

SACRED HEART COLLEGE (AUTONOMOUS)

Department of Zoology

BACHELOR OF SCIENCE IN ZOOLOGY

Course plan

Academic Year 2018-19

Semester One

COURSE STRUCTURE

Course Code	Title Of The Course	No. Hrs./ Week	Credits	Total Hrs./Sem
15U1CCENG1	COMMUNICATION SKILLS IN ENGLISH	5	4	90
15U1CCENG2	READING LITERATURE IN ENGLISH	4	3	72
15U1CCHIN1A	PROSE AND DRAMA	4	4	72
15U1CCFRN1A	FRENCH LANGUAGE AND COMMUNICATION SKILLS I	4	4	72
15U1CCSAN1A	DRAMA, POETRY AND ALANKARA	4	4	72
15U1CCMAL1A	KADHA, NOVEL	4	4	72
15U1CRZOO1	ANIMAL DIVERSITY - NON CHORDATA I	2	2	36
15U1CPBOT1	CRYPTOGAMS, GYMNOSPERMS AND PLANT PATHOLOGY	4	3	72
15U1PCHE1	GENERAL CHEMISTRY	2	2	36

Programme Outcome	
At the end of the programme, the student should be able to:	
PO 1	Critical Thinking: 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	Effective Communication: 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	Effective Citizenship: 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	Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.
PO5	Ethics: Recognise different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	Global Perspective: Understand the economic, social and ecological connections that link the world's nations and people.
Programme Specific Outcome	
At the end of the programme a student should be able to:	
PSO_1	Examine faunal diversity through scientific classification to grasp and appreciate the complex interactions among them and the environment and their role in sustainable environment.
PSO_2	Demonstrate the principles of aquaculture, sericulture, apiculture, vermiculture, poultry and cattle farming for the economic prosperity of the society.
PSO_3	Explain the concepts and principles of biochemistry, animal physiology, cell biology, molecular biology, genetics, biotechnology, general informatics and bioinformatics, endocrinology, developmental biology, evolution, zoogeography, ethology, ecology, disaster management, toxicology,

	microbiology, immunology, nutrition, community health, sanitation, ecotourism, biostatistics and research methodology and their applications in day-to-day life.
PSO_4	Perform laboratory procedures in the areas of morphology, anatomy, taxonomy, applied zoology, biochemistry, animal physiology, cell biology, molecular biology, genetics, biotechnology, general informatics and bioinformatics, endocrinology, developmental biology, evolution, zoogeography, ethology, ecology, microbiology and immunology.

COURSE PLAN

PROGRAMME	UG COMMON COURSE 1	SEMESTER	1
COURSE CODE AND TITLE	15U1CCENG 1: Communication Skills in English	CREDIT	4
HOURS/WEEK	5	HOURS/SEM	90
FACULTY NAME	Prof. Sunil K V		

	COURSE OUTCOMES	PSO	PO
CO 1	Understand the mechanics of English language and comprehend the meaning of simple narrations, announcements and instructions.	1	1, 2
CO 2	Make inferences about the implications of statements from stress and tone recognize the various registers of speech.	1	1, 2
CO 3	Listen to formal presentations and prepare lecture notes in the appropriate format.	1,3	1, 2, 3
CO 4	Use English for a variety of speaking contexts including conversations, presentations, speeches, discussions and negotiations.	1,3	1,2,3,4,5
CO 5	Critically evaluate presentations, narrations, speeches and analyse and evaluate their content and respond to them appropriately.	1,3	1,2,5
CO 6	Creatively respond to one's surroundings in the form of drama, poetry, narrations, and songs, and perform them before an audience.	1,3	1,2,3,4,5 ,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
CO 1	3	2	0	0	0	0	3	0	0	0
CO 2	3	2	0	0	0	0	3	0	0	0
CO 3	1	3	1	0	0	0	3	0	2	0
CO 4	1	3	1	2	1	0	3	0	2	0
CO 5	1	3	0	0	2	0	3	0	2	0
CO 6	1	3	1	1	1	1	3	0	2	0

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

COURSE PLAN

SESSI ON	TOPIC	Learning Resources	Activity	Course Outcome
MODULE I				
MODULE – I : Speech Sounds				
1	Introduction to Communication Skills	Course book	Lecture	CO 1
2	Phonemic symbols	Audio	Q & A	CO 1
3	Vowels	Audio	Q & A	CO 1
4	Consonants	Audio	Q & A	CO 1
5	Vowels	Audio	Q & A	CO 1
6	Consonants	Audio	Q & A	CO 1
7	Syllables	Course book	Exercises	CO 1

8	Syllables	Audio	Q & A	CO 1
9	Syllables	Audio	Q & A	CO 1
10	Word stress	Audio	Q & A	CO 1
11	Word stress	Course book	Exercises	CO 1,2
12	Word stress	Course book	Exercises	CO 1,2
13	Word stress	Audio	Q & A	CO 1
14	Stress in polysyllabic words	Audio	Q & A	CO 1
15	Stress in polysyllabic words	Course book	Exercises	CO 1, 2
16	Stress in polysyllabic words	Course book	Exercises	CO 1, 2
17	Stress in words used as different parts of speech	Audio	Q & A	CO 1
18	Stress in words used as different parts of speech	Audio	Q & A	CO 1
19	Stress in words used as different parts of speech	Lecture		CO 1, 2
MODULE II : Listening				
20	Sentence stress	Course Book	Lecture	CO 2
21	Sentence stress	Audio	Q& A	CO 2
22	Sentence stress	Audio	Q& A	CO 2
23	Sentence stress	Lecture	Exercises	CO 2
24	Weak forms and strong forms	Audio	Q & A	CO 2
25	Weak forms and strong forms	Audio & Lecture	Exercises	CO 2
26	Weak forms and strong forms	Lecture	Exercises	CO 2
27	Intonation	Lecture	Exercises	CO 2
28	Intonation	Audio	Q & A	CO2

Internal Assessment Test 1				
30	Awareness of different accents	Video	Q & A	CO 2
31	Awareness of different accents	Audio/Video	Q & A	
32	Awareness of different accents	Audio/Video	Q & A	CO 2
MODULE- III: Speaking				
33	American English	Course Book	Lecture	CO 2,3
34	American English	Audio	Discussion	CO 2,3
35	American English	Audio	Discussion	CO 2,3
36	American English	Audio	Exercises	CO 2,3
37	British and Indian English	Course Book	Discussion	CO 2,3
38	British and Indian English	Audio	Discussion	CO 2,3
39	British and Indian English	Audio	Discussion	CO 2,3
40	British and Indian English	Audio	Discussion	CO 2,3
Unit II: Academic Listening & Note-taking				
41	Influence of the mother tongue	Course Book	Lecture	CO 3
42	Influence of the mother tongue	Course book	Exercises	CO 3
43	Influence of the mother tongue	Audio	Exercises	CO 3
44	Influence of the mother tongue	Audio	Exercises	CO 2,3
45	Active listening	Audio	Exercises	CO 2,3
46	Active listening	Audio	Exercises	CO 2,3
47	Barriers to listening	Audio	Exercises	CO 2,3
48	Barriers to listening	Audio	Exercises	CO 2,3

MODULE III				
Unit 1 – Art of Small Talk				
49	Seminar Presentation	Course book	Lecture	CO 1,2,4
50	Listening and note taking	Course book	Exercises	CO 1,2,4
51	Listening and note taking	Audio	Q & A	CO 1,2,4
52	Listening and note taking	Course book	Q & A	CO 4
53	Listening and note taking	Course book	Exercises	CO 4
54	Listening to announcements	Audio	Exercises	CO 4
55	Listening to announcements	Course book	Exercises	CO 4
56	Listening to announcements	Course book	Exercises	CO 1,2,4
57	Listening to announcements	Course book	Exercises	CO 4
Unit II: Transactional Conversation				
59	Listening to news on the radio and television	Course book	Exercises	CO 1,2,4
60	Listening to news on the radio and television	Course book	Exercises	CO 1,2,4
61	Listening to news on the radio and television	Course book	Exercises	CO 1,2,4
62	Word stress and rhythm	Course book	Exercises	CO 1,2,4
63	Word stress and rhythm	Course book	Exercises	CO 1,2,4

64	Pauses and sense groups	Course book	Exercises	CO 1,2,4
65	Pauses and sense groups	Course book	Exercises	CO 1,2,4
66	Pauses and sense groups	Course book	Exercises	CO 1,2,4
67	Falling and rising tones	Course book	Exercises	CO 1,2,4
68	Falling and rising tones	Course book	Exercises	CO 1,2,4
69	Falling and rising tones	Course book	Exercises	CO 1,2,4
Unit III: Telephone Conversation				
70	Fluency and pace of delivery	Course book	Lecture	CO 4
71	Internal Examination	Course book	Exercises	CO 4
72	Art of small talk	Course book	Exercises	CO 1,2,4
Internal Assessment 2				
MODULE IV				
Unit 1: Presentation				
73	Participating in conversations	Course book	Lecture	CO 4 & 6
74	Participating in conversations	Discussion	Exercises	CO 4 & 6
75	Participating in conversations	Course book	Lecture	CO 4 & 6
76	Making a short formal speech	Course book	Discussion	CO 4 & 6

77	Participating in conversations	Course book	Discussion	CO 4 & 6
78	Describing people	Course book	Discussion	CO 4 & 6
79	Describing people	Course book	Discussion	CO 4 & 6
80	Place, events and things	Course book	Lecture	CO 4 & 6
81	Group discussion skills and telephone skills	Course book	Discussion	CO 4 & 6
82	Reading: theory and Practice -----	Course book	Discussion	CO 4 & 6
83	Scanning - Surveying a textbook using an index	Course book	Discussion	CO 4 & 6
84	Reading with a purpose – making predictions	Course book	Discussion	CO 4 & 6
MODULE – IV: Reading				
85	Understanding text structure	Course book	Lecture	CO 4 & 6
86	Locating main points – Making inferences	Course book	performance	CO 4 & 6
87	Reading graphics	Course book	performance	CO 4 & 6
88	Reading critically	Course book	performance	CO 4 & 6
89	Reading for research	Course book	performance	CO 4 & 6
90	Reading for research			

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	4/8/2018	Presentations	CO 2
2	28/8/2018	Role plays	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	12/9/2018	Group Discussions	CO 1,2,4,5
2	20/9/2018	Performances	CO 1,2,,4,5

References

V.Sasikumar, P Kiranmai Dutt and Geetha Rajeevan, . Communication Skills in English. Cambridge University Press and Mahatma Gandhi University.

