2	1	2	2	0	0	3	3	2	1

**Weight Indicators: 0 - No Mapping strength, 1 - Low, 2 - Medium, 3 – High**

SESSION	TOPIC	LEARNING RESOURCES	COURSE OUTCOME
	<b>MODULE I</b>		
1	Introduction to Critical Thinking	Lecture/PPT	CO 1,2
2	Introduction to Critical Thinking	Lecture/PPT	CO 1,2
3	Introduction to Critical Thinking	Lecture/PPT	CO 1,2
4	Introduction to Critical Thinking	Lecture/PPT	CO 1,2
5	Reasoning and Arguments	Activities/ Discussion	CO 1,2
6	Reasoning and Arguments	Activities/ Discussion	CO 1,2
7	Reasoning and Arguments	Activities/ Discussion	CO 1,2
8	Reasoning and Arguments	Activities/ Discussion	CO 1,2,6
9	Reasoning and Arguments	Activities/ Discussion	CO 1,2,6
10	Reasoning and Arguments	Activities/ Discussion	CO 1,2,6
11	Deductive and Inductive Arguments	Course book	CO 1, 2
12	Deductive and Inductive Arguments	Course book	CO 1
13	Deductive and Inductive Arguments	Course book	CO 1
14	Deductive and Inductive Arguments	Course book	CO 1
15	Deductive and Inductive Arguments	Course book	
16	Fallacies		
17	Fallacies	Course book	CO 1,2
18	Inferential Comprehension	Group Activities	CO 1,2
19	Inferential Comprehension	Group Activities	CO 1,2
20	Inferential Comprehension	Group Activities	CO 2,3
21	Inferential Comprehension	Course book	CO 2,3
22	Inferential Comprehension	Group Activities	CO 2,3
23	Inferential Comprehension	Group Activities	
24	Critical Thinking and Academic Writing	Group Activities	CO 2,3
25	Critical Thinking and Academic Writing	Group Activities	CO 2,3
26	Critical Thinking and Academic Writing	Group Activities	CO 2,3
	<b>INTERNAL ASSESSMENT TEST 1</b>		
27	Writing Models	Presentation	CO 3,4,5
28	Writing Models	Course book	CO 3,4,5
29	Writing Models		
30	Writing Models	Course book	CO 3,4,5
31	Writing Models	Course book	CO 3,4,5

32	Writing Letters		
33	Writing Letters	Course book	CO 3,4,5
34	Writing Letters	Course book	CO 3,4,5
35	Writing Letters		
36	Writing a Letter to the Editor	Course book	CO 3,4
37	Writing a Letter to the Editor	Course book	CO 3,4
38	Writing a Letter to the Editor		CO 3,4,5
39	Writing a Letter to the Editor	Course book	CO 2,3
40	Letter to the Editor	Course book	CO 2,3
41	Letter to the Editor	Course book	CO 3,4,5
42	Resume Writing		CO 3,4,5
	<b>MODULE III</b>		
43	Covering Letter	Lecture	CO 3,4,5
44	Covering Letter	Lecture	CO 3,4,5
45	Emails	Course book	CO 3,4,5
46	Emails	Course book	CO 3,4,5
47	Interview Skills		
48	Interview Skills	Course book	CO 3,4,
49	Interview Skills	Course book	CO 4,5
50	Group Discussion		
52	Group Discussion	Course book	CO 4,5
53	Accuracy in Academic writing	Course book	CO 4,5
54	Accuracy in Academic writing	Course book	CO 4,5
55	Accuracy in Academic writing		CO 4,5
56	Articles and Determiners	Course book	CO 4,5
57	Articles and Determiners	Course book	CO 4,5
58	Nouns and Pronouns		
59	Subject-verb agreement	Lecture	CO 4,5
60	Phrasal verbs	Lecture	CO 5
61	Modals		
62	Tenses	Course book	CO 3,5
63	Tenses	Course book	CO 3,5
64	Tenses		
65	Conditional clauses	Course book	CO 3,5
66	Relative Pronouns	Course book	CO 3,5
67	Passive Voices		
	<b>INTERNAL ASSESSMENT TEST 2</b>		
68	Conjunctions	Lecture	CO 3,5
69	Embedded questions	Course book	CO 3,5
70	Embedded questions	Course book	CO 3,5
71	Punctuations and Abbreviations		CO 3,5
72	Soft skills for academic presentations	Course book	CO 3,5
73	Effective communication skills	Course book	CO 3,5
74	Flip Charts, OHP, Power point presentation	Group Presentations	CO 3,5

75	Clarity and brevity in presentation	Group Presentations	
76	Interaction and persuasion	Group Presentations	
77	Interview skills	Group Presentations	
78	Interview skills	Group Presentations	
79	Interview skills	Group Presentations	
80	Group Discussion	Group Presentations	
81	Group Discussion	Group Presentations	
82	Group Discussion	Group Presentations	
83	Group Discussion	Group Presentations	
84	Group Discussion	Group Presentations	
85	Group Discussion	Group Presentations	
86	Review Session 1		
87	Review Session 1		
88	Review Session 2		
89	Review Session 3		
90	Review Session 4		

#### **INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines**

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	4/1/2019	Writing Tasks- Different Types of Letters	CO 2
2	28/02/2019		CO 3

#### **GROUP ASSIGNMENTS/ACTIVITIES – Details & Guidelines**

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	2/02/2019	Brochure design	CO 5
2	15/1/19	Model Slide Presentation	CO 5

## COURSE PLAN

PROGRAMME	UG COMMON COURSE	SEMESTER	2
COURSE CODE AND TITLE	15U2CCENG4: MUSINGS ON VITAL ISSUES	CREDIT	2
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Sebastian John, Rajesh M		

### COURSE OUTCOMES

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Appreciate inspirational literatures of various literary genres across cultures	PO1,PO2,	U
CO 2	Critically engage with literary texts written in different languages and later translated into English	PO1, PO2,	An
CO 3	Critically engage with biographical sketch of the authors and familiarize their personality, oeuvre and style.	PO1, PO2, PO3,	An
CO 4	Develop a creative and insightful perspective towards life	PO1, PO2, PO3,PO4,PO5	A
CO 5	Apply the unfathomable power of literatures in their writings and creative endeavors.	PO1, PO2, PO5,	A

CL\* Cognitive Level

R- Remember

U- Understand

A- Apply

An- Analyze

E- Evaluate

Cr- Create

### CO - PO/PSO Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4	PSO5	PSO6
CO 1	2	2	2	1	0	1	0	0	0	0	0	0
CO 2	2	1	3	0	1	3	0	0	0	0	0	0
CO 3	3	1	0	2	2	2	0	0	0	0	0	0
CO 4	1	1	3	3	1	3	0	0	0	0	0	0
CO 5	2	2	2	1	3	2	0	0	0	0	0	0

