

Syllabus
Skill Enhancement Courses
for
Four-Year Undergraduate Programme (FYUGP)

2023-24 Academic Session



Gauhati University

Gopinath Bardoloi Nagar :: Guwahati-14

Skill Enhancement Courses (SEC) Syllabi for

Four-Year Undergraduate Programme

2023-24 Academic Session

Gauhati University

Gopinath Bardoloi Nagar, Guwahati- 781014

List of Courses for First Semester

(Final Updated on 29th September, 2023)

❖ **Courses NOT HAVING DETAILED SYLLABUS in the initial list, have been DELETED from this list. No examination shall be conducted for these courses. Contact Academic Registrar for any query.**

❖ INITIAL LIST:

Sl No	Skill Course Name	Paper Code	Credit	Evaluation
1	Academic Writing	SEC0100103	3	40-60
2	Agricultural Production System in North East India	SEC0100203	3	40-60
3	Anthropological Tourism	SEC0100303	3	40-60
4	Anuvad Charcha (Bengali-English/Indian Languages)	SEC0100403	3	40-60
5	Apiculture	SEC0100503	3	40-60
6	Art of Acting: AN ACTOR PREPARES	SEC0100603	3	40-60
7	ASAMIYA AKHAR JOTANI	SEC0100703	3	40-60
8	BAKERY SCIENCE	SEC0100803	3	40-60
9	Bamboo and Cane Technology	SEC0100903	3	40-60
10	Basic Analytical Chemistry	SEC0101003	3	40-60
11	Basic Animation and Graphic Design	SEC0101103	3	40-60
12	Basic Instrumentation Skills	SEC0101203	3	40-60
13	Basic Programming in C	SEC0101303	3	40-60
14	Basic Science Laboratory Skills	SEC0101403	3	40-60
15	Basics of Laboratory Practices in Zoology	SEC0101503	3	40-60
16	Basics of Photography	SEC0101603	3	40-60
17	Beautician and Makeup	SEC0101703	3	40-60
18	Bhasha Skhsan Ra Prabridhi in Nepali	SEC0101803	3	40-60
19	Bodo Cuisine and FOOD PROCESSING Skills	SEC0101903	3	40-60
20	BUSINESS COMMUNICATION	SEC0102003	3	40-60
21	বাংলাভাষার বিভিন্ন ব্যবহারিক দিক ও সম্ভাবনা	SEC0102103	3	40-60
22	Computer and Office Automation	SEC0102203	3	40-60
23	COMPUTER APPLICATIONS	SEC0102303	3	40-60

24	CSSD Technology-I	SEC0102403	3	40-60
25	Cyber Laws	SEC0102503	3	40-60
26	Data Collection and Presentation	SEC0102603	3	40-60
27	DEMOCRACY AND LEADERSHIP BUILDING	SEC0102703	3	40-60
28	ELT Skill-1	SEC0102803	3	40-60
29	Digital Photography and Editing	SEC0102903	3	40-60
30	Document Presentation and Presentation Software	SEC0103003	3	40-60
31	Domestic and Industrial Electrical Wiring	SEC0103103	3	40-60
32	Early Childhood Care and Development	SEC0103203	3	40-60
33	Ecology and Environmental Management	SEC0103303	3	40-60
34	Electronic Circuit Design	SEC0103403	3	40-60
35	Electronic Data Processing	SEC0103503	3	40-60
36	Elements of Art and Design	SEC0103603	3	40-60
37	Developing Soft Skills in English	SEC0103703	3	40-60
38	Ethno Botany	SEC0103803	3	40-60
39	Field Survey: Techniques and Application	SEC0103903	3	40-60
40	Floriculture	SEC0104003	3	40-60
41	Folk Dance of Goalpara	SEC0104103	3	40-60
42	Food Processing & Quality Management	SEC0104203	3	40-60
43	Fundamentals of Disaster Management	SEC0104303	3	40-60
44	Functional Assamese	SEC0104403	3	40-60
45	Functional Sanskrit	SEC0104503	3	40-60
46	Functional Persian	SEC0104603	3	40-60
47	Fundamentals of Typography	SEC0104703	3	40-60
48	Fundamentals of Weather and Climate Sciences	SEC0104803	3	40-60
49	Gender Sensitization	SEC0104903	3	40-60
50	Geography of Tourism	SEC0105003	3	40-60
51	Geological Laboratory Techniques	SEC0105103	3	40-60
52	Grammar and Composition Skills	SEC0105203	3	40-60
53	Gymnasium Skills	SEC0105303	3	40-60
54	Handloom and Textile	SEC0105403	3	40-60
55	Herbarium Techniques and its role in Modern Science	SEC0105503	3	40-60
56	HINDI BHASA SHIKSHAN	SEC0105603	3	40-60
57	Hindi Vyakaran Aur Asomiya Vyakaran Mein Samya Tatha Vasmaya	SEC0105703	3	40-60
58	Legal Literacy & its Application	SEC0105803	3	40-60

59	Legislative Support	SEC0105903	3	40-60
60	Life Skill Education	SEC0106003	3	40-60
61	Managing Stress	SEC0106103	3	40-60
62	Manipuri Indigenous Game & Festivals	SEC0106203	3	40-60
63	Microbiological Analysis of Air and Water	SEC0106303	3	40-60
64	Microsoft Excel (Beginners)	SEC0106403	3	40-60
65	Mushroom Cultivation Technology	SEC0106503	3	40-60
66	Nepali Language Learning	SEC0106603	3	40-60
67	Non-Mulberry Sericulture	SEC0106703	3	40-60
68	Nursery and Gardening	SEC0106803	3	40-60
69	Organic Farming	SEC0106903	3	40-60
70	Ornamental Fish and Fisheries	SEC0107003	3	40-60
71	Page Maker	SEC0107103	3	40-60
72	Panchayati Raj in Practice	SEC0107203	3	40-60
73	Paramporagato Asomiya Lokanityar Paribekhan Soili	SEC0107303	3	40-60
74	Pest Management	SEC0107403	3	40-60
75	Philosophical Counselling	SEC0107503	3	40-60
76	Photo Journalism	SEC0107603	3	40-60
77	Photoshop	SEC0107703	3	40-60
78	Physics Workshop Skills	SEC0107803	3	40-60
79	Political Institutions and Its Practices in India	SEC0107903	3	40-60
80	Post Harvesting Technology	SEC0108003	3	40-60
81	Principals & Techniques of Food Processing & Preservation	SEC0108103	3	40-60
82	Programming in C	SEC0108203	3	40-60
83	Quantitative Aptitude and Reasoning	SEC0108303	3	40-60
84	Rachna Lekhan in Nepali	SEC0108403	3	40-60
85	Reasoning & Logic	SEC0108503	3	40-60
86	Renewable Energy and Energy Harvesting	SEC0108603	3	40-60
87	Report Writing and Presentation	SEC0108703	3	40-60
88	Retail Management	SEC0108803	3	40-60
89	River Basin Studies	SEC0108903	3	40-60
90	Rural Marketing	SEC0109003	3	40-60
91	Sanskritik Paryatan aru Bhraman Byabasthapana	SEC0109103	3	40-60
92	Sattriya Dance Skill	SEC0109203	3	40-60
93	SCILAB	SEC0109303	3	40-60
94	Secretarial Practice	SEC0109403	3	40-60

95	Small Poultry Farming	SEC0109503	3	40-60
96	Small Tea Garden Management	SEC0109603	3	40-60
97	Social Media Marketing	SEC0109703	3	40-60
98	Soft Skill-1	SEC0109803	3	40-60
99	Soil and Water Analysis	SEC0109903	3	40-60
100	Spoken Arabic-1	SEC0110003	3	40-60
101	Spoken English	SEC0110103	3	40-60
102	Spoken Hindi	SEC0110203	3	40-60
103	Stress Management	SEC0110303	3	40-60
104	Teaching Skill	SEC0110403	3	40-60
105	Tools & Techniques for Local Handicraft Entrepreneurship	SEC0110503	3	40-60
106	Tour Packaging Management	SEC0110603	3	40-60
107	Traditional Medicinal System in Mayong, Assam	SEC0110703	3	40-60
108	Understanding Psychology	SEC0110803	3	40-60
109	Video Editing for Social Media	SEC0110903	3	40-60
110	Weaving, Basic Weaves and Standard Fabrics	SEC0111003	3	40-60
111	Web Front-end Designing	SEC0111103	3	40-60
112	Workshop Practice (Mechanical, Carpentry and Electronics)	SEC0111203	3	40-60
113	Mental Health and Hygiene	SEC0111303	3	40-60
114	Historical Tourism in North East India	SEC0111403	3	40-60
115	Tour Guide	SEC0111503	3	40-60
116	FRENCH LANGUAGE, LEVEL-I	SEC0111603	3	40-60

**❖FINAL LIST OF DETAILED SYLLABUS ARE AVAILABLE
FOR FOLLOWING COURSES:**

Sl No	Skill Course Name	Paper Code	Credit	Evaluation
1	Academic Writing	SEC0100103	3	40-60
2	Agricultural Production System in North East India	SEC0100203	3	40-60
3	Anthropological Tourism	SEC0100303	3	40-60
4	Apiculture	SEC0100503	3	40-60
5	Art of Acting: AN ACTOR PREPARES	SEC0100603	3	40-60
6	ASAMIYA AKHAR JOTANI	SEC0100703	3	40-60
7	BAKERY SCIENCE	SEC0100803	3	40-60

8	Basic Analytical Chemistry	SEC0101003	3	40-60
9	Basic Instrumentation Skills	SEC0101203	3	40-60
10	Basic Programming in C	SEC0101303	3	40-60
11	Basics of Laboratory Practices in Zoology	SEC0101503	3	40-60
12	Beautician and Makeup	SEC0101703	3	40-60
13	Bodo Cuisine and FOOD PROCESSING Skills	SEC0101903	3	40-60
14	BUSINESS COMMUNICATION	SEC0102003	3	40-60
15	বাংলা ভাষার বিভিন্ন ব্যবহারিক দিক ও সম্ভাবনা	SEC0102103	3	40-60
16	Computer and Office Automation	SEC0102203	3	40-60
17	COMPUTER APPLICATIONS	SEC0102303	3	40-60
18	Data Collection and Presentation	SEC0102603	3	40-60
19	DEMOCRACY AND LEADERSHIP BUILDING	SEC0102703	3	40-60
20	Early Childhood Care and Development	SEC0103203	3	40-60
21	Ecology and Environmental Management	SEC0103303	3	40-60
22	Electronic Circuit Design	SEC0103403	3	40-60
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27	Field Survey: Techniques and Application	SEC0103903	3	40-60
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40	Microsoft Excel (Beginners)	SEC0106403	3	40-60
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50	Political Institutions and Its Practices in India	SEC0107903	3	40-60
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61	Soft Skill-1	SEC0109803	3	40-60
62	Spoken Arabic-1	SEC0110003	3	40-60
63	Spoken English	SEC0110103	3	40-60
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76	FRENCH LANGUAGE, LEVEL-I	SEC0111603	3	40-60

The background of the page features a large, faint, circular seal of the University of Gauhati. The seal contains the university's name in English and Assamese, along with a central emblem and a banner at the bottom.

**DETAILED SYLLABI WITH
PAPER CODE**

SEC0100103: Academic Writing

TOTAL MARKS: 75

Credit: 3

OBJECTIVES: This course is designed to-

- Ease the students into the domain of writing that measures up to academic standards.
- Introduce the central ideas and forms of academic writing, and guide the students through them in an orderly way.
- Facilitate and encourage methodical thinking and analyzing. Such processes would then enable the students to work on and improve the quality of their writing.

COURSE LEVEL: (FOUNDATION AND INTRODUCTORY)

COURSE OUTCOMES (GRADUATE ATTRIBUTES):

Upon the end of this course, students should be able to:

- Understand the features of professional and academic writing.
- Enhance vocabulary, communicative and writing skills.
- Write grammatically cohesive and articulate sentences in their own words.
- Engage in critical thinking and brainstorming ideas.
- Form cogent arguments and compose analytical drafts.
- Review their essays to maintain academic integrity and avoid plagiarism.

COURSE CONTENT:

UNIT I: Introduction to the Writing Process

- Basics and Conventions of Academic Writing
- Reading and Developing Ideas
- Understanding Paragraph Formats

- Annotating
- Note-making

UNIT II: Organizing Paragraphs and Research Work

- Summarizing
- Paraphrasing
- Outlining Essays
- Planning and Structuring Arguments
- Introductions and Conclusions

UNIT III: Critical Analysis and Finalizing Drafts

- Citing quotations and Referencing
- Checking for Plagiarism
- Revision and Re-writing
- Final Editing
- Proofreading

REFERENCE BOOKS & MATERIALS:

Bailey, Stephen. *Academic Writing: A Practical Guide for Students*. Routledge Falmer, 2004.

Booth, Wayne C., et al. *The Craft of Research*. The University of Chicago Press, 2016. Day, Trevor. *Success in Academic Writing*. Palgrave Macmillan, 2013.

Sivia, Paul J. *How to Write a Lot: A Practical Guide to Productive Academic Writing*. American Psychological Association, 2007.

Zemach, Dorothy E., and Lisa A. Rumisek. *Academic Writing: From Paragraph to Essay*. Macmillan, 2005

SEC0100203: Agricultural Production System in North East India

Total Marks: 75

Credit: 3 (2+1)

Course Description: This course is designed to introduce the students to the nature of agricultural production system that exist in North-East India. The course intends to familiarise the students with various cropping systems, farming systems and post-harvest management systems.

Unit 1- Introduction- Nature and scope of agriculture. Agricultural Scenario in north east India and Assam, Trends of agricultural production in India and Assam. Agriculture and economic development, Agro-climatic zones, Climate change, Land holding and farmers' categories, Plant propagation and Nursery management, Diversification of agriculture.

Unit 2- Cropping systems in agriculture & horticulture -Crop rotation, Intercropping, Mixed Cropping, Relay cropping, Multi-storied cropping, kharif, rabi and zaid crops. Integrated Farming System, Tillage and soil preparation, Pre and post harvest management of agri-horti crops.

Unit 3- Practical –Plant propagation techniques, Model preparation on diversified integrated farming systems,

SEC0100303: Anthropological Tourism

Total Marks: 75

Credits: 3

Theory classes: 17 classes (one hour each – 17 hrs) Theory: 45 Marks

Practical classes: 16 classes (two hours each – 32 hrs) Practical: 30 Marks

COURSE OBJECTIVES:

- To understand the anthropological perspectives of tourism in the current context.

COURSE OUTCOME:

- The students will learn about the socio-cultural background of tourism anthropology.
- The students will learn the recent trends in tourism, Socio-cultural impact of tourism, architectural heritage, tourist festivals based on ethnic culture in the current situation.

Unit: I:

Tourism: concept and definition. Concept of Tourism Anthropology, history and development, aspects and prospects of tourism in India with special reference to North East India. Role of Anthropology in tourism planning.

Unit-II:

Socio-Cultural impact of tourism, Tourism as a mechanism of Cross-Cultural interaction, Tourism and the commoditization of culture or cultural degradation. Role of symbolism and semiotics in tourism.

Unit-III:

Recent trends in tourism: Cultural tourism, Ecotourism, Rural tourism, Religious tourism, Sustainable tourism, Ethnic tourism. Role and function of Tourist guide.

Unit-IV:

Architectural heritage and tourism: Kamakhya, Charaideo, Hayagriva Madhava. Surya pahar, Madan Kamdev. Tourist festivals based on ethnic culture: Jonbil Mela, Hornbil festival.

Practical:

Write a project report on any one- religious tourism / tribal tourism / ecotourism / cultural tourism / ethno-cultural tourism.

Suggested Readings:

1. Chambers E. (2000). Native Tours: The Anthropology of Travel and Tourism. Prospect Heights: Waveland.
2. Crick M. (1995). The Anthropologist as Tourist: An Identity in Question. In Lanfant MF,

3. Allcock JB, Bruner EM (eds.) International Tourism: Identity and Change. London: Sage. pp. 205-223.
4. Dann GMS, Nash D and Pearce PL. (1988). Methodology in Tourism Research. *Annals of Tourism Research*. 15:1-28.
5. Gmelch SB. (2004). *Tourists and Tourism: A Reader*. Long Grove: Waveland.
6. Graburn NHH. (1977). *Tourism: The Sacred Journey*. Hosts and Guests: The Anthropology of Tourism. Valene L. Smith, ed. Philadelphia: University of Pennsylvania Press. Pp. 33-47.
7. Dann G. (2002). *The Tourist as a Metaphor of the Social World*. Wallingford: CAB International.
8. Nash D. (1996). *Anthropology of Tourism*. New York: Pergamon.
9. Kirshenblatt-Gimblett B.(1998). *Destination Culture: Tourism, Museums, and Heritage*. University of California Press.
10. Lippard LR. (1999). *On the Beaten Track: Tourism, Art and Place*. New Press.
11. Picard M and Wood R. (1997). *Tourism, Ethnicity, and the State in Asian and Pacific Societies*. University of Hawai Press.
12. Crick M. (1994). *Anthropology and the Study of Tourism: Theoretical and Personal Reflections*. In Crick M (eds.). *Resplendent Sites, Discordant Voices: Sri Lankans and International Tourism*. Chur, Switzerland: Harwood Publishers.
13. Wood R. (1997). *Tourism and the State: Ethnic Options and the Construction of Otherness*. In Picard and Wood *Tourism, Ethnicity and the State in Asian and Pacific Societies*. University of Hawai Press.