COURSE PLAN: 2018-19

PROGRAMME	B.Sc. Zoology	SEMESTER	1
COURSE CODE AND TITLE	15U1CCENG02: Reading Literature in English	CREDIT	3
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Sabu Thomas		

COURSE OUTCOMES

	COURSE OUTCOMES	PO/ PSO	CL
CO1:	Explain the nuances of English Language through literature.	PO2	A
CO2:	Compare the Varied parameters of English language.	PO1, PO2	An
CO3:	Discover comprehensive ability.	PO1	U
CO4:	Connect the efficiency of the students with realities of life.	PO1	A
CO5:	Evaluate the beauty of literary expression.	PO2	E

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
CO 1		3								
CO 2	3	2								
CO 3	3									
CO 4	2									
CO 5		2								

Mapping Strength

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

COURSE PLAN

SESSION	TOPIC	Learning Resources	VALUE ADDITIONS	Course Outcome
MODULE I				
ESSAYS				
1	Introducing the text book	Text	PPT	CO3
2	Bores: E V Lucas	Text		CO3
3	Bores: E V Lucas	Text		CO2
4	Bores: E V Lucas	Text		CO1
5	A Glory has Departed- Jawaharlal Nehru	Text	Group Discussion	CO2
6	A Glory has Departed- Jawaharlal Nehru	Text		CO4
7	A Glory has Departed- Jawaharlal Nehru	Text		CO3
8	A Glory has Departed- Jawaharlal Nehru	Text		CO1

9	Tryst with Destiny- Amartya Sen	Text		CO3
10	Tryst with Destiny- Amartya Sen	Text		CO5
11	Tryst with Destiny- Amartya Sen	Text		CO3
12	Tryst with Destiny- Amartya Sen	Text		CO1
13	How to Escape from Intellectual Rubbish-Bertrand Russel	Text	Group Discussion	CO3
14	How to Escape from Intellectual Rubbish-Bertrand Russel	Text		CO5
15	How to Escape from Intellectual Rubbish-Bertrand Russel	Text		CO3
16	How to Escape from Intellectual Rubbish-Bertrand Russel	Text		CO4
17	Discussion			CO6
18	Discussion		Quiz	CO3
MODULE II- Poetry				
19	Sonnet XXX-William Shakespeare	Text	Lecture/PPT	CO3
20	Sonnet XXX-William Shakespeare	Text		CO2
21	Sonnet XXX-William Shakespeare	Text	Poetry Recitation	CO1
22	Ode to a Nightingale-John Keats	Text	Poetry Recitation	CO4
23	Ode to a Nightingale-John Keats	Text		CO5
24	Mending Wall- Robert Frost		Interaction	CO6
First Internal Examination				
25	Mending Wall- Robert Frost	Text	Poetry Recitation	CO3
26	Mending Wall- Robert Frost	Text	Role Play	CO1
27	The Bicycle- David Malouf	Text	Role play	CO4
28	The Bicycle- David Malouf	Text		CO 5

29	The Bicycle- David Malouf	Text		CO5
30	The Refuge	Text		CO 4
Unit 3: The Boy Comes Home				
30	Poor Girl- Maya Angelou	Text	Lecture/PPT	CO3
31	Poor Girl- Maya Angelou	Text		CO2
32	The Mask- Kamala Suraiya	Text		CO1
33	The Mask- Kamala Suraiya	Text		CO2
34	Goodbye party for Miss Pushpa T S- Nissim Ezekiel	Text	Poetry Recitation	CO4
35	Goodbye party for Miss Pushpa T S- Nissim Ezekiel	Text		CO5
36	Once Upon a Time-Gabriel Okara	text	Quiz	CO5
MODULE III: Short Story				
37	The Lottery Ticket- Anton Pavlovich Chekhov	Text		CO 3
38	The Lottery Ticket- Anton Pavlovich Chekhov	Text		CO 3
39	The Lottery Ticket- Anton Pavlovich Chekhov	Text		CO 4
40	The Lottery Ticket- Anton Pavlovich Chekhov	Text	Quiz	CO 5
41	The Lottery Ticket- Anton Pavlovich Chekhov	Text	Video/ e-content	CO 3
42	Retrieved Reformation- O. Henry	Text		CO 4
43	Retrieved Reformation- O. Henry	Text		CO 5
44	Retrieved Reformation- O. Henry	Text		CO 2

45	Retrieved Reformation- O. Henry	Text	PPT	CO 3
46	Retrieved Reformation- O. Henry	Text		CO1
47	A Shadow- R K Narayan	Text		CO 2
48	A Shadow- R K Narayan	Text		CO 5
49	A Shadow- R K Narayan	Text		CO 5
50	A Shadow- R K Narayan	Text	PPT	CO3
51	A Devoted Son- Anita Deasi	Text		CO 5
52	A Devoted Son- Anita Deasi	Text		CO2
53	A Devoted Son- Anita Deasi	Text		CO4
54	A Devoted Son- Anita Deasi	Text	Discussion/Quiz	CO6
55	Two Gentlemen of Verona- A J Cronin	Text		CO3
56	Two Gentlemen of Verona- A J Cronin	Text		CO 5
57	Two Gentlemen of Verona- A J Cronin	Text		CO3
58	Two Gentlemen of Verona- A J Cronin	Text	Quiz	CO 5
59	Two Gentlemen of Verona- A J Cronin	Text	Role Play	CO3
60	Two Gentlemen of Verona- A J Cronin	Text		CO 5
Unit 4: DRAMA				
61	Refund- Fritz Karinthy	Text		CO3
62	Refund- Fritz Karinthy	Text		CO 5
63	Refund- Fritz Karinthy	Text		CO3
64	Refund- Fritz Karinthy	Text	Enacting the Drama	CO 5

65	Lord Byron's Love Letter-Tennessee Williams	Text		CO3
66	Lord Byron's Love Letter-Tennessee Williams	Text	Quiz	CO 5
Second Internal Examination				
67	Lord Byron's Love Letter-Tennessee Williams	Text		CO3
68	Lord Byron's Love Letter-Tennessee Williams	Text	Enacting the Drama	CO 5
69	The Monkey's Paw- W.W Jacob	Text Recital/ lecture		CO3
70	The Monkey's Paw- W.W Jacob	Text		CO 5
71	The Monkey's Paw- W.W Jacob	Text		CO 3
72	The Monkey's Paw- W.W Jacob	Text	Enacting the Drama	CO 5

References

Reading Literature in English: MG University

COURSE PLAN

PROGRAMME	BACHELOR OF SCIENCE – ZOOLOGY	SEMESTER	1
COURSE CODE AND TITLE	15U1CCHIN1A – PROSE AND DRAMA	CREDIT	4
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Dr. MINIPRIYA R, SYAMLAL M. S		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Understand and explain the different prose forms written in Hindi language.	PO1, PO2, PO6, PSO 3	U
CO 2	Understand various trends in Hindi Drama and its presentation.	PO1, PO2, PO5	A
CO 3	Understand the ancient Indian culture	PO1, PO2, PO5, PO6	An
CO 4	Understand the socio - cultural change in literature	PO1, PO3, PO6, PSO 3	U
CO 5	Understand the development of literature and aesthetics	PO1, PO3, PO4, PO5, PO6	An

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
CO 1	2	2				2			1	
CO 2	2	2			2					
CO 3	2	2			2	1				
CO 4	2		2			2			1	
CO 5	2		2	2	2	2				