### Mapping Strength

0- No Mapping strength

1- Low

2- Medium

3- High

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
<b>MODULE I –GLOBALIZATION AND ITS CONSEQUENCES</b>				
1	Fritjof Capra : “The Dark Side of Growth”	PPT/Lecture	video	CO 1
2	Fritjof Capra : “The Dark Side of Growth”	PPT/Lecture	video	CO 1,2
3	Fritjof Capra : “The Dark Side of Growth”	Lecture		CO 1,6
4	Joseph Stiglitz : “Globalization”	lecture		
5	Joseph Stiglitz : “Globalization”	PPT/Lecture	video	CO 1
6	Joseph Stiglitz : “Globalization”	PPT/Lecture		CO 1
7	D H Lawrence : “Money Madness”	Lecture		CO 1,6
8	S Joseph : “For the Dispossessed”	Lecture		
9	S Joseph : “For the Dispossessed”	PPT/Lecture	video	CO 1
10	S Joseph : “For the Dispossessed”	PPT/Lecture		CO 1
11	Vandana Shiva : “The Social Costs of Economic Globalization”	Lecture		CO 1,6
12	Vandana Shiva : “The Social Costs of Economic Globalization”	Lecture		
13	Vandana Shiva : “The Social Costs of Economic Globalization”	PPT/Lecture	video	CO 1
14	Jagannath Prasad Das : “Kalahandi”	PPT/Lecture		CO 1,3
15	Jagannath Prasad Das : “Kalahandi”	Lecture		
16	Jagannath Prasad Das : “Kalahandi”	Lecture		CO 1,6
17	Leah Levin : “Universal Declaration of Human Rights”	PPT/Lecture	video	CO 1
18	Leah Levin : “Universal Declaration of Human Rights”	PPT/Lecture		CO 1
19	Leah Levin : “Universal Declaration of Human Rights”	Lecture		CO 1,6
20	Nani A Palkivala : “Human Rights and Legal Responsibilities”	PPT/Lecture	video	CO 1
21	Nani A Palkivala : “Human Rights and Legal Responsibilities”	Lecture		CO 1,6
22	Nani A Palkivala : “Human Rights and Legal Responsibilities”	Lecture		
23	Martin Luther King : “I Have a Dream”	Lecture		
24	Martin Luther King : “I Have a Dream”	Discussion		
25	Martin Luther King : “I Have a Dream” CIA – I			
<b>MODULE II- HUMAN RIGHTS</b>				
26	Kalpana Jain : “Stigma, Shame and Silence”	PPT/Lecture		CO 2, 3
27	Kalpana Jain : “Stigma, Shame and Silence”	Lecture	video	CO 2
28	Kalpana Jain : “Stigma, Shame and Silence”	Lecture		CO 2,6
29	Wole Soyinka : “Telephone Conversation”	Lecture		
30	Wole Soyinka : “Telephone Conversation”	PPT/Lecture		CO 2,3
31	Richard Wright : “Twelve Million Black Voices”	Lecture	video	CO 2

32	Richard Wright : "Twelve Million Black Voices"	Lecture		CO 2,6
33	Richard Wright : "Twelve Million Black Voices"	Lecture		
34	Aruna Roy : "Tune in to the Voice of the Deprived"	PPT/Lecture		CO 2,3
35	Aruna Roy : "Tune in to the Voice of the Deprived"	Lecture	video	CO 2
36	Aruna Roy : "Tune in to the Voice of the Deprived"	Lecture		CO 2,6
37	Johannes V. Jensen : "Lost Forests"	Lecture		
38	Johannes V. Jensen : "Lost Forests"	PPT/Lecture		CO 2,3
39	Johannes V. Jensen : "Lost Forests"	Lecture	video	CO 2,6
40	Omprakash Valmiki : "Joothan"	Lecture		
41	Omprakash Valmiki : "Joothan"	Discussion		
42	Omprakash Valmiki : "Joothan"	Presentation		
	MODULE –III Gender Question			
43	Jamaica Kincaid : "Girl"	Presentation		
44	Jamaica Kincaid : "Girl"	Presentation		
	<b>MODULE III- GENDER QUESTION</b>			
45	Jamaica Kincaid : "Girl"	Lecture	Video	
46	Taslima Nasrin : "At the Back of Progress"	Discussion		CO1, CO6
47	Taslima Nasrin : "At the Back of Progress"			CO1
48	Taslima Nasrin : "At the Back of Progress"			CO 3, 1
49	Judy Brady : "Why I Want a Wife"	Lecture	Video	CO 3,5
50	Judy Brady : "Why I Want a Wife"	Lecture, discussion		CO 3,6
51	Judy Brady : "Why I Want a Wife"	Lecture, discussion		CO 3,1
52	J B Priestley : "Mother's Day"	Lecture, discussion		CO 4,5
53	J B Priestley : "Mother's Day"	Lecture		CO 4,6
54	J B Priestley : "Mother's Day"	Discussion	Video	
55	J B Priestley : "Mother's Day"	Lecture		CO 4,1
56	Amartya Sen : "More Than 100 Million Women are Missing"	Lecture		CO 4,5
57	Amartya Sen : "More Than 100 Million Women are Missing"	Presentation		CO 4,6
58	Amartya Sen : "More Than 100 Million Women are Missing"	Presentation		CO 3, 1
59	Amartya Sen : "More Than 100 Million Women are Missing"	Presentation		CO 3, 1
60	Revision			
61	Revision			
62	Revision			
63	Revision			
64	Revision			
65	Revision			
66	Revision			

67	Revision			
68	Revision			
69	Revision			
70 -72	Revision			
		CIA 2		

#### **INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines**

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	2/2/2019	Presentations	CO 2
2	28/2/2019	Role Plays	CO 3

#### **GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines**

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	12/2/2019	Group Discussions	CO 5
2	20/2/2019	Performances	CO 4

#### **References**

**Dr P J George Ed. Musings on Vital Issues. Orient Blackswan and Mahatma Gandhi University.**

## COURSE PLAN

PROGRAMME	BACHELOR OF SCIENCE – MATHEMATICS	SEMESTER	2
COURSE CODE AND TITLE	15U2CCHIN2A - TRANSLATION, CORRESPONDENCE, ESSAYS AND APPLIED GRAMMAR (SEM II)	CREDIT	4
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Dr. MINIPRIYA R, SYAMLAL M. S		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Recognize and get introduced to the minor genres such as essay to develop their social and moral sense in life.	PO1,PO2, PO 3,PO4 ,PO6	U,Cr
CO 2	Define grammatical structure of Hindi language and analyse the problems, challenges of communication in Hindi.	PO2, PO6, PSO 5	U
CO 3	Use Hindi language for effective communication in different fields like administration, office proceedings, insurance etc.	PO1, PO2, PO6,PSO5	A
CO 4	Understand translation as a linguistic, communicative and cultural activity.	PO2, PO5, PO6, PSO5	U
CO 5	Acquire skills of correspondence, drafting official and scientific documents in the fields of administration, media and business.	PO1, PO2, PO6, PSO5	A

CL\* Cognitive Level

R- Remember

U- Understand

B- Apply

An- Analyze

E- Evaluate

Cr- Create

### CO - PO/PSO Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2	2	1	2		1					
CO 2		2				2					2
CO 3	2	2				2					2
CO 4		2			1	2					2
CO 5	2	2				1					2

**Mapping Strength**

0. No Mapping strength
1. Low
2. Medium
3. High

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
<b>MODULE I</b>				
1	Importance of Grammar in Language learning.	Lecture/Discussion		CO 2
2	Part I Vyakaran	Lecture/Discussion		CO 2
3	Part I Vyakaran	Lecture/PPT		CO 2
4	Part I Vyakaran	Lecture	Exercise	CO 2
5	Importance of Translation	Lecture/PPT		CO 4
6	Translation	Lecture/PPT		CO 4
7	Translation	Lecture	Exercise	CO 4
8	Exercise -Translation	Interaction	Exercise	CO 4
9	Importance of Letter writing	Lecture/PPT		CO 5
10	Part II Patra Lekhan	Lecture/Discussion		CO 5
11	Ache Patra Ki Visheshtayen	Lecture/PPT		CO 5
12	Importance of Hindi Essays	Interaction	Discussion	CO 1
13	Patron Ke Prakar	Lecture		CO 5
14	Nibandh Ke Prakar	Lecture		CO 1
15	Nibandh Ke Prakar	Lecture/PPT	Exercise	CO 2
16	Part I Vyakaran	Lecture		CO 2
17	Part I Vyakaran	Interaction	Exercise	CO 2
18	Exercise -Translation	Lecture		CO 4
19	Revision	Discussion		CO 4
20	Patron Ke Prakar	Lecture		CO 5
21	Nibandh Ke Ang	Lecture		CO 1
22	Nibandh Lekhan Sambandhi Avashyak Batein	Lecture/Discussion		CO 1
23	Nibandh1,2	Lecture/PPT		CO 1
24	CIA – I (1Hour Exam)			
<b>MODULE II</b>				
25	Exercise Oriented Grammar	Lecture		CO 2
26	Exercise Oriented Grammar	Lecture/Discussion	Exercise	CO 2
27	Exercise Oriented Grammar	Lecture/ Discussion	Exercise	CO 2
28	Part II Patra Lekhan, Parivarik Patra	Lecture/PPT		CO 5
29	Part II Patra Lekhan, Parivarik Patra	Interaction		CO 5
30	Exercise –Translation	Lecture		CO 4
31	Exercise –Translation	Lecture/Discussion		CO 4
32	Revision	Interaction		CO 4
33	Exercise Oriented Grammar	Lecture		CO 2
34	Exercise Oriented Grammar	Lecture/ Discussion	Exercise	CO 2

