

SACRED HEART COLLEGE (AUTONOMOUS)

Department of Zoology

BACHELOR OF SCIENCE IN ZOOLOGY

Course plan

Academic Year 2015 - 16

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

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

COURSE OBJECTIVES

Understand the mechanics of English language and comprehend the meaning of simple narrations, announcements and instructions.

Make inferences about the implications of statements from stress and tone recognize the various registers of speech.

Listen to formal presentations and prepare lecture notes in the appropriate format.

Use English for a variety of speaking contexts including conversations, presentations, speeches, discussions and negotiations.

Critically evaluate presentations, narrations, speeches and analyse and evaluate their content and respond to them appropriately.

Creatively respond to one's surroundings in the form of drama, poetry, narrations, and songs, and perform them before an audience.

COURSE PLAN

SESSI ON	TOPIC	Learning Resources	Activity	REMARKS
MODULE I				
MODULE – I : Speech Sounds				
1	Introduction to Communication Skills	Course book	Lecture	
2	Phonemic symbols	Audio	Q & A	
3	Vowels	Audio	Q & A	
4	Consonants	Audio	Q & A	
5	Vowels	Audio	Q & A	
6	Consonants	Audio	Q & A	
7	Syllables	Course book	Exercises	
8	Syllables	Audio	Q & A	
9	Syllables	Audio	Q & A	
10	Word stress	Audio	Q & A	
11	Word stress	Course book	Exercises	
12	Word stress	Course book	Exercises	
13	Word stress	Audio	Q & A	
14	Stress in polysyllabic words	Audio	Q & A	
15	Stress in polysyllabic words	Course book	Exercises	
16	Stress in polysyllabic words	Course book	Exercises	
17	Stress in words used as different parts of speech	Audio	Q & A	

18	Stress in words used as different parts of speech	Audio	Q & A	
19	Stress in words used as different parts of speech	Lecture		
MODULE II : Listening				
20	Sentence stress	Course Book	Lecture	
21	Sentence stress	Audio	Q& A	
22	Sentence stress	Audio	Q& A	
23	Sentence stress	Lecture	Exercises	
24	Weak forms and strong forms	Audio	Q & A	
25	Weak forms and strong forms	Audio & Lecture	Exercises	
26	Weak forms and strong forms	Lecture	Exercises	
27	Intonation	Lecture	Exercises	
28	Intonation	Audio	Q & A	
Internal Assessment Test 1				
30	Awareness of different accents	Video	Q & A	
31	Awareness of different accents	Audio/Video	Q & A	
32	Awareness of different accents	Audio/Video	Q & A	
MODULE- III: Speaking				
33	American English	Course Book	Lecture	
34	American English	Audio	Discussion	
35	American English	Audio	Discussion	
36	American English	Audio	Exercises	
37	British and Indian English	Course Book	Discussion	

38	British and Indian English	Audio	Discussion	
39	British and Indian English	Audio	Discussion	
40	British and Indian English	Audio	Discussion	
Unit II: Academic Listening & Note-taking				
41	Influence of the mother tongue	Course Book	Lecture	
42	Influence of the mother tongue	Course book	Exercises	
43	Influence of the mother tongue	Audio	Exercises	
44	Influence of the mother tongue	Audio	Exercises	
45	Active listening	Audio	Exercises	
46	Active listening	Audio	Exercises	
47	Barriers to listening	Audio	Exercises	
48	Barriers to listening	Audio	Exercises	
MODULE III				
Unit 1 – Art of Small Talk				
49	Seminar Presentation	Course book	Lecture	
50	Listening and note taking	Course book	Exercises	
51	Listening and note taking	Audio	Q & A	
52	Listening and note taking	Course book	Q & A	
53	Listening and note taking	Course book	Exercises	
54	Listening to announcements	Audio	Exercises	

55	Listening to announcements	Course book	Exercises	
56	Listening to announcements	Course book	Exercises	
57	Listening to announcements	Course book	Exercises	
Unit II: Transactional Conversation				
59	Listening to news on the radio and television	Course book	Exercises	
60	Listening to news on the radio and television	Course book	Exercises	
61	Listening to news on the radio and television	Course book	Exercises	
62	Word stress and rhythm	Course book	Exercises	
63	Word stress and rhythm	Course book	Exercises	
64	Pauses and sense groups	Course book	Exercises	
65	Pauses and sense groups	Course book	Exercises	
66	Pauses and sense groups	Course book	Exercises	
67	Falling and rising tones	Course book	Exercises	
68	Falling and rising tones	Course book	Exercises	
69	Falling and rising tones	Course book	Exercises	
Unit III: Telephone Conversation				

70	Fluency and pace of delivery	Course book	Lecture	
71	Internal Examination	Course book	Exercises	
72	Art of small talk	Course book	Exercises	
Internal Assessment 2				
MODULE IV				
Unit 1: Presentation				
73	Participating in conversations	Course book	Lecture	
74	Participating in conversations	Discussion	Exercises	
75	Participating in conversations	Course book	Lecture	
76	Making a short formal speech	Course book	Discussion	
77	Participating in conversations	Course book	Discussion	
78	Describing people	Course book	Discussion	
79	Describing people	Course book	Discussion	
80	Place, events and things	Course book	Lecture	
81	Group discussion skills and telephone skills	Course book	Discussion	
82	Reading: theory and Practice -----	Course book	Discussion	
83	Scanning - Surveying a textbook using an index	Course book	Discussion	

84	Reading with a purpose – making predictions	Course book	Discussion	
MODULE – IV: Reading				
85	Understanding text structure	Course book	Lecture	
86	Locating main points – Making inferences	Course book	performance	
87	Reading graphics	Course book	performance	
88	Reading critically	Course book	performance	
89	Reading for research	Course book	performance	
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.)
1	4/8/2015	Presentations
2	28/8/2015	Role plays

GROUP ASSIGNMENTS/ACTIVITIES – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	12/9/2015	Group Discussions
2	20/9/2015	Performances

References

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

COURSE PLAN

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

COURSE OBJECTIVES

COURSE OBJECTIVES
Explain the nuances of English Language through literature.
Compare the Varied parameters of English language.
Discover comprehensive ability.
Connect the efficiency of the students with realities of life.
Evaluate the beauty of literary expression.