Mapping Strength

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

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE I				
1	General information about literature	Lecture/Discussion		CO 4, CO 5
2	Development of Drama	Lecture/Discussion		CO 1, CO 2
3	Madhavi – Introduction of Author Bhishma Sahni	Lecture/PPT		CO 2, CO 5
4	Madhavi Act – 1, Scene -1	Lecture	Video	CO 2
5	Essay - Jeevan Mein Sahitya Ka Sthan Introduction of Author Premchand	Lecture/Discussion		CO 1, CO 4
6	Premchand and his literary works	Lecture/PPT		CO 5
7	Madhavi Act – 1, Scene -1	Lecture	Narration of stories related to 'Mahabharat'	CO 2
8	Revision	Interaction	Video	CO1, CO 4
9	Madhavi Act – 1, Scene -1	Lecture		CO 2
10	Madhavi Act – 1, Scene -2	Lecture/Discussion		CO 2
11	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture		CO 1, CO 4
12	Revision	Interaction	Presentation by students	CO 1, CO4
13	Madhavi Act – 1, Scene -2	Lecture		CO 2
14	Madhavi Act – 1, Scene -2	Lecture		CO 2
15	Madhavi Act – 1, Scene -3	Lecture	Presentation by students	CO 2
16	Essay - Jeevan Mein Sahitya Ka Sthan	Interaction	Acting	CO 1, CO 4
17	Analyzing the characters of 'Madhavi'	Interaction	Conversation	CO 2,CO 3, CO 4
18	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture		CO 1, CO 4
19	Madhavi Act – 1, Scene -3	Lecture/Discussion	Video	CO 2
20	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture		CO 1, CO 4

21	Essay - Jeevan Mein Sahitya Ka Sthan	Interaction	Seminar	CO 1, CO 4
22	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture/Discussion		CO 1, CO 4
23	Essay - Sahitya Ki Mahatta Introduction of Author Mahaveer Prasad Dwivedi	Lecture/PPT		CO 1, CO 5
24	CIA – I (1Hour Exam)			
MODULE II				
25	Essay - Sahitya Ki Mahatta	Lecture		CO 1, CO 4
26	Essay - Sahitya Ki Mahatta	Lecture		CO 1, CO 4
27	Essay - Sahitya Ki Mahatta	Lecture		CO 1, CO 4
28	Essay - Sahitya Ki Mahatta	Lecture/Discussion		CO 1, CO 4
29	Revision	Interaction	Seminar	CO 1, CO 4
30	Madhavi Act – 2, Scene -1	Lecture		CO 2
31	Madhavi Act – 2, Scene -1	Lecture	Presentation by students	CO 2, CO 4
32	Madhavi Act – 2, Scene -1	Lecture/Discussion		CO 2
33	Madhavi Act – 2, Scene -2	Lecture		CO 2
34	Madhavi Act – 2, Scene -2	Lecture		CO 2
35	Madhavi Act – 2, Scene -2	Lecture	Presentation by students	CO 2, CO 4
36	Revision	Interaction	Video	CO 2, CO 4
37	Madhavi Act – 2, Scene -3	Lecture		CO 2, CO 4
38	Madhavi Act – 2, Scene -3	Lecture/Discussion		CO 2
39	Essay - Lalit Kalayen Introduction of the Author Dr. Syamsundar Das	Lecture/PPT		CO 1, CO 4
40	Essay - Lalit Kalayen	Lecture	Seminar	CO 1, CO 4
41	Essay - Lalit Kalayen	Lecture		CO 1, CO 3
42	Essay - Lalit Kalayen	Lecture/Discussion		CO 1, CO 3 CO 4
43	Essay - Lalit Kalayen	Lecture/Discussion		CO 1, CO 4
44	Madhavi Act – 2, Scene -3	Lecture	Video	CO 3
45	Madhavi Act – 2, Scene -3	Lecture	Video	CO4
46	Interactive session	Discussion	Debate	CO1, CO4 , CO 5
47	CIA – II (2 Hours Exam)			
MODULE III				
48	Essay - Rashtra Ka Swaroop Introduction of the Author Vasudev Saran Agraval	Lecture/PPT		CO 1 , CO 5
49	Essay - Rashtra Ka Swaroop	Lecture		CO 1, CO 4
50	Essay - Rashtra Ka Swaroop	Lecture		CO 1, CO 4

51	Essay - Rashtra Ka Swaroop	Discussion	Presentation by students	CO 1, CO 4
52	Madhavi Act – 2, Scene -4	Lecture		CO 2
53	Madhavi Act – 2, Scene -4	Lecture	Seminar	CO 2
54	Madhavi Act – 3, Scene -1	Lecture		CO 2, CO 4
55	Madhavi Act – 3, Scene -1	Lecture/Discussion		CO 2, CO 4
56	Revision	Discussion	Video	CO 2, CO 4
57	Essay - Tum Ghar Kab Aoge Kavi Introduction of the Author Ramdhari Sinh Dinakar	Lecture/PPT		CO 1, CO 5
58	Essay - Tum Ghar Kab Aoge Kavi	Lecture		CO 1
59	Essay - Tum Ghar Kab Aoge Kavi	Lecture	Seminar	CO 1
60	Essay - Tum Ghar Kab Aoge Kavi	Lecture		CO 1
61	Essay - Tum Ghar Kab Aoge Kavi	Lecture/Discussion		CO 1, CO 4
62	Essay - Tum Ghar Kab Aoge Kavi	Discussion	Presentation by students	CO 1, CO 4
63	Madhavi Act – 3, Scene -2	Lecture		CO 2,CO 4 CO 5
64	Madhavi Act – 3, Scene -2	Lecture		CO 2
65	Madhavi Act – 3, Scene -2	Lecture/Discussion	Video	CO 2, CO 5
66	Madhavi Act – 3, Scene -3	Lecture	Video	CO 2
67	Madhavi Act – 3, Scene -3	Lecture/Discussion	Presentation by students	CO 2, CO 4
68	Madhavi Act – 3, Scene -3			CO2, CO 4
69	Madhavi Conclusion	Interaction	Criticising the drama	CO 2, CO 3
70	Seminar			CO 1, CO 5
71	Seminar			CO 1, CO 5
72	Evaluation of the course			CO 1, CO 2, CO 3, CO4, CO 5

GROUP ASSIGNMENTS/ACTIVITIES – 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	September	Literary Analysis of drama and its video (Group Discussion)	CO 2
2	September	Presentation of any scene from drama Madhavi.(Group Activity)	CO 2

References

- Hindi Natak Ka Ithihas : Somanath Gupta Hindi Bhavan, Allahabad
- Yug- Chaya , Editor: Shivdan Singh Chouhan, Rajkamal Prakashan, New Delhi.

Web resource references:

- epustakalay.com
- www.hindikunj.com

COURSE PLAN

PROGRAMME	BSc ZOOLOGY	SEMESTER	1
COURSE CODE AND TITLE	15U1CCFRN1A - FRENCH LANGUAGE AND COMMUNICATION SKILLS I	CREDIT	4
HOURS/WEEK	4	HOURS/SEM	72

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Understand the basic concepts of French language including grammar, vocabulary and sentence structure	PO1,PO2, PO6, PSO3	U
CO 2	Understand the basic communication skills necessary for living in France and French speaking countries.	PO1, PO5,PO6, PO2,PSO3	U
CO 3	Describe oneself and ones surroundings using a repertory of words and expressions in a simple and structured grammatical manner.	PO1, PO4, PO6,PSO3	A
CO 4	Develop business communication skills	PO2, PO4,PO5, PO6,PSO3	A
CO 5	Express an issue of concern including topics like environmental, social or health issues, enumerate its causes and consequences and suggest solutions	PO1,PO2,PO3,PO5,PO6,PSO3	A
CO 6	Understand the mannerisms, culture and tradition of France and Francophone countries and compare it to one's own country and develop co-cultural feeling	PO6,PO2,PSO3	U
CO 7	Understand and appreciate the history of France and Francophone countries and compare it to one's own country	PO2,PO6,PSO3	U
CO 8	Understand the special features of France including gastronomy, social institutions, policis, the present French scenario and compare it to one's own country	PO1,PO2,PO5,PO6,PSO3	U

CL* Cognitive Level

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
CO 1	2	2				2			1	
CO 2	2	2			2	2			1	
CO 3	2			2		2			1	
CO 4		2		2	2	2			1	
CO 5	2	2	2		2	2			1	
CO6		2				2			1	
CO7		2				2			1	
CO8	2	2			2	2			1	

Mapping Strength

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

Session	Topic	Method of Teaching	Value Additions	CO
MODULE I				
1	Introducing French Basics	role play, Discussion	french basic communication	1,2,3
2	French basics -alphabets	chalk n talk, audio	Lecture	1,2,3
3	french basics	audio ppt, discussion	Lecture	1,2,3
4	french basics	chalk n talk	Lecture	1,2,3
5	numbers 1-20	role play,audio ppt	Lecture	1,2,3
6	verbs introduction	chalk n talk	Lecture	1,2,3
7	conjugation introduction	chalk n talk,ppt audio	audio	1,2,5
8	Greetings	role play,audio ppt	Know a new culture	1,2,6
9	Basic useful sentences in French	role play, audio ppt	Q and A	1,2,3
10	spell in French	role play,audio ppt	presentation	1,2,
11	Indefinite articles	chalk n talk,audio ppt	Lecture	1,2
12	prononciation of vowels	role play,audio ppt	Lecture	1,2
13	French culture	Discussion, audio,ICT	Lecture,q nd A	6,7,8