35	Part II Patra Lekhan , Nimantran Patra	Lecture/PPT		CO 5
36	Nibandh 3	Lecture		CO 1
37	Nibandh 3,Exercise	Lecture/ Discussion		CO 1
38	Exercise –Translation	Lecture		CO 4
39	Exercise –Translation	Lecture/ Discussion		CO 4
40	Part II Patra Lekhan,Vyavasayik Patra	Lecture/PPT		CO 5
41	Nibandh 4	Lecture		CO 1
42	Nibandh 4,Exercise	Lecture/Discussion	Exercise	CO 1
43	Nibandh 5	Lecture/Discussion		CO 1
44	Nibandh 6	Lecture		CO 1
45	Nibandh 6,Exercise	Lecture/ Discussion	Exercise	CO 1
46	Revision	Interaction		CO 1
47	CIA – II (2 Hours Exam)			
<b>MODULE III</b>				
48	Exercise Oriented Grammar	Lecture/PPT		CO2
49	Exercise Oriented Grammar	Lecture	Exercise	CO2
50	Nibandh 7	Lecture		CO 1
51	Nibandh 7, Exercise	Lecture/Discussion	Exercise	CO 1
52	Part II Patra Lekhan, Adhikarik Patra	Lecture/PPT		CO 5
53	Part II Patra Lekhan, Adhikarik Patra	Lecture/ Discussion		CO 5
54	Exercise –Translation	Lecture		CO 4
55	Exercise –Translation	Lecture/Discussion		CO 4
56	Nibandh 8	Lecture		CO 1
57	Nibandh 8,Exercise	Lecture/ Discussion		CO 1
58	Exercise –Translation	Lecture		CO 4
59	Exercise Oriented Grammar	Lecture/PPT		CO2
60	Exercise Oriented Grammar	Lecture	Exercise	CO2
61	Part II Patra Lekhan, Shikayati Patra	Lecture/Discussion		CO 5
62	Nibandh 9	Lecture		CO 1
63	Nibandh 9,Exercise	Lecture/ Discussion		CO 1
64	Exercise – Translation	Lecture		CO 4
65	Part II Patra Lekhan , Karyalayi Patra	Lecture/PPT		CO 5
66	Nibandh 10	Lecture		CO 1
67	Nibandh 10,Exercise	Lecture/Discussion		CO 1
68	Seminar	Presentation by students		CO 2
69	Seminar	Presentation by students		CO 2
70	Revision	Interaction		
71	Revision	Interaction		
72	Evaluation of the course			

### INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines (B.Sc. MATHEMATICS)

SL NO	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	Assignment (February)	Review of a lesson based on the text book , part IV Nibandh and reference- Writing (Individual)	CO 1
2	Seminar (February)	Presentation on a given topic based on the text book part I and reference – oral (Individual)	CO 2

### GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

SL NO	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	January	Exercise activity based on Patra lekhan (Group Discussion)	CO 5
2	January	Translation of a passage from English to Hindi.(Group Activity)	CO 4

#### References

- Hindi vyakaran by Kamta Prasad Guru , Prabhat Prakashan

#### Web resource references:

- [epustakalay.com](http://epustakalay.com)
- [www.hindikunj.com](http://www.hindikunj.com)

## COURSE PLAN

PROGRAMME	MATHEMATICS	SEMESTER	2
COURSE CODE AND TITLE	15U2CCFRN2A - FRENCH LANGUAGE AND COMMUNICATION SKILLS II	CREDIT	4
HOURS/WEEK	4	HOURS/SEM	72

### Programme Outcome

Programme Outcome	
PO 1	<b>Critical Thinking:</b> Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	<b>Effective Communication:</b> Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the word by connecting people, ideas, books, media and technology.
PO 3	<b>Effective Citizenship:</b> Demonstrate empathetic social concern and equity centered national development, and the ability to act an informed awareness of issues and participate in civic life through volunteering.
PO 4	<b>Environment and Sustainability:</b> Understand the issues of environmental contexts and sustainable development.
PO5	<b>Ethics:</b> Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	<b>Global Perspective:</b> Understand the economic, social and ecological connections that link the world's nations and people.

## BACHELOR OF SCIENCE - MATHEMATICS

PROGRAM SPECIFIC OUTCOMES	
PSO 1	Understand the basic concepts and tools of mathematical logic, Set theory, Theory of Equations and Number Theory
PSO 2	Understand the concepts of Geometry, Trigonometry, Calculus and Analysis, Abstract structures, Algebra, Methods of proofs and Differential Equations
PSO 3	Translate real world problems into mathematical problems and find its solutions
PSO 4	Understand the applications of mathematics in other science, engineering and discuss Human Rights and Mathematics for Environmental Studies
PSO 5	Communicate appropriately and effectively, in a scientific context using present technology and new findings



### Mapping Strength

0. No Mapping strength
1. Low
2. Medium
3. High

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
<b>MODULE I</b>				
1	Introducing French Basics	Role play, games		CO 1,2,3
2	French Basics	Lecture		CO 1,2,3
3	Pronominal verbs	Games, music		CO 1,2,3
4	Pronominal verbs practice	Games		CO 1,2,3
5	Sentence construction using pronominal verbs	Games		CO 1,2,3
6	Sentence construction	Games		CO 1,2,3
7	Sentence construction	Games		CO 1,2,3
8	Grammar- present tense	Role play		CO 1,2,3
9	Communicative skills	Lecture		CO 1,2,3
10	Communicative skills	Role Play		CO 1,2,3
11	Communicative skills	Role Play		CO 1,2,3
12	Narrate a day	Discussions ICT		CO 6,7,8
13	Narrate a day	Discussions		CO 6,7,8
<b>MODULE II</b>				
14	Interrogative adjectifs	Game		CO 2,3
15	Interrogative adjectifs	Lecture		CO2,3
16	Demonstrative adjectives	Game		CO2,3
17.	Demonstrative Adjectives	Lecture		CO 2,3
18.	Sentence construction	Games		CO 2,3
19	Sentence construction	Games		CO2,3
20	civilisation	discussion		CO 2,3
21	Vocabulary building	games		CO 2,3
22	Vocabulary Building	Games		CO2,3
23	Buying a product, French products	Lecture/Discussion		CO 5,6,7,8
24	Buying a product	Role play		CO 5,6,7,8
25	Buying a product	Role play		CO5,6,7,8
26	Revision			
27	Revision			
28	revision			
29	CIA I			
<b>MODULE III</b>				
30	Food vocabulary	PPT/Lecture		CO 1,2,3
31	Food vocabulary	Games		CO 1,2,3
32	Intercultural studies	Discussions		CO 5,6,7,8
33	Sentence construction	Role play		CO 1,2,3