SEC0100503: Apiculture

Total Marks: 75
Credit: 3 [2(T) + 1 (P)]

Course Objectives:

Apiculture is the scientific method of rearing or management of colonies of honey bees for obtaining honey and other bee products as well as getting pollination services. Bee keeping covers entomology, horticulture, agriculture, animal husbandry, forestry etc. This field bears tremendous potential of generating sustainable livelihood as the honey bee products has high market value in medicinal, pharmaceutical, cosmetics, food industries etc. The objectives of the course are to impart knowledge on biology, rearing techniques, diseases and enemies of bees, prospects of the field to venture in entrepreneurship development by their own or to pursue higher studies in the field.

Course Learning Outcome:

Upon completion of the course, students should be able to:

- Understand the biology and rearing methods, tools and techniques of honey bees
- Acquire practical skill of identifying stages of honey bees, structure of bee hives etc
- Understand the value and economics of honey bee products in the market.
- Develop curiosity to venture in the field as entrepreneur or to pursue research in future.

Credit: 2 (T)

THEORY

Hours 30

Unit 1: Biology of Bees, Diseases and Enemies

12h

Types and Biology of HoneyBees, Social Organization of Bee Colony, Bee Diseases and Enemies, Control and Preventive measures

Unit 2: Rearing of Bees	12h
Artificial Bee rearing (Apiary), Beehives – Newton and Langstroth, Bee Pasturage, Selection of Bee Species for Apiculture, Bee Keeping Equipment, Methods of Extraction of Honey (Indigenous and Modern)	

Unit 3: Bee Economy and Entrepreneurship in Apiculture	8h
Apiculture Industry and products of bees and their Uses (Honey, Bees Wax, Propolis, Pollen etc)	

Credit: 1(P)	
PRACTICAL	Hours15
1. Study of the various stages of Life cycle of Honey bee. 2. Identification of various equipment of bee keeping. 3. Methods of Extraction of Honey (Indigenous and Modern). 4. Structure of bee hives (Newton and Langstroth). 5. Preparation of slide- pollen basket, sting-apparatus 6. Testing of purity of honey. 7. Preparation of a report on pathogens and pests of honey bees	

Suggested Readings:

1. Prost, P. J. (1962). Apiculture. Oxford and IBH, New Delhi.
2. Bisht D.S., Apiculture, ICAR Publication.
3. Singh S., Beekeeping in India, Indian council of Agricultural Research, NewDelhi.

SEC0100603: Art of Acting: AN ACTOR PREPARES

Total Marks: 75

Total Credits: 3

Theory=30, Practical=30, Internal=15 (Sessional=5, Practical Demonstration=6, Attendance=4)

Course Objective:

This is a skill course for students who want to learn skills of acting across various media – theatre, feature films, advertisements, documentaries, short films, television/OTT series, etc.

This paper introduces Acting as an Art Form and references its special powers of communication through various media.

Course Learning Outcome: This course will enable the students :

- i. To understand the evolution and history of the Art of Acting
- ii. To identify its basic aesthetic elements and properties and to understand the power of communication.
- iii. To grasp the basic qualities that make an Actor, in order to improve their body language, voice quality and imagination.
- iv. To distinguish between the different mediums of acting [Stage, Film, Television etc.] and to understand their distinctive nuances.

Course Content:

THEORY: CREDITS – 1: MARKS - 30

UNIT I: The Basics: History & Concepts

- What is Acting? Definitions, History
- Types of Acting: Types of Actors
- Camera acting versus Stage acting
- Art & Social Responsibility

UNIT II: Schools of Acting

- Analyzing Practice: The Different Schools of Acting.
 - Western Models:
 - Stanislavsky's Method
 - Michael Chekhov's Psycho-physical Approach
 - The Meisner Technique
 - William H. Macy's Practical Aesthetics
 - Brecht's Epic Drama
 - Jacques Lecoque's Physical Theatre
 - The Indian Models:
 - Natyashastra and Rasa Theory
 - Folk theatre

PRACTICAL: CREDITS – 2: MARKS - 30

UNIT III: ACTIVITY [this component may require the student to put in extra hours]

- Group discussion on Art and Aesthetics; Social responsibilities of an Artist.
- Introducing Physical work / body movements.
- Introducing Voice & Speech Practices
- Term-end Performances

Recommended Reading (FOR THE ENTIRE COURSE):

1. Jean Benedetti, *The Art of the Actor: The Essential History of Acting from Classical Times to the Present Day*
2. Adya Rangacharya (ed.), *Natyashastra*
3. Konstantin Stanislavsky, *An Actor Prepares*
4. Konstantin Stanislavsky, *Building a Character*
5. Konstantin Stanislavsky, *Creating a Role*
6. Badal Das, *Natyakalaaru Abhinoy Silpo*
7. Michael Chekhov, *To the Actor: On the Technique of Acting.*
8. Jacques Lecoq, *Theatre of Movement and Gesture*

NOTE ON PEDAGOGY, EXAMINATION & GRADING:

Teaching Modes: This is a skill course and therefore most of the theory components are also expected to be taught through the experiential mode – where theory would be taught both through given texts and practical work. Students may be divided into groups and work distributed.

EXAMINATION & GRADING:

- There will be a term-end theory (written) examination for 30 marks.

- Students will have to present a monologue or a duologue (10 marks) and a scene from a well-known play (10 marks). They will work solo, in pairs and groups of three/four.
 - A term-end Performance / Production / Play-Reading will carry 10 marks and will involve the entire class. Suitable play-texts must be identified to enable this. Students will be marked on the basis of involvement, creativity and ingenuity
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SEC0100703: ASAMIYA AKHAR JOTANI

Total Marks: 75

Credit: 3

(উদ্দেশ্য: অসমীয়া ভাষা বৃত্তিগতভাৱে ব্যৱহাৰ কৰিবলৈ শুদ্ধ আখৰ জোঁটনিৰ জ্ঞান অপৰিহাৰ্য। এই পাঠ্যত অসমীয়া আখৰ জোঁটনিৰ নিয়ম আৰু কৌশল সম্পৰ্কীয় জ্ঞান সন্নিবিষ্ট হৈছে)

প্ৰথমগোট : বৰ্ণাশুদ্ধিৰ কাৰণ :

স্বৰধ্বনিগত বৰ্ণাশুদ্ধি - স্বৰধ্বনি আৰু আখৰৰ সম্পৰ্ক, স্বৰচিহ্ন।

দ্বিতীয়গোট : ব্যঞ্জনধ্বনিগত বৰ্ণাশুদ্ধি :

ব্যঞ্জনধ্বনি আৰু আখৰৰ সম্পৰ্ক, যুক্তাক্ষৰ।

তৃতীয়গোট : ভুলপ্ৰয়োগ :

বিভক্তি, প্ৰত্যয়, চন্দ্ৰবিন্দু, যতিচিহ্ন, তৎসম শব্দৰ বানান, থলুৱা শব্দৰ বানান

সহায়ক গ্ৰন্থ (নিৰ্বাচিত)

অসমীয়া আখৰ-জোঁটনি আৰু লিপ্যন্তৰ পদ্ধতি : গুৱাহাটী বিশ্ববিদ্যালয়

অসমীয়া আখৰ-জোঁটনি অসমীয়া: গোলকচন্দ্ৰ গোস্বামী

ব্যাকৰণতত্ত্ব আৰু তাত্ত্বিক : খগেশসেন ডেকা

নিকা অসমীয়া ভাষা : মহেশ্বৰ নেওগ

SEC0100803: BAKERY SCIENCE

TOTAL MARKS: 75 (Theory: 45, Practical: 30)

CREDITS: 3 [(2(T)+ 1(P))]

Unit I: Introduction to Bakery Science 15

- Meaning of baking and confectionary
- Bakery concepts
- Basic term used in study of Bakery Science
- Principles of Baking
- Physical and chemical changes during baking
- Quick bread- muffins, biscuits, doughnuts

Unit II: Ingredients, Product characteristics, Common Bakery Faults and Remedies 15

- Biscuits and cookies-Role of Ingredients, characteristics, Faults and Remedies
- Cakes – Characteristics, different types of cakes, cake faults and causes, remedies
- Bread- Characteristics, bread fault, causes and remedies.
- Icing- Concept, Different types of icing

Unit III: Bakery Equipment and Tools: Types, selection and maintenance 15

- Types of Equipment: Large-Convection oven and microwaves, Small-Baking mould, mixing bowl, measuring jug, banking tin
- Tools: Weighing scales, measuring spoons, different types of ladles, dough cutter, cookies cutter, icing tools, different knives and wooden spoons.

PRACTICALS (Hands on training) 30

- Plain Cake, Cream cake and Sponge Cake preparation
- Bread and biscuits preparation
- Icing preparation

Reference/Text Book:

*Dubey, SC(2007).Basic Baking 5th Ed Chanakya Mudrak Pvt.td

Raina et.al.(2010).Basic Food Preparation-A

Complete Manual.4rd Ed. Orient Black Swan Ltd.

SEC0101003: Basic Analytical Chemistry

Total Marks: 75

Credits: 3

Theory

Marks = 60 [End Semester (50) Internal Assessment (10)]

Unit I: Introduction

Introduction to Analytical Chemistry and its interdisciplinary nature. Concept of sampling. Importance of accuracy, precision and sources of error in analytical measurements. Presentation of experimental data and results, from the point of view of significant figures.

6 Lectures, Marks – 5

Unit II: Basic principles of quantitative analysis

Estimation of metal ions from aqueous solution, geometrical isomer, keto-enol tautomers, determination of metal complex composition using Job's method of continuous variation and mole ratio method.

6 Lectures, Marks – 5

Unit III: Analysis of soil

Composition of soil, Concept of pH and pH measurement, Complexometric titrations, Chelation, Chelating agents, use of indicators

- Determination of pH of soil samples.
- Estimation of Calcium and Magnesium ions as Calcium carbonate by complexometric titration.

8 Lectures, Marks - 10

Unit IV: Analysis of water

Definition of pure water, sources responsible for contaminating water, water sampling methods, water purification methods.

- Determination of pH, acidity and alkalinity of a water sample.
- Determination of dissolved oxygen (DO) of a water sample.

8 Lectures, Marks - 10

Unit V: Analysis of food products

Nutritional value of foods, idea about food processing and food preservations and adulteration.

- Identification of adulterants in some common food items like coffee powder, asafoetida, chilli powder, turmeric powder, coriander powder and pulses, etc.
- Analysis of preservatives and colouring matter.

9 Lectures, Marks - 10

Unit VI: Chromatography

Definition, general introduction on principles of chromatography, paper chromatography, TLC etc.

- Paper chromatographic separation of mixture of metal ion (Fe^{3+} and Al^{3+}).
- To compare paint samples by TLC method.

8 Lectures, Marks - 10

Suggested Applications

- To study the use of phenolphthalein in trap cases.

Suggested Instrumental demonstrations:

- a. Estimation of macro nutrients: Potassium, Calcium, Magnesium in soil samples by flame photometry

Reference Books

1. Willard, H.H., Merritt, L.L., Dean, J. & Settoe, F.A. *Instrumental Methods of Analysis*, 7th Ed. Wadsworth Publishing Company Ltd., Belmont, California, USA, 1988.
2. Skoog, D.A., Holler, F.J. & Crouch, S. *Principles of Instrumental Analysis*, Cengage Learning India Edition, 2007.
3. Skoog, D.A.; West, D.M. & Holler, F.J. *Analytical Chemistry: An Introduction 6th Ed.*, Saunders College Publishing, Fort Worth, Philadelphia (1994).
4. Harris, D. C. *Quantitative Chemical Analysis*, 9th ed. Macmillan Education, 2016.
2. Dean, J. A. *Analytical Chemistry Handbook*, McGraw Hill, 2004.
3. Day, R. A. & Underwood, A. L. *Quantitative Analysis*, Prentice Hall of India, 1992.
4. Freifelder, D.M. *Physical Biochemistry 2nd Ed.*, W.H. Freeman & Co., N.Y. USA (1982).
5. Cooper, T.G. *The Tools of Biochemistry*, John Wiley & Sons, N.Y. USA. 16 (1977).
6. Vogel, A. I. *Vogel's Qualitative Inorganic Analysis 7th Ed.*, Prentice Hall, 1996.
7. Mendham, J., A. I. *Vogel's Quantitative Chemical Analysis 6th Ed.*, Pearson, 2009.
8. Robinson, J.W. *Undergraduate Instrumental Analysis 5th Ed.*, Marcel Dekker, Inc., New York (1995).
9. Christian, G.D. *Analytical Chemistry*, 6th Ed. John Wiley & Sons, New York, 2004.

Basic Analytical Chemistry (Lab Work)**Marks: 15 (Lab Work)**

- I. Any one Experiment to be Set in the Examination 1X5=5
- a. Separation and identification of monosaccharides present in a given mixture (Glucose and Fructose) by paper chromatography. Report R_f Values.
- b. Separation of organic compounds present in a given mixture by TLC method.

- c. Estimate the Ni (ii) present in a given solution by gravimetric analysis.
- d. Estimate the alkali present in a given antacids.
- e. Determine the dissolve oxygen in water.

II. Identification of different analytical instruments.	2
II. Practical Note Book	3
III. Viva-Voce	5

Reference Books

1. Vogel, Arthur I: A Test book of Quantitative Inorganic Analysis (Rev. by G. H. Jeffery and others) 5th Ed., The English Language Book Society of Longman.
2. Willard, Hobert H. et al.: Instrumental Methods of Analysis, 7th Ed., Wardsworth Publishing Company, Belmont, California, USA, 1988.
3. Khopkar, S.M. Basic Concepts of Analytical Chemistry. New Age, International Publisher, 2009.

SEC0101203: Basic Instrumentation Skills

Total Marks: 75

Credits: 3 (Theory: 2, Lab: 1)

Course Description: This course is to get exposure with various aspects of instruments and their usage through hands-on mode. Experiments listed below are to be done in continuation of the topics.

Theory: 20 Lectures

Unit I: Basic of Measurement (Lectures 3)

Instruments accuracy, precision, sensitivity, resolution range etc. Errors in measurements and loading effects. Multimeter: Principles of measurement of dc voltage and dc current, ac voltage, ac current and resistance. Specifications of a multimeter and their significance.

Unit II: Electronic Voltmeter (Lectures 3)

Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity. Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter/ Multimeter and their significance. AC millivoltmeter: Type of AC millivoltmeters: Amplifier- rectifier, and rectifier- amplifier. Block diagram ac millivoltmeter, specifications and their significance.

Unit III: Cathode Ray Oscilloscope (Lectures 4)

Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only– no mathematical treatment), brief discussion on screen phosphor, visual persistence & chemical composition. Time base operation, synchronization. Front panel controls. Specifications of a CRO and their significance.

Unit IV: (Lectures 4)

Use of CRO for the measurement of voltage (dc and ac frequency, time period. Special features of dual trace, introduction to digital oscilloscope, probes. Digital storage Oscilloscope: Block diagram and principle of working.

Unit V: Signal Generators and Analysis Instruments (Lectures 6)

Block diagram, explanation and specifications of low frequency signal generators, pulse generator, and function generator. Brief idea for testing, specifications. Distortion factor meter, wave analysis.

The test of lab skills will be of the following test items:

1. Use of an oscilloscope.
2. CRO as a versatile measuring device.
3. Use of Digital multimeter for measuring voltages
4. Circuit tracing of Laboratory electronic equipment,
5. Winding a coil /transformer.
6. Study the layout of a circuit.
7. Trouble shooting a circuit

Lab:

1. To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance.
2. To observe the limitations of a multimeter for measuring high frequency voltage and currents.
3. Measurement of voltage, frequency, time period and phase angle using CRO.
4. Measurement of rise, fall and delay times using a CRO.
5. Measurement of R, L and C using a LCR bridge/ universal bridge.

Open Ended Experiments:

- Using a Dual Trace Oscilloscope
- Converting the range of a given measuring instrument (voltmeter, ammeter)

Reference Books:

- [1] Electronic Measurements and Instrumentation, K. Lal Kishore, Pearson India
- [2] Electrical and Electronics Measurements and Instrumentation, Prithwiraj Purkait, Budhaditya Biswas, Santanu Das, Chiranjib Koley, McGraw Hill India.
- [3] A text book in Electrical Technology - B L Theraja - S Chand and Co.
- [4] Performance and design of AC machines - M G Say ELBS Edn.
- [5] Digital Circuits and systems, Venugopal, 2011, Tata McGraw Hill.
- [6] Logic circuit design, Shimon P. Vingron, 2012, Springer.
- [7] Digital Electronics, Subrata Ghoshal, 2012, Cengage Learning.
- [8] Electronic Devices and circuits, S. Salivahanan & N. S. Kumar, 3rd Ed., 2012, Tata McGraw Hill
- [9] Electronic circuits: Handbook of design and applications, U. Tietze, Ch. Schenk, 2008, Springer
- [10] Electronic Devices, 7/e Thomas L. Floyd, 2008, Pearson India

SEC0101303: Basic Programming in C

Total Marks: 75

Credit: 3

1. Learning Outcomes: After completing this course, the students will be

- Familiar with what a programming language is
- Familiar with flowchart and pseudo code
- Familiar with the constructs of C programming languages
- Capable of writing basic C programs

2. Theory credit: 2

3. Practical credit: 1

4. Number of required hours:

a) Theory: 30 hrs (30 classes)

b) Practical: 30 hrs (15 classes)

5. Reference books:

- B.S. Gottfried, “Schaum's Outline of Theory and Problems of Programming with C”, Mcgraw-Hill, 2007.
- B. Kernighan, D. Ritchie, “The C Programming Language”, Second Edition, Prentice Hall, 1988
- E. Balaguruswami, “Programming in ANSI C”, 2nd Ed., Tata McGraw Hill, 2004.

6. Contents of Syllabus:

Unit 1: Programming Basics

(3 Lectures)

Introduction to programming languages. Low-level and high-level language and their characteristics. Compiler vs. interpreter. IDE. Bugs and its types. Algorithms, pseudocodes and flowcharts. Overview of the C programming language. Structure of a C program.