14	Revision			
MODULE II				
15	introducing a third person	game, audio ppt	Q nd A	2,3
16	Asking personal information in french	role play, audio ppt	Lecture	2,3
17	Giving personal information in french	role play, audio ppt	Interaction	2,3
18	verbs etre ,avoir	chalk n talk	Lecture	2,3
19	ER verbs	chalk n talk, audio ppt	Lecture	2,3
20	adjectives of nationalities	role play, conversation	Lecture	2,3
21	grammar articles	role play, listening	Ppt	2,3
22	CIA 1			2,3
23	Profession	cross words, chalk n talk	Lecture	2,3
24	interests and tastes	role play, audio	Lecture	2,3,4
25	Masculine, feminine of adjectives	exercices ,chalk n talk, audio	Lecture	1,2,4,5
26	French culture- french names and profession	roleplay, audio	knowing culture	5,6,7,8
27	explaining the objective of learning French	Discussion, ICT, audio	Lecture, q and A	5,6,7,8
28	Revision			
MODULE III				
29	describe a locality	oral, description	Q and A	2,3,
30	Express in quantity	role play, chalk n talk	Lecture	2,3
31	"vivre" verb conjugation	audio, chalk n talk	Lecture	2,3
32	places vocabulary	games, music, audio	Video	2,3,5
33	Il y a,	audio,	daily needed vocabs	2,3
	il n'y a pas	chalk n talk		
34	definite articles	chalk n talk, audio ppt	Lecture	2,3
35	Adjectives	role play, audio ppt	Lecture	2,3
36	Prepositions	role play , audio ppt	Lecture	2,3,4
37	Negation	chalk n talk/roleplay	Lecture	2,3
38	Qualificative adjectives	chalk n talk , audio ppt	Q and A	2,3
39	Describing ur ideal locality	role play/presentation	Lecture	2,3
40	intonations	audio ppt	Lecture	1,2,3
41	French culture-express preference for city or village	Discussion	knowing culture	5,6,7,8
42	revision			

43	CIA 2			
44	Corresponding with a friend expressing one's likings	chalk n talk/Role plays	Q and A	2,3
45	Speak about a person's character	role play ,GD	know each other	5,6,7
46	adjectif possessif part 1	chalk n talk,audio ppt	Lecture	1,2,3
47	adjectif possessif part 2	chalk n talk, audio ppt	Lecture	2,4,5
48	Speak about the surroundings	discussion	Lecture	2,3
49	introduce and describe someone	role play	Lecture	2,3,4
50	activities - vocabulary	lecture,audio	Lecture	1,2,5
51	sports vocabulary	speaking/role play	general knowledge	1,2,3
52	Vocabulary - relations	chalk n talk,audio ppt	Lecture	2,5,6
53	famous french personality	discussion/comprehension	Lecture	5,6,7,8
54	lexique des liens de parente	chalk n talk,audio ppt	Lecture	2,3,4
	Express one's likings	Audio ppt,discussion	Q and A	2,3
55	lexiques des loisirs	Audio ppt,discussion	Video	2,3
56	forme negation	Audio ppt,discussion	Q and A	2,3
57	pronunciation of verbs	Audio ppt,discussion	Q and A	2,3
58	form filling	Audio ppt,discussion	Q and A	2,3
59	french artists	Audio ppt,discussion	GK	2,3
60	french music	Audio ppt,discussion	Video	2,3
61	one's own musical preferences	Audio ppt,discussion	Q and A	
62	french music and comparison to one's own musical preference	discussion	knowing the culture	5,6,7,8
63	module 1 -revision			
64	module 1 -revision			
65	module 2- revision			
66	module 2-revision			
67	module 3-revision			
68	module 3-revision			
69	module 4-revision			
70	module 4-revision			
71	PYQs discussion			
72	PYQs discussion			

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 October	Basic vocabulary on communication skills in Malayalam and French	CO 2,3,6,8
2		roleplays	CO 123456

References

Version Originale, site web

COURSE PLAN

PROGRAMME	BACHELOR OF SCIENCE,ZOOLOGY	SEMESTER	1
COURSE CODE AND TITLE	15U1CCSAN1A: DRAMA,POETRYAND ALANKARA	CREDIT	4
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Dr.VIJAYARAJAN K.U		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Students can understand the poetic style with special reference to classical literature	PO1,PO2, PO6, PSO2	U
CO 2	Students get an awareness about Indian classical poetic tradition	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 ascthetic values	PO2, PO4,PO5, PO6,PSO2	A
CO 5	Express an issue of concern including topics like environmental, social or health issues, enumerate its causes and consequences and suggest solutions	PO1,PO2,PO3,PO5,PO6,PSO2	A
CO 6	Understand moral values through Drama	PO6,PO2,PSO2	U
CO 7	Understand the tools to beutify the literature through Alankara	PO2,PO6,PSO2	U
CO 8	Students identify the richness of Indian Literature	PO1,PO2,PO5,PO6,PSO2	U

CL* Cognitive Level

CL* Cognitive Level

R- Remember

U- Understand

C- 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	2	2			2	2		1		
CO 3	2			2		2		1		
CO 4		2		2	2	2		1	2	
CO 5	2	2	2		2	2		1		
CO6		2				2		1		
CO7		2				2		1		
CO8	2	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
MODULE I				
1	Introducing Sanskrit Basics	Lecture		CO 1
2	About Mahakavya	Lecture		CO 1
3	About Kumarasambava	Lecture		CO 1
4	Fifth sarga of Kumarasambava	Lecture	e-resource	CO 1
5	Brahmacharipravesha	Lecture		CO 1
6	Parvathi's penance	PPT/Lecture		CO 1
7	Inviting Brahmachari	Lecture		CO 1
8	Purushartha	Lecture		CO 1

9	Himalaya	Lecture		CO 1
10	Conversation to Parvathy	Lecture		CO 1
11	Critisisation	PPT/Lecture		CO 1
12	Questioning	PPT/Lecture		CO 1
13	Upamas	PPT/Lecture		CO 1
14	Revision			
MODULE II				
15	Sanskrit Drama - Introduction	PPT/Lecture		CO 6,7
16	Mahakavi Bhasa's Dramas	Lecture		CO 6,7
17	Bhasa's Karnabharam	Lecture		CO 2,6,7
18	Mahabharatha	Lecture		CO 2,6,7
19	Mangalaslaka	Lecture		CO 2,6,7
20	Entry of Karna	PPT/Lecture		CO 3,6,7
21	Request to Karna	PPT/Lecture		CO 3,6,7
22	Duryodhana's order	PPT/Lecture		CO 3,6,7
23	Karna's sadness	PPT/Lecture		CO 3,6,7
24	Revenge	Lecture		CO 3,6,7
25	Karna's birth	Lecture		CO 3,6,7
26	CIA-1			
27	Kunthi's request	Lecture		CO 3,5,6,7
28	Karna's study	Lecture		CO 3,5,6,7
29	ParaShurama's teaching	PPT/Lecture		CO 3,5,6,7
30	Parashrama's curse	PPT/Lecture		CO3,5,6,7
31	Greatness of Kshathriyas	PPT/Lecture		CO 3,5,6,7
32	Bravery of Karna	Lecture		CO 6,7
33	Indra's request to karna	Lecture		CO 6,7
34	Brahmana's blessing	PPT/Lecture		CO 6,7
35	Karna offering Horses	PPT/Lecture		CO 6,7
36	Karna offering elephants	PPT/Lecture		CO 3,6,7
37	Karna offering gold	Lecture		CO 3,6,7
38	Karna offering his kavacha	Lecture		CO 3,6,7
39	Indra accepting kavacha and kundala	PPT/Lecture		CO 3,6,7
40	Indra's blessing	PPT/Lecture		CO 3,6,7
41	The greatness of giving	PPT/Lecture		CO 3,6,7
42	Revision			
43	Revision			
44	Revision			
45	Revision			
MODULE III				
46	Alankara introduction			
47	Kuvalayananda	PPT/Lecture		CO 4,7
48	Upama alankara	PPT/Lecture		CO 4,7
49	Upamana ,Upameya ,sadharana dharma	PPT/Lecture		CO 4,7
50	Ullekha Alankara	PPT/Lecture		CO 4,7

51	Dipika Alankara	PPT/Lecture		CO 4,7
52	Dipika example	PPT/Lecture	Video	CO 4,7
53	Vyathireka Alankara	PPT/Lecture		CO 4,7
54	Aprastutaprasamsa	PPT/Lecture		CO 4,7
55	Revision			
56	Svabhavokthi Alankara	Lecture	Debate	CO 4,7
57	Rupaka Alankara	PPT/Lecture		CO 4,7
58	Drishtantha Alankara	PPT/Lecture		CO 4,7
59	Dristantha -example	PPT/Lecture		CO 4,7
60	Arthantharanyasa	PPT/Lecture		CO 4,7
61	Prathama Ullekha	PPT/Lecture		CO 4,7
62	Dvitheeya Ullekha	PPT/Lecture		CO 4,7
CIA - II				
MODULE IV				
63	Characteristic of Karna	Lecture		CO 5,8
64	Characteristics of Shalya	Lecture	Group discussion	CO 5,8
65	Characteristics of Indra	Lecture		CO 5,8
66	Characteristics of Parvathi	PPT/Lecture		CO 5,8
67	Characteristics of Brahmachari	PPT/Lecture		CO 5,8
68	Himalaya	PPT/Lecture		CO 5,8
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	12/08/2018	The role of Karna in Mahabharatha	CO 6,8
2	16/09/2018	Upama kalidasasya	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	23/9/2018	The moral values in Kumarasambava	CO 8
2	30/9/2018	Purushartha –the means of life	CO 8