34	Sentence Construction	Games		CO 1,2,3
35	Articles partitifs	music		CO 3
36	Sentence construction(negative form)	games		CO 3
37	Future proche	Lecture		CO 3
38	Future proche	Lecture		CO 3
39	Giving and taking order	Role play		CO1,2,3
40	Ordering at a restaurant	Role play		CO 1,2,3
41	Vocabulary building	Games, music		CO 1,2,3
42	Vocabulary building	Games, Music		O 1,2,3
43	civilisation	PPT/Discussion		CO 5,6,7,8
44	Civilisation	Discussion		CO 5,6,7,8
CIA II				
<b>MODULE IV</b>				
45	Past tense (avoir)	Lecture		CO2,3
46	Past tense(etre)	Lecture		CO 2,3
47	Past tense (pronominal)	Lecture		CO2,3
48	Sentence formation	Games		CO2,3
49	Sentence formation	Games		CO2,3
50	Describe a past event	Lecture		CO 1,2,3
51	Narrate your day in the past	communication		CO1,2,3
52	Diary writing	assignment		CO5,6,7
53	Vocabulary building	games		CO 1,2,3
54	Part time jobs, vocabulary	Lecture		CO 1,2,3
55	Part time jobs-ads	Role plays		CO1,2,3
56	Exploring part time jobs	Role play		CO5,6,7,8
57	Putting up an ad and responding to an ad on part-time job	Lecture/Seminar/Discussion		CO 5,6,7,8
58	Putting up an ad and responding to an ad on part-time job	Role play		CO5,6,7,8
59	French culture	Discussion		CO5,6,7,8
60	French Culture	Discussion		CO5,6,7,8
61	French culture	Discussion		CO5,6,7,8
62	French culture	Discussion		CO5,6,7,8
63	DELFPREPARATION			
64	DELFPREPARATION			
65	DELFPREPARATION			
66	DELFPREPARATION			
67	DELFPREPARATION			
68	DELFPREPARATION			
69	DELFPREPARATION			
70	DELFPREPARATION			
71	DELFPREPARATION			
72	DELFPREPARATION			

### INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	By February	Presentation on gastronomy of each region	CO 2,3,6,8
2		roleplays	CO 123456

### References

Version Originale, site web

### COURSE PLAN

PROGRAMME	BACHELOR OF SCIENCE, MATHEMATICS	SEMESTER	2
COURSE CODE AND TITLE	15U2CCSAN2A: COMMUNICATION SKILLS IN SANSKRIT	CREDIT	4
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Dr.VIJAYARAJAN K.U		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Developing the basic knowledge in Sanskrit	PO1,PO2, PO6, PSO2	U
CO 2	Students develop the communication skills in sanskrit	PO1, PO5,PO6,PO2,PSO2	U
CO 3	Students familiarize the figures of speech and their usage	PO1, PO4, PO6,PSO2	A
CO 4	Students get an awareness about aesthetic values	PO2, PO4,PO5, PO6,PSO2	A
CO 5	Students get an awareness about Indian classical poetic tradition	PO1,PO2,PO3,PO5,PO6,PSO2	A
CO 6	Understand moral values through Drama	PO6,PO2,PSO2	U
CO 7	Students develop writing skills in Sanskrit	PO2,PO6,PSO2	U
CO 8	Students get awareness about Verbal forms	PO1,PO2,PO5,PO6,PSO2	U

CL\* Cognitive Level

R- Remember

U- Understand

D- Apply

An- Analyze

E- Evaluate

Cr- Create

## CO -PO/PSO Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4
CO 1	2	2				2		1		
CO 2	3	3			2	2		2		
CO 3	2			2				1		
CO 4		2		3	2	2		1	2	
CO 5	2	2	2		2	3		1		
CO6		2				3		1	1	
CO7		2				2		2		
CO8	2				2	2		1	2	

## Mapping Strength

0. No Mapping strength
1. Low
2. Medium
3. High

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
<b>MODULE I</b>				
1	Introducing Vibhakthi	Lecture		CO 1,2
2	Prathama vibhakthi	Discussion		CO 1,2
3	Dvitheeya vibhakthi	Lecture		CO 1,2
4	Thritheeya vibhakthi	Lecture	e-resource	CO 1,2
5	Chathurthi vibhakthi	Lecture		CO 1,2
6	Panchami vibhakthi	Chalk n talk		CO 1,2
7	Shashti vibhakthi	Lecture		CO 1,2
8	Sapthami vibhakthi	Chalk n talk		CO 1,2
9	Sambhodhanaprathama	Lecture		CO 1,2
10	Akarantha pulinga bala shabha	Lecture		CO 1,2
11	Aakarantha sthreeinga Latha shabdha	Discussion		CO 1,2
12	Ekarantha pulinga Kavi shabdha	Discussion		CO 1,2
13	Ukarantha pulinga Guru shabdha	PPT/Lecture		CO 1,2
14	Revision			
<b>MODULE II</b>				
15	Structure of sentence- Present tense	PPT/Lecture		CO 7,8
16	Prathama purusha ekavachaam	Chalk n talk		CO 7,8
17	Prathama purusha dvivachaam	Lecture		CO 2,7,8
18	Prathama purusha bahuvachaam	Lecture		CO 2,7,8
19	Madhyama purusha ekavachaam	Lecture		CO 2,7,8
20	Madhyam purusha dvivachaam	Game		CO 3,7,8

21	Madhyam purusha bahuvachaam	Game		CO 3,7,8
22	Uthamapurusha ekavachaam	PPT/Lecture		CO 3,7,8
23	Uthamapurusha dvivachaam	PPT/Lecture		CO 3,7,8
24	Uthamapurusha bahuvachaam	Lecture		CO 3,7,8
25	Past tense- Prathamapurusha	Lecture		CO 3,7,8
26	CIA-1			
27	Past tense -Madhyamapurusha	Lecture		CO 3,5,7,8
28	Past tense - Uthamapurusha	Chalk n talk		CO 3,5,7,8
29	Future tense - Prathamapurusha	Chalk n talk		CO 3,5,7,8
30	Future tense - Madhyamapurusha	Discussion		CO3,5,7,8
31	Future tense - Uthamapurusha	Discussion		CO 3,5,7,8
32	Sentence making in Sanskrit-Active voice	Lecture		CO 7,8
33	Sentence making in Sanskrit –Passive voice	Lecture		CO 7,8
34	Revision			
35	Revision			
MODULE III				
36	Introduction Meghadootha	Lecture		CO 3,6,7
37	Explaining Khandakavyam	Lecture		CO 3,6,7
38	Yaksha -curse	PPT/Lecture		CO 3,6,7
39	Yaksha's meeting with cloud	PPT/Lecture		CO 3,6,7
40	Requesting to cloud	PPT/Lecture		CO 3,6,7
41	Praising cloud	Lecture		CO 3,6,7
42	Yaksha directing cloud	Lecture		CO 3,6,7
43	Meeting with Balaka bird	Chalk n talk		CO 3,6,7
44	Departure	Discussion		CO 3,6,7
45	Rajahamsa	Roleplay		CO 3,6,7
46	Explaining Mountain	Discussion		CO 3,6,7
47	Directing to Megha	PPT/Lecture		CO 4,7
48	Revision			
49	Revision			
MODULE IV				
50	Introduction Mrichakatika drama	PPT/Lecture		CO 3,6,8
51	Charudatha	PPT/Lecture	Video	CO 3,6,8
52	Vasanthasena	PPT/Lecture		CO 3,6,8
53	Vasanthasena's visiting	PPT/Lecture		CO 3,6,8
54	Rajasyala Samsthanaka	Lecture		CO 3,6,8
55	Vasanthasena 's meeting with Charudatha	Lecture	Debate	CO 3,6,8
56	Matithreya's conversation with Radanika	PPT/Lecture		CO 3,6,8
57	Rohasena	PPT/Lecture		CO 3,6,8
58	Dvitheeyanka	PPT/Lecture		CO 3,6,8
59	Gambling incident	PPT/Lecture		CO 3,6,8
60	Catching Gambler	PPT/Lecture		CO 3,6,8
61	Escaping	PPT/Lecture		CO 3,6,8