Unit 2: Data types and Operators

(6 Lectures)

Basic data types in C - integers, floats, doubles, characters, and void. Size and range of values of data types. Variables. Declaring variables. Operators and expressions, Input and output statements – getchar(), getc(), getch(), putchar(), putc(), puts(), scanf(), printf(), format specifiers. Typecasting. Operators in C – binary and unary operators. Arithmetic, assignment, logical, comparison, bitwise and conditional operators. Order of precedence of operators. Associativity of operators. Expressions and statements in C. L-value and R-value. Basic syntax and semantics for expressions and statements.

Unit 3: Control Structures, Functions and Header files

(8 Lectures)

Control structures in C. Decision making with if, if-else, switch statements. Nested conditions. Looping with while, do-while, and for statement. Break and continue statements. Nested loops. Introduction to functions. Function prototypes and arguments. Defining and calling functions in C. Return values and types. Formal and actual parameter. Call by value, Call by reference. Introduction to recursion. Writing recursive functions in C. Importance of main() function, return type of main() function. Preprocessor directives. Include and Define statements. Header files.

Unit 4: Arrays and Strings

(4 Lectures)

Introduction to arrays. Declaration and initialization of arrays. Accessing array elements. Multidimensional arrays. Introduction to strings. Declaration and initialization of strings. String input and output in C. String manipulation functions in C – strlen(), strcpy(), strcat(), strcmp().

Unit 5: Pointers and Memory Allocation

(3 Lectures)

Introduction to Pointers. Pointer declaration and initialization. Pointers and addresses. Pointers and arrays. Pointers and functions. Review of call by reference. Pointer arithmetic.

Unit 6: Structure and Union

(3 Lectures)

Introduction to structures. Declaration and initialization of structures. Accessing structure members. Nested structures and arrays of structures. Unions in C. Declaration and initialization of unions. Accessing union members. Differences between structures and unions.

Unit 7: File Handling and Preprocessor Directives

(3 Lectures)

Introduction to file handling in C. Opening and closing files – fopen(), fclose(). Modes of opening a file. Binary files and text files. Reading and writing files – fgetc(), fgets(), fread(), fputc(), fputs(), fwrite(). File pointers.

List of Practical:

(This is a suggestive list only. Problems need not be restricted to this list.)

1. Write a program in C to print “Hello World”
2. Write a program to take input of two numbers and print their sum, product and difference.
3. Write a program to find the smallest or greatest of three numbers given as input.
4. Write a program to compute simple interest from user given inputs.
5. Write a program to compute factorial of a user given number.
6. Write a program to print the sum and product of digits of an integer.
7. Write a program to print a triangle of stars as follows (take number of lines from user as input):

```
      *
     ***
    *****
   ********
  **********
 **********
```

8. Write a program to reverse a number.
9. Write a program to compute the sum of the first n terms of the following series
 $S = 1 + 1/2 + 1/3 + 1/4 + \dots$
10. Write a program to compute the sum of the first n terms of the following series
 $S = 1 - 2 + 3 - 4 + 5 - \dots$
11. Write a function that checks whether a given string is Palindrome or not.
12. Write a function to find whether a given no. is prime or not.
13. Write a program to compute the factors of a given number.
14. Write a program that accepts 10 numbers from the user, stores the numbers in an array and finally displays the maximum and minimum of the numbers.
15. Write a program to perform following operations on strings:
 - a) Convert all lowercase characters to uppercase
 - b) Convert all uppercase characters to lowercase
 - c) Calculate number of vowels in the string
 - d) Reverse the string
16. Write a program to implement struct in C. Create a structure of Student with RNo, Name and other credentials with proper datatype and print the same.

17. Write a program to implement union in C. Create a structure of Person with Pid, Name and other credentials with proper datatype and print the same.
18. Write a C program that opens a file for reading and displays the contents of the file in binary mode and text mode.
19. Write a C program that opens a file for reading and displays the contents of the file character by character and line by line on the screen.
20. Write a C program to open a file and count the number of characters and lines in the file.
21. Write a C program that opens a file in append mode and allows the user to add text to the end of the file.

SEC0101503: Basics of Laboratory Practices in Zoology

Total Marks: 75

Total Credit: 3

THEORY (2 Credits)

Unit 1: Introduction to Biological Lab (5)

Practical and observation notebook maintenance, Instrument calibration, Glass wares and lab instruments cleaning and maintenance, museum specimens, specimen cataloging and preservation

Unit 2: Bioinstrumentation (9)

Basics of microscopy, spectrometry, colorimetry and microtomy. Autoclave, incubator, laminar air flow, centrifuge, pH meter, chromatography, electrophoresis, and pipetting (traditional and automatic)

Unit 3: Solution preparation (5)

General Math skills in reagent preparation, percent solutions, molarity, molality, normality, buffer solutions, reagents, and stains

Unit 4: Laboratory safety (3)

Basics of laboratory safety, handling and storage of chemicals and reagents, precautions in handling hazardous chemicals

PRACTICAL (1 Credit)

1. Instrument calibration
2. Reagent preparation
3. Specimen submission

Reference Books:

1. Ananta Swargiary. Biological Tools and Techniques. Kalyani Publications.
2. S.C. Nigam and Omkar. Experimental Animal Physiology and Biochemistry. New Age International Publishers.
3. Gerardus Blokdyk. Good Laboratory Practice - A complete guide. 5 Star Cooks Publishers.

SEC0101703: Beautician and Makeup

Total Marks: 75 [Theory 30 Marks + Practical 45 Marks]

Credits: 3

The syllabus of basic beautician course covers the basics of various beauty services. The basic beauty parlor course syllabus is designed from a perspective of a beginner and covers the basics such as threading, facial stokes, bridal make up, party makeup, waxing, hair styling and more.

Threading (face, forehead, upper lips, etc.)	Facial Stokes
Skin care	Waxing
Manicure & pedicure	Head Massage
Basic Bridal Make-up	Basic Hair Cutting
Basic Make-up	SPA
Hairstyle	Hair Care & Bun
Bleaching	

COURSE OUTCOME:

This skill enhancement course will be designed in a way to develop the student's practical skill and theoretical knowledge to a level that they can expect to make a career in the beauty industry. This will encourage the female students to develop entrepreneurial skills, which in turn, would make them self-dependent and also boost their self confidence.

SEC0101903: Bodo Cuisine and FOOD PROCESSING Skills

Total Marks: 75 [45 (Theory) + 30 (Practical)]

Credit: 3

Course Outcomes:

- Come to know about the food processing system of the Bodos from past to present

Unit I: An introduction to the food processing system: method and types 15

Unit II: Food preservation system of the Bodos: Past, present and future prospect 20

Unit III: Impact of modern foods on Bodo food habits 10

Note: Practical will be taken from prescribed topics given below:

1. Collection and documentation of materials for traditional Bodo food recipes
2. Presentation on traditional Bodo food presentation system
3. Presentation on traditional Bodo beverage

NB: Title of the Paper proposed as “Food Processing System of the Bodos: Tradition to Modernity”

Suggested Readings:

1. Boro-Kocharir Somaj Aru Sanskriti: BhabenNarzee
2. Principle of Food Science Part-II : Physcal Method of Food Preservation- M. Kare, O.R.
3. Fennema and D.B. Lurd, Marcel Dekkar
4. Principles of Food Preservation- V. Kyzlimk, Elsevier Press
5. Modern Food Microbiology- Jemes M Jay, D. Van Nostrand
6. Nutrition and dietics- Rose
7. Nutrition and dietics- Joshi

SEC0102003: BUSINESS COMMUNICATION

TOTAL MARKS: 75

CREDITS: 3

Learning Objectives

After studying this course, students will be able to improve presentation skills to be learnt by effective use of verbal and non-verbal communication for the professional field. The students will also be able to acquire practical employability skills to be disseminated through focused sessions on practical employable knowledge and will be able to enhance professional communication.

UNIT 1- THEORY OF BUSINESS COMMUNICATION

- Introduction
- What is Business Communication?
- Language of Business Communication
- Miscommunication & Effective Communication

UNIT 2 -Writing Skills

- Summarising & Paraphrasing
- Job-Oriented Skills- CV, Resume & Bio- Data, Job Application Letter.
- Documentation.
- Letter Writing- Applications, Business Letters
- Report- Analytical Report, Project Report

UNIT 3- PRACTICE SESSIONS-

- Advertisements & Invitation
- Making Online Academic/Work Profile- LinkedIn.
- Speaking Skills, Presentation Skills- Oral Presentation, Ppt. Preparation, Ppt. Presentation.
- Interview- Promotion Interview, Job Interview, Business Interview

The recommended readings given at the end are only suggestive; the students and teachers have the freedom to consult other materials on various units/topics given below.

Suggested Readings

- Kaushik, J.C. and K.K. Sinha eds., English for Students of Commerce, Oxford University Press, New Delhi.
- Sethi, Anjana & Bhavana Adhikari, Business Communication, Tata McGraw Hill.
- Anjana Neira Dev, et.al, eds. Business English, Department of English, University of Delhi, 2011, Pearson Publications, New Delhi.

SEC0102103: বাংলাভাষার বিভিন্ন ব্যবহারিক দিক ও সম্ভাবনা

Total Marks: 75		Credits: 3
External Marks—60 (প্রুফ সংশোধন, বাংলা পরীক্ষা, সম্পাদনা ও আন্তর্জালরে বৃত্তমূলক প্রয়োগ)		
Internal Marks—15*		
Units	Topics	Marks
I	প্রুফ সংশোধন বাংলা প্রুফ সংশোধন সম্পর্কপ্রাথমিক ধারণা, প্রুফ সংশোধন চহ্ন, প্রুফ সংশোধনরে সংজ্ঞা, বশেষ্ট্য, সমস্যা, প্রয়োগজনীয়তা, রীতি ও ব্যবহারিক প্রয়োগ	15
II	বাংলা পরীক্ষা পরীক্ষার সংজ্ঞা, বশেষ্ট্য ও আবশ্যকতা, বিষয়ভিত্তিক পরীক্ষার ধারা (সাহিত্য-শলিপরে পরীক্ষা, বাণজ্যরে পরীক্ষা, বজ্ঞানরে পরীক্ষা, প্রশাসনিক ও রাজনৈতিক পরীক্ষা)	15
III	সম্পাদনা পত্রিকা এবং গ্রন্থ সম্পাদনা, সম্পাদনা পদ্ধতি, বশেষ্ট্য, সম্ভাবনা, সমস্যা, প্রত্যাহ্বান গ্রন্থরে বিভিন্ন অংশ: প্রচ্ছদ, আখ্যাপত্র, উসর্গপত্র, সম্পাদকীয়, ভূমিকা, সূচিপত্র, পুস্তানি, লেখক পরিচিতি, ISBN ও ISSN সম্পর্কতিপ্রাথমিকধারণা, পরিশিষ্ট, গ্রন্থপঞ্জি, নরিঘণ্ট	15
IV	আন্তর্জালরে বৃত্তমূলক প্রয়োগ কন্টে রাইটিং, ফরলিন্সিং, বজ্ঞাপন নরিমাণ, শক্সামূলক ভডিও নরিমাণ, ই-মার্কটিং, ব্লগ নরিমাণ কৌশল, স্বত্ব-বিষয়ক আইন (copyright Act), গ্রন্থস্বত্বরে গুরুত্ব ও প্রয়োগজনীয়তা	15

*Candidates have to attend one Sessional Exam, of 30 marks and submit two Home Assignments each of 15 Marks for Internal Assessment Marks. **Internal Marks** will be given out of **15 marks** by averaging the marks obtained in Sessional Examination and Home Assignments.

Reference Books:

- ১। সুভাষ ভট্টাচার্য – তর্ষি কষণকাল, আনন্দ পাবলিশার্স
- ২। নীরেন্দ্রনাথ চক্রবর্তী (সম্পা.) – বাংলা কী লিখবনে কনে লিখবনে, আনন্দ পাবলিশার্স
- ৩। সুভাষ ভট্টাচার্য – লেখক ও সম্পাদকরে অভ্যধান, আনন্দ পাবলিশার্স
- ৪। পরীক্ষা কৌশ – সুপ্রকাশ রায়, বদ্যোদয় লাইব্রেরী

৫। পরভাষা অভিধান – বাংলা একাডেমি, ঢাকা

৬। রাজশেখর বসু – চলন্তিকা, এম. সি. সরকার

৭। শলেন্দ্র বিশ্বাস (সম্পা) – সংসদ বাংলা অভিধান, সাহিত্য সংসদ

৮। বানান অভিধান- পশ্চিমবঙ্গ বাংলা অকাদেমি

৯। প্রুফ সংশোধনরে প্রথম পার্থ – অপরাজিতা বন্দ্যোপাধ্যায়, প্রজ্ঞা বকাশ

১০। কম্পিউটার এবং ইন্টারনেটে টপিস্ - মো. আনসুর রহমান, তাম্রলপি, ঢাকা

১১। ইন্টারনেটে ইনকাম ও প্রাসঙ্গিক তথ্য – খালেকুজ্জামান এল্জী, মম প্রকাশনী, ঢাকা

Outcome: The course will enable students to develop real-life skills about various applications of Bengali language. They will gather theoretical knowledge about proof reading, Bengali terminologies and journal and book editing.

SEC0102203: Computer and Office Automation

Total Marks: 75 [External=45 + Internal=30]

Credit: 3

Course Description: The main objective of this course is to make the students aware about the best use of technology to make the business potent. As it is an established fact that technology can become one of the key success factors for the company, enhanced knowledge of technology and advanced computer applications can give added advantage to new generation managers. The entry of big multinationals in Indian market also makes it pertinent for managers to have proficiency in latest technologies so that they can gain an edge over other professionals. This course is designed to provide proper support to the students for better understanding of technology and its application in business today.

Evaluation pattern:

Quiz 10% Assignments / Projects 10% Class participation 10% Mid Semester Examination 30% End Term Examination 40% Pedagogy: Lectures• Case study• Minor projects• Session Course Content Percentile weightage 1 - 4 Information Technology's Role in Business and its Basics 15% 5- 10 Identifying Competitive advantages through technology, Supportive 15% organizational structure for Strategic Initiatives 11 - 17 Strategic Initiatives using IT : SCM, CRM and ERP, Measuring the success of Strategic Initiatives 15% 18 - 25 Extending the organization, Building a Customer Centric Organization, Integrating Organization 15% 26 - 32 Organizational Information, Accessing Organizational Information, Creating Innovative Organizations 10% 33 - 41 Teams, Partnerships and Alliances, Building Software to support an agile organization, 15% 42 - 50 Outsourcing Development, Ethics in using IT, Emerging Trends and Technologies 15%

Text Book: 1. Business Driven Technology by Haag/Baltzan/Philips, 2nd ed Tata McGraw Hill Publication.

Reference Books: 1. Enterprise Systems for Management by Luvai Motiwalla, Guido Tabellini, Jeffrey Thompson, Pearson Education 2. e-Business 2.0 Roadmap for Success by Dr. Ravi Kalakota, Marcia Robinson, Pearson Education 3. Management of Information Technology by Carroll W. Frenzel and John C. Frenzel, fourth Edition, Thomson Press 4. E-commerce – A Managerial Perspective by P. T. Joseph, Prentic Hall India Publications. 5. Marketing of High-Technology Products and Innovations, 3/e by Jakki J Mohr, Sanjit Sengupta, Stanley Slater, Pearson Education.

SEC0102303: COMPUTER APPLICATIONS

Total Marks: 75

CREDIT: 3 (1 Theory+ 2 Practical)

UNIT 1:

3 hours

Word Processing: Introduction to word processing, creating and saving a document, paragraph formatting techniques, working with tables. Spreadsheet: Concept of worksheets and workbooks, creating charts and graphics in MS Excel, Power Point presentation: Creating Graphs, tables, charts, use of animation and multimedia.

UNIT 2:

4 hours

Database management system: Definition of Database, Traditional file approach vs DBMS approach, characteristics of the Data base approach, DBMS user, Role of a DBA, advantages and disadvantages of using DBMS, DBMS architecture. ER Model as a tool for conceptual design entities, attributes and relationships, weak and strong entities, conversion of ER model into relational schema. ANSI SQL-92 Standards: DDL, DML.

UNIT 3:

2 hours

System development life cycle: System models and types of models, system analysis, feasibility analysis, cost benefit analysis, payback period.

UNIT 4:

3 hours

TALLY: Basic definition of Tally, Features of Tally, Advantages and disadvantages of Tally, Tally accounting, manual accounting, and financial accounting.

Practical:

48 hours

- (i) Preparation of MS Word Document with various features (font, size etc)
- (ii) Preparation of MS Excel Document with various features.
- (iii) Preparation of PowerPoint presentation.
- (iv) Tally, ERP9 Install
- (v) GST in Tally. ERP9
- (vi) Interest calculation
- (vii) Bill of material

(viii) Prepare profit and loss account, balance sheet.

Suggested Books:

- | | |
|--|-----------------|
| 1. Computer applications in business. | R. Paraeswaram |
| 2. Introduction to database management system. | CJ Date |
| 3. Tally ERP9 Training Guide- 4 th Revised and updated edition. | Ashok K Nadhani |

SEC0102603: Data Collection and Presentation

Total Marks: 75

Credits: 3

Course Outcomes:

This course helps students in understanding use of data, presentation of data using computer software like MS-Excel. Students will be involved practically to preparation of questionnaires/interview schedules, collection of both primary and secondary data and its presentation. Students will also be asked to prepare a report on collected data and will be evaluated accordingly.

Course Outline:

1. Use of Data

Use of data in social sciences; types and sources of data; data collection methods. Population census versus sample surveys. Random sampling.