COURSE PLAN

SESSION	TOPIC	Learning Resources	VALUE ADDITIONS	REMARKS
MODULE I				
ESSAYS				
1	Introducing the text book	Text	PPT	
2	Bores: E V Lucas	Text		
3	Bores: E V Lucas	Text		
4	Bores: E V Lucas	Text		
5	A Glory has Departed- Jawaharlal Nehru	Text	Group Discussion	
6	A Glory has Departed- Jawaharlal Nehru	Text		
7	A Glory has Departed- Jawaharlal Nehru	Text		
8	A Glory has Departed- Jawaharlal Nehru	Text		
9	Tryst with Destiny- Amartya Sen	Text		
10	Tryst with Destiny- Amartya Sen	Text		
11	Tryst with Destiny- Amartya Sen	Text		
12	Tryst with Destiny- Amartya Sen	Text		
13	How to Escape from Intellectual Rubbish-Bertrand Russel	Text	Group Discussion	
14	How to Escape from Intellectual Rubbish-Bertrand Russel	Text		
15	How to Escape from Intellectual Rubbish-Bertrand Russel	Text		
16	How to Escape from Intellectual Rubbish-Bertrand Russel	Text		

17	Discussion			
18	Discussion		Quiz	
MODULE II- Poetry				
19	Sonnet XXX-William Shakespeare	Text	Lecture/PPT	
20	Sonnet XXX-William Shakespeare	Text		
21	Sonnet XXX-William Shakespeare	Text	Poetry Recitation	
22	Ode to a Nightingale-John Keats	Text	Poetry Recitation	
23	Ode to a Nightingale-John Keats	Text		
24	Mending Wall- Robert Frost		Interaction	
First Internal Examination				
25	Mending Wall- Robert Frost	Text	Poetry Recitation	
26	Mending Wall- Robert Frost	Text	Role Play	
27	The Bicycle- David Malouf	Text	Role play	
28	The Bicycle- David Malouf	Text		
29	The Bicycle- David Malouf	Text		
30	The Refuge	Text		
Unit 3: The Boy Comes Home				
30	Poor Girl- Maya Angelou	Text	Lecture/PPT	
31	Poor Girl- Maya Angelou	Text		
32	The Mask- Kamala Suraiya	Text		
33	The Mask- Kamala Suraiya	Text		
34	Goodbye party for Miss Pushpa T S- Nissim Ezekiel	Text	Poetry Recitation	
35	Goodbye party for Miss Pushpa T S- Nissim Ezekiel	Text		

36	Once Upon a Time-Gabriel Okara	text	Quiz	
MODULE III: Short Story				
37	The Lottery Ticket- Anton Pavlovich Chekhov	Text		
38	The Lottery Ticket- Anton Pavlovich Chekhov	Text		
39	The Lottery Ticket- Anton Pavlovich Chekhov	Text		
40	The Lottery Ticket- Anton Pavlovich Chekhov	Text	Quiz	
41	The Lottery Ticket- Anton Pavlovich Chekhov	Text	Video/ e-content	
42	Retrieved Reformation- O. Henry	Text		
43	Retrieved Reformation- O. Henry	Text		
44	Retrieved Reformation- O. Henry	Text		
MODULE III: Short Story				
45	Retrieved Reformation- O. Henry	Text	PPT	
46	Retrieved Reformation- O. Henry	Text		
47	A Shadow- R K Narayan	Text		
48	A Shadow- R K Narayan	Text		
49	A Shadow- R K Narayan	Text		
50	A Shadow- R K Narayan	Text	PPT	
51	A Devoted Son- Anita Deasi	Text		
52	A Devoted Son- Anita Deasi	Text		
53	A Devoted Son- Anita Deasi	Text		
54	A Devoted Son- Anita Deasi	Text	Discussion/Quiz	

55	Two Gentlemen of Verona- A J Cronin	Text		
56	Two Gentlemen of Verona- A J Cronin	Text		
57	Two Gentlemen of Verona- A J Cronin	Text		
58	Two Gentlemen of Verona- A J Cronin	Text	Quiz	
59	Two Gentlemen of Verona- A J Cronin	Text	Role Play	
60	Two Gentlemen of Verona- A J Cronin	Text		
Unit 4: DRAMA				
61	Refund- Fritz Karinthy	Text		
62	Refund- Fritz Karinthy	Text		
63	Refund- Fritz Karinthy	Text		
64	Refund- Fritz Karinthy	Text	Enacting the Drama	
65	Lord Byron's Love Letter-Tennessee Williams	Text		
66	Lord Byron's Love Letter-Tennessee Williams	Text	Quiz	
Second Internal Examination				
67	Lord Byron's Love Letter-Tennessee Williams	Text		
68	Lord Byron's Love Letter-Tennessee Williams	Text	Enacting the Drama	
69	The Monkey's Paw- W.W Jacob	Text Recital/ lecture		
70	The Monkey's Paw- W.W Jacob	Text		

71	The Monkey's Paw- W.W Jacob	Text		
72	The Monkey's Paw- W.W Jacob	Text	Enacting the Drama	

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

COURSE OBJECTIVES

Understand and explain the different prose forms written in Hindi language.