CIA - II				
62	Vasanthasena's talk with her servant			CO 3,6,7
63	thritheeyanka	Lecture		CO 3,6,8
64	Rebhila's music discussion	Lecture	Group discussion	CO 3,4,8
65	Sharvilaka –the thief	Lecture		CO 3,4,8
66	Taking gold from Maithreya	PPT/Lecture		CO 3,4,8
67	Charudatha talk with Maithreya	PPT/Lecture		CO 3,4,8
68	Dootha's talking	PPT/Lecture		CO 3,4,8
69	Revision			
70	Revision			
71	Revision			
72	Revision			

### INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	By February	Kalidasa's Mahakavyas	CO 6,8
2		Sanskrit Drama	CO 6

### GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	By February	Bhasa's dramas	CO 6
2		Khandakavyas in Sanskrit	CO 4,8

### References

- 1.Meghadhoota of Kalidasa (Poorva-Megha; 1-20 Slokas)
- 2.Mrichakatika-kathasamgraha, (Chapters 1, 2&3), by Prof. P.C. Vasudevan Elayat
- 3.Siddharupam, Vidyarambham Press, Alappuzha
- 4.Sabdamanjari, Chowkhamba Sanskrit Series office, Varanasi
- 5.Dhaturupamanjari, Chowkhamba Sanskrit Series office, Varanasi
- 6.Sanskritavyakaranapravesika, Pandit L Anantharama Sastri
- 7.Balabodhini, Rajarshi Sree Rama Varma, Publication Divison, Govt.Sanskrit College, Trippunittura

**COURSE PLAN**

PROGRAMME	<b>B.Sc MTAHS</b>	SEMESTER	2
COURSE CODE & TITLE	15U2CCMAL2A കവിത	CREDITS	4
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	<b>VISHNU RAJ P, Dr. JUSTINA K AUGUSTINE</b>		

CO No	COURSE OUTCOMES	CL	PSO	PO
1	കവിത എന്ന സാഹിത്യരൂപത്തെക്കുറിച്ച് മെച്ചപ്പെട്ട ധാരണ ഉണ്ടാക്കുക	Un	5	1,3
2	ഭാഷാപഠനം സാഹിത്യാനുഭവത്തിലൂടെ ആവിഷ്കരിക്കുക	Re	5	2,3
3	വായനാഭിരുചി വർദ്ധിപ്പിക്കുക	Ap	5	3,4
4	സാഹിത്യ പരിചയം ഉണ്ടാക്കുക	Un	5	1,2,3
5	വ്യാവഹാരിക തലത്തിൽ മാതൃഭാഷാപ്രയോഗിക്കുവാനുള്ള കഴിവ് നേടുക	Ap	1,5	1,3,5
6	ഭാഷാപഠനത്തിലൂടെ ആശയവിനിമയശേഷി വർദ്ധിപ്പിക്കുക	Cr	5	1,2,6

CO - PO/PSO Mapping												
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	1	0	2	0	0	0	0	0	0	0	2	0
CO 2	0	3	2	0	0	0	0	0	0	0	2	0
CO 3	0	0	2	1	0	0	0	0	0	0	2	0
CO 4	2	1	2	0	0	0	0	0	0	0	2	0
CO 5	3	0	2	0	1	0	0	0	0	0	2	0
CO 6	1	1	0	0	0	2	0	0	0	0	2	0

**Mapping Strength: 0**-No Mapping strength, 1- Low, 2-Medium, 3-High

Session	Topic	Learning Resources	Teaching Method	Course Outcome
<b>Module I</b>				
1	മലയാളസാഹിത്യം സാമാന്യാവലോകനം	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	1,2,3,4
2	മലയാളകവിതയുടെ ചരിത്രം-1	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	1,2,3,4
3	മലയാളകവിതയുടെ ചരിത്രം-2	സാഹിത്യചരിത്രങ്ങൾ	Discussion	1,2,3,4,6
4	ചങ്ങമ്പുഴയുടെ രചനാലോകം	കവിതാപഠനങ്ങൾ	Lecturing	2,3,4
5	മനസിനി	Text	Reading	1,2,3,4,5,6
6	മനസിനി	Text	Group Discussion	1,2,3,4,5,6
7	സൂര്യകാന്തി	കവിതാപഠനങ്ങൾ	Lecturing	2,3,4
8	സൂര്യകാന്തി	Text	Reading	1,2,3,4,5,6
9	ഗോപികാദണ്ഡകം	Text	Group Discussion	1,2,3,4,5,6
10	ഗോപികാദണ്ഡകം	കവിതാപഠനങ്ങൾ	Lecturing	2,3,4
11	ഗോപികാദണ്ഡകം	Text	Reading	1,2,3,4,5,6
12	വിരാമം	Text	Group Discussion	1,2,3,4,5,6
13	വിരാമം	കവിതാപഠനങ്ങൾ	Lecturing	2,3,4
14	വിരാമം	Text	Reading	1,2,3,4,5,6
15	പുതിയമാഷന്മാർ	Text	Group Discussion	1,2,3,4,5,6
16	പുതിയമാഷന്മാർ	Text	Group Discussion	1,2,3,4,5,6
17	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	Text	Group Discussion	1,2,3,4
<b>Module II</b>				
18	ആധുനിക മലയാളകവിതയുടെ സ്വഭാവങ്ങൾ	കവിതാപഠനങ്ങൾ	Lecturing	2,3,4
19	യുഗളപ്രസാദൻ	Text	Reading	1,2,3,4,5,6
20	യുഗളപ്രസാദൻ	Text	Group Discussion	1,2,3,4,5,6
21	ആത്മഹത്യ ചെയ്ത കർഷകൻ വെള്ളത്തെക്കുറിച്ച് സംസാരിക്കുന്നു	Text	Lecturing	2,3,4
22	ആത്മഹത്യ ചെയ്ത കർഷകൻ വെള്ളത്തെക്കുറിച്ച് സംസാരിക്കുന്നു	Text	Reading	1,2,3,4,5,6
23	ആത്മഹത്യ ചെയ്ത	Text	Group Discussion	1,2,3,4,5,6