2. Questionnaires and Schedules

Meaning; how to prepare a questionnaire and interview schedule; use of questionnaire and interview schedule for data collection.

3. Presentation of Data

Data presentation in tabular formats; use of diagrams for data presentation; creating charts and diagrams in MS-Excel – bar, line, pie, scatter, radar, bubble diagrams, population pyramids.

Readings:

1. S P Gupta, *Statistical Methods*, S Chand.
2. Webtech Solutions Inc., *Mastering Microsoft Excel Functions and Formulas*

SEC0102703: DEMOCRACY AND LEADERSHIP BUILDING

Total Marks: 75

Credit: 3

Course Objective:

- To learn the meaning, structure, challenges and conditions for the success of Democracy.
- To enable students to gain leadership qualities.
- To learn the value of public opinion in Democracy.
- To understand the implementation of 73rd amendment in practice.
- To study the women's participation in PRI.
- To make student understand the activities and responsibilities related to NSS and NCC.
- To learn the students the role of media in disseminating information among the masses.

UNIT I: Understanding Democracy

- a. Meaning
- b. Features
- c. Kinds
- d. Conditions required for success of Democracy
- e. Challenges

UNIT II: Leadership

- a. Meaning and Theories.
- b. Qualities
- c. Importance
- d. Challenges

UNIT III: Democracy and Leadership

- a. Importance of Public Opinion
- b. Representation (73rd Amendment and rural Governance in India)
- c. Women's Participation
- d. Role of NCC and NSS in leadership building
- e. Role of Mass Media

READING LIST

NATIONAL SERVICE SCHEME MANUAL (REVISED), available at http://nss.wbut.ac.in/documents/NSS_manual_2006.pdf

ANO Handbook, NCC, Available at

https://docs.google.com/viewerng/viewer?url=http://nccindia.nic.in/sites/default/files/ANO+Hand+Book_1.pdf

NirajaGopalJayalandothers,LocalGovernanceinIndia–DecentralisationandBeyond,OxfordUniversity Press, 2006.

AtulKohli(Ed.).TheSuccessofIndia'sDemocracy.Cambridge:CambridgeUniversityPress.

Ghosh,Buddhadeb&GirishKumar-StatePoliticsandPanchayatsinIndiaNewDelhi:Manohar Publishers,2003

Sudhakar, V. New Panchayati Raj System: Local Self-Government Community Development-Jaipur: Mangal Deep Publications, 2002.

R. Erikson and K. Tedin, (2011) *American Public Opinion*, 8th edition, New York: Pearson Longman Publishers,. pp. 40-46.

SEC0103203: Early Childhood Care and Development

Total Marks: 75

Total Credit: 3(33 Hours)

Unit 1:

Physical, mental and language development of early childhood period, Methods of study – observation, interview, case study, etc.

Unit 2:

Meaning of early childhood education, Objectives and importance of early, childhood education

Unit 3:

The curriculum of play way approach – Supporting early literacy, numeracy, and reading skills

Unit 4:

Pedagogy in relation to ECE – Constructing, modeling, questioning, and problem-solving

Unit 5:

Concept and importance of guidance for a child, Guidance methods for a child

SEC0103303: Ecology and Environmental Management

Total Marks: 75

Credits: 3

Course Outcomes:

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed.

Course Outline

1. Introduction

Basic concepts: Environment, Ecology, Economy and the ecosystem. Interaction between the environment and the economy, environmental economics and ecological economics, environmental economics and resource economics.

2. The Theory of Externalities

Externalities: meaning and types of externalities, market failure: meaning, market failure in the presence of externalities; market failure and public goods.

3. The Design and Implementation of Environmental Policy

Environmental Policies: command and control (CAC) approach, economic instruments like Pigouvian taxes and effluent fees, tradable permits and mixed instruments.

4. Environmental Improvements and Sustainable Development

Non-Market values: use and non-use values and optional value, Sustainable Development and its origin, weak sustainability, strong sustainability, ecological perspective and social perspective, Rules and indicators of Sustainable Development.

Readings:

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition, 2005.
3. Gautam Purkayastha, *Environmental Economics: Theory, Problems and Solutions*, Kalyani Publishers, Reprinted 2016

SEC0103403: Electronic Circuit Design

Total Marks: 75

Credit: 3 (2+1)

Course Objectives: To make the students able to apply concepts of basic electronic components and design Electronic circuits.

Course Outcomes: By the end of this course, students will be able to

- Explain basic structure, operation and characteristics of different electronic components (Both active and Passive).
- Explain number system and logic gates.
- Operation of combinational and sequential logic circuits.
- Design of basic electronic circuits using analog and digital components.
- Application of electronics components in real life situations.

Theory

Unit-I: Analog Electronics (11 Hours)

Basic Circuit Concepts: Resistors, capacitors and Inductors: Fixed and Variable, Construction and Characteristics, basic concept of current source and voltage source, semiconductors- P and N type, PN junction diode, Zener Diode and their I-V characteristics. Rectifiers- Half wave rectifier, Full wave rectifiers with working principle. Filter in electronic circuits, capacitor as a filter, zener diode as voltage regulator, design of regulated power supply. Bipolar Junction Transistor (BJT) and its types, structure, working principle and characteristics for different configurations, transistor as an amplifier and oscillator. OP-AMP and its applications. 555 timer and its applications.

Unit-II: Digital Electronics (11 Hours)

Number Systems: Decimal, Binary, Hexadecimal and Octal number systems, Logic Gates and Boolean algebra: Introduction to Boolean algebra and Boolean operators, Truth Tables of OR, AND, NOT, XOR, NAND and NOR. De Morgan's theorems, minimization and realization of logic equations using Boolean algebra, Standard representation of logic functions (SOP and POS), Multiplexers and Demultiplexers, binary Adders, Flip flops, S-R Flip flop, J-K Flip flop, T and D type flip flop, Basic concepts of Registers and Counters and applications.

PRACTICAL

Unit-III: Hands on Tutorials / demonstration (22 Hours)

1. Familiarization of different analog electronic components.
2. Use of multimeter to measure current, voltage and resistance.
3. Measurement of Amplitude and Frequency of a signal using CRO.
4. To verify the truth table of AND, OR, NOT, XOR, NAND and NOR gates.
5. Realization of logic circuits from Boolean expressions.
6. Design of an electronic circuit in real life application.

Suggested Books

1. Principle of Electronic Devices and Circuits, B.L.Theraja & R.S.Sedha, S.Chand 7 Company Ltd(2004)
2. RobertL. Boylestad, Essentials of Circuit Analysis, Pearson Education(2004)
3. DigitalSystemDesign,M.MorrisMano,PearsonEducationAsia,(FourthEdition)
4. Modern Digital Electronics, R P Jain, McGraw Hill Education (India) Private limited.

SEC0103503: Electronic Data Processing

Total Marks: 75

Credit: 3 (Theory = 2, Practical = 1)

Learning Objectives

The objective of the course covers fundamentals of Computer, data, spreadsheets, data processing terminology, input or output, database management. Providing insight into method and tools for analysis and processing of the data generated by modern information systems, handling huge volume of data, qualitative and quantitative pieces of information, storage and retrieval of data and so on are the main feature of the course.

Course Outcomes

On successful completion of the course, students will be able to understand basic terminology in the area of information system development and management, data analysis, data processing methods. Students will also be able to create SQL for extracting and grouping data from different types of the database management system (DBMS). Students can work as a data entry operator, trainer, and teacher or MIS co-coordinator in schools or college.

Unit Wise Syllabus:

THEORY

UNIT I - (5 hours)

INTRODUCTION TO COMPUTER AND DATA PROCESSING

Types of Computers, Characteristics and Applications of a Computer System, Component of computer system: Input Units, Output Units, CPU, Computer Memory: Primary and Secondary Memory; Memory Units; Hardware and Software, Number System: Binary Number System, Conversion, Binary Arithmetic.

DATA PROCESSING: Data, Importance of Data, Data Security, Information, Processing of Data, Data Processing Operations: Data Capture; Data Manipulation: Classification, Sorting and Calculations; Information Management, Information Handling Manual, EAM and EDP Machine.

UNITII - (5 hours)

INTRODUCTION TO SPREAD SHEETS

Introduction: What is Worksheet and Workbook, Features of spread sheets, Components of a user interface in spread sheet, AutoFill Feature, Formatting Numbers **Operators:** Arithmetic, Comparison and Logical Operators; Copying Formulae, Cell Referencing: Relative, Absolute and Mixed Referencing

Functions: Sum, Average, Count, Max, Min, IF, Using AutoSum

Data Tables: Adding, Deleting, Importing, Exporting, Editing and Formatting

Data Management in Spread sheet: Importing Data from DBMS, Web and Text **What-If Analysis:** Scenario Manager, Goal Seek, Data Entry Forms, Sort and Filter, Data Validations, Conditional Formatting, Hyperlinks, Comments, Pivot Table

UNITIII - (12 hours)

INTRODUCTION TO DATABASE MANAGEMENT SYSTEM CONCEPTS

What Is Database? Need for a Database, Components and Levels of a Database, Use of Computer for Database, Database Management System, Advantages of using DBMS, Database Examples, Relational Database Management System,

Case Study: A College– Data Redundancy and Data Inconsistency, Data Storage Hierarchy, Characters, Fields, Records, Files, Concept of Keys: Primary, Foreign and Candidate Key

DataTypes:Text,Memo,Number,Date/Time,Currency,AutoNumber,Yes/No,OLEObject,Hyperlink,Lookup Wizard, Fields, Records, File

Libre Office Base/MS Access etc.: Introduction to DBMS, Components of DBMS GUI, Icons and Views of Objects, Components of DBMS, Data Access Packages, Macros, Modules; Launching and Exiting of DBMS, Structure of a Table, Design View, Icons and Views, Table Navigation, Field Properties: Size, Format, Decimal Places, Caption, Default Value, Allow Zero Length, Required, Input Mask, Record Validation, Lookup Values, Queries: Types of Queries, Relationships, Forms, Reports

PRACTICAL

1. Spread Sheets (11 Hours)

- a. Creating, saving and opening a Worksheet
 - i. Payroll Sheet
 - ii. Sales-Report
 - iii. Balance Sheet
 - iv. Product, Purchase and Inventory
- b. Selecting cells and ranges, Adjusting Row Height And Column Width, Inserting Blank Cells, Rows, Columns; Deleting: Cells, Rows, Columns;
- c. Data entry (Numeric and Alpha); Erasing Data in Cells and Worksheet
- d. Data verification
- e. Data Analysis Using Charts and What-If Analysis

- f. Formula and Functions
- g. Making charts using spreadsheets data and
- h. View: Normal, Page Layout, Page Break Preview, Custom Views, Full Screen, Freeze Panes
- i. Copying data from worksheet into a Word Processing Document

2. DBMS like Libre Office Base/MS Access etc. (11 hours)

- Starting and closing DB Applications
- Opening and Closing already existing Database
- Creating a Database: Using the Database Wizard, Without using a Database Wizard
- Creating Tables and entering data into a table; Viewing and Editing Data in a Table;
- Freeze and Unfreeze Columns; Show or Hide Columns
- Creating form and entering data into a form
- Creating a Query: Using Wizard
- Creating a Report: Editing and Deleting of Records
- Creating Mail Merge Labels Using Wizard

References:

1. Spoken Tutorial- Spoken-Tutorial.org
2. www.nieit.in
3. Geeta Sahoo and Gagan Sahoo, Informatics Practices (A text book of ClassXII). Saraswati House Pvt. Ltd.
4. Mysql for Professionals, Ivan Bayross
5. Fundamentals of Database Management system, Elmasari Navathe.

SEC0103603: Elements of Art and Design

TOTAL MARKS: 75

CREDITS: 3 (1+2)

[1= 1 hour theory per week, 2= 2 hours practical per week]

ABOUT THE COURSE:

The fundamental goal of this course is to plan for development of the media and communication students that would help them to imbibe a sense of arts and design. Elements of arts and design shall give them a thorough understanding to work on various projects while abiding by the principles of designs.

OBJECTIVES:

The course is designed to:

- Introduce the elements of art.
- Educate on the principles of design.
- Acquire knowledge to utilize it in creating, designing and editing.

LEARNING OUTCOMES:

- Comprehensive knowledge on designing any multimedia product including print, electronic or traditional.
- Development of a keen eye for all art forms and design incorporated in media.
- Apply analytical thinking in designing.
- Communication of messages in artistic and accurate way.
- Appropriate presentation of any information.
- Effective use of color in creating, editing and designing.

COURSE OUTLINE:

Elements of Art and Design:

Unit No.	Unit Content
Unit - I	Introduction to art; Elements of art; Types; Line, form, Texture, Space, Texture, Color, Value;
Unit - II	Art in Photography; Importance, Advantages, Uses; Uses of art in designing, importance, Preparation of multimedia product by applying elements of art
Unit - III	Color wheel: Primary, secondary, tertiary; Color Scheme: Monochromatic, analogous, complementary, triadic, square and rectangle; Uses in photography and designing. Preparation of multimedia product by incorporating color schemes.
Unit - IV	Concept of design; Definitions; Principles of design, Types, Balance, Contrast, Emphasis, Proportion, Hierarchy, Rhythm, Movement, Unity, Pattern; Preparation of multimedia product by applying principles of design
Unit - V	Principles of design in photography; Importance, Uses, Advantages; Uses of principles of design in media product development, importance;

SEC0103703: Developing Soft Skills in English

Total Marks: 75
[External: 60 + Internal: 15]

Total Credits: 3
[No. of classes: 36]

Medium of Instruction: English (However, local languages will be used in the class along with English for ease of students' understanding.)

Course Description

This course enables students to develop effective soft skills and behaviors that are critical for success in today's competitive job market. It equips students with the essential soft skills that they need to create a positive impression about themselves for both professional and personal success. The key skills introduced in this course include active listening, communicating effectively in groups and use of appropriate body language. It also familiarizes students with presentation skills, and creative and critical thinking skills.

Graduate attributes/Learning outcomes: After completing the course the students will be able to:

- demonstrate their understanding of effective soft skills
- listen actively to interpret both verbal and non-verbal messages
- deliver effective presentations
- identify and solve a given problem by using creative and critical thinking skills
- participate in group discussions confidently

Pre-requisites

There are no prerequisites for this course.

Mode of delivery

Interactive lectures using class discussion, personalized topics, exercises and activities based on class texts and real-life language contexts, collaborative pair and group work, and sharing of feedback. Interactions and discussions can take place in blended mode, through face-to-face classroom teaching and online platforms such as Google Classroom.

Evaluation plan

This course will be assessed through an External (summative) of 60 marks and an Internal (formative) component of 15 marks.

The Internal assessment of 15 marks will be formative, and will be conducted throughout the semester through internal evaluation. It will comprise class assignments, home assignments, participation in class discussions, oral presentations etc. to measure how well students are learning.

Summative assessment will be conducted through a written External examination of 60 marks at the end of the semester to evaluate how far students are able to use the skills and strategies practiced in the course.

Course Content

Units	Topics	Teaching Hours
1.	Making a good impression ● Good introduction ● Active listening ● Positive body language ● Good communication skills	4
2	Active Listening skills ● Techniques to listen actively ● Interpreting verbal and non-verbal messages	5
3.	Delivering effective presentations ● Knowing your audience ● Speaking confidently: tone, pace ● Structuring your presentation ● Dealing with Q & A ● Using props and visual images	10
4.	Creative and critical thinking ● Identifying the problem ● The problem solving process: brainstorming, analyzing, exploring, and choosing a solution	6
5.	Group communication ● Negotiation skills ● Team building skills ● Leadership skills	8
6.	Body language ● Maintaining appropriate body posture in different communicative situations ● Using hand gestures effectively ● Maintaining eye contact during communication ● Proxemics	3
	Total Hours	36

References:

Freeman, T. (2022). *Soft Skills I Learned the Hard Way: Lessons in Communication, Public Speaking, Interviewing and Networking*. Whack Publications

Raman, M., Upadhyay, S. (2017). *Soft Skills: Key to Success in Workplace and Life*. Cengage India Private Limited

Robbins. S.P. (2015). *Training in Interpersonal Skills (6th Edition)*. Pearson

Walker, T. J. (2010). *How to Give a Pretty Good Presentation: A Speaking Survival Guide for the Rest of Us*. Wiley

SEC0103803: Ethno Botany

Total Marks: 75

Total Credits: 3 (Theory=2 + Practical =1)

Unit 1: Ethnobotany (10 Lectures)

Introduction, concept, scope and objectives; Ethno botany as an interdisciplinary science. The Scope of ethno botany; Major and minor ethnic groups or Tribals of India, and their life styles.

Unit 2: Methodology of Ethno botanical studies (10 Lectures)

a) Field work b) Herbarium c) Ancient Literature d) Archaeological findings e) temples and sacred places.

Unit 3: Role of Ethno botany in modern Medicine (10 Lectures)

Medico-ethno botanical sources in India; Significance of the following plants in ethno botanical practices (along with their habitat and morphology) a) *Azadiractha indica* b) *Ocimum sanctum* c) *Rauvolfia serpentina* ; Role of ethnic groups in conservation of plant genetic resources: Bio piracy, Intellectual Property Rights and Traditional Knowledge.