Understand various trends in Hindi Drama and its presentation.

Understand the ancient Indian culture

Understand the socio - cultural change in literature

Understand the development of literature and aesthetics

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	REMARKS
MODULE I				
1	General information about literature	Lecture/Discussion		
2	Development of Drama	Lecture/Discussion		
3	Madhavi – Introduction of Author Bishma Sahni	Lecture/PPT		
4	Madhavi Act – 1, Scene -1	Lecture	Video	
5	Essay - Jeevan Mein Sahitya Ka Sthan Introduction of Author Premchand	Lecture/Discussion		
6	Premchand and his literary works	Lecture/PPT		
7	Madhavi Act – 1, Scene -1	Lecture	Narration of stories	

			related to 'Mahabharat'	
8	Revision	Interaction	Video	
9	Madhavi Act – 1, Scene -1	Lecture		
10	Madhavi Act – 1, Scene -2	Lecture/Discussion		
11	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture		
12	Revision	Interaction	Presentation by students	
13	Madhavi Act – 1, Scene -2	Lecture		
14	Madhavi Act – 1, Scene -2	Lecture		
15	Madhavi Act – 1, Scene -3	Lecture	Presentation by students	
16	Essay - Jeevan Mein Sahitya Ka Sthan	Interaction	Acting	
17	Analyzing the characters of 'Madhavi'	Interaction	Conversation	
18	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture		
19	Madhavi Act – 1, Scene -3	Lecture/Discussion	Video	
20	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture		
21	Essay - Jeevan Mein Sahitya Ka Sthan	Interaction	Seminar	
22	Essay - Jeevan Mein Sahitya Ka Sthan	Lecture/Discussion		
23	Essay - Sahitya Ki Mahatta Introduction of Author Mahaveer Prasad Dwivedi	Lecture/PPT		
24	CIA – I (1Hour Exam)			
MODULE II				
25	Essay - Sahitya Ki Mahatta	Lecture		
26	Essay - Sahitya Ki Mahatta	Lecture		
27	Essay - Sahitya Ki Mahatta	Lecture		
28	Essay - Sahitya Ki Mahatta	Lecture/Discussion		
29	Revision	Interaction	Seminar	
30	Madhavi Act – 2, Scene -1	Lecture		
31	Madhavi Act – 2, Scene -1	Lecture	Presentation by students	
32	Madhavi Act – 2, Scene -1	Lecture/Discussion		
33	Madhavi Act – 2, Scene -2	Lecture		
34	Madhavi Act – 2, Scene -2	Lecture		

35	Madhavi Act – 2, Scene -2	Lecture	Presentation by students	
36	Revision	Interaction	Video	
37	Madhavi Act – 2, Scene -3	Lecture		
38	Madhavi Act – 2, Scene -3	Lecture/Discussion		
39	Essay - Lalit Kalayen Introduction of the Author Dr. Syamsundar Das	Lecture/PPT		
40	Essay - Lalit Kalayen	Lecture	Seminar	
41	Essay - Lalit Kalayen	Lecture		
42	Essay - Lalit Kalayen	Lecture/Discussion		
43	Essay - Lalit Kalayen	Lecture/Discussion		
44	Madhavi Act – 2, Scene -3	Lecture	Video	
45	Madhavi Act – 2, Scene -3	Lecture	Video	
46	Interactive session	Discussion	Debate	
47	CIA – II (2 Hours Exam)			
MODULE III				
48	Essay - Rashtra Ka Swaroop Introduction of the Author Vasudev Saran Agraval	Lecture/PPT		
49	Essay - Rashtra Ka Swaroop	Lecture		
50	Essay - Rashtra Ka Swaroop	Lecture		
51	Essay - Rashtra Ka Swaroop	Discussion	Presentation by students	
52	Madhavi Act – 2, Scene -4	Lecture		
53	Madhavi Act – 2, Scene -4	Lecture	Seminar	
54	Madhavi Act – 3, Scene -1	Lecture		
55	Madhavi Act – 3, Scene -1	Lecture/Discussion		
56	Revision	Discussion	Video	
57	Essay - Tum Ghar Kab Aoge Kavi Introduction of the Author Ramdhari Sinh Dinakar	Lecture/PPT		
58	Essay - Tum Ghar Kab Aoge Kavi	Lecture		
59	Essay - Tum Ghar Kab Aoge Kavi	Lecture	Seminar	
60	Essay - Tum Ghar Kab Aoge Kavi	Lecture		
61	Essay - Tum Ghar Kab Aoge Kavi	Lecture/Discussion		
62	Essay - Tum Ghar Kab Aoge Kavi	Discussion	Presentation by students	
63	Madhavi Act – 3, Scene -2	Lecture		
64	Madhavi Act – 3, Scene -2	Lecture		
65	Madhavi Act – 3, Scene -2	Lecture/Discussion	Video	
66	Madhavi Act – 3, Scene -3	Lecture	Video	
67	Madhavi Act – 3, Scene -3	Lecture/Discussion	Presentation by students	
68	Madhavi Act – 3, Scene -3			

69	Madhavi Conclusion	Interaction	Criticising the drama	
70	Seminar			
71	Seminar			
72	Evaluation of the course			

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)
1	September	Literary Analysis of drama and its video (Group Discussion)
2	September	Presentation of any scene from drama Madhavi.(Group Activity)