	കർഷകൻ വെള്ളത്തെക്കുറിച്ച് സംസാരിക്കുന്നു			
24	കളുകൾ	കവിതാ പഠനങ്ങൾ	Lecturing	2,3,4
25	കളുകൾ	Text	Reading	1,2,3,4,5,6
26	പറക്കം	Text	Group Discussion	1,2,3,4,5,6
27	പറക്കം	കവിതാ പഠനങ്ങൾ	Lecturing	2,3,4
28	കീരി	Text	Reading	1,2,3,4,5,6
29	കീരി	Text	Group Discussion	1,2,3,4,5,6
30	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	Text	Group Discussion	1,2,3,4
31	Internal Assessment 1	Text		
32	Question paper discussion	Text	Group Discussion	1,2,3,4,5,6
<b>Module III</b>				
33	മലയാള - നൂതന പ്രവണതകൾ	കവിതാ പഠനങ്ങൾ	Lecturing	2,3,4
34	കാക്ക	Text	Reading	1,2,3,4,5,6
35	കാക്ക	Text	Group Discussion	1,2,3,4,5,6
36	മോഹൻദാസും ഗാന്ധിയും നാമുറാം ഗോഡ്സെയും	കവിതാ പഠനങ്ങൾ	Lecturing	2,3,4
37	മോഹൻദാസും ഗാന്ധിയും നാമുറാം ഗോഡ്സെയും	Text	Reading	1,2,3,4,5,6
38	നാനാണത്ത് പാറ	Text	Group Discussion	1,2,3,4,5,6
39	നാനാണത്ത് പാറ	കവിതാ പഠനങ്ങൾ	Lecturing	2,3,4
40	യശോധാരയെന്നവൾ	Text	Reading	1,2,3,4,5,6
41	യശോധാരയെന്നവൾ	Text	Group Discussion	1,2,3,4,5,6
42	മാമ്പഴപ്പാത	കവിതാ പഠനങ്ങൾ	Lecturing	2,3,4
43	മാമ്പഴപ്പാത	Text	Reading	1,2,3,4,5,6
44	മാമ്പഴപ്പാത	Text	Group Discussion	1,2,3,4,5,6
45	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	Text	Group Discussion	1,2,3,4
<b>Module- IV</b>				
46	മലയാള - നൂതന പ്രവണതകൾ	കവിതാ പഠനങ്ങൾ	Lecturing	1,2,3,4
47	ചിന്താഗ്നി	Text	Group Discussion	1,2,3,4
48	ചിന്താഗ്നി	Text	Lecturing	1,2,3,4
49	ആ പശുകുട്ടിയുടെ മരണം	Text	Group Discussion	1,2,3,4
50	ആ പശുകുട്ടിയുടെ മരണം	കവിതാ പഠനങ്ങൾ	Lecturing	1,2,3,4

51	തേശ്കുടം	Text	Lecturing	1,2,3,4
52	തേശ്കുടം	Text	Group Discussion	1,2,3,4,6
53	കൗസല്യ	Text	Group Discussion	1,2,3,4,6
54	കൗസല്യ	Text	Group Discussion	1,2,3,4,6
55	കൗസല്യ	Text	Group Discussion	1,2,3,4,6
56	എന്തു ശുത്തി ഏതു ശുത്തി	Text	Group Discussion	1,2,3,4,6
57	എന്തു ശുത്തി ഏതു ശുത്തി	Text	Group Discussion	1,2,3,4,6
58	സമകാലിക മലയാള കവിത	കവിതാ പഠനങ്ങൾ	Group Discussion	1,2,3,4,6
59	സമകാലിക മലയാള കവിത	Text	Group Discussion	1,2,3,4,6
60	സമകാലിക മലയാള കവിത	Text	Group Discussion	1,2,3,4,6
61	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	കവിതാ പഠനങ്ങൾ	Group Discussion	1,2,3,4,6
62	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	Text	Group Discussion	1,2,3,4,6
	Internal Assessment 2			
63	Question paper discussion	Text	Group Discussion	1,2,3,4,6
64	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	കവിതാ പഠനങ്ങൾ	Group Discussion	1,2,3,4,6
65	പഠിച്ച കവിതകൾ ഒരു അവലോകനം	കവിതാ പഠനങ്ങൾ	Group Discussion	1,2,3,4,6
66	സംവാദം-	Text	Group Discussion	1,2,3,4,6
67	സെമിനാർ	Text	Presentation	1,2,3,4,6
68	സെമിനാർ	Text	Presentation	1,2,3,4,6
69	സെമിനാർ	Text	Presentation	1,2,3,4,6
70	സെമിനാർ	Text	Presentation	1,2,3,4,6
71	സെമിനാർ	Text	Presentation	1,2,3,4,6
72	Evaluation of the course	Text	Group Discussion	1,2,3,4,5,6

### ASSIGNMENTS

Sl no	Date of submission/completion	Topic of Assignment & Nature of assignment (Individual/Group - Written/Presentation - Graded or Non-graded etc)
1	By February	മലയാളത്തിലെ തെരഞ്ഞെടുത്ത കവികളുടെ വിവരണങ്ങൾ
2		നിലബന്ധിത പഠിക്കാൻ ഇല്ലാത്ത കവിതകളുടെ ആസ്വാദനം

## SEMINAR

	Date of submission/completion	Topic of seminar & Nature of seminar (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	By February	പാഠഭാഗങ്ങളുടെ അവതരണം
2		പാഠഭാഗങ്ങളുടെ അവതരണം

### Referance :

1. സമ്പൂർണ്ണ മലയാള സാഹിത്യ ചരിത്രം - എഡിറ്റർ :പത്മന രാമചന്ദ്രൻ നായർ
2. മലയാള കവിതാസാഹിത്യ ചരിത്രം - ഡോ .എം .ലീലാവതി

## COURSE PLAN

<b>PROGRAMME</b>	<b>BSC MATHEMATICS</b>	<b>SEMESTER</b>	<b>2</b>
<b>COURSE CODE AND TITLE</b>	<b>15U2CRMAT02-ANALYTIC GEOMETRY, TRIGONOMETRY AND MATRICES</b>	<b>CREDIT</b>	<b>4</b>
<b>HOURS/WEEK</b>	<b>4</b>	<b>HOURS/SEM</b>	<b>72</b>
<b>FACULTY NAME</b>	<b>JEET KURIAN MATTAM, APARNA V</b>		

### COURSE OUTCOMES

	<b>COURSE OUTCOMES</b>	<b>PO/ PSO</b>	<b>CL</b>
CO 1	To find the equation to tangent and normal at a point on a conic	PO1, PSO2	U
CO 2	To find the polar equation of a line, circle, tangent and normal to conics	PO1, PSO2	U
CO 3	To familiarize with real and imaginary parts of a circular and hyperbolic functions of a complex variable	PO1, PSO2	U
CO 4	To solve a system of linear equations using the inverse of a matrix	PO1, PSO2	U
CO 5	To familiarize with the characteristic roots and characteristic vectors	PO1, PSO2	U
CO 6	To find the inverse of a matrix by Cayley- Hamilton theorem.	PO1, PSO2	U

### CO -PO/PSO Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2							3			
CO 2	2							3			
CO 3	2							3			
CO 4	1							2			
CO 5	1							2			
CO 6	2							2			

0. No mapping strength, 1. Low, 2. Medium, 3. High

SESSIONS	TOPIC	METHOD	CO	REMARKS
1	Analytic geometry-preliminaries	Lecture, Group discussion, Problem solving	CO1	
2	Analytic geometry-preliminaries	Lecture, Group Discussion, Problem solving	CO1	
3	Analytic geometry-preliminaries	Lecture, Group Discussion, Problem solving	CO1	
4	<b>Module 1</b> Tangents in terms of their slope	Lecture, Group Discussion, Problem solving	CO1	
5	Number of tangents from a point	Lecture, Group Discussion, Problem solving	CO1	
6	Orthoptic Locus	Lecture, Group Discussion, Problem solving	CO1	
7	Tangent at a point	Lecture, Group Discussion, Problem solving	CO1	
8	Chord joining two points, tangent , intersection of tangents and normal of a parabola	Lecture, Group Discussion, Problem solving	CO1	
9	Problems	Group Discussion, Problem solving	CO1	
10	Chord joining two points, tangent , intersection of tangents and normal of an ellipse	Lecture, Group Discussion, Problem solving	CO1	
11	Chord joining two points, tangent , intersection of tangents and normal of a hyperbola	Lecture, Group Discussion, Problem solving	CO1	
12	Problems	Group Discussion, Problem solving	CO1	