Practical: Data collection methods, Identification and records of ethno botanical information. (ethno botanical records of 10 plants with photographs). **(1 Credit)**

Suggested Readings:

- 1) S.K. Jain, Manual of Ethnobotany, Scientific Publishers, Jodhpur, 1995.
- 2) S.K. Jain (ed.) Glimpses of Indian. Ethnobotny, Oxford and I B H, New Delhi – 1981
- 3) Lone et al., Palaeoethnobotany
- 4) S.K. Jain (ed.) 1989. Methods and approaches in ethnobotany. Society of ethnobotanists, Lucknow, India.
- 5) S.K. Jain, 1990. Contributions of Indian ethnobotny. Scientific publishers, Jodhpur.
- 6) Colton C.M. 1997. Ethnobotany – Principles and applications. John Wiley and sons – Chichester

SEC0103903: Field Survey: Techniques and Application

Total Marks: 75

Credits: 3

Course Outcomes:

This course will help students to proceed with a research problem and the steps he/she should adopt and tools to be used for doing quality research, The students shall get a chance to observe ground reality directly and minutely, It will help to develop understanding about designing and writing a research report

Course Outline:

Unit I: Meaning of Social Surveying; Need and importance of field work in socio-geographical studies

Unit II: Concept of case study and its identification in varying socio- geographical contexts

Unit III: Tools and Techniques of Data Collection: Questionnaire Survey, Participatory Rural Appraisal Techniques, Participant Observation, Focus Group Discussions etc.

Unit IV: Preparation of a report on socio-economic condition of a nearby village and Seminar Presentation (Duration- 10 minutes per participant, which is to be monitored and evaluated by the concerned experts)

Readings:

- 1) Creswell J., 1994: Research Design: Qualitative and Quantitative Approaches Sage Publications.
- 2) Dikshit, R.D. 2003. The Art and Science of Geography: Integrated Readings. Prentice - Hall of India, New Delhi.
- 3) Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Pubs. Co., New Delhi.
- 4) Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001)

SEC0104003: Floriculture

Total Marks: 75

Credits: 3 (Theory 2, Practical 1)

Total lectures: 22T+22P

Theory:

Unit I: Introduction: Importance and Scope of Floriculture, Types of floriculture, Landscape gardening (landscaping highways and institutions). (2 Lectures)

Unit II: Principles of garden designs: English, Italian, French, Persian, Mughal and Japanese garden, Features of Garden (gate, walls, fencing, hedge, pergolas, edging, shrubbery, water garden). (6 Lectures)

Unit III: Nursery management and Routine garden operations: Sexual and vegetative methods of propagation; soil sterilization, seed sowing, defoliation, manuring (3 Lectures)

Unit IV: Ornamental plants and their cultivation: Annual flowers, Perennial flowers, herbaceous plants, indoor plants, succulents and cactus, divine vines, palms and cycads, Bonsai (5 Lectures)

Unit V: Commercial floriculture: Cultivation of cut flowers (Chrysanthemum, marigold, dahlia, bougainvillea, rose, liliun, orchids), Production and packaging of cut flowers. (6 lectures)

Practical:

- 1) Preparation of media for propagation (soil, sand, peat, Sphagnum, moss, vermiculite, soil moisture and nursery beds) (3 Lectures)
- 2) Insect pest and diseases control of plants (3 Lectures)
- 3) Demonstrate the preparation of Bonsai of horticulture plants. (5 Lectures)

Suggested Readings:

1. Randhawa, G.S. and Mukhopadhyay, A. 1986. Floriculture in India. Allied Publishers.

SEC0104303: Fundamentals of Disaster Management

Total Marks: 75

Credit: 3

Unit-I: Introduction to Environmental Studies

- Multidisciplinary nature of environmental studies.
- Scope and importance.
- Concept of sustainable development.

Unit-II: Ecosystems.

- What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem; food chains, food web and ecological succession. Case studies of the following ecosystems.
- Forest ecosystem.
- Grassland ecosystem.

Unit-III: Biodiversity and Conservation.

- Levels of biological diversity; genetic, species and ecosystem diversity; bio geographic zones of India, biodiversity patterns and global biodiversity hot spots.
- India as a mega-biodiversity nation; endangered and endemic species of India.
- Ecosystem and diversity services: Ecological, economic, social, ethical, aesthetic and informational value.

Unit-IV: Human Communities and the Environment.

- Human population growth: Impacts on environment, human health and welfare.
- Resettlement and rehabilitation of project affected persons; case studies.
- Disaster management: floods, earthquake, cyclones and landslides.
- Environmental movements: Chipko, silent valley, Narmada Bachao, Bishnois of Rajasthan.
- Environmental ethics: Role of India and other religions and cultures in environmental conservation.
- Environmental communication and public awareness, case studies (CNG electric vehicles, green energy, waste minimization)

SEC0104403: Functional Assamese

Total Marks: 75 (Theory = 45, Practical = 20, Internal Assessment = 10)

Credit: 3 [2(T) + 1(P)]

Contents of Syllabus:

(a) Theory (Marks: 45)

Unit	Unit Content	No. of Classes	Marks
1	Language and Communication Skills : Speaking, Reading And Writing Skills- Pronunciation and Spelling, Word and Sentence Formation, Punctuation, Abbreviation, Common errors and Correction, Using Assamese in Real Life Situation	7	10
2	Terms and Terminology : Introduction to Assamese Terms, Use of Literary and Administrative Terms, Translation and Terminology, Dictionary Usage	6	10
3	Functional Writing : Fundamentals of Good writings, Application Writing, Letter Writing, Formal Invitation Letter Writing, Testimonial/Appreciation Letter Writing, Report and Proceeding Writing	7	15
4	Types of Formal Communication : Group Discussion, Meeting, Interview, Seminar, Research Paper Writing, Public Speech	9	10

(b) Practical (Marks: 20)

- Letter Writing
- Proof Reading
- Mock Interview and Speech Deliver
- Research Paper Presentation in Seminar

List of Reference Books:

- *Adhunik Asamiya Abidhan*: M. Neog, R. Dev Sharma & N. Barua
- *Asamiya Bhasar Uccharan*: Golok Chandra Goswami
- *Asamiya Aakhor Jatani*: Golok Chandra Goswami
- *Asamiya Aakhor Jatanir Katha* : Shivanath Barman
- *Asamiya Bhasa-Sahitya Sarchakar isakalar Hatputhi* : Ramesh Pathak
- *Bigyan Lekhakar Hatputhi*: Dinesh Chandra Goswami

- Copy Editing: Judith Butcher
- Creative Writing-The Essential Guide: Tim Atkinson
- Editors on Editing: H Y Sharada Prasad and Others
- *Jogajug Kala*: NirajanaMahantaBezbor
- *NikaAsamiyaBhasa*: MaheswarNeog
- Technical Communication - Principle and Practice: Minakshee Raman And SangeetaSarma
- Translation and Understanding: SukantaChaudhuri

No of required Class Hours: Theory: 30, Practical: 15, Non Contact- NIL

SEC0104503: Functional Sanskrit

Total Marks: 75

Total Credit: 3

[No. of Theory Class= 20

No. of Practical Class -14]

<u>Unit No.</u>	<u>Unit Content</u>	<u>Credit</u>	<u>No of Classes</u>	<u>Marks</u>
I-	Specialties of Sanskrit Alphabets	0.5	07	15
II-	Preliminary Conversation in Sanskrit	1	10	20
III-	Writing of Sanskrit Essays and Application (Including Project Proposal)	0.5	07	20
IV-	Creative Writing in Sanskrit	1	10	20

Reading List:

1. Mishra Gopabandhu, *Sanskrita Bharati Pravesika*, Bharati Bhawan, Delhi, 2021
2. Pandey, Acharya Rajbali, *Sanskrita Svayam Shikshaka*, Vikas Paper Backs, 2021
3. Shastri Shyam Nandan, *Adhunik Sanskrita Vyakaran aur Racana*, Bharati Bhawan Publishers & Distributors, Delhi, 2017
4. Narale Prof. Ratnakar, *Sanskrit Grammar and Reference Book*, Ratnakar Pustak Bharati Books, India
5. Sarma Rajendra Nath, *Sanskrita Vyakarana Surabhi*, Lakshmi Prakashan, Guwahati, 2016.
6. Bhandarkar Ramkrishna Gopal, *First book of Sanskrit*, Gyan Publishing House, 2021
7. Burrow T, *The Sanskrit Language*, Motilal Banarsidass, 2016
8. enjoylearningsanskrit.com

Graduate Attributes : Knowledge of the Technicalities behind the alphabets of Sanskrit, Skill for preliminary Communication in Sanskrit , Introductory knowledge of Creative writing in Sanskrit Language, Skill for writing content of various types of applications in Sanskrit.

Course Objectives: a. Students will acquire the Skill of correct Pronunciation of Sanskrit sounds.

b. Students will gain knowledge about the Scientific Background of Sanskrit Alphabets

c. Students will be Skilled in Sanskrit Communication in its Basic Level.

d. Students will be Skilled in Writing various Types of Essays and Application including Project Proposal in Simple Sanskrit.

Learning Outcome: After going through this unit students will be able....

a. to grasp the details of pronunciation techniques in connection with Sanskrit Sounds .

b. to understand the Science that remains behind the Sanskrit Alphabets.

c. to acquire the skill of Communication through Simple Sanskrit Language .

d. to attain the skill of Writing the contents of Various Types of Essays and Application in Simple Sanskrit

e. to acquire the skill of Writing Project Proposal in Simple Sanskrit

Unit II and Unit IV will be having Practical Part and those will need 3 (Three) Theory Classes and 7 (Seven) Practical Classes Each.

SEC0104803: Fundamentals of Weather and Climate Sciences

Total Marks: 75

Credits: 3

Course Description: The aim of this course is not just to impart theoretical knowledge to the students but to enable them to develop an awareness and understanding regarding the causes and effects of different weather phenomenon and basic forecasting techniques

Theory: 30 Lectures

Unit I: Introduction to atmosphere (Lectures 10)

Elementary idea of atmosphere: physical structure and composition; layers of the atmosphere; atmospheric boundary layer and its characteristics; variation of pressure and temperature with height; air temperature; requirements to measure air temperature; atmospheric pressure: its measurement; atmospheric convection and inversion.

Unit II: Measuring the weather (Lectures 4)

Wind; forces acting to produce wind; measurement of wind speed and direction; humidity, clouds and rainfall, radiation: absorption, emission and scattering in atmosphere; radiation laws.

Unit III: Weather systems (Lectures 6)

Global wind systems; air masses and fronts: classifications; jet streams; local thunderstorms; tropical cyclones: classification; tornadoes; hurricanes, Indian summer, monsoon.

Unit IV: Climate and Climate Change (Lectures 10)

Climate: its classification; causes of climate change; greenhouse effect, global warming and its consequences; natural and anthropogenic causes of greenhouse effect, air pollution; aerosols, ozone depletion, acid rain, environmental issues related to climate, outlines of United Nations Framework Convention on Climate Change (UNFCCC).

Reference Books:

- [1] Aviation Meteorology, I.C. Joshi, 3rd edition 2014, Himalayan Books
- [2] The weather Observers Handbook, Stephen Burt, 2012, Cambridge University Press.
- [3] Meteorology, S.R. Ghadekar, 2001, Agromet Publishers, Nagpur.
- [4] Text Book of Agrometeorology, S.R. Ghadekar, 2005, Agromet Publishers, Nagpur.
- [5] Why the weather, Charls Franklin Brooks, 1924, Chpraman & Hall, London.
- [6] Atmosphere and Ocean, John G. Harvey, 1995, The Artemis Press.

SEC0104903: Gender Sensitization

Total Marks: 75

Credit: 3

Course Objective:

The course will sensitize students to issues related to gender and its related concepts. It will provide them with the tools and skills to develop and integrate a gendered perspective in work and life.

Course Outcomes:

The outcomes of the course may be as follows:

- Students will have developed a better understanding of important issues related to gender in contemporary India.
- Students will develop a sense of appreciation and respect for women in all walks of life.
- It will help students to understand violence against women and also at the same time aware them about the provisions in the Indian Constitution that provide protection and relief to women.

Unit-i: Introducing Sex and Gender

- a. Concept of sex and gender
- b. Nature and Scope of Gender studies
- c. Social construction of gender

Unit-ii: Basic Concepts

- a. Gender Socialization
- b. Gender Role
- c. Gender Inequality

Unit-iii: Gender in Social Institution

- a. Family
- b. Caste
- c. Class

Unit-iv: Violence against Women and its Indian Constitutional Provisions

- a. Sexual Harassment
- b. Domestic Violence
- c. Right to Property in Indian Constitution

Reference Books:

- Abbott, et.al. 2005. Introduction to Sociology: A Feminist Perspective, Routledge: London
- Holmes, M.2007. What is Gender? Its Approaches, Sage Publication: New Delhi
- Philcher, J and Whelehan, I. 2004. Fifty Key Concepts in Gender Studies,Sage Publication: New Delhi
- Jones, E.A. and Olson G.A. 1991. The Gender Reader, Allyn and Bacon: USA
- Hirschon, R. 1984 “Introduction: Property, Power and Gender Relations” in R. Hirschon(ed.) Women and Property, Beckenham: Croom Helm.
- Jaggar, A. 1983. Feminist Politics and Human Nature, Brighton: The Harvester Press.
- Engels, F. 1972. The Origin of the Family, Private Property and the State, London.

SEC0105003: Geography of Tourism

Total Marks: 75

[Theory: 30, Practical: 30, Internal Assessment: 15]

Total Credit: 3 (2+1)

Part I: Theory

Credit: 2 (30 Marks)

(30 classes of 1 hour duration)

1. Geography of Tourism: Nature and scope; Basic Concepts of tourism; Robinson's Geographical parameters of tourism. (6 classes)
2. Types of tourism: Nature tourism, Cultural tourism, Medical tourism, Agri-tourism, Adventure tourism, Pilgrimage, etc. (8 classes)
3. Recent trends in Tourism: Eco-Tourism, and Sustainable tourism (8 classes)
4. Tourism development in North-East India with special reference to Assam; Potentiality of Agri-tourism in Assam. (8 classes)

Part II: Practical

Credit: 1 (30 Marks)

(15 classes of two hours duration)

1. Trend of growth of tourist arrivals in India/Assam since 1980 using line graph.
2. Preparation of a Tourist Guide Map of Assam showing locations of Major tourist destinations and road connectivity from Guwahati city.
3. Preparation of a Tourist Map of North East India-showing the Major National Parks and indicate the major highlights therein.
4. Preparation of a Tourist Map of India showing the important Sea Beaches and Water Bodies as Tourist Destinations.
5. Mapping of trekking route in a hilly area suitable for adventure tourism using GPS. (Field based).

Reading List:

Bhattacharya, P.(2011) Tourism in Assam; Trend and Potentialities, Banimandir, Guwahati

Pandey , Dr. Anshumali, Introduction to Tourism Studies Text book, Notion Press.

Pandey, Monoranjan, Tourism and Hospitality Industries, Namam Publishers and Distributors

Chirajeev, Dr. Avinash, Concept of Tourism, Jnanada Prakashan (P &D), New Delhi

SEC0105103: Geological Laboratory Techniques

Total Marks: 75

Number of Required Classes: 60

Total Credit: 3 [Theory: Nil + Practical: 3]

[Practical = 30, In-person Class = 30]

Course Objectives: Hands-on training on essential laboratory techniques associated with geology.

Outcomes/Graduate Attributes: Development of skilled manpower for laboratory analysis in geology.

Course Design:

Field Techniques:

Credits -1 / 15 hours

- Identification of basic features of different rocks, minerals, soils and sediments in the field.
- Determination of Hardness of Intact Rock and Minerals by Schmidt Hammer (Rebound Hammer) and Mohs Hardness Scale.
- Use of Clinometer-Compass, Hand Held GPS, DGPS and other devices for measurement of distance, height and angle of objects.
- Measurement of water level in open wells and bore wells. Collection of water samples.

Laboratory Techniques 1:

Credits - 1 / 15 hours

- Selection of representative rock sample and sample treatment for preparation of thin sections and polished blocks for petrographic examination.
- Sample collection and treatment of loose (disturbed and undisturbed) sediments and soils for laboratory investigations. Sample disintegration and pulverization.
- Mineral and fossil separation for microscopic examination. Microscopic measurements.
- Determination of Moisture content and bulk density of rock samples following ISRM norms.

Laboratory Techniques 2:

Credits - 1 / 15 hours

- Basic map reading and interpretation.
- Basic Water chemistry (TDS, Turbidity, pH, EC, Temperature).
- Basic data logging and graphical representation
- Computer application for preparation of graphs, illustrations, and report preparation.

Suggested Reading:

- Laboratory Handbook of Petrographic Techniques by C.S.Hutchison, Wiley-Interscience Publication.
- Compendium of Indian Standards on Soil Engineering, Part-1. Bureau of Indian Standards, SP-36(Part-1):1988. ISBN-81-7061-024-9.
- Manual of Rock Mechanics by Ramamurthy, Sharma, Gupta and Baweja. Central Board of Irrigation and Power, Publication No.310. N.Delhi. ISBN-8107336-713-X.
- Heavy Metals in Water : Presence, Removal and Safety by Sanjay K Sharma. Royal Society of Chemistry. 2014.
- Study and Interpretation of Chemical Characteristics of Natural Water by J.D.Hem. Geological Survey Water Supply Paper 1473. United States Government Printing Office. 1070.

SEC0105203: Grammar and Composition Skills

Total Marks: 75

Credit: 3

Course Objectives: The objectives of the course are to expose the students to the basic that they require in their day-to-day academic setting at the under graduate level, the grammar is introduced in context through the Text and further practices is providing through exercises. The course also helps students sharpen their reading and writing skills.

Course Outcome: The Course outcome of the English Grammar and Composition are as follows,

1. It helps the students produce grammatically correct English.
2. To develop writing skills for the academic work.
3. Exposes them to the variety of reading text
4. To give them in writing exercise.