References

- **Hindi Natak Ka Ithihas : Somanath Gupt 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 OBJECTIVES
Understand the basic concepts of French language including grammar, vocabulary and sentence structure
Understand the basic communication skills necessary for living in France and French speaking countries.
Describe oneself and ones surroundings using a repertory of words and expressions in a simple and structured grammatical manner.
Develop business communication skills
Express an issue of concern including topics like environmental, social or health issues, enumerate its causes and consequences and suggest solutions
Understand the mannerisms, culture and tradition of France and Francophone countries and compare it to one's own country and develop co-cultural feeling
Understand and appreciate the history of France and Francophone countries and compare it to one's own country
Understand the special features of France including gastronomy, social institutions, policis, the present French scenario and compare it to one's own country

Session	Topic	Method of Teaching	Value Additions	REMARKS
MODULE I				
1	Introducing French Basics	role play, Discussion	french basic communication	
2	French basics -alphabets	chalk n talk, audio	Lecture	
3	french basics	audio ppt, discussion	Lecture	
4	french basics	chalk n talk	Lecture	
5	numbers 1-20	role play,audio ppt	Lecture	
6	verbs introduction	chalk n talk	Lecture	
7	conjugation introduction	chalk n talk,ppt audio	audio	
8	Greetings	role play,audio ppt	Know a new culture	
9	Basic useful sentences in French	role play, audio ppt	Q and A	

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

40	intonations	audio ppt	Lecture	
41	French culture-express preference for city or village	Discussion	knowing culture	
42	revision			
43	CIA 2			
44	Corresponding with a friend expressing one's likings	chalk n talk/Role plays	Q and A	
45	speak about a persons character	role play ,GD	know each other	
46	adjectif possessif part 1	chalk n talk,audio ppt	Lecture	
47	adjectif possessif part 2	chalk n talk, audio ppt	Lecture	
48	speak about the surroundings	discussion	Lecture	
49	introduce and describe someone	role play	Lecture	
50	activities - vocabulary	lecture,audio	Lecture	
51	sports vocabulary	speaking/role play	general knowledge	
52	Vocabulary - relations	chalk n talk,audio ppt	Lecture	
53	famous french personality	discussion/comprehension	Lecture	
54	lexique des liens de parente	chalk n talk,audio ppt	Lecture	
	Express ones likings	Audio ppt,discussion	Q and A	
55	lexiques des loisirs	Audio ppt,discussion	Video	
56	forme negation	Audio ppt,discussion	Q and A	
57	pronunciation of verbs	Audio ppt,discussion	Q and A	
58	form filling	Audio ppt,discussion	Q and A	
59	french artists	Audio ppt,discussion	GK	
60	french music	Audio ppt,discussion	Video	
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	
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)
1	By October	Basic vocabulary on communication skills in Malayalam and French
2		roleplays

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

COURSE OBJECTIVES
Students can understand the poetic style with special reference to classical literature
Students get an awareness about Indian classical poetic tradition
Students familiarize the figures of speech and their usage
Students get an awareness about ascthetic values
Express an issue of concern including topics like environmental, social or health issues, enumerate its causes and consequences and suggest solutions
Understand moral values through Drama
Understand the tools to beutify the literature through Alankara
Students identify the richness of Indian Literature

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	REMARKS
MODULE I				
1	Introducing Sanskrit Basics	Lecture		
2	About Mahakavya	Lecture		
3	About Kumarasambava	Lecture		
4	Fifth sarga of Kumarasambava	Lecture	e-resource	
5	Brahmacharipravesha	Lecture		
6	Parvathi's penance	PPT/Lecture		
7	Inviting Brahmachari	Lecture		
8	Purushartha	Lecture		
9	Himalaya	Lecture		
10	Conversation to Parvathy	Lecture		
11	Critisiation	PPT/Lecture		
12	Questioning	PPT/Lecture		
13	Upamas	PPT/Lecture		
14	Revision			
MODULE II				
15	Sanskrit Drama - Introduction	PPT/Lecture		
16	Mahakavi Bhasa's Dramas	Lecture		
17	Bhasa's Karnabharam	Lecture		
18	Mahabharatha	Lecture		

19	Mangalaslōka	Lecture		
20	Entry of Karna	PPT/Lecture		
21	Request to Karna	PPT/Lecture		
22	Duryodhana's order	PPT/Lecture		
23	Karna's sadness	PPT/Lecture		
24	Revenge	Lecture		
25	Karna's birth	Lecture		
26	CIA-1			
27	Kunthi's request	Lecture		
28	Karna's study	Lecture		
29	ParaShurama's teaching	PPT/Lecture		
30	Parashrama's curse	PPT/Lecture		
31	Greatness of Kshathriyas	PPT/Lecture		
32	Bravery of Karna	Lecture		
33	Indra's request to karna	Lecture		
34	Brahmana's blessing	PPT/Lecture		
35	Karna offering Horses	PPT/Lecture		
36	Karna offering elephants	PPT/Lecture		
37	Karna offering gold	Lecture		
38	Karna offering his kavacha	Lecture		
39	Indra accepting kavacha and kundala	PPT/Lecture		
40	Indra's blessing	PPT/Lecture		
41	The greatness of giving	PPT/Lecture		
42	Revision			
43	Revision			
44	Revision			
45	Revision			
	MODULE III			
46	Alankara introduction			
47	Kuvalayananda	PPT/Lecture		
48	Upama alankara	PPT/Lecture		
49	Upamana ,Upameya ,sadharana dharma	PPT/Lecture		
50	Ullekha Alankara	PPT/Lecture		
51	Dipika Alankara	PPT/Lecture		
52	Dipika example	PPT/Lecture	Video	
53	Vyathireka Alankara	PPT/Lecture		
54	Aprastutaprasamsa	PPT/Lecture		
55	Revision			
56	Svabhavokthi Alankara	Lecture	Debate	
57	Rupaka Alankara	PPT/Lecture		
58	Drishthantha Alankara	PPT/Lecture		
59	Dristantha -example	PPT/Lecture		
60	Arthantharanyasa	PPT/Lecture		