13	Chord of contact	Lecture, Group Discussion, Problem solving	CO1	
14	Chord with a given mid point	Lecture, Group Discussion, Problem solving	CO1	
15	Problems	Group Discussion, Problem solving		
16	Equation of the polar of a given point and pole of a given line	Lecture, Group Discussion, Problem solving	CO2	
17	Conjugate lines and problems	Lecture, Group Discussion, Problem solving	CO2	
18	Conjugate diameters of ellipse	Lecture, Group Discussion, Problem solving	CO2	
19	Properties and problems	Lecture, Group Discussion, Problem solving	CO2	
20	Conjugate diameters of hyperbola	Lecture, Group Discussion, Problem solving	CO2	
21	Problems	Group Discussion, Problem solving	CO2	
22	Asymptotes	Lecture, Group Discussion, Problem solving	CO2	
23	Conjugate hyperbola	Lecture, Group Discussion, Problem solving		
24	Properties and problems	Lecture, Group Discussion, Problem solving	CO2	
25	Rectangular hyperbola, Parametric coordinates	Lecture, Group Discussion, Problem solving	CO2	
26	Problems	Group	CO2	

		Discussion, Problem solving		
27	Problems	Group Discussion, Problem solving	CO2	
28	<b>Module 2</b> Polar coordinates, distance between the points, area of a triangle	Lecture, Group Discussion, Problem solving	CO3	
29	Equation of a straight line, Parallel lines, perpendicular straight lines	Lecture, Group Discussion, Problem solving	CO3	
30	Test	1 hour		
31	Equation of a circle	Lecture, Group Discussion, Problem solving	CO3	
32	Problems	Group Discussion, Problem solving	CO3	
33	Polar equation of a conic	Lecture, Group Discussion, Problem solving	CO3	
34	Chord of a conic	Lecture, Group Discussion, Problem solving	CO3	
35	Tangent and normal of a conic	Lecture, Group Discussion, Problem solving	CO3	
36	Polar of a point with respect to a conic	Lecture, Group Discussion, Problem solving	CO3	
37	Asymptotes of conic	Lecture, Group Discussion, Problem solving	CO3	
38	Problems	Group Discussion, Problem solving	CO3	
39	Problems	Group Discussion, Problem	CO3	

		solving		
40	CIA-1	1 hour		
41	<b>Module 3</b> Trigonometry- Introduction	Lecture, Group Discussion, Problem solving	CO4	
42	Expansion of sine and cosine functions	Lecture, Group Discussion, Problem solving	CO4	
43	Hyperbolic functions and relation connecting hyperbolic and circular functions	Lecture, Group Discussion, Problem solving	CO4	
44	Problems	Group Discussion, Problem solving	CO4	
45	Problems	Group Discussion, Problem solving	CO4	
46	Separation into real and imaginary parts - problems	Lecture, Group Discussion, Problem solving	CO4	
47	Problems	Group Discussion, Problem solving	CO4	
48	Problems	Group Discussion, Problem solving	CO4	
49	Factorisation of $x^n - 1$	Lecture, Group Discussion, Problem solving	CO4	
50	Problems	Group Discussion, Problem solving	CO4	
51	Factorisation of $x^n + 1$	Lecture, Group Discussion, Problem solving	CO4	
52	Problems	Group Discussion, Problem solving	CO4	
53	Factorisation of $x^{2n} -$	Lecture, Group	CO4	

	$2x^n a^n \cos nx + a^{2n}$	Discussion, Problem solving		
54	Problems	Group Discussion, Problem solving	CO4	
55	Summation based on geometric series - problems	Lecture, Group Discussion, Problem solving	CO4	
56	Summation based on binomial series - problems	Lecture, Group Discussion, Problem solving	CO4	
57	Summation based on exponential series - problems	Lecture, Group Discussion, Problem solving	CO4	
58	Summation based on logarithmic series - problems	Lecture, Group Discussion, Problem solving	CO4	
59	Summation based on hyperbolic series - problems	Lecture, Group Discussion, Problem solving	CO4	
60	<b>Module 4</b> Rank of a matrix and problems	Lecture, Group Discussion, Problem solving	CO5	
61	Elementary transformations and inverse of Elementary transformations	Lecture, Group Discussion, Problem solving	CO5	
62	Equivalent matrices	Lecture, Group Discussion, Problem solving	CO5	
63	Normal form of a matrix to find the rank and problems	Lecture, Group Discussion, Problem solving	CO5	
64	Row equivalent canonical form to find the rank and problems	Lecture, Group Discussion, Problem solving	CO5	
65	System of non homogenous linear equations and matrix method to solve	Lecture, Group Discussion, Problem solving	CO5	

66	Problems	Group Discussion, Problem solving	CO6	
67	Cramer's rule and problems	Lecture, Group Discussion, Problem solving	CO5	
68	System of homogenous linear equations and problems	Lecture, Group Discussion, Problem solving	CO5	
69	Characteristic equation of a matrix and roots	Lecture, Group Discussion, Problem solving	CO6	
70	Characteristic vectors and problems	Lecture, Group Discussion, Problem solving	CO6	
71	Cayley-Hamilton theorem and problems	Lecture, Group Discussion, Problem solving	CO6	
72	Problems	Group Discussion, Problem solving	CO6	
73	CIA-2	2 hours		

#### INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	21/12/2018	PROBLEMS FROM MODULE-1	CO 1
2	19/1/2019	PROBLEMS FROM MODULE -2	CO2

#### REFERENCES

1. Manicavachagom Pillay, Natarajan – Analytic Geometry (Part I, Two Dimensions)
2. S.L. Loney – Plane Trigonometry Part – II, S. Chand and Company Ltd.
3. Frank Ayres Jr – Matrices, Schaum's Outline Series, TMH Edition.

### COURSE PLAN

<b>PROGRAMME</b>	<b>BACHELOR OF MATHEMATICS</b>	<b>SEMESTER</b>	<b>2</b>
<b>COURSE CODE AND TITLE</b>	<b>15U2CPPHY2: ELECTRIC AND MAGNETIC PHENOMENA, THERMODYNAMICS AND SPECIAL THEORY OF RELATIVITY</b>	<b>CREDIT</b>	<b>2</b>
<b>THEORY HOURS/WEEK</b>	<b>2</b>	<b>HOURS/SEM</b>	<b>36</b>
<b>FACULTY NAME</b>	<b>DR. ROBY CHERIAN &amp;DR. SUMOD S.G</b>		

	<b>COURSE OUTCOMES</b>	<b>PO/ PSO</b>	<b>CL</b>
CO 1	Analyzing the concepts Dielectrics	PO1, PSO1	U
CO 2	Apply the concepts Magnetic materials	PO1, PSO1	U
CO 3	Introduce the role of equilibrium thermodynamics	PO1, PSO1	U/An
CO 4	Applying the concepts of Special theory of relativity	PO1, PSO1	U/An

CL\* Cognitive Level

<b>SESSION</b>	<b>TOPIC</b>	<b>LEARNING RESOURCES</b>	<b>COURSE OUTCOME</b>
<b>MODULE I</b>			
1	Dielectrics- polar and non-polar dielectrics	Lect	CO1
2	polarization- sources of polarization	Lect+PPT	CO1
3	Gauss's law in dielectrics + Problem solving	Lect + Group Activity	CO1
4	permittivity	Lect	CO1
5	dielectric displacement vector- dielectric constant	Lect	CO1
6	susceptibility- ferroelectricity	Lect	CO1
7	Dielectrics- polar and non-polar dielectrics	Lect	CO1
8	Problem Solving	Group Activity	CO1
9	Magnetization in materials	Lect	CO2
10	linear and non-linear materials-	Lect+PPT	CO2
11	Diamagnetism paramagnetism	Lect	CO2
12	ferromagnetism- hysteresis	Lect	CO2
13	Ferromagnetic Domains antiferromagnetism	Lect	CO2
14	Problem Solving	Group Activity	CO2