References

1. Bhasanatakacakram O.R.I& Manuscript Library Trivandrum
2. Bhasanatakamanjari, Dr. V.S. Idakidath, Saparya Books, Kollam
3. Kumarasambhavam by Kuttikrishna Marar
4. Bhasanatakasarvasvam Sudhamsu Chathurvedi
5. Kalidasa Hridayam, V. Unnikrishnan Nair
6. The Problems of Bhasa Plays, Dr. N.P. Unni
7. Abhijnana Sakunthalam, M.R.Kale
8. Kalidasarvasvam, Sudhamsucathurvedi
9. Kuvalayanandam , Appayyadikshitha

COURSE PLAN

PROGRAMME	B.Sc ZOOLOGY	SEMESTER	1
COURSE CODE & TITLE	15U1CCMAL1A കഥ നോവൽ	CREDITS	4
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	VISHNU RAJ P, Dr. JUSTINA K AUGUSTINE		
	COURSE OUTCOMES	CL	PS O PO
1	കഥ, നോവൽ എന്നിവയെക്കുറിച്ച് മെച്ചപ്പെട്ട ധാരണ ഉണ്ടാക്കുക	Un	3 1,2,3
2	ഭാഷാപഠനം സാഹിത്യാനുഭവത്തിലൂടെ ആവിഷ്കരിക്കുക	Re	3 4,5
3	വായനാഭിരുചി വർദ്ധിപ്പിക്കുക	Ap	3 5,6
4	സാഹിത്യ പരിചയം ഉണ്ടാക്കുക	Un	3 1,2
5	വ്യാവഹാരിക തലത്തിൽ മാതൃഭാഷാപ്രയോഗിക്കുവാനുള്ള കഴിവ് നേടുക	Ap	3 3,4
6	ഭാഷാപഠനത്തിലൂടെ ആശയവിനിമയശേഷി വർദ്ധിപ്പിക്കുക	Cr	3 1,2,3

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	3	2	0	0	0	0	0	2	0	0	0
CO 2	0	0	0	2	3	0	0	0	2	0	0	0
CO 3	0	0	0	0	2	2	0	0	2	0	0	0
CO 4	1	2	0	0	0	0	0	0	2	0	0	0
CO5	0	0	2	2	0	0	0	0	2	0	0	0
CO6	2	3	2	0	0	0	0	0	2	0	0	0

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

COURSE PLAN

Session	Topic	Learning Resources	Teaching Method	Course Outcome
Module I				
1	മലയാളസാഹിത്യം സാമാന്യാവലോകനം	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	1,2,3,4
2	ചെറുകഥയുടെ ചരിത്രം -1	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	1,2,3,4
3	ചെറുകഥയുടെ ചരിത്രം-2	സാഹിത്യചരിത്രങ്ങൾ	Discussion	1,2,3,4,6
4	തകഴിയുടെ രചനാലോകം	നോവൽ-ചെറുകഥാപഠനങ്ങൾ	Lecturing	2,3,4
5	വെളുത്തകുഞ്ഞ്	Text	Reading	1,2,3,4,5,6
6	വെളുത്തകുഞ്ഞ്	Text	Group Discussion	1,2,3,4,5,6
7	സന്തോഷ് ഏച്ചിക്കാനത്തിന്റെ കഥകൾ	ചെറുകഥാപഠനങ്ങൾ	Lecturing	2,3,4
8	അഭിനയമൂഹൂർത്തങ്ങൾ കഥ	Text	Reading	1,2,3,4,5,6
9	അഭിനയമൂഹൂർത്തങ്ങൾ കഥ	Text	Group Discussion	1,2,3,4,5,6
10	ഒ വി വിജയനെ പരിചയപ്പെടുത്തുന്നു	നോവൽ-ചെറുകഥാപഠനങ്ങൾ	Lecturing	2,3,4
11	കടൽത്തീരത്ത്	Text	Reading	1,2,3,4,5,6
12	കടൽത്തീരത്ത്	Text	Group Discussion	1,2,3,4,5,6
13	എൻ എസ് മാധവന്റെ കൃതികളുടെ രാഷ്ട്രീയം	നോവൽ-ചെറുകഥാപഠനങ്ങൾ	Lecturing	2,3,4
14	നാലാംലോകം കഥ	Text	Reading	1,2,3,4,5,6
15	നാലാംലോകം കഥ	Text	Group Discussion	1,2,3,4,5,6
16	നാലാംലോകം കഥ	Text	Group Discussion	1,2,3,4,5,6
17	ചെറുകഥ - അവലോകനം	Text	Group Discussion	1,2,3,4
Module II				
18	എം ടി വാസുദേവൻ നായരുടെ കൃതികൾ	നോവൽ-ചെറുകഥാപഠനങ്ങൾ	Lecturing	2,3,4
19	ഷെർലക്ക്	Text	Reading	1,2,3,4,5,6
20	ഷെർലക്ക്	Text	Group Discussion	1,2,3,4,5,6
21	ഉണ്ണി ആറിനെ പരിചയപ്പെടുത്തുന്നു	നോവൽ-ചെറുകഥാപഠനങ്ങൾ	Lecturing	2,3,4
22	ഒറ്റപ്പെട്ടവൻ-	Text	Reading	1,2,3,4,5,6
23	ഒറ്റപ്പെട്ടവൻ-	Text	Group Discussion	1,2,3,4,5,6

24	ജോൺ എബ്രഹാം: സാഹിത്യവും സിനിമയും	നോവൽ- ചെറുകഥാ പഠനങ്ങൾ	Lecturing	2,3,4
25	നേർച്ചക്കോഴി	Text	Reading	1,2,3,4,5,6
26	നേർച്ചക്കോഴി	Text	Group Discussion	1,2,3,4,5,6
27	സാനാ ജോസഫ്, പുരാണ പുനർവായന	നോവൽ- ചെറുകഥാ പഠനങ്ങൾ	Lecturing	2,3,4
28	തായ്കുലം	Text	Reading	1,2,3,4,5,6
29	തായ്കുലം	Text	Group Discussion	1,2,3,4,5,6
30	ചെറുകഥ - 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
Module III				
33	മാധവിക്കുട്ടിയുടെ കഥകളുടെ പ്രത്യേകതകൾ	നോവൽ- ചെറുകഥാ പഠനങ്ങൾ	Lecturing	2,3,4
34	പക്ഷിയുടെ മണം	Text	Reading	1,2,3,4,5,6
35	പക്ഷിയുടെ മണം	Text	Group Discussion	1,2,3,4,5,6
36	വൈക്കം മുഹമ്മദ് ബഷീറിന്റെ ലോകം	നോവൽ- ചെറുകഥാ പഠനങ്ങൾ	Lecturing	2,3,4
37	ശികിടിമുക്കൻ	Text	Reading	1,2,3,4,5,6
38	ശികിടിമുക്കൻ	Text	Group Discussion	1,2,3,4,5,6
39	സേതുവിന്റെ കൃതികൾ		Lecturing	2,3,4
40	ദൂത	Text	Reading	1,2,3,4,5,6
41	ദൂത	Text	Group Discussion	1,2,3,4,5,6
42	കെ ആർ മീരയുടെ എഴുത്തുകൾ	നോവൽ- ചെറുകഥാ പഠനങ്ങൾ	Lecturing	2,3,4
43	മോഹമഞ്ഞ	Text	Reading	1,2,3,4,5,6
44	മോഹമഞ്ഞ	Text	Group Discussion	1,2,3,4,5,6
45	ചെറുകഥ - അവലോകനം	Text	Group Discussion	1,2,3,4
Module - IV				
46	മലയാളനോവൽ ചരിത്രം	സാഹിത്യച രിത്രങ്ങൾ	Lecturing	1,2,3,4
47	മലയാളനോവൽ ചരിത്രം	സാഹിത്യച രിത്രങ്ങൾ	Group Discussion	1,2,3,4
48	മലയാളനോവൽ - നൂതന പ്രവണതകൾ	സാഹിത്യച രിത്രങ്ങൾ	Lecturing	1,2,3,4
49	മലയാളനോവൽ - നൂതന പ്രവണതകൾ	സാഹിത്യച രിത്രങ്ങൾ	Group Discussion	1,2,3,4
50	വിനോയ് തോമസ്- ആമുഖം	നോവൽ പഠനങ്ങൾ	Lecturing	1,2,3,4
51	കരിക്കോട്ടക്കരി- നോവൽ ആമുഖം	നോവൽ പഠനങ്ങൾ	Lecturing	1,2,3,4