61	Prathama Ullekha	PPT/Lecture		
62	Dvitheeya Ullekha	PPT/Lecture		
CIA - II				
MODULE IV				
63	Characteristic of Karna	Lecture		
64	Characteristics of Shalya	Lecture	Group discussion	
65	Characteristics of Indra	Lecture		
66	Characteristics of Parvathi	PPT/Lecture		
67	Characteristics of Brahmachari	PPT/Lecture		
68	Himalaya	PPT/Lecture		
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)
1	12/08/2015	The role of Karna in Mahabharatha
2	16/09/2015	Upama kalidasasya

GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	23/9/2015	The moral values in Kumarasambava
2	30/9/2015	Purushartha –the means of life

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 Chaturvedi
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
COURSE OBJECTIVES			
കഥ, നോവൽ എന്നിവയെക്കുറിച്ച് മെച്ചപ്പെട്ട ധാരണ ഉണ്ടാക്കുക			
ഭാഷാപഠനം സാഹിത്യാനുഭവത്തിലൂടെ ആവിഷ്കരിക്കുക			
വായനാഭിരുചി വർദ്ധിപ്പിക്കുക			
സാഹിത്യ പരിചയം ഉണ്ടാക്കുക			
വ്യാവഹാരിക തലത്തിൽ മാതൃഭാഷാപ്രയോഗിക്കുവാനുള്ള കഴിവ് നേടുക			
ഭാഷാപഠനത്തിലൂടെ ആശയവിനിമയശേഷി വർദ്ധിപ്പിക്കുക			

COURSE PLAN

Session	Topic	Learning Resources	Teaching Method	Remarks
Module I				
1	മലയാളസാഹിത്യം സാമാന്യാവലോകനം	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	
2	ചെറുകഥയുടെ ചരിത്രം -1	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	
3	ചെറുകഥയുടെ ചരിത്രം-2	സാഹിത്യചരിത്രങ്ങൾ	Discussion	
4	തകഴിയുടെ രചനാലോകം	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
5	വെളുത്തകുഞ്ഞ്	Text	Reading	
6	വെളുത്തകുഞ്ഞ്	Text	Group Discussion	
7	സന്തോഷ് ഏച്ചിക്കാനത്തിൻറെ കഥകൾ	ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
8	അഭിനയമുഹൂർത്തങ്ങൾ കഥ	Text	Reading	
9	അഭിനയമുഹൂർത്തങ്ങൾ കഥ	Text	Group Discussion	
10	ഒ വി വിജയനെ പരിചയപ്പെടുത്തുന്നു	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	

11	കടൽത്തീരത്ത്	Text	Reading	
12	കടൽത്തീരത്ത്	Text	Group Discussion	
13	എൻ എസ് മാധവൻറെ കൃതികളുടെ രാഷ്ട്രീയം	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
14	നാലാംലോകം കഥ	Text	Reading	
15	നാലാംലോകം കഥ	Text	Group Discussion	
16	നാലാംലോകം കഥ	Text	Group Discussion	
17	ചെറുകഥ - അവലോകനം	Text	Group Discussion	
Module II				
18	എം ടി വാസുദേവൻ നായരുടെ കൃതികൾ	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
19	പ്പെർലക്സ്	Text	Reading	
20	പ്പെർലക്സ്	Text	Group Discussion	
21	ഉണ്ണി ആറിനെ പരിചയപ്പെടുത്തുന്നു	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
22	ഒറ്റപ്പെട്ടവൻ-	Text	Reading	
23	ഒറ്റപ്പെട്ടവൻ-	Text	Group Discussion	
24	ജോൺ എബ്രഹാം: സാഹിത്യവും സിനിമയും	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
25	നേർച്ചക്കൊഴി	Text	Reading	
26	നേർച്ചക്കൊഴി	Text	Group Discussion	
27	സാനാ ജോസഫ്, പുരാണ പുനർവായന	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
28	തായ്കുലം	Text	Reading	
29	തായ്കുലം	Text	Group Discussion	
30	ചെറുകഥ - അവലോകനം	Text	Group Discussion	
31	Internal Assessment 1	Text		
32	Question paper discussion	Text	Group Discussion	
Module III				
33	മാധവിക്കുട്ടിയുടെ കഥകളുടെ പ്രത്യേകതകൾ	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
34	പക്ഷിയുടെ മണം	Text	Reading	
35	പക്ഷിയുടെ മണം	Text	Group Discussion	
36	വൈക്കം മുഹമ്മദ് ബഷീറിൻറെ ലോകം	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
37	ശിക്കിടിമുക്കൻ	Text	Reading	
38	ശിക്കിടിമുക്കൻ	Text	Group Discussion	
39	സേതുവിൻറെ കൃതികൾ		Lecturing	
40	ദൂത്	Text	Reading	
41	ദൂത്	Text	Group Discussion	