Unit-1: Introduction to the basic grammar

1. Tenses
2. Modals
3. Determiners, pronouns, and Noun phrases
4. Preposition, Adjectives and Adverbs
5. Verb structure
6. Word Formation
7. Conditional, clauses, question, Indirect speech
8. Sentences and variety of English

Unit-2: Reading

1. Prediction and previewing skill.
2. Skimming skill
3. Reading for comprehension
4. Reading for details

Unit-3: Reading

1. Application Writing.
2. Precise writing
3. Comprehensive Test.
4. Letter writing.

Reference Book

1. A Higher English Grammar and Composition by P.K. Dey Sarkar
2. Good English Grammar and Composition by Assam publishing company
3. Modern English Grammar by Assam Publishing Company

SEC0105503: Herbarium Techniques and its Role in Modern Science

Total Marks: 75

Total Lectures: 36

Credits: 3

THEORY

UNIT 1: Introduction- Historical account, Significance, Functions, Types of Herbaria, Acronym, important Herbaria of the world, major Herbaria in NE India, Digital Herbarium.

(4 lectures)

UNIT 2: Herbarium Methodology-Herbarium Sheets, Field and Laboratory equipment, colour preservation techniques, basic techniques for herbarium sheets preparation and storage.

(6 lectures)

UNIT 3: Role of Herbarium in- Teaching and Research, Plant Taxonomy, Assessment of Plant Biodiversity, Pharmacy Education and Research, Herbal Drug discovery, Ecology, Forestry, Ethnobotany, Evolution and Conservation biology.

(8 lectures)

UNIT4: Herbarium curation and Digitization techniques, Accession Register, Fumigation, Pest Management, Herbarium specimens on Loan, Herbarium Ethics.

(6 lectures)

UNIT 5: PRACTICAL

(12 lectures)

Hands-on-Herbarium sheet preparation for Bryophytes, Pteridophytes and Higher Plants.
Searching Digital Herbarium online for consultation.

Suggested Readings:

1. Jain S K and Rao RR 1977. A Handbook of Field and Herbarium Methods. Today & Tomorrow's Printers and Publishers, New Delhi.

SEC0105803: Legal Literacy & its Application

Total Marks: 75

Credit: 3

Objective:

The proposed course aims to acquaint students with the structure and manner of functioning the law in India and to make them aware about the constitutional/legal provisions related to safeguarding of rights.

Course Outcome:

1. The students should be aware of the institutions that comprise the legal system-the court, police, jails and the system of criminal justice administration.

Have a brief knowledge of the constitution and laws of India and to have some working knowledge of how to affirm one's duties within the legal framework.

Syllabus of the Course :

Unit-I: Understanding rights and law

Constitutional provisions, Fundamental Rights and Duties, Directive Principles of State Policy.

Unit-II: Criminal Jurisdiction in India

FIR, Arrest, Detention, Bail, IPC, CRPC, Juvenile justice, Offenses against women and preventive measures.

Unit-III: Grievance Redressal Mechanism

RTI, PIL, CPGRAMS.

SEC0106003: Life Skill Education

Total Marks: 75
[External=45 + Internal=30]

Credit: 3

Part-I (External) Credit:2

A) Paper Objectives:

The overall objective of this paper is to help student explore their abilities for effectively dealing with the demand and challenges of life. It is to bring together the social, emotional and cognitive capacities of students to enable them to effectively handle issues and problems commonly faced in daily life.

This paper aims at realizing the following general objectives-

- 1) To promote students ability to help grow fully from inside out and outside in.
- 2) To increase emotional competency and emotional intelligences at Workplace.
- 3) To provide grounds for practicing various skills related to daily life experience.
- 4) To help manage competency for achieving excellence in interpersonal skill with ethical considerations.

B) Learning Outcome:

After completing the subject, the student will be able to attain the following out comes:-

- 1) Self confidence.
- 2) Professional competence.
- 3) Good citizenship and sense of social competence.
- 4) Self-reliance.

Unit-1

- Meaning, nature and concept of life skill education.
- Objective purpose needs of life skill education.
- Types of life skills.

- Practicing life skills (Methods of life skill teaching).
- Assessment of life skill.

Unit-2

- Communication skills-listening, speaking, reading, writing, digital literacy use of social media, non verbal communication.
- Professional skills- career skills, team skills, resume, interview, group discussion, exploring career opportunities, presentation skill, social and cultural etiquette, internal communications, collaboration, brainstorming.
- Leadership and management skills:- leadership quality, leadership practice in school.

Part-2 (Practical) Credit:1

The department will arrange for practicing any one or more life skill activities by the students which will carry 50 marks as internal.

SEC0106403: Microsoft Excel (Beginners)

Total Marks: 75

CREDIT: 3 (1 Theory+ 2 Practical)

UNIT I:

Microsoft Excel: concept of spreadsheet software, uses of spreadsheet software, introduction to Microsoft Excel, concept of workbooks, worksheets, columns, rows, cells, creating workbook, sheets, inserting and deleting rows and columns, selecting and switching between worksheets, apply styles: font properties, alignment, format cells: border, color, wrap text, merging, Number Format: number, currency, date, find and replace data, Sort and Filter: custom sort, number filter, custom filter.

UNIT II:

Introduction to Graphs and Charts, Column Charts, Line Charts, Pie Diagram, Bar Diagram, Area Charts, inserting pictures, shapes and SmartArt, adding hyperlink, header, footer, objects, symbols, setting up page, page margin, page orientation, view worksheets and workbooks, printing a workbook, , data validation, text to columns, remove duplicates, grouping, ungrouping, summarizing a table with a PivotTable.

UNIT III:

Formulas and Functions: create formulas in a worksheet, displaying and tracing formulas, auto calculate and manual calculation, formulas with multiple operators, select operator, range operator, understanding formula errors, inserting and editing a function, uses of function library: Math & Trig Functions, Financial Functions, Date & Time Functions, Logical Functions, Text Functions, Lookup & Reference Functions, import and export of data from Database Software, Comma-Separated Values (CSV) format.

SEC0106503: Mushroom Cultivation Technology

Total Marks: 75

Credits: 3

Learning Objectives:

- ❖ Understand the basics of mushroom by enabling students to identify edible and poisonous mushrooms
- ❖ Develop interest in mushroom cultivation
- ❖ Provide hands on training for the preparation of spawn and mushroom bed for mushroom cultivation
- ❖ Learn various post-harvest technology associated to mushroom cultivation
- ❖ Identify and manage Insect-Pests affecting mushroom
- ❖ Help the students to learn a means of self-employment and income generation

Learning Outcomes:

On successful completion of the course, students will be able to:

- ❖ Identify edible and poisonous mushrooms
- ❖ Gain the knowledge of cultivation of edible mushrooms and spawn production; and various post-harvest technology associated to mushroom cultivation
- ❖ Manage various diseases and pests of mushrooms
- ❖ Learn the way of self-employment and income generation

THEORY

Unit 1: Introduction to Mushrooms

Mushrooms - taxonomic rank. Different parts of typical mushroom; structure and texture of fruit bodies - Gilled fungi and pore fungi; Life cycle of mushrooms; various habitats of mushrooms - Lignicolous, Humicolous and Coprophilous; Symbiotic associations - Mycorrhiza.

Unit 2: Cultivation of Mushrooms

History, scope, and opportunities of mushroom cultivation. Problem in cultivation - diseases, pests, and nematodes and their management strategies.

Unit 3: Health benefits of Mushrooms

Historical uses of mushrooms; Nutrient profile of mushrooms - Amino acids, Protein, Carbohydrates, fats, minerals, and vitamins; Therapeutic aspects - antioxidant, antimicrobial, antidiabetic, anticancer effect; stimulating vitamin D production in mushrooms.

Unit 4: Common edible and Poisonous Mushrooms

Edible Mushrooms - Oyster mushroom (*Pleurotus ostreatus*), paddy straw mushroom (*Volvariella volvacea*), Button mushroom (*Agaricus bisporus*); Poisonous mushroom – False parasol or green-spored parasol (*Chlorophyllum molybdites*).

Unit 5: Principles of Mushroom Cultivation

Structure and construction of mushroom house; Spawn production - culture media preparation, isolation of pure culture, mother spawn, multiplication of spawn; Sterilization of substrates. Composting techniques, mushroom bed preparation; Spawning, spawn running, harvesting. Cultivation of oyster mushroom.

Unit 6: Post Harvest Technology

Preservation of mushrooms - freezing, drying, and packaging, quality assurance, shelf life, market opportunities. Value added products of mushrooms.

PRACTICAL

1. Preparation of media for mushroom culture
2. Preparation of pure culture
3. Production of spawn
4. Cultivation of oyster mushroom using paddy straw/lignocellulosic wastes.
5. Estimation of antioxidant properties (Reducing power, Total antioxidant capacity) and phytochemical content (phenol, flavonoid, lycopene, β -carotene) of mushroom

Suggested Readings:

1. Purkayastha RP, Chandra A (1985) Manual of Indian edible Mushrooms. Today and Tomorrows Printers and Publishers, New Delhi.
2. Pathak VN, Yadav N (1998) Mushroom Production and Processing Technology. Agrobios, Jodhpur.
3. Tripathi DP (2005) Mushroom Cultivation. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Pandey RK, Ghosh SK (1996) A Hand Book on Mushroom Cultivation. Emkey Publications.
5. Hait G (2023) Introductory Botany (Biofertilizer and Organic Farming, Herbal technology, Mushroom Culture Technology). Vol - I, Global Net Publication, New Delhi.
6. Pathak VN, Yadav N, Gaur M (2000) Mushroom Production and Processing Technology. Vedams Ebooks Pvt. Ltd., New Delhi.

SEC0106703: Non-Mulberry Sericulture

Total Marks: 75
Credit: 3 [2 (T) + 1 (P)]

Course Objectives:

Sericulture is an agro-based, labour-intensive, eco-friendly industry bearing immense potential of employment generation. In North-Eastern part of India, all the four commercially important silkworm varieties are found of which the non-mulberry silkworms particularly eri and muga silkworms are endemic to this region. The objectives of the course are to apprise the students about the biology, rearing techniques, constraints of rearing in terms of disease occurrences, causes and precautions of diseases, and employment opportunities of non-mulberry sericulture. The aim is to make students competent to venture in sericulture industry by their own or through different state and central organizations and or pursuing higher studies in different research laboratories.

Course Learning Outcome:

Upon completion of the course, students should be able to:

- Understand the biology and rearing techniques of non-mulberry silkworms
- Acquire practical skill of identifying of non-mulberry silkworms, and their disease-causing pathogens and or pests.
- Develop curiosity and awareness about different fields of entrepreneurship in sericulture sector and to help venture in self-employment program.
- Develop competitive expertise to enter in state and central sericulture organizations as well as research laboratories for higher studies.

Credit: 2 (T)

THEORY

Hours 30

12h

Unit 1: Biology of Non-mulberry Silkworm, Pest & Diseases:

Types and distribution of non-mulberry silkworms in N-E India; Life cycle of non-mulberry silkworms- Eri and Muga; Structure of silk gland; Pests of eri and muga silkworms; Pathogenesis of protozoan, viral, fungal and bacterial diseases of eri and muga silkworms,

Unit 2: Rearing of Silkworms (Eri and Muga Silkworm):

Food plants of Eri and Muga Silkworm; Rearing Operation: Rearing house or site and rearing appliances; Disinfectants: Formalin, bleaching powder; Rearing technology: Early age and Late age rearing; Environmental conditions in rearing-Temperature, Humidity, Light and Air; Types of mountages; Harvesting and storage of cocoons; Spinning and Reeling of silk

Unit 3: Entrepreneurship in Non-Mulberry Sericulture:

8h

Nature of Silk; Varieties of Non-Mulberry Silk products and economics in India; Prospectus of Non-Mulberry Sericulture in India: Non-Mulberry Sericulture industry in different states, employment generation and potential; Visit to various sericulture Govt. /Private Farm/ Centres.

Credit: 1 (P)

PRACTICAL

Hours15

1. Identification of Non-Mulberry Sericigenous insects.
 2. Study the various stages of Life cycle of silkworms- Eri and Muga.
 3. Identification of various equipment used in rearing of Silkworms.
 4. Identification of various diseases of Eri and Muga.
 5. Locate the position of silk gland and its structure.
 6. Visit to various sericulture Govt. /Private Farm/ Centres (Report).
-

Suggested Readings:

1. Jolly, M. S., S. K. Sen, T.N. Sonwalkar and G.K. Prashad 1979. Non-Mulberry Sericulture. In: Manual of Sericulture, Rome, FAO, 4 (29)

2. Chowdhury, S.N. 1981. Muga Silk Industry. Directorate of Sericulture, Govt. of Assam, Guwahati-781005, Assam.
3. Chowdhury, S.N. 1982. Eri Silk Industry. Directorate of Sericulture, Govt. of Assam, Guwahati-781005, Assam.
4. Chowdhury, S.N. 1992. Silk and Sericulture. Directorate of Sericulture and Weaving, Govt. of Assam, Guwahati-781005, Assam.

SEC0106803: Nursery and Gardening

Total Marks: 75

Total Credit: 3

[(Theory Marks: 50, Credit: 2); (Practical Marks: 25, Credit: 1)]

Course Outcome:

1. Students will develop entrepreneurship skill through establishing their own Nursery Units.
2. Acquire skills for production, maintenance and propagation techniques of different horticulturally important plants.
3. Acquire skills to establish and maintain different types of Gardens.

Theory			
Unit	Content	No. of Classes	Marks
Unit 1	Introduction: Nursery definition, objectives and scope; building up of infrastructure for nursery; planning and seasonal activities.	4 Lectures	5
Unit 2	Seed: Causes and methods of breaking dormancy; Seed banks, sowing/raising of seeds and seedlings, transplanting of seedlings.	6 Lectures	10
Unit 3	Vegetative propagation: air-layering, cutting and grafting, selection of Cuttings, collecting season, treatment of Cuttings, rooting medium and planting of Cuttings; hardening of plants, green house, shade house and glass house.	10 Lectures	20
Unit 4	Gardening: definition, objectives and scope; different types of gardening. Gardening operations: Soil laying, manuring, watering, management of pests and diseases, harvesting.	10 Lectures	15
Practical			
1. Familiarization of Nursery and gardening tools 2. Cutting, Layering and Grafting techniques 3. Preparation of different types of potting soil 4. Field visit to different Nursery and Gardens.		30 Lectures	25

Suggested Readings:

1. Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.

2. Sandhu, M.K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
4. Edmond Musser & Andres, Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi.
5. Agrawal, P.K. 1993, Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
6. Janick Jules. 1979. Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, 76 USA.
7. Chavan, Y. Resource Book on Horticulture Nursery Management. National Agricultural Innovation Project, ICAR, New Delhi.

SEC0107003: Ornamental Fish and Fisheries

Total Marks: 75
Credit: 3 [2 (T) + 1 (P)]

Course Objectives:

- To inculcate applied knowledge on the scope and importance of commercially important ornamental fishes
- To provide practical and academic skills on ornamental fish culture and breeding

Learning Outcomes:

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

- Identify potential ornamental freshwater fishes
 - Learn basic knowledge on prospects of Indian ornamental fishes
 - Acquire practical and academic skills on aquarium fabrication and design
 - Gain knowledge and skills on water quality management in aquarium
 - Understand the basic requirements of ornamental fish farming unit
 - Learn practical skills on ornamental fish breeding and culture
 - Identify scope and importance of common aquarium plants
 - Understand the application and use of chemicals/medicines in aquarium fish health management
-

Credit: 2 (T)

THEORY

Hours:30

Unit 1: Diversity of Ornamental Fish

08

Ornamental Fishes – Classified vs. non-classified; Egg layers: egg depositors & scatterers; Live bearers; Mouth brooders; Nest builders

Potential Ornamental Fishes of Northeast India

Prospects of Indian ornamental fishes in the international trade

Unit 2: Aquarium Engineering and Management

07

Basics of Aquarium construction

Significance of aeration, light and heating systems in aquarium

Water quality management in aquarium; Filtration systems (Physical, Chemical and Biological)

Unit 3: Culture and Breeding of Ornamental Fish

15

Basic requirements for a backyard ornamental fish farming unit

Natural breeding of guppy (live bearers) and gourami (nest builders)

Types of feed for Ornamental Fish – Artificial feed and live feed

Strategies for maintenance of natural colour of Ornamental Fish

Health management– Common diseases of Ornamental Fish and their control; application and use of medicines/chemicals

Credit: 1 (P)

PRACTICAL**Hours:30**

-
1. Identification of common ornamental fishes: Indigenous and Exotic
 2. Identification of common aquatic plants as aquarium decor
 3. Fabrication of an aquarium
 4. Construction and set up of a biological filter
 5. Estimation of physico-chemical parameters of aquarium
 6. Breeding of commercially important ornamental fish species
-

Suggested Readings:

- Pandey, P. K. (ed). (2021). *Breeding and Culture of Freshwater Ornamental Fish*. New India Publishing Agency- Nipa [ISBN: 978-9390512232]
- Gay, J. (2005). *The Perfect Aquarium: The Complete Guide to Setting Up and Maintaining an Aquarium*. Hamlyn, UK [ISBN: 978-0600612162]
- Roberts, H. E. (2009). *Fundamentals of Ornamental Fish Health*. Wiley-Blackwell [ISBN: 978-0813814018]
- *Handbook of Fisheries and Aquaculture* (2nd edition, 2013 reprint). Indian Council of Agricultural Research, New Delhi [ISBN: 978-8171641062]
- Alderton, D. (2019). *Encyclopedia of Aquarium and Pond Fish*. DK [ISBN: 978-1465480316]
- Hiscock, P. (2003). *Encyclopedia of Aquarium Plants*. Interpret Publishing [ISBN: 978-1903098462]
- Jennings, G. (2018). *500 Freshwater Aquarium Fish: A Visual Reference to the Most Popular Species*. Firefly Books Ltd. [ISBN: 978-1770859197]

SEC0107203: Panchayati Raj in Practice

Total Marks: 75

Credit: 3

Course Objective:

1. This course acquaints students with the Panchayati Raj Institutions and their actual working. It further encourages a study of PRIs in their mutual interaction and their interaction with the people. Course outcomes:
2. This paper will help students understand the importance of grass root political institutions in empowering people.
3. This paper will highlight the complex challenges faced by PRIs in India and mechanisms involved to make it more participatory and inclusive in nature.