52	കരിക്കോട്ടക്കരി അധ്യായം 1	Text	Group Discussion	1,2,3,4,6
53	കരിക്കോട്ടക്കരി അധ്യായം 2	Text	Group Discussion	1,2,3,4,6
54	കരിക്കോട്ടക്കരി അധ്യായം 3	Text	Group Discussion	1,2,3,4,6
55	കരിക്കോട്ടക്കരി അധ്യായം 4	Text	Group Discussion	1,2,3,4,6
56	കരിക്കോട്ടക്കരി അധ്യായം 5	Text	Group Discussion	1,2,3,4,6
57	കരിക്കോട്ടക്കരി അധ്യായം 6	Text	Group Discussion	1,2,3,4,6
58	കരിക്കോട്ടക്കരി അധ്യായം 7	Text	Group Discussion	1,2,3,4,6
59	കരിക്കോട്ടക്കരി അധ്യായം 8	Text	Group Discussion	1,2,3,4,6
60	കരിക്കോട്ടക്കരി അധ്യായം 9	Text	Group Discussion	1,2,3,4,6
61	കരിക്കോട്ടക്കരി അധ്യായം 10	Text	Group Discussion	1,2,3,4,6
62	കരിക്കോട്ടക്കരി അധ്യായം 11	Text	Group Discussion	1,2,3,4,6
	Internal Assessment 2			
63	കരിക്കോട്ടക്കരി അധ്യായം 12	Text	Group Discussion	1,2,3,4,6
64	കരിക്കോട്ടക്കരി അധ്യായം 13	Text	Group Discussion	1,2,3,4,6
65	കരിക്കോട്ടക്കരി അവലോകനം	Text	Group Discussion	1,2,3,4,6
66	സംവാദം- വിനോയ് തോമസ്	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	Revision	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	Date	മലയാളത്തിലെ തെരഞ്ഞെടുത്ത കഥാകൃത്തുക്കളുടെ വിവരണങ്ങൾ
2	Date	സിലബസിൽ പഠിക്കാൻ ഇല്ലാത്ത ഒരു നോവലിന്റെ ആസ്വാദനം

SEMINAR

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

Referance :

1. സമ്പൂർണ്ണ മലയാള സാഹിത്യ ചരിത്രം - എഡിറ്റർ :പന്മന രാമചന്ദ്രൻ നായർ
- 2.ചെറുകഥ ഇന്നലെ ഇന്ന് - എം അച്യുതൻ
- 3.മലയാള നോവൽ സാഹിത്യ ചരിത്രം - കെ എം തരകൻ

COURSE PLAN

PROGRAMME	Bachelor OF Zoology	SEMESTER	1
COURSE CODE AND TITLE	15U1CRZOO01 - ANIMAL DIVERSITY - NON CHORDATA I	CREDIT	2
HOURS/WEEK	2	HOURS/SEM	36
FACULTY NAME	Dr. Dr. Moncey Vincent and Dr. Joby Malamel		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Understand the concept of scientific methodology and create scientific temper in one's own mind	PO1,PO2, PO6, PSO2, PSO3	U
CO 2	Discuss the characteristics of life and know different branches of biology.	PO1, PSO2, PSO3	A
CO 3	Understand the characteristics considered for animal taxonomy	PO1, PO2, PSO1	U
CO 4	Elaborate the basic principles of classification and animal taxonomy and laws that regulate taxonomy and nomenclature of organisms	PO1, PO2, PSO1, PSO2,PSO4	An
CO 5	Understand the approaches and systems of classification as well as modern trends in animal taxonomy	PO1, PO2, PSO1, PSO2, PSO4	U
CO 6	Discuss the characteristics and classification of the Kingdom Protista	PO1, PO2, PO3, PO4, PO5, PSO2, PSO3	A
CO 7	Understand the Classification of Kingdom Animalia and the characteristics of Mesozoa, Parazoa and Metazoa	PO1, PO2, PSO1, PSO2,PSO4	U
CO 8	Discuss the characteristics and diversity of organisms that belong to phylum porifera, coelenterata and ctenophora based on descriptions of model organisms as well as examples from each phyla	PO1, PO2, PO3, PO4, PO5, PSO2, PSO3	A

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	3	1	0	0	0	2	0	3	1	0
CO 2	3	0	0	0	0	0	0	3	1	0
CO 3	3	1	0	0	0	0	1	0	0	0
CO 4	3	1	0	0	0	0	1	3	0	1
CO 5	1	1	0	0	0	0	1	3	0	1
CO 6	3	1	2	2	1	0	0	3	1	0
CO 7	3	1	0	0	0	0	1	3	0	4
CO 8	3	1	2	2	2	0	0	3	1	0
Mapping Strength 0- No Mapping strength 1- Low 2- Medium 3- High										

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE I				
1	History of Biology (Brief), Branches of biology and its scopes.	Class room Lecture		CO 1
2	What is science? Method of science.	Class room Lecture		CO1
3	Revision			
MODULE II				
4	Symmetry - Asymmetry, Spherical, Radial, Biradial and Bilateral Coelom – Acoelomates, Pseudocoelomates and Eucoelomates Schizocoelom, Enterocoelom., Protostomia and Deuterostomia	Class room Lecture with Illustrations		CO3
5	CIA-1			
MODULE III				
6	Principles of taxonomy. Nomenclature. Zoological nomenclature.(ICZN)	Conventional classroom teaching		CO4
7	Law of Priority (Brief) Homonymy and Synonymy. (Brief)	Classroom teaching		CO4
8	Classification – Keys and principles	Classroom teaching	Use of Model keys	CO4
9	Two kingdom and Five kingdom classification.	Classroom teaching		CO4
10	Concepts and definition of classification. Approaches of taxonomy.	Classroom teaching		CO5
11	Modern trends in taxonomy. (Molecular taxonomy)	Classroom teaching		CO5
12	Phylogeny and taxonomy.	Classroom teaching	Showing phylograms	CO5
Module IV				
13	Salient features and classification scheme of Kingdom Protista			CO6
14	1. Phylum Rhizopoda: <i>e.g.</i> Amoeba 2. Phylum Actinopoda: <i>e.g.</i> Actinophrys 3. Phylum Dinoflagellata: <i>e.g.</i> Noctiluca	Lecture with Powerpoint Presentation	Amoeba movement and food capture-HD Video Show	CO6
15	4. Phylum Parabasalia: <i>e.g.</i> Trychonympha 5. Phylum Metamonada: <i>e.g.</i> Giardia 6. Phylum Kinetoplasta: <i>e.g.</i> Trypanosoma 5. Phylum Metamonada: <i>e.g.</i> Giardia 6. Phylum Kinetoplasta: <i>e.g.</i> Trypanosoma	Lecture with Powerpoint Presentation		CO6

16	7. Phylum Euglenophyta: <i>e.g.</i> Euglena 8. Phylum Cryptophyta: <i>e.g.</i> Cryptomonas 9. Phylum Opalinata: <i>e.g.</i> Opalina 10. Phylum Bacillariophyta: <i>e.g.</i> Diatoms	Lecture with PowerPoint Presentation		CO6
17	11. Phylum Ciliophora: Paramecium; Habit and Habitat; Cell structure, Organelles and their functions	Lecture with PowerPoint Presentation	Each student gets opportunity for microscopic examination of live specimen	CO6
18	Paramecium- Locomotion, Nutrition, Respiration, Excretion and Osmoregulation			CO6
19	Paramecium- Reproduction; Asexual (Binary fission, Endomixis and Hemimixis)			CO6
20	Paramecium- Reproduction; Sexual (Conjugation, Autogamy and Cytogamy); Significance of Conjugation			CO6
Module V				
21	Salient features and classification scheme of Kingdom Protista			CO6
22	1. Phylum Rhizopoda: <i>e.g.</i> Amoeba 2. Phylum Actinopoda: <i>e.g.</i> Actinophrys 3. Phylum Dinoflagellata: <i>e.g.</i> Noctiluca	Lecture with Powerpoint Presentation	Amoeba movement and food capture-HD Video Show	CO6
23	Phylum Sporozoa: Plasmodium Phylum Microsporidia: Nosema Phylum Rhodophyta: Red Alga	Lecture with PowerPoint Presentation		CO6
24	Parasitic Protozoans: <i>Entamoeba histolytica</i> <i>Trypanosoma gambiense</i>	Lecture with PowerPoint Presentation		CO6
24	<i>Plasmodium</i> Life cycle of Plasmodium	Lecture with PowerPoint Presentation	e-resource	CO6
26	Parasitic Protozoans: <i>Leishmania</i> <i>Giardia intestinalis</i>	Lecture with PowerPoint Presentation		CO6
27	Parasitic Protozoans: <i>Trichomonas vaginalis</i> <i>Balantidium coli</i>			CO6
Module VI				
28	Outline classification of Kingdom Animalia. Three branches- Mesozoa, parazoa, Eumetazoa.	Lecture with PowerPoint Presentation	e-resource	CO7
29	Mesozoa - Eg. Rhopalura.	Lecture with		CO7

		PowerPoint Presentation		
30	Phylum Porifera. Classification up to classes. Class I- Calcarea. Eg. Sycon., Class II – Hexactinellida . Eg. Euplectella. Class III – Demospongia Eg. Cliona.	Lecture with PowerPoint Presentation		CO8
31	1. Reproduction in sponges 2. Canal system in sponges	Lecture with PowerPoint Presentation	e-resource	CO8
32	Phylum Coelenterata: General characters and Classification up to classes	Lecture with PowerPoint Presentation		CO8
33	Type: <i>Obelia</i> Classification, Habitat and habit	Lecture with PowerPoint Presentation		CO8
34	Type: <i>Obelia</i>	Lecture with PowerPoint Presentation	Video	CO8
35	Class I- Hydrozoa Eg. Halistemma. Class II – Scyphozoa Eg. Rhizostoma.	Lecture with PowerPoint Presentation		CO8
39	Class III- Anthozoa Eg. Fungia. Corals- General features	Lecture with PowerPoint Presentation	Video	CO8
40	Coral reefs and conservation of reef fauna	Lecture with PowerPoint Presentation		CO8
41	Polymorphism in Coelenterates	Lecture with PowerPoint Presentation		CO8
Module VII				
42	Phylum Ctenophora: General information Eg. Pleurobrachia.	Lecture with PowerPoint Presentation		CO8
	Revision			
	Revision			
	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	4/8/2018	ICZN & Carolus Linnaeus- Binomial Nomenclature	CO 1
2	28/8/2018	Coral reefs and conservation of reef fauna	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	1/9/2018	Economically important Protists (other than parasites)	CO 1
2	1/9/2018	Canal system in sponges	CO2