42	കെ ആർ മീരയുടെ എഴുത്തുകൾ	നോവൽ & ചെറുകഥാ പഠനങ്ങൾ	Lecturing	
43	മോഹമത്തെ	Text	Reading	
44	മോഹമത്തെ	Text	Group Discussion	
45	ചെറുകഥ - അവലോകനം	Text	Group Discussion	
Module - IV				
46	മലയാളനോവൽ ചരിത്രം	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	
47	മലയാളനോവൽ ചരിത്രം	സാഹിത്യചരിത്രങ്ങൾ	Group Discussion	
48	മലയാളനോവൽ സൂതന പ്രവണതകൾ	സാഹിത്യചരിത്രങ്ങൾ	Lecturing	
49	മലയാളനോവൽ സൂതന പ്രവണതകൾ	സാഹിത്യചരിത്രങ്ങൾ	Group Discussion	
50	വിനോയ് തോമസ്- ആമുഖം	നോവൽ പഠനങ്ങൾ	Lecturing	
51	കരിക്കോട്ടക്കരി- നോവൽ ആമുഖം	നോവൽ പഠനങ്ങൾ	Lecturing	
52	കരിക്കോട്ടക്കരി അധ്യായം 1	Text	Group Discussion	
53	കരിക്കോട്ടക്കരി അധ്യായം 2	Text	Group Discussion	
54	കരിക്കോട്ടക്കരി അധ്യായം 3	Text	Group Discussion	
55	കരിക്കോട്ടക്കരി അധ്യായം 4	Text	Group Discussion	
56	കരിക്കോട്ടക്കരി അധ്യായം 5	Text	Group Discussion	
57	കരിക്കോട്ടക്കരി അധ്യായം 6	Text	Group Discussion	
58	കരിക്കോട്ടക്കരി അധ്യായം 7	Text	Group Discussion	
59	കരിക്കോട്ടക്കരി അധ്യായം 8	Text	Group Discussion	
60	കരിക്കോട്ടക്കരി അധ്യായം 9	Text	Group Discussion	
61	കരിക്കോട്ടക്കരി അധ്യായം 10	Text	Group Discussion	
62	കരിക്കോട്ടക്കരി അധ്യായം 11	Text	Group Discussion	
	Internal Assessment 2			
63	കരിക്കോട്ടക്കരി അധ്യായം 12	Text	Group Discussion	
64	കരിക്കോട്ടക്കരി അധ്യായം 13	Text	Group Discussion	
65	കരിക്കോട്ടക്കരി അവലോകനം	Text	Group Discussion	
66	സംവാദം- വിനോയ് തോമസ്	Text	Group Discussion	
67	സെമിനാർ	Text	Presentation	
68	സെമിനാർ	Text	Presentation	

69	സെമിനാർ	Text	Presentation	
70	സെമിനാർ	Text	Presentation	
71	സെമിനാർ	Text	Presentation	
72	Revision	Text	Group Discussion	

ASSIGNMENTS

Sl no	Date of submission/completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	By October	മലയാളത്തിലെ തെരെഞ്ഞെടുത്ത കഥാകൃത്തുക്കളുടെ വിവരണങ്ങൾ
2	By October	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	By October	പാഠഭാഗങ്ങളുടെ അവതരണം
2	By October	പാഠഭാഗങ്ങളുടെ അവതരണം

Referance :

1. സമ്പൂർണ്ണ മലയാള സാഹിത്യചരിത്രം - എഡിറ്റർ :പത്മന രാമചന്ദ്രൻ നായർ
- 2.ചെറുകഥ ഇന്നലെ ഇന്ന് ഏം അച്യുതൻ
- 3.മലയാള നോവൽ സാഹിത്യചരിത്രം - 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

COURSE OBJECTIVES

Understand the concept of scientific methodology and create scientific temper in one's own mind
Discuss the characteristics of life and know different branches of biology.
Understand the characteristics considered for animal taxonomy
Elaborate the basic principles of classification and animal taxonomy and laws that regulate taxonomy and nomenclature of organisms
Understand the approaches and systems of classification as well as modern trends in animal taxonomy
Discuss the characteristics and classification of the Kingdom Protista
Understand the Classification of Kingdom Animalia and the characteristics of Mesozoa, Parazoa and Metazoa
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

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	REMARKS
MODULE I				
1	History of Biology (Brief), Branches of biology and its scopes.	Class room Lecture		
2	What is science? Method of science.	Class room Lecture		
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		
5	CIA-1			
MODULE III				
6	Principles of taxonomy. Nomenclature. Zoological nomenclature.(ICZN)	Conventional classroom teaching		
7	Law of Priority (Brief) Homonymy and Synonymy. (Brief)	Classroom teaching		
8	Classification – Keys and principles	Classroom teaching	Use of Model keys	
9	Two kingdom and Five kingdom classification.	Classroom teaching		
10	Concepts and definition of classification. Approaches of taxonomy.	Classroom teaching		
11	Modern trends in taxonomy. (Molecular taxonomy)	Classroom teaching		
12	Phylogeny and taxonomy.	Classroom teaching	Showing phylograms	
Module IV				
13	Salient features and classification scheme of Kingdom Protista			
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	
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	Lecture with Powerpoint Presentation		

	5. Phylum Metamonada: <i>e.g.</i> Giardia 6. Phylum Kinetoplasta: <i>e.g.</i> Trypanosoma			
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		
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	
18	Paramecium- Locomotion, Nutrition, Respiration, Excretion and Osmoregulation			
19	Paramecium- Reproduction; Asexual (Binary fission, Endomixis and Hemimixis)			
20	Paramecium- Reproduction; Sexual (Conjugation, Autogamy and Cytogamy); Significance of Conjugation			
Module V				
21	Salient features and classification scheme of Kingdom Protista			
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	
23	Phylum Sporozoa: Plasmodium Phylum Microsporidia: Nosema Phylum Rhodophyta: Red Alga	Lecture with PowerPoint Presentation		
24	Parasitic Protozoans: <i>Entamoeba histolytica</i> <i>Trypanosoma gambiense</i>	Lecture with PowerPoint Presentation		
24	<i>Plasmodium</i> Life cycle of Plasmodium	Lecture with PowerPoint Presentation	e-resource	
26	Parasitic Protozoans: <i>Leishmania</i> <i>Giardia intestinalis</i>	Lecture with PowerPoint Presentation		
27	Parasitic Protozoans: <i>Trichomonas vaginalis</i> <i>Balantidium coli</i>			
Module VI				