15	Thermodynamic systems- thermodynamic equilibrium	Lect	CO 3
16	thermodynamic processes- isothermal process- adiabatic process	Lect	CO 3
17	zeroth law of thermodynamics	Lect	CO 3
18	first law of thermodynamics	Lect	CO 3
19	heat engine	Lect	CO 3
20	heat engine	Lect+Video	CO 3
21	the Carnot engine	Lect+PPT	CO 3
22	the Carnot engine + Problem solving	Lect + Group Activity	CO 3
23	refrigerator concept of entropy-	Lect	CO 3
24	second law of thermodynamics	Lect	CO 3
25	- third law of thermodynamics	Lect	CO 3
26	Maxwell's thermodynamic relations.	Lect	CO 3
<b>MODULE II</b>			
27	Special theory of relativityIntroduction	Lect	CO 4
28	Galilean transformation	Lect	CO 4
29	Newtonian principle of relativity	Lect+PPT	CO 4
30	Special theory of Relativity-Conceptual Description	Lect	CO 4
31	postulates: Explanation with discussion on its implications	Lect	CO 4
32	Lorentz transformation- Derivation, Length Contraction	Lect	CO 4
33	Time dilation –Concept and derivation	Lect + Group Activity	CO 4
34	relativity of simultaneity, addition of velocities-	Group Activity	CO 4
35	relativistic mass transformations	Lect	CO 4
36	mass energy relation and Problem solving and revision	Lect	CO 4

#### INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	20/12/2018	Dielectrics in daily life	CO 1
2	20/1/2019	Applications of ferromagnetic materials	CO2

**GROUP ASSIGNMENTS– Details & Guidelines**

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
<b>1</b>	Class activity in Feb 2019	Thermodynamics related problem solving (Group Discussion)	CO 3

**REFERENCES**

1. Introduction to Modern Physics- H.S. Mani and G.K. Mehta (Affiliated East West press Pvt. Ltd)
2. Concepts of Modern Physics- A. Beiser (Tata McGraw-Hill, 5th Edn.)
3. Modern Physics- R. Murugesan (S. Chand and Co.)
4. Introduction of Electrodynamics- D.J. Griffiths (PHI Pvt. Ltd)
5. Modern Physics- G.Aruldas and P.Rajagopal (PHI Pub)
6. Thermodynamics- Zemansky and Dittmann (Tata McGraw-Hill)
7. Heat and Thermodynamics- Brijlal and Subrahmanyam (S. Chand &Co)

**COURSE PLAN**

<b>PROGRAMME</b>	<b>BACHELOR OF MATHEMATICS</b>	<b>SEMESTER</b>	<b>2</b>
<b>COURSE CODE AND TITLE</b>	<b>15U2CRSTA02 : PROBABILITY AND STATISTICS</b>	<b>CREDIT</b>	<b>3</b>
<b>HOURS/WEEK</b>	<b>4</b>	<b>HOURS/SEM</b>	<b>60</b>
<b>FACULTY NAME</b>	<b>MS. DEEPTHI K DASAN</b>		

	<b>COURSE OUTCOMES</b>	<b>PO/ PSO</b>	<b>CL</b>
CO 1	Analyse different approaches to probability - their properties, Addition & Multiplication theorem, Theorem of total probability.	PO1,PO2, PO6, PSO2, PSO3	U
CO 2	Introduce random variables, probability distributions - their properties, distribution functions, Reliability functions, change of variables (univariate case only).	PO1, PSO2, PSO3	A
CO 3	Comprehend joint distribution of a pair of random variables, marginal & conditional distributions, independence of random variables.	PO1, PO2, PSO1	U
CO 4	apply the concepts of correlation - its properties, different measures of correlation.	PO1, PO2, PSO1, PSO2,PSO4	An

CO 5	Introduce the regression equations - their identification, Probable error, Coefficient of determination, Linear regression (Three variable case), partial & multiple correlations - their expressional properties (no derivation).	PO1, PO2, PO3, PO4, PO5, PSO2, PSO3	U
------	--	-------------------------------------	---

CL\* Cognitive Level

### CO - PO/PSO Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO 1	2	3				2		2	3		
CO 2	2	2							2		
CO 3	3	3					2				
CO 4	3	3					2	2		2	
CO 5	2	3	3	4	3			2	3		

### Mapping Strength

- 0. No Mapping strength
- 1- Low
- 2- Medium
- 3- High

SESSI ON	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
1	Random Experiments, sample space	PPT	video	CO 1
2	Events, Algebra of events	PPT/Lecture		CO 1
3	Borel field of events. Approaches to probability	PPT/Lecture		CO 1
4	Statistical definition of probability	PPT/Lecture	e- resource	CO 1
5	Classical definition of probability	PPT/Lecture		CO 1
6	Axiomatic definition of probability	PPT/Lecture		CO 1
7	Addition theorem on probability, conditional probability	Lecture		CO 1
8	Independence of events	Lecture		CO 1
9	Problems	Lecture		CO 1
10	Problems	Lecture		CO 1
11	Theorem of total probability	PPT/Lecture		CO 1
12	Properties, Problems	PPT/Lecture		CO 1

13	Bayes theorem	PPT/Lecture		CO 1
14	Problems			
15	Random variables	PPT/Lecture		CO 2
16	Probability distribution of discrete random variables, properties	Lecture		CO 2
17	Probability distribution of continuous random variables, properties	Lecture		CO 2
18	Distribution function	Lecture		CO 2
19	Problems	Lecture		CO 2
20	Joint distribution of a pair of random variables,	PPT/Lecture		CO 2
21	marginal and conditional distributions	PPT/Lecture		CO 2
22	Problems			
23	Independence of random variables	PPT/Lecture		CO 2
24	Problems	Lecture		CO 2
25	Correlation and its properties	Lecture		CO 2
26	Rank correlation			
27	Regression equations	Lecture		CO 2
28	Coefficient of determination	Lecture		CO 2
29	Partial and multiple correlation	PPT/Lecture		CO 2
30	Properties	PPT/Lecture		CO2
31	Reliability functions	PPT/Lecture		CO 2
32	Change of variables			
	Problems			
33	Joint distribution of a pair of random variables	PPT/Lecture		CO 3
34	Problems	PPT/Lecture		CO 3
35	Properties of joint p.d.f	PPT/Lecture		CO 3
36	Problems	Lecture	Quiz	CO 3
37	Distribution functions	Lecture	Q & Ans Session	CO 4
38	Marginal distribution	PPT/Lecture		CO 4
39	Problems	PPT/Lecture		CO 4
40	Conditional distribution	PPT/Lecture		CO 4
41	Problems	PPT/Lecture		CO 4
42	Independence of random variables	Lecture		CO 4
43	Problems			
44	Correlation	PPT/Lecture		CO 4
45	Types of correlations	PPT/Lecture		CO 4

46	Correlation coefficient	PPT/Lecture		CO 4
47	Properties of correlation coeff.	PPT/Lecture		CO 4
48	Problems	PPT/Lecture		CO 4
49	Rank correlation	PPT/Lecture		CO 4
50	Problems	PPT/Lecture		CO 4
51	Regression	PPT/Lecture		CO 4
52	Properties	PPT/Lecture	Video	CO 4
53	Multiple regression	PPT/Lecture		CO 4
54	Examination	PPT/Lecture		CO 4
55	Partial and multiple correlation			

### INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	Problems ON CORRELATION COEFFICIENT	CO 2
2	Problems using PROBABILITY AND BAYES THEOREM	CO 3

### REFERENCES:

1. S.P.GUPTA STATISTICAL METHODS
2. S.C.GUPTA ,V.K.KAPOOR FUNDAMENTALS OF MATHEMATICAL STATISTICS
3. B.L.AGARWAL BASIC STATISTICS