References

- Zoological Society of Kerala Study material. Animal Diversity 2002.
- Dhama. P.S. and Dhama J.K. 1979 Invertebrate Zoology. R. Chand and Co. Delhi.
- Ekambaranatha Ayyar M. 1990. A Manual of Zoology. Volume I. Invertebrate part-I and part-II. S. Viswanathan Printers & Publishers. Pvt.Ltd.
- Bowler Peter J. and Iwan Rhys Morus. 2005 Making Modern Science: A Historical Survey. College of Chicago Press, Chicago, IL:
- Ernst Mayr 1982. The Growth of Biological Thought: Diversity, Evolution and Inheritance. Published by Harvard College Press.
- Ervin Schrodinger 1944. What is life? Mind and Matter. Cambridge College Press.
- Jacques Monod 1971. Chance and Necessity: An Essay on the Natural Philosophy of Modern Biology. Vintage Pub. NY Kottayam.

Web resource references:

- <https://www.studyandscore.com/study-material/porifera>
- <https://www.studyandscore.com/studymaterial-detail/phylum-cnidaria-polymorphism-and-defense-structures>

COURSE PLAN

PROGRAMME	BACHELOR OF ZOOLOGY	SEMESTER	1
COURSE CODE AND TITLE	15U2PRZOO01 Practical 1 Animal diversity – Non Chordata I	CREDIT	2
HOURS/WEEK	2	HOURS/SEM	36
FACULTY NAME	RAAGAM P M		

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
Practical training in laboratory Procedures and Animal Specimen Identification				
1	Study of simple and compound light microscopes	Laboratory Instruments		CO1
2	Camera Lucida (Demonstration)			CO3
3	Simple identification. (All specimens by their generic names and 50% of these by their species name.)			CO4
4	Simple identification. (All specimens by their generic names and 50% of these by their species name.)			CO4
5	Simple identification. (All specimens by their generic names and 50% of these by their species name.)			CO4
6	Simple identification. (All specimens by their generic names and 50% of these by their species name.)			CO4
7	Scientific drawing. Specimen 1 Demonstration			CO7
8	Scientific drawing. Specimen 2 and 3			CO7
9	Scientific drawing. Specimen 4 and 5			CO7
10	Scientific drawing. Specimen 6 and 7			CO7
11	Anatomy – Study of section (Hydra)			CO4, CO7
12	Study of larval forms.			CO4, CO7
13	Study of larval forms.			CO4, CO8
14	Insect identification using key. (Up to Order)			CO4, CO8
15	Anatomy:- Study of sections. (Any two) A. Ascaris B. Earthworm			CO4, CO8

	C. Fasciola			
16	Dissections A. Prawn - Nervous system			CO4, CO8
17	Dissections A. Prawn - Nervous system			CO4, CO8
18	B. Cockroach - Nervous system			CO4, CO8
19	B. Cockroach - Nervous system			CO4, CO8
20	Mounting:- A. Cockroach - Salivary glands			CO4, CO8
21	Mounting:- Mouth parts - Plant bug/House fly/Mosquito/Cockroach/Honey bee (Any Two)			CO4, CO8
22	Mounting:- C. Prawn appendages.			CO4, CO8
23	Mounting:- C. Prawn appendages.			CO4, CO8
24	Mounting:- D. Earthworm setae			CO4, CO8
25	General identification A. Minimum twenty specimens. (Taxonomic classification)			CO4, CO8
26	General identification A. Minimum twenty specimens. (Taxonomic classification)			CO4, CO8
28	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
29	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
30	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
31	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
32	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
33	General identification Taxonomic classification and			CO4, CO8

	Ecological/Morphological/Evolutionary/Economic importance			
34	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
35	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
36	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8
	General identification Taxonomic classification and Ecological/Morphological/Evolutionary/Economic importance			CO4, CO8

COURSE PLAN FOR COMPLIMENTARY COURSE FOR B.Sc. ZOOLOGY

PROGRAMME	COMPLEMENTARY BOTANY FOR BACHELOR OF SCIENCE IN ZOOLOGY	SEMESTER	1
COURSE CODE AND TITLE	15U1CPBOT1: CRYPTOGRAMS, GYMNOSPERMS AND PLANT PATHOLOGY	CREDIT	3
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	Dr. I'ma Neerakkal		

	COURSE OUTCOMES	PO/ PSO	CL
CO1	Understand the diversity of cryptogams and gymnosperms	PO1,PO4, PO6, PSO1, PSO2, PSO3, PSO4,	U
CO2	Understand the reproductive behavior in algae, fungi, bryophytes, pteridophytes and gymnosperms	PO1, PO4, PO5, PO6, PSO1, PSO2, PSO3, PSO4	U
CO3	Understand ecological significance and economic importance of cryptogams and gymnosperms	PO1,PO3, PO4, PO5, PO6, PSO1, PSO2, PSO3, PSO4	U
CO4	Know the evolutionary trends in cryptogams and gymnosperms	PO1, PO2, PO4, PO6, PSO1, PSO2, PSO3, PSO4	A
CO5	Identify the plant diseases and it's control measures	PO1, PO2, PO3, PO4, PO5, PO6, PSO1, PSO2, PSO3, PSO4	A

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
CO 1	3	0	0	2	0	3	1	3	2	2
CO 2	2	0	0	1	3	2	1	1	1	1
CO 3	3	0	3	2	2	1	1	1	3	2
CO 4	3	1	0	2	0	2	1	3	1	1
CO 5	1	1	3	2	1	2	1	3	1	1

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE I				
1.	Introduction to the course	PPT	video	CO 1
2.	Viruses : General account, structure of Tobacco Mosaic Viruses (TMV)	PPT/Lecture		CO 1
3.	mode of infection- T phages	PPT/Lecture		CO 1
4.	Bacteria: Classification, structure, nutrition chemosynthesis, respiration	PPT/Lecture		CO 1
5.	Economic importance – agriculture, industry and medicine.	PPT/Lecture		CO 1
6.	Archaeobacteria.	PPT/Lecture		CO 1
7.	Algae- Classification, main features	Lecture		CO 1
8.	Cyanophyceae - <i>Nostoc</i>	Lecture		CO 1,2,4
9.	Chlorophyceae - <i>Volvox</i>	Lecture		CO 1,2
10.	<i>Oedogonium</i>	Lecture		CO 1,2
11.	<i>Cladophora</i>	PPT/Lecture		CO 1,2
12.	Phaeophyceae : <i>Ectocarpus</i>	PPT/Lecture		CO 1,2
13.	Rhodophyceae : <i>Polysiphonia</i>	PPT/Lecture		CO 1,2
14.	Economic importance of Algae (general account)	PPT/Lecture		CO 3
15.	Fungi (Mycology) :Classification, main features of structure	PPT/Lecture	video	CO 1, 2,4
16.	Phycomycetes : Phytophthora	Lecture		CO 1,2
17.	Ascomycetes : <i>Peziza</i>	Lecture		CO 1,2
18.	Basidiomycetes : <i>Puccinia</i>	Lecture		CO 1,2
19.	Economic importance of Fungi (general account)	Lecture		CO 3
20.	Lichens (Lichenology): Classification	PPT/Lecture		CO 1,2
21.	Lichens : general account	PPT/Lecture	video	CO 1,2
22.	<i>Usnea</i>	PPT/Lecture		CO 1,2
23.	Bryophytes (Bryology): General account of Bryophytes	PPT/Lecture		CO 1,2
24.	<i>Riccia</i>	Lecture		CO 1,2, 3
25.	<i>Riccia</i>	Lecture		CO 1,2, 3
CIA-1				
26.	Pteridophytes (Pteridology): General account of Pteridophytes	Lecture	video	CO 1,2
27.	Type: <i>Selaginella</i>	Lecture		CO 1,2
28.	Type: <i>Selaginella</i>	PPT/Lecture		CO 1,2
Module II				
29.	General account of Gymnosperms	PPT/Lecture		CO 1,2
30.	<i>Cycas</i>	PPT/Lecture		CO 1,2
Module III				
31.	Classification of plant diseases on the basis of	PPT/Lecture	Quiz	CO 5