28	Outline classification of Kingdom Animalia. Three branches- Mesozoa, parazoa, Eumetazoa.	Lecture with PowerPoint Presentation	e-resource	
29	Mesozoa - Eg. Rhopalura.	Lecture with 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		
31	1. Reproduction in sponges 2. Canal system in sponges	Lecture with PowerPoint Presentation	e-resource	
32	Phylum Coelenterata: General characters and Classification up to classes	Lecture with PowerPoint Presentation		
33	Type: <i>Obelia</i> Classification, Habitat and habit	Lecture with PowerPoint Presentation		
34	Type: <i>Obelia</i>	Lecture with PowerPoint Presentation	Video	
35	Class I- Hydrozoa Eg. Halistemma. Class II – Scyphozoa Eg. Rhizostoma.	Lecture with PowerPoint Presentation		
39	Class III- Anthozoa Eg. Fungia. Corals- General features	Lecture with PowerPoint Presentation	Video	
40	Coral reefs and conservation of reef fauna	Lecture with PowerPoint Presentation		
41	Polymorphism in Coelenterates	Lecture with PowerPoint Presentation		
Module VII				
42	Phylum Ctenophora: General information Eg. Pleurobrachia.	Lecture with PowerPoint Presentation		
4	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)
1	4/8/2015	ICZN & Carolus Linnaeus- Binomial Nomenclature
2	28/8/2015	Coral reefs and conservation of reef fauna

GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	1/9/2015	Economically important Protists (other than parasites)
2	1/9/2015	Canal system in sponges

References

- Zoological Society of Kerala Study material. Animal Diversity 2002.
- Dhami. P.S. and Dhami 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	15U1PRZOO01 Practical 1 Animal diversity – Non Chordata I	CREDIT	2
HOURS/WEEK	2	HOURS/SEM	36

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

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

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

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

COURSE OBJECTIVES
Understand the diversity of cryptogams and gymnosperms
Understand the reproductive behavior in algae, fungi, bryophytes, pteridophytes and gymnosperms
Understand ecological significance and economic importance of cryptogams and gymnosperms
Know the evolutionary trends in cryptogams and gymnosperms
Identify the plant diseases and it's control measures

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	REMARKS
MODULE I				
1.	Introduction to the course	PPT	video	
2.	Viruses : General account, structure of Tobacco Mosaic Viruses (TMV)	PPT/Lecture		
3.	mode of infection- T phages	PPT/Lecture		
4.	Bacteria: Classification, structure, nutrition chemosynthesis, respiration	PPT/Lecture		
5.	Economic importance – agriculture, industry and medicine.	PPT/Lecture		
6.	Archaeobacteria.	PPT/Lecture		
7.	Algae- Classification, main features	Lecture		
8.	Cyanophyceae - <i>Nostoc</i>	Lecture		
9.	Chlorophyceae - <i>Volvox</i>	Lecture		
10.	<i>Oedogonium</i>	Lecture		
11.	<i>Cladophora</i>	PPT/Lecture		
12.	Phaeophyceae : <i>Ectocarpus</i>	PPT/Lecture		
13.	Rhodophyceae : <i>Polysiphonia</i>	PPT/Lecture		
14.	Economic importance of Algae (general account)	PPT/Lecture		

15.	Fungi (Mycology) :Classification, main features of structure	PPT/Lecture	video	
16.	Phycomycetes : Phytophthora	Lecture		
17.	Ascomycetes : <i>Peziza</i>	Lecture		
18.	Basidiomycetes : <i>Puccinia</i>	Lecture		
19.	Economic importance of Fungi (general account)	Lecture		
20.	Lichens (Lichenology): Classification	PPT/Lecture		
21.	Lichens : general account	PPT/Lecture	video	
22.	<i>Usnea</i>	PPT/Lecture		
23.	Bryophytes (Bryology): General account of Bryophytes	PPT/Lecture		
24.	<i>Riccia</i>	Lecture		
25.	<i>Riccia</i>	Lecture		
CIA-1				
26.	Pteridophytes (Pteridology): General account of Pteridophytes	Lecture	video	
27.	Type: <i>Selaginella</i>	Lecture		
28.	Type: <i>Selaginella</i>	PPT/Lecture		
Module II				
29.	General account of Gymnosperms	PPT/Lecture		
30.	<i>Cycas</i>	PPT/Lecture		
Module III				
31.	Classification of plant diseases on the basis of causative organism and symptoms	PPT/Lecture	Quiz	
32.	Nut fall of Arecanut	Lecture		
33.	Nut fall of Arecanut	Lecture	Q & Ans Session	
34.	Bacterial blight of Rice	PPT/Lecture		
35.	Leaf mosaic of Tapioca	PPT/Lecture		
36.	Leaf mosaic of Tapioca	PPT/Lecture		
PRACTICAL				
37.	<i>Nostoc</i>	Hands on session		
38.	<i>Volvox</i>	Hands on session		
39.	<i>Oedogonium</i>	Hands on session		
40.	<i>Cladophora</i>	Hands on session		
41.	<i>Ectocarpus</i>	Hands on session		