Syllabus

Unit -1: Strengthening Democratic Functioning of the Panchayats

- a. Participation at village level, action plan and participatory method
- b. Need assessment and Micro Planning
- c. Devolution

Unit-2: Panchayat Finances and Accounting

- a. Constitutional Provisions on Panchayat Finances
- b. Fiscal Decentralisation and Audit system
- c. Social Audit

Unit –3: Problems and Needs of Disadvantaged Groups and their Participation

- a. Women
- b. Scheduled Tribes, Scheduled Casts and Minorities
- c. Panchayat Extension to Scheduled Areas (PESA) Act

Modalities for Practical Component: (Project Report/Field Study Report based on any activity i.e. visit to Panchayat / local self bodies, local peoples' participation in the political system etc.)

READING LIST

1. P. deSouza, (2002) 'Decentralization and Local Government: The Second Wind of Democracy in India', in Z. Hasan, E. Sridharan and R. Sudarshan (eds.) India's Living Constitution: Ideas, Practices and Controversies, New Delhi:
2. M. John, (2007) 'Women in Power? Gender, Caste and Politics of Local Urban Governance', in Economic and Political Weekly, Vol. 42(39)
3. Raghunandan, J. R (2012) Decentralization and local governments: The Indian Experience, Orient Black Swan, New Delhi Baviskar, B.S and George Mathew (eds) 2009 Inclusion and Exclusion in local governance: Field Studies from rural India, New Delhi, Sage
4. M.Venkatarangaiya and M.Pattabhiram- Local Government in India, Allied Publishers-1969
5. SR Maheswari, (2008): Local Government in India, Lakshmi Narain Agarwal,
6. Bidyut Chakraborty and Rajendra Kumar Pandey, (2009): Modern Indian Political Thought – Text and Context, Sage, New Delhi, 58
7. Niraja Gopal Jayal and others(2006):. Local Governance in India – Decentralisation and Beyond, Oxford University Press,
8. Subrata K. Mitra. (2001):. Making local government work: Local elites, panchayati raj and governance in India,
9. Atul Kohli (Ed.). The Success of India's Democracy. Cambridge: Cambridge University Press.
10. Ghosh , Buddhadeb & Girish Kumar (2003): State Politics and Panchayats In India. Manohar Publishers New Delhi:
11. Sudhakar , V. (2002):. New Panchayati Raj System: Local Self-Government Community Development -Jaipur: Mangal Deep Publications,
12. Biju, M.R (2007).- Decentralisation: an Indian experience, Jaipur: National Pub.,

SEC0107503: Philosophical Counselling

Total Marks: 75

Credit: 3 [2(T) + 1(P)]

❖ **Syllabus showing each unit against class number and marks :**

Unit No.	Unit Content	No. of Classes	Marks
I (Theory)	• Philosophical Counselling—its meaning and scope • Philosophical Counselling versus Psychological Counselling	15	25
II (Theory)	• Critical Thinking Approach –Logic- Based Therapy (LBT)—Philosophical Principles of LBT, LBT fallacies, antidotes • Existential Approach— Existentialism Based Therapy –Authentic and Inauthentic Life	15	25
III(Practical)	• Practical will be conducted in the form of project/dissertation which is to be typed or neatly hand written (2000 words). The project/dissertation will be based on practical session(s) which is to be conducted by the student (counsellor) with a counsellee/client. Given below is a list of Problems out of which any one may be chosen for addressing in the project/dissertation. The same has to be carried out under the supervision of a teacher. • Moral issues • Value disagreements • Political issues and disagreements • Time management issues • Procrastination • Career issues • Financial issues	15	25

	• Adult children of aging parents • Problems with family/ Domestic problems • Breakups and divorce • Sibling rivalry Loss of a family member • Friendship issues • Peer pressure • Academic or school-related issues • Rejection • Discrimination • Religion and race-related issues • Technology-related issues		
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❖ Reading list:

Cohen, Elliot D. (2016). Logic-Based Therapy and Everyday Emotions: A Case Based Approach, Lexington Books

Cohen, Elliot D. Philosophical Principles of Logic-Based Therapy

Lacovou, S. & Karen Weisel-Dixon. (2015). Existential Therapy: 100 Key Points and Techniques, Routledge

Lahav, Ran. (2016). Stepping Out of Plato's Cave: Philosophical Counselling, Philosophical Practice and Self-Transformation, Loyev Books, 2nd edition.

Lahav, Ran. What is Philosophical in Philosophical Counselling? In Journal of Applied Philosophy, vol. 13, No. 3, pp. 259-278, 1996.

Lebon, Tim. (2001). Wise Therapy, London: Continuum

Lebon, Tim. Philosophical Counselling: An Introduction (First published in Thinking Through Dialogue: Essays on Philosophy in Practice, Curnow. T (ed) 1999

Raabe, Peter B. (2000). Philosophical Counselling—Theory and Practice, Praeger Publishers Inc. Sartre, J. P. (1993). Being and Nothingness, Simon and Schuster

Sartre, J. P. (2007). Existentialism is a Humanism, Yale University Press.

Sulavikova B. Key Concepts in Philosophical Counselling. Human Affairs, 24, 574-583, 2014 Sulavikova, B. Philosophical Counselling Based on Dialogical Critical Thinking, Human Affairs, 23(4), 680-688, 2013

Website links:

<https://www.curioussouphilosophy.com/what-is-philosophical-counseling.html>

<https://www.infanciacontemporanea.com/wp-content/uploads/2018/06/v9n3eng.pdf>

https://merlinccc.org/wp-content/uploads/2016/12/Philosophical-Counseling_LBT_Marisa-Diaz

Waian_Grief-Workshop-2016-Handout.pdf

<https://www.ncbi.nlm.nih.gov/books/NBK64939/https://npcassoc.org/>

<https://peterraabe.ca/what.html> <https://philopractice.org/web/history-ran-laha>

❖ Graduate Attributes

i. Course Objectives-

The course aims at developing the skills of:

- Philosophical understanding or wisdom (philos-sophia=love of wisdom) as an end in itself.
- Addressing dilemmas (e.g. decision making dilemmas), predicaments and life-issues of persons through philosophical examination.
- Exposing and examining underlying assumptions and logical implications.
- Exploring conflict and inconsistencies.

ii. Learning outcome:

On completion of the course students are expected to be able to:

- Understand the scope of Philosophical vis-à-vis Psychological Counselling
- Inculcate self-confidence in one's own abilities to reason
- Understand the opinions of other people
- Develop flexibility in considering alternatives and opinions
- Overcome personal problems by adopting different philosophical approaches to philosophical counselling
- Develop fair-mindedness in appraising reasoning

❖ No. of Required Classes 45

❖ No. of Non-Contact Classes 00

SEC0107603: Photo Journalism

Total Marks: 75

Credits: 3

Unit 1 – Basics of Photography, Difference between photography and Photo journalism, Photography, Understanding journalism through photography, Five W's and one H.

Concept and history of photojournalism, Photo Journalism across the globe, Impact of photo Journalism, Understanding news photography, wildlife photography, fashion photography, studio photography, candid photography, travel and lifestyle photography, Development journalism through photography, Role of a Photo Editor: Different aspects of photojournalism

Unit 2 –Basics of photo editing- adjusting brightness, contrast, color, resolution, crop

Developing captions, Writing and Editing Captions for Still, Accuracy, Spelling, Edit the Captions, Roles and responsibilities of a photo journalist

Unit 3 – Practical

Should be given assignment for collecting photos with news element using mobile phones, should be given task of photo composition and photo caption writing, additional marks for publication at any media outlets (WebPages, newspapers, magazines or photo blogs).

Key Reading

1. Photojournalism: Telling Stories with Pictures and Words: Volume 1
2. Associated Press Guide to Photojournalism (Associated Press Handbooks)
3. Photojournalism: The Professionals' Approach Paperback
4. National Geographic Photography Field Guide 2nd Edition: Secrets to Making Great Pictures (NG Photography Field Guides) Paperback – by Peter Burian (Author), Bob Caputo (Author)
5. Practical Photojournalism: A Professional Guide

SEC0107703: Photoshop

Total Marks: 75

Credit: 3

Total Lectures: 20

1. Introduction (4 Lectures)

Open and create new images, The interface, Zoom in and out and pan around, To undo, Save an image

2. Image editing (2 Lectures)

Resize an image, Image resolution, Crop and straighten an image, Canvas size adjustments

3. Work with layers (2 Lectures)

View and select layers in the Layers panel, Work with layers in the Layers panel, Resize layers, Add images to design, Background layer

4. Image quality (2 Lectures)

Image exposure, Color vibrance, Hue and saturation of colors, Work with adjustment layers

5. Make selections (2 Lectures)

Make a selection to edit part of an image, Selection tools, Select and mask workspace

6. Retouch images (1 Lectures)

Remove objects, Clone stamp tool, Remove objects with content-aware fill

7. Use color (2 Lectures)

Brush tool, Foreground and background color boxes, Color picker

8. Text and shapes (2 Lectures)

Add and edit text, Create a shape (pre-defined and custom)

9. Combine images (2 Lectures)

Add texture to an image, Add an object to an image using a layer mask, Use a layer mask to hide a background

10. Apply filters (1 Lectures)

Use of filter gallery, Use of Smart Filter

SEC0107803: Physics Workshop Skills

Total Marks: 75

Credits: 3 (Theory: 2, lab: 1)

Theory: 20 Lectures

Course Description:

The aim of this course is to enable students to get familiar with various mechanical and electrical tools in hands-on mode

Unit I: Introduction (4 Lectures)

Measuring units. conversion to SI and CGS. Familiarization with meter scale, Vernier calliper, Screw gauge and their utility. Measure the dimension of a solid block, volume of cylindrical beaker/glass, diameter of a thin wire, thickness of metal sheet, etc. Use of Sextant to measure height of buildings, mountains, etc.

Unit II: Mechanical Skill (6 Lectures)

Concept of workshop practice. Overview of manufacturing methods: casting, foundry, machining, forming and welding. Types of welding joints and welding defects. Common materials used for manufacturing like steel, copper, iron, metal sheets, composites and alloy, wood. Concept of machine processing, introduction to common machine tools like lathe, shaper, drilling, milling and surface machines. Cutting tools, lubricating oils.

Unit III: Electrical and Electronic Skill (4 Lectures)

Use of Multimeter. Soldering of electrical circuits having discrete components (R, L, C, diode) and ICs on PCB. Operation of oscilloscope. Making regulated power supply. Timer circuit, Electronic switch using transistor and relay.

Unit III: Introduction to prime movers: (6 Lectures)

Mechanism, gear system, wheel, Fixing of gears with motor axel. Lever mechanism, Lifting of heavy weight using lever, use of pulley, braking systems, working principle of electrical power generation systems.

Lab:

1. To study the use of meter scale, vernier caliper, screw gauge.
2. To measure dimension of solid block, volume of cylindrical beaker/glass, diameter of thin wire, thickness of metal sheet.
3. To measure height of building, mountain using sextant
4. To study the use of digital multimeter and CRO.
5. To do soldering of electrical circuit having discrete components on PCB.
6. To construct a regulated power supply with capacitor filter.
7. Demonstration of lifting of heavy weight using lever

Reference Books:

- [1] A text book in Electrical Technology-B L Theraja – S. Chand and Company.
- [2] Performance and design of AC machines – M.G. Say, ELBS Edn.
- [3] Mechanical workshop practice, K.C. John, 2010, PHI Learning Pvt.Ltd.
- [4] Workshop Processes, Practices and Materials, Bruce J Black 2005, 3rd Edn., Editor Newnes [ISBN: 0750660732]
- [5] New Engineering Technology, Lawrence Smyth/Liam Hennessy, The Educational Company of Ireland [ISBN: 0861674480]

SEC0107903: Political Institutions and its Practices in India

Total Marks: 75

Credit: 3 (Theory = 2, Practical = 1)

Learning Objective:

The learning objectives of this course are:

- (1) To facilitate students in analyzing and evaluating concepts, institutional practices of governance in India to assess their relevance and impact on societies.
- (2) It also fosters an understanding of active engagement in political processes and democratic principles thereby advocating the importance of participation in collective decision making.
- (3) This course would also enhance the intersection of political Science with other disciplines towards a holistic understanding of public discourse.
- (4) This will further the need for reasoned judgment and accountability of political office bearers towards a broader understanding and vibrant citizenry.
- (5) To understand the functioning and the role of a modern nation state

Course Outcomes:

1. The course is designed to sensitize and equip students with a better understanding of the functioning and working of the political institutions of the country.
2. The students will acquire knowledge of their representatives in the institutions and their accountability to the people.
3. It will give a comprehensive idea of the state structure and the mannerism in which the Indian State befits itself as an institutional set-up.
4. The course is designed for students preparing for Civil Services, Law and other Allied Services of the State or Central Government.

Unit Wise Syllabus:

THEORY

UNIT I- (8 Hours)

Union Parliament: Structure, role and functioning, Parliamentary Committees, President of India.

Legislature in the States: Governor, State Legislature, role and functioning.

Local Government Institutions: Rural and urban local government, 73rd and 74th constitutional Amendment Acts, 11th and 12th Schedule of the Indian Constitution. (12 Classes)

UNIT II- (5 Hours)

Judiciary: Supreme Court, High Court, Judicial review, Judicial Activism, PIL. (10 classes)

UNIT III- (5 Hours)

Constitutional and Statutory Bodies in India: ECI, UPSC, SPSC, NHRC, SHRC, CVC, NGT (12 Classes)

UNIT IV- (4 Hours)

Federalism: Strong Centre Framework, Asymmetrical Federal Provisions, Inter-State council, Union-state relations. (10 Classes)

PRACTICAL (22 Hours)

Modalities for Practical Component: Project Report / Study Report based on Field work i.e. Visit in Panchayats, Municipalities, APSC, DC Office, SHRC etc.

Reading List:

- (1) Chakraborty, Bidyut. Pandey, Rajendra K. (2023) 'Indian Political System: Institutions and Processes' Routledge India.
- (2) Rupavath Ramdas, (2022) 'Indian Politics: Institutions and Processes' Raut Publications.
- (3) Laxmikanth, M. (2012) 'Indian Polity for civil service examinations' Tata McGraw Hill Education Private Limited, New Delhi.
- (4) Raghumandan, J. R. (2012). Decentralization and Local Governments: The Indian Experience, Orient Black Swan, New Delhi.
- (5) Niraja Gopal Jayal and others, (2006), Local Governance in India- Decentralization and Beyond, Oxford University Press.
- (6) Kaul, M. N. & S. L. Shakhedher (2016), Practice and Procedure of Parliament, New Delhi: Lok Sabha Secretariat.
- (7) D. A. Rondinelli and S. Cheema, (1983), Decentralisation and Development, Beverly Hills: Sage Publishers.
- (8) Paylee M.V. (2016), 'India's Constitution', S. Chand and Pvt. Ltd.

SEC0108103: Principals & Techniques of Food Processing & Preservation

Total Marks: 75

Credit: 3

Course outcomes:

- 1: Ability to describe the basic concept of food preservation techniques.
- 2: Ability to describe the various operations involved in industrial processing of foods.
- 3: Ability to determine preservation techniques required to improve the shelf life of foods.
- 4: Ability to analyze the causes of spoilage of foods.

Syllabus of the course:

Theory:

Unit 1: Definition and scope of food processing & preservation, historical development of food processing and preservation. Current status of production and processing of fruits and vegetables and vegetables.

Unit 2: Composition of foods, Carbohydrates, protein, Fat. Vitamins and minerals in foods

Unit 3: Post-harvest handling of Fresh Fruits and Vegetables, Processing and Preservation of Fruits and Vegetables and preparation of value added products (Jams, Jellies, Marmalades, Purees, Drinks, Squash)

Unit 4: Packaging Requirements, Packaging Materials, Methods of Packaging and Storage.

Unit 5: Principles of quality control. Government regulations (Food laws, orders) and amendments and national and international standards – ISI, AGMARK, FPO, ISO, FSSAI etc.

Practical:

Unit 1: Introduction about the food processing industries, Various tools and equipments used in food processing industries.

Unit 2: Different methods of fruits and vegetables preservation and packaging and storage.

Unit 3: Detection of spoilage – visual methods

Suggested readings:

Food Science, Norman N. Potter and J.H. Hotchkiss, Chapman and Hall, 5th Edition., 1998.

Food Processing Technology: Principles and Practice, P. J. Fellows, Taylor and Francis, 3rd Edition 2009.

Food Processing and Preservation, Subbulakshmi, G and Udipi, S. A. New Age International (P) Ltd. New Delhi: 2001

SEC0108203: Programming in C

Total Marks: 75

Credit: 3 (2+1)

[Theory 45, Practical 15, Internal Assessment 15]

[Per week: 2 Lectures 1 Practical, each unit carry equal credit]

Course Objectives: This course introduces C programming in the idiom and context of mathematics and imparts a starting orientation using available mathematical libraries, and their applications.

Course Learning Outcomes: After completion of this paper, student will be able to:

- i) Understand and apply the programming concepts of C which is important to mathematical investigation and problem solving.
- ii) Learn about structured data-types in C and learn about applications in factorization of an integer and understanding Cartesian geometry and Pythagorean triples.
- iii) Use of containers and templates in various applications in algebra.
- iv) Use mathematical libraries for computational objectives.
- v) Represent the outputs of programs visually in terms of well formatted text and plots.
- vi) In practical students learn about the roots of a quadratic equation, solution of an equation using N-R algorithm, $\sin(x)$, $\cos(x)$ with the help of functions .