	causative organism and symptoms			
32.	Nut fall of Arecanut	Lecture		CO 5
33.	Nut fall of Arecanut	Lecture	Q & Ans Session	CO 4
34.	Bacterial blight of Rice	PPT/Lecture		CO 4
35.	Leaf mosaic of Tapioca	PPT/Lecture		CO 4
36.	Leaf mosaic of Tapioca	PPT/Lecture		CO 4
PRACTICAL				
37.	<i>Nostoc</i>	Hands on session		CO1,2,3,4
38.	<i>Volvox</i>	Hands on session		CO1,2,3,4
39.	<i>Oedogonium</i>	Hands on session		CO1,2,3,4
40.	<i>Cladophora</i>	Hands on session		CO1,2,3,4
41.	<i>Ectocarpus</i>	Hands on session		CO1,2,3,4
42.	<i>Ectocarpus</i>	Hands on session		CO1,2,3,4
43.	<i>Polysiphonia</i>	Hands on session		CO1,2,3,4
44.	<i>Polysiphonia</i>	Hands on session		CO1,2,3,4
45.	Phytophthora	Hands on session		CO1,2,3,4
46.	Peziza	Hands on session		CO1,2,3,4
47.	<i>Puccinia</i>	Hands on session		CO1,2,3,4
48.	<i>Puccinia</i>	Hands on session		CO1,2,3,4
49.	<i>Usnea</i>	Hands on session		CO1,2,3,4
50.	<i>Usnea</i>	Hands on session		CO1,2,3,4
51.	<i>Riccia</i>	Hands on session		CO1,2,3,4
52.	<i>Riccia</i>	Hands on session		CO1,2,3,4
53.	<i>Selaginella</i>	Hands on session		CO1,2,3,4
54.	<i>Selaginella</i>	Hands on		CO1,2,3,4

		session		
55.	<i>Selaginella</i>	Hands on session		CO1,2,3,4
56.	<i>Cycas</i>	Hands on session		CO1,2,3,4
57.	<i>Cycas</i>	Hands on session		CO1,2,3,4
58.	<i>Cycas</i>	Hands on session		CO1,2,3,4
CIA 2				
59.	<i>Cycas</i>	Hands on session		CO1,2,3,4
60.	<i>Cycas</i>	Hands on session		CO1,2,3,4
61.	Nut fall of Arecanut	Hands on session		CO 5
62.	Nut fall of Arecanut	Hands on session		CO 5
63.	Bacterial blight of Rice	Hands on session		CO 5
64.	Bacterial blight of Rice	Hands on session		CO 5
65.	Leaf mosaic of Tapioca	Hands on session		CO 5
66.	Leaf mosaic of Tapioca	Hands on session		
67.	Repetition if needed	Hands on session		CO 5
68.	Repetition if needed	Hands on session		
69.	Repetition if needed	Hands on session		
70.	Repetition if needed	Hands on session		
71.	Repetition if needed	Hands on session		
72.	Repetition if needed	Hands on session		

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	4/10/2018	Collection and identification of various species listed in the syllabus	CO 1,2,5

References

1. Ahamdijan, Vernon and Mason H. E (1973) The Lichens. New York: Academic press.
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9. Gangulee H. C and Kar A. K(1993) College Botany Vol. II Calcutta, New Central Book Agency.
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11. Mamatha Rao(2009) Microbes and Non- flowering plants, Impact and applications, Ane Books Pvt.Ltd..
12. Pandey S. N and Trivedi P. S(1994) . A Textbook of College Botany Vol I
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15. Pandey B. P(2007), College Botany Vol II, S. Chand and Company
16. Sharma P. D(2003) Microbiology and Plant Pathology and Biochemistry, Rasthogy Publications
17. Vasishta B. R. Bryophyta – S. Chand and Co. New Delhi

COURSE PLAN

PROGRAMME	COMPLEMENTARY CHEMISTRY FOR BACHELOR OF SCIENCE IN ZOOLOGY	SEMESTER	1
COURSE CODE AND TITLE	15U1CPCHE1: GENERAL CHEMISTRY	CREDIT	2
HOURS/WEEK	2	HOURS/SEM	36
FACULTY NAME	Dr. June Cyriac and Ms.Ammu Rosin Jose		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	<i>Describe different models of atomic structure.</i>	PO 1, PSO 1	U
CO 2	<i>Define acids and bases and explain the concept of equilibrium.</i>	PO 2, PSO 3	U
CO 3	<i>Understand the concept of solubility and its applications in various fields.</i>	PO 3, PSO 1	U
CO 4	<i>Explain the fundamentals of nuclear chemistry.</i>	PO 4 and PO 5, PSO 1, PSO 2	U
CO 5	<i>Generate a basic idea on applications of nuclear energy in various fields and the possible hazards.</i>	PO 6, PSO 1	U
CO 6	<i>Explain the fundamentals of analytical chemistry.</i>	PO 5, PSO 4	U
CO 7	<i>Understand the basics of thermodynamics.</i>	PO 1, PSO 1	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	PSO 5
CO 1	3	0	0	2	0	0	1	0	0	0	0
CO 2	0	0	0	0	0	0	0	0	1	0	0
CO 3	0	0	3	0	0	0	1	0	0	0	0
CO 4	0	0	0	2	3	0	1	2	0	0	0
CO 5	0	0	0	0	0	2	1	0	0	0	0
CO 6	0	0	0	0	2	0	0	0	0	2	0
CO 7	3	0	0	0	0	0	2	0	0	0	0

Mapping Strength

0- No Mapping strength

1- Low

2- Medium

3- High

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE I : Atomic Structure : Dr. June Cyriac(9h)				
1	Introduction: Atoms, Planck's quantum Theory, Photoelectric effect	Chalk & Board	video	CO 1
2	Postulates of bohr's theory, Energy levels in atom	Chalk & Board		CO 1
3	origin of hydrogen spectrum	Chalk & Board		CO 1
4	Sommerfeld's extension of Bohr's Theory	Chalk & Board		CO 1
5	Shortcomings of Bohr Theory	Chalk & Board		CO 1
6	Dual nature of matter and radiation. Derivation of de Broglie equation	Chalk & Board		CO 1
7	Wave nature of electron and quantisation of angular momentum, Heisenberg's uncertainty principle	Chalk & Board		CO 1
8	Concept of orbital, Quantum numbers, shapes of orbitals	Chalk & Board		CO 1
9	Electronic configuration of atoms - Aufbau principle, Hund's rule of maximum multiplicity, Pauli's exclusion principle	Chalk & Board		CO 1
MODULE II: Concept of Equilibrium: Dr. June Cyriac (8h)				
10	Acids and bases	Chalk & Board		CO 2
11	Theories of acids and bases	Chalk & Board		CO 2
12	Ionic product of water, introductory idea of pH, pOH.	Chalk & Board	quiz	CO 2
13	Strengths of acids and bases, Ka and Kb, pKa and pKb	Chalk & Board		CO 2
14	Buffer solution, Henderson equation	Chalk & Board		CO 2
15	Hydrolysis of salt, solubility	Chalk & Board		CO 2
16	Solubility product, application	Chalk & Board		CO 3
17	Common ion effect, application.	Chalk & Board		CO 3
MODULE III: Nuclear Chemistry : Ms.Ammu Rosin Jose (6h)				
18	Stability of Nucleus	Chalk & Board		CO 4
19	Natural radioactivity, induced radioactivity	Chalk & Board	quiz	CO 4
20	Fertile and fissile isotopes, units of radioactivity.	Chalk & Board		CO 4
21	Nuclear Reactions: fission and fusion, chain reactions	Chalk & Board		CO 4
22	Disposal of nuclear wastes	Chalk & Board		CO 5
23	Applications of radioactivity	Chalk & Board		CO 5

MODULE IV: Analytical Chemistry- Basic Principles: Ms. Ammu Rosin Jose (5h)				
24	Concentration terms- molality, molarity, normality, weight percentage, ppm, and millimoles.	Chalk & Board		CO 6
25	Titrimetric method of analysis: General principle, types of titrations, requirements for titrimetric analysis.	Chalk & Board		CO 6
26	Primary and secondary standards, criteria for primary standards	Chalk & Board		CO 6
27	Preparation of standard solutions, standardization of solutions	Chalk & Board		CO 7
28	Problems	Chalk & Board	Quiz	CO 7
MODULE V: Laws of Thermodynamics : Ms. Ammu Rosin Jose (8h)				
29	System and Surrounding and First Law of Thermodynamics	Chalk & Board		CO 7
30	Second law of Thermodynamics: free energy, Entropy and Spontaneity, Statement of second law based on entropy	Chalk & Board		CO 7
31	Entropy change in Phase transitions	Chalk & Board		CO 7
32	entropy of fusion, entropy of vaporization, entropy of sublimation	Chalk & Board		CO 7
33	The concept of Gibbs's free energy- Physical significance of free energy, conditions for equilibrium & spontaneity based on ΔG values.	Chalk & Board		CO 7
34	Effect of temperature on spontaneity of Reaction.	Chalk & Board		CO 7
35	Third law of thermodynamics	Chalk & Board		CO 7
36	Problems based on Laws of Thermodynamics	Chalk & Board	Quiz	CO 7

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	04/08/2018	Applications of solubility product	CO 3
2	28/10/2018	Effect of temperature on spontaneity of Reaction.	CO 7

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	02/11/2018	Concentration terms	CO 6

References

1. P. L. Soni, Inorganic Chemistry.
2. C. N. R. Rao, University General Chemistry, Macmillan.
3. R. A. Day Junior, A.L. Underwood, Quantitative Analysis, 5th edn. Prentice Hall of India Pvt. Ltd. New Delhi, 1988.
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5. B. R. Puri, L. R. Sharma, M.S. Pathania, Elements of Physical Chemistry, 3rd edn. Vishal Pub. CO., 2008.
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7. Vogel's Text Book of Quantitative Chemical Analysis, J. Mendham, R. C. Denney, J.D. Barnes, M. Thomas, 6th edn. Pearson Education (2003).