42.	<i>Ectocarpus</i>	Hands on session		
43.	<i>Polysiphonia</i>	Hands on session		
44.	<i>Polysiphonia</i>	Hands on session		
45.	Phytophthora	Hands on session		
46.	Peziza	Hands on session		
47.	<i>Puccinia</i>	Hands on session		
48.	<i>Puccinia</i>	Hands on session		
49.	<i>Usnea</i>	Hands on session		
50.	<i>Usnea</i>	Hands on session		
51.	<i>Riccia</i>	Hands on session		
52.	<i>Riccia</i>	Hands on session		
53.	<i>Selaginella</i>	Hands on session		
54.	<i>Selaginella</i>	Hands on session		
55.	<i>Selaginella</i>	Hands on session		
56.	<i>Cycas</i>	Hands on session		
57.	<i>Cycas</i>	Hands on session		
58.	<i>Cycas</i>	Hands on session		
CIA 2				
59.	<i>Cycas</i>	Hands on session		
60.	<i>Cycas</i>	Hands on session		
61.	Nut fall of Arecanut	Hands on session		
62.	Nut fall of Arecanut	Hands on session		

63.	Bacterial blight of Rice	Hands on session		
64.	Bacterial blight of Rice	Hands on session		
65.	Leaf mosaic of Tapioca	Hands on session		
66.	Leaf mosaic of Tapioca	Hands on session		
67.	Repetition if needed	Hands on session		
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)
1	4/10/2015	Collection and identification of various species listed in the syllabus

References

1. Ahamdijan, Vernon and Mason H. E (1973) The Lichens. New York: Academic press.
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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

COURSE OBJECTIVES
<i>Describe different models of atomic structure.</i>
<i>Define acids and bases and explain the concept of equilibrium.</i>
<i>Understand the concept of solubility and its applications in various fields.</i>
<i>Explain the fundamentals of nuclear chemistry.</i>
<i>Generate a basic idea on applications of nuclear energy in various fields and the possible hazards.</i>
<i>Explain the fundamentals of analytical chemistry.</i>
<i>Understand the basics of thermodynamics.</i>

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	REMARKS
MODULE I : Atomic Structure : Dr. June Cyriac(9h)				
1	Introduction: Atoms, Planck's quantum Theory, Photoelectric effect	Chalk & Board	video	
2	Postulates of bohr's theory, Energy levels in atom	Chalk & Board		
3	origin of hydrogen spectrum	Chalk & Board		
4	Sommerfeld's extension of Bohr's Theory	Chalk & Board		
5	Shortcomings of Bohr Theory	Chalk & Board		
6	Dual nature of matter and radiation. Derivation of de Broglie equation	Chalk & Board		
7	Wave nature of electron and quantisation of angular momentum, Heisenberg's uncertainty principle	Chalk & Board		
8	Concept of orbital, Quantum numbers, shapes of orbitals	Chalk & Board		
9	Electronic configuration of atoms - Aufbau principle, Hund's rule of maximum multiplicity, Pauli's exclusion principle	Chalk & Board		
MODULE II: Concept of Equilibrium: Dr. June Cyriac (8h)				
10	Acids and bases	Chalk & Board		
11	Theories of acids and bases	Chalk & Board		

12	Ionic product of water, introductory idea of pH, pOH.	Chalk & Board	quiz	
13	Strengths of acids and bases, K_a and K_b , pK_a and pK_b	Chalk & Board		
14	Buffer solution, Henderson equation	Chalk & Board		
15	Hydrolysis of salt, solubility	Chalk & Board		
16	Solubility product, application	Chalk & Board		
17	Common ion effect, application.	Chalk & Board		
MODULE III: Nuclear Chemistry : Ms.Ammu Rosin Jose (6h)				
18	Stability of Nucleus	Chalk & Board		
19	Natural radioactivity, induced radioactivity	Chalk & Board	quiz	
20	Fertile and fissile isotopes, units of radioactivity.	Chalk & Board		
21	Nuclear Reactions: fission and fusion, chain reactions	Chalk & Board		
22	Disposal of nuclear wastes	Chalk & Board		
23	Applications of radioactivity	Chalk & Board		
MODULE IV: Analytical Chemistry- Basic Principles: Ms. Ammu Rosin Jose (5h)				
24	Concentration terms- molality, molarity, normality, weight percentage, ppm, and millimoles.	Chalk & Board		
25	Titrimetric method of analysis: General principle, types of titrations, requirements for titrimetric analysis.	Chalk & Board		
26	Primary and secondary standards, criteria for primary standards	Chalk & Board		
27	Preparation of standard solutions, standardization of solutions	Chalk & Board		
28	Problems	Chalk & Board	Quiz	
MODULE V: Laws of Thermodynamics : Ms. Ammu Rosin Jose (8h)				
29	System and Surrounding and First Law of Thermodynamics	Chalk & Board		
30	Second law of Thermodynamics: free energy, Entropy and Spontaneity, Statement of second law based on entropy	Chalk & Board		
31	Entropy change in Phase transitions	Chalk & Board		
32	entropy of fusion, entropy of vaporization, entropy of sublimation	Chalk & Board		
33	The concept of Gibbs's free energy- Physical significance of free energy, conditions for equilibrium & spontaneity based on ΔG values.	Chalk & Board		
34	Effect of temperature on spontaneity of Reaction.	Chalk & Board		
35	Third law of thermodynamics	Chalk & Board		
36	Problems based on Laws of Thermodynamics	Chalk & Board	Quiz	

INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	04/08/2015	Applications of solubility product
2	28/10/2015	Effect of temperature on spontaneity of Reaction.

GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)
1	02/11/2015	Concentration terms

References

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