Unit 1: Variables, constants, reserved words, variable declaration, initialization, basic data types, operators and expression (arithmetic, relational, logical, assignment, conditional, increment and decrement), hierarchy of operations for arithmetic operators, size of and comma operator, mixed mode operation and automatic (implicit) conversion, cast (explicit) conversion, library functions, structure of a C program, input/output functions and statements. Control Statements: if-else statement (including nested if-else statement), switch statement. Loop control Structures (for and nested for, while and do-while). Break, continue, go to statements, exit function.

Unit 2: Arrays and subscripted variables: One and Two-dimensional array declaration, accessing values in an array, initializing values in an array, sorting of numbers in an array, addition and multiplication of matrices with the help of array. Functions: function declaration, actual and formal arguments, function prototype, calling a function by value, recursive function.

Programs for Practical:

To find roots of a quadratic equation, value of a piecewise defined function (single variable), factorial of a given positive integer, Fibonacci numbers, square root of a number, cube root of a number, sum of different algebraic and trigonometric series, a given number to be prime or not, sum of the digits of any given positive integer, solution of an equation using N-R algorithm, reversing digits of an integer. Sorting of numbers in an array, to find addition, subtraction and multiplication of matrices. To find $\sin(x)$, $\cos(x)$ with the help of functions.

Text Books:

1. T. Jeyapoovan, A First Course in Programming with C T. Jeyapoovan, Vikash Publishing House Pvt. Ltd.

Reference books:

1. E. Balaguruswamy, Programming with C, Schaum Series.
2. Y. Kanetkar, *Let us C*, B.P. Publication.

SEC0108303: Quantitative Aptitude and Reasoning

Total Marks: 75

Credit: 3

[Theory: 2 credit; Practical: 1 credit]

Learning Objective(s):

The course is designed for all in view of assessing cognitive abilities of students in various competitive examinations. Therefore, it is desired that a Graduate must possess cognitive skill attributes to pursue further avenues in higher education and other sectors. This Skill Enhancement Course is expected to enhance employability of students pursuing FYUGP.

The main objective of the course are as follows,

1. Students will develop skills to prepare themselves for the competitive world for better job opportunities
2. Efforts will be made to accommodate fundamental and mathematical aspects to instill confidence among students
3. Students will enrich their knowledge and develop their logical reasoning thinking ability
4. Students will know the tricks and methods to solve quantitative and reasoning problems with accuracy and in a time-bound manner

Course Outcome(s):

On successful completion of the Course, students are expected to

1. Develop cognitive abilities
2. Build analytical skills
3. Understand the structure of arguments and reasoning
4. Solve problems efficiently in less time

Unit-Wise Syllabus

THEORY

Unit I – (4 hours)

MENTAL ABILITY

Number System, Ages, Averages, Time and Calendar, Speed and Distance

Unit II – (6 hours)

NUMERICAL APTITUDE

Ratios and Proportions, Profit and Loss, Simple and Compound Interest

Unit III - (7 hours)

LOGICAL REASONING

Alphanumeric series, Blood relations, Directions, Seating Arrangement, Deductive-Inductive Reasoning, Coding-Decoding

Unit IV - (5 hours)

DATA HANDLING

Data: meaning, types, sources; Data Representation using Diagrams and Charts; Data Interpretation, Data sufficiency

PRACTICAL

Practical Worksheet

(22 hours)

Problem-solving questions on,

1. Age
2. Speed and Distance
3. Averages
4. Family-tree
5. Ratios and Proportions
6. Coding-Decoding
7. Time and Calendar
8. Simple Interest
9. Compound Interest
10. Profit and Loss
11. Seating Arrangement
12. Inductive reasoning
13. Deductive reasoning
14. Directions
15. Alphanumeric series
16. Construction of various Diagrams and Charts
17. Interpretation of various Diagrams and Charts
18. Data sufficiency

Reference(s):

1. Aggarwal, R.S, “Quantitative Aptitude for Competitive Exams”, S.Chand
2. Tyra, M., “Quicker Maths”, BSC Publishing Co. Pvt. Ltd.
3. Trueman’s Specific Series “UGC NET/SET”

SEC0108503: Reasoning & Logic

Total Marks: 75 (Final Exam 60 Marks + Project 15 Marks)

Credit: 3

Unit 1- Quantitative Ability (Basic Mathematics)

(6 Lectures)

(Number system, LCM and HCF, Decimal Fractions, Simplifications, Square roots and Cube roots, Average, Problems on Age, Surds and Indices, Percentages, Problems on Numbers)

Unit 2- Quantitative Ability (Applied Mathematics)

(6 Lectures)

(Logarithm, Permutation and Combinations, Probability, Profit and Loss, Simple and Compound Interest, Time- Speed and Distance, Time & Work, Ratio and Proportion, Area, Mixture and Allegation)

Unit 3- Data Interpretation

(7 Lectures)

(Data Interpretation , Tables, Column Graphs, Bar graphs, Line Charts, Pie Chart, Venn Diagrams)

(8 Lectures)

Unit 4- Logical Reasoning

(Analogy, Blood relation, Directional Sense, Number and letter series.

Coding-Decoding, Calendars, Clocks, Venn Diagrams, Seating Arrangement, Syllogism and Mathematical Reasoning)

(4 Lectures)

COURSE OUTCOME:

On completion of this skill enhancement course the students will be able to

- Understand the basic concept of Quantitative Ability.
- Understand the basic concept of Logical Reasoning Skills
- Acquire satisfactory competency in use of reasoning
- Solve campus placements aptitude papers covering Quantitative Ability, Logical Reasoning
- Compete in various competitive examinations like CAT, CMAT, GATE, GRE, UPSC

NB: Title of the course proposed as: APTITUDE AND LOGICAL REASONING COURSE

SEC0108603: Renewable Energy and Energy Harvesting

Total Marks: 75

Credits: 3

Course Description:

The aim of this course is not just to impart theoretical knowledge to the students but to provide them with exposure and hands-on learning wherever possible

Theory: 30 Lectures

Unit I: Fossil fuels and Alternate Sources of energy (Lectures 3)

Fossil fuels and Nuclear Energy, their limitation, need of renewable energy, non-conventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

Unit II: Solar energy (Lectures 6)

Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems.

Unit III: Wind Energy harvesting (Lectures 3)

Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies.

Unit IV: Ocean Energy (Lectures 3)

Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics, Wave Energy Devices.

Unit V: (Lectures 2)

Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio- mass.

Unit VI: Geothermal Energy (Lectures 2)

Geothermal Resources, Geothermal Technologies.

Unit VII: Hydro Energy (Lectures 2)

Hydropower resources, hydropower technologies, environmental impact of hydro power sources.

Unit VIII: Piezoelectric Energy harvesting (Lectures 4)

Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications, Human power.

Unit IX: Electromagnetic Energy Harvesting (Lectures 2)

Linear generators, physics mathematical models, recent applications

Unit X: (Lectures 3)

Introduction to Carbon capture technologies

Unit XI: (Lectures 1)

Environmental issues and Renewable sources of energy, sustainability

Reference Books

- [1] Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
- [2] Solar energy - M P Agarwal - S Chand and Co.Ltd.
- [3] Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
- [4] Godfrey Boyle, "Renewable Energy, Power for a sustainable future", 2004, Oxford University Press, in association with The Open University.
- [5] Dr. P Jayakumar, Solar Energy: Resource Assessment Handbook, 2009 □ J. Balfour, M. Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA).

http://en.wikipedia.org/wiki/Renewable_energy

SEC0108703: Report Writing and Presentation

Total Marks: 75

Credit: 3

Objectives of the Course:

This course is designed to fulfill the following objectives:

- To help the students to improve their writing, analytical and research skill.
- To inculcate the practice of writing a formal document that presents information, findings or result of an investigation or research on a specific topic.
- To provide the students an opportunity to research on a topic of their interest and communicate their findings in formal and structured way.

COURSE CONTENT:

UNIT I: Introduction to Report Writing

- Basics of report writing
- Essential elements
- Types of reports
- Understanding the writing style.

UNIT II: Preparing an Outline

- Conducting research
- Summarizing
- Paraphrasing
- Planning and organizing paragraph

UNIT III: Practice Session and Presentation

- Speaking skill
- Oral presentation

- Ppt presentation

Reference Books and Materials:

1. Owens, Janet. (2011) *Report Writing*, Directory of Social Change, London.
2. Bhattacharya, Arka (2015) *A Handbook of Report Writing*, Books Way.
3. Bowden, john (2011) *Writing A Report*, Constable & Robinson.
4. Netzley, Michael (2010) *Guide to Report Writing*, Pearson Education India.

SEC0108803: Retail Management

Total Marks: 75

Credit: 3

COURSE OBJECTIVES:

Enable students to acquire skills in Retail Management.

- To familiarize the students with the latest retail business.
- Is to familiarize Retail marketing mix.

LEARNING OUTCOMES:

To implement about business and the external forces that influence retailing.

- To make the students understand the business transformation and effective utilization
- Of retail store to accustom the students to the various retail operation in the field of marketing.

UNIT 1:

Introduction to Retail Business:

04 HRS

Definition-functions of retailing-types of retailing-forms of retail business ownership. Retail formats-Retail theories-Wheels of retailing-Retail life cycle. Retail business in India: influencing factors- Present Indian retail scenario. International perspective in retail business

UNIT 2:

Consumer behavior in retail business:

04HRS

Buying decision process and its implication on retailing-influence of group and individual factors, customer shopping behavior, customer service and customer satisfaction. Retail planning process: factors to consider in preparing a business plan-implementation-risk analysis.

UNIT 3

Retail operations:

04 HRS

Factors influencing location of store-market area analysis-Trade areas analysis-rating plan method-site evaluation. Retail operations: stores layout and visual merchandising, stores designing, space planning, inventory management, merchandise management, category management.

UNIT 4:

Retail marketing mix:

10 hrs

HRS Introduction-product: decisions related to selection of goods (Merchandise Management Revisited)-Decisions related to delivery of services. Pricing: influencing factors-approaches to pricing price sensitivity-value pricing-markdown pricing. Place: supply channel-SCM principles-Retail logistics-computerized replenishment system-corporate replenishment policies. Promotion: setting

objectives-communication effects-promotional mix. Human resource management in retailing - Manpower planning-recruitment and training compensation-performance appraisal methods.

UNIT 5

Impact of information technology in retailing:

08 HRS

Non-store retailing (E-Retailing)-The impact of information technology in retailing-integrated systems and networking-EDI-Bar Coding-Electronic Article surveillance-electronic shelf labels-customer database management system. Legal aspects in retailing, social issues in retailing, ethical issues in retailing.

SKILL DEVELOPMENT

Draw a retail life cycle chart and list the stages.

- Draw a chart showing a store operations
- List out the major functions of a store manager diagrammatically
- List out the current trends in e-retailing
- List out the Factors Influencing in the location of a New Retail outlet.

REFERENCES:

1. Suja Nair; Retail Management, HPH
2. .Karthic –Retail Management, HPH
3. S.K. Poddar&others –Retail Management, VBH.
4. R.S Tiwari ; Retail Management, HPH 18
5. Barry Bermans and Joel Evans: "Retail Management –A Strategic Approach", 8th edition, PHI/02
6. A.J.Lamba, "The Art of Retailing", 1st edition, Tata McGrawHill, New Delhi, 2003.
7. Swapna Pradhan : Retailing Management, 2/e, 2007 & 2008, TMH 8. K. Venkataramana, Retail Management, SHBP.
9. James R. Ogden & Denise T.: Integrated Retail Management
10. A Sivakumar : Retail Marketing , Excel Books
11. Ogden : Biztantra, 2007
12. Levy & Weitz : Retail Management -TMH 5th Edition 2002
13. Rosemary Varley, Mohammed Rafiq-: Retail Management
14. Chetan Bajaj : Retail Management -Oxford Publication.
15. Uniyal & Sinha : Retail Management -Oxford Publications.
16. Araif Sakh ; Retail Management

SEC0109003: Rural Marketing

Total Marks: 75

Credit: 3

Course Objectives: The objective of the course rural marketing is to familiarize the students with the conceptual understanding of rural marketing and its corresponding development practices in Indian context.

Course Outcome: The course outcome of Rural Marketing may be as follows:

- Understanding the agricultural marketing system and role of price discovery in our economic system
- To Understand, define, and explain value added processing
- To Understand, define and explain competition in the market place.
- To Understand, define and explain consumer demand issues.
- To understand the role of information technology in rural marketing.

Unit – I: Introduction to Rural Marketing:

Meaning, Scope, Definition and Importance of Rural versus Urban Marketing, Growth of Rural Market, Basic Difference between Rural, Semi-Urban and Urban Markets, Profile of Rural Consumer Behavior.

Unit – II: Role of Government in the Development of Agricultural Marketing:

Government Intervention in Marketing System, Role of Agencies like State Agricultural Marketing Boards, Co-Operative Marketing, Types of Co-Operative Marketing Societies, AGMARK, National NCDC (National Co-operative Development Corporation), Public Distribution System, Self-Help Group in Assam (SHGs), North Eastern Regional Agricultural Marketing.

Unit – III: Agricultural Credit and Crop Insurance:

Agricultural Credit Policy, Institutional Arrangement for Agricultural Credit, Crop Insurance, Agricultural Insurance.

Unit – IV: Role of Information Technology in Rural Marketing:

Infrastructure, Importance and Scope, Modern Techniques for Rural Distribution.

Reference Books:

1. Rural Marketing: Ashok Jain, Varun Jain.
2. Rural Marketing Text and Cases: Krishnamacharyulu and Lalitha Ramkrishnan
3. Rural Marketing: Pradeep Kashyap.

SEC0109103: Sankritik Paryatan aru Bhraman Byabasthapana

সাংস্কৃতিক পৰ্যটন আৰু ভ্ৰমণ ব্যৱস্থাপনা

Total Marks: 75

Credit: 3

Objective of the Course:

The course will help the students to gain the knowledge about the various concepts of tourism. Further it will help the students to evaluate the socio-economic, cultural and environmental impact of tourism industry.

Course Outcome:

- Students will be able to acquaint with tourism industry.
- Understand nature, scope and types of tourism.
- Able to locate places of cultural importance of the locality and abroad.
- Will be able to enhance communication skill and tourism management procedures.

Unit	Unit Content	No of Class	Marks
I	পৰ্যটন : সংজ্ঞা, প্ৰকাৰ, বশেষিট্ৰা।	6	10
II	সাংস্কৃতিক পৰ্যটন : সংজ্ঞা, প্ৰাসংগিকতা, প্ৰয়োজনীয়তা, সমস্যা; সমাধানৰ উপায়; যোগাযোগ সক্ষমতা।	12	15
III	সাংস্কৃতিক পৰ্যটনৰ ক্ষেত্ৰ, ভ্ৰমণ ব্যৱস্থাপনা, গ্ৰাম্যজীৱন শৈলী আৰু আনুসংগিক দৰ্শি।	12	15
IV	ক্ষেত্ৰ অধ্যয়ন, প্ৰকল্প প্ৰস্তুতকৰণ আৰু মৌখিক সাক্ষাতকাৰ।		35

প্ৰসংগ পুথি :

1. Tourism and Travel Management: A management Prospective.

2. Travel and Tourism: Pran Nath Seth, Sushma Seth Bhat.

3. Historical Tourism in North East India: Dr. Madhusmita Deb and Dr. Sanjay Sen.

4. পৰ্যটন আৰু উত্তৰ পূৰ্বাঞ্চল: অতনু গগৈ

5. উত্তৰ পূব ভাৰতৰ ঐতিহাসিক পৰ্যটন: ৰীতা দত্ত হাজৰিকা, তপন কলতি, বৰ্ণালী ডকো, চম্পক গোস্বামী

6. ঐতিহ্যৰ এঘনাবলী: তৰুণ চন্দ্ৰ শইকীয়া

SEC0109203: Sattriya Dance Skill

Total Marks: 75

Credit: 3

SYLLABUS

THEORY

- Extensive study of Sattriya Dance.
- Introduction of various types of classical dance forms of India.
- Brief knowledge about Srimanta Sankardev and Madhavdev.
- General knowledge of Tandav and Lashya forms of dance.
- Knowledge of Hastamudra (According to Sri Hasta Muktawali). Asangjukta, Sangjukta and Nritya Hasta, its description and uses.
- Introduction knowledge of Matiakhara. The types of Matiakhara.
- The name of Sattras along with the place of Assam.
- Few names of Gurujis of the Sattriya Dance.
- Basic knowledge of drishti, Griba karma, and its types.
- Basic knowledge of Aanga, Pratyanga and Upanga.
- Basic knowledge of Nayak-NayikaBheda as discussed in the Ntyashastra.
- Introduction of the pure dance of Sattriya -JhumuraRamdani and its description.
- Introduction of pure dance-JhumuraGeetorNaach, MelaNaach, and its description.
- Basic knowledge of SaliNach.
- Life history of SattriyaNritya Gurus or Adhyapaks.
- Knowledge of Taal, Taali, Chapori, Matra, Loy,Shachar, Bhangani, Ghat, Chok.

PRACTICAL

- Practical introductory knowledge of Matiakhora like – Ora, Sota, Jhalak, Chalana, Sitika, HaatSalowa, Harbhanga, PosolaTola, Panihisa, Gerowasowa, Muruka, Jatani, Tewai, Haatpokowa, Pak, Kokilakhosa, Jaap, Moropa, Ketela, Athuwa, Satrawali.
- Practical knowledge ofTaal – SutaTaal, ThukoniTaal,Ektaal, Jatitaal.
- Practical knowledge of Hastamudra – Asangjukta and Sangjukta Hasta, Nritya Hasta and its uses.
- Practical knowledge of Navarasa and its types.
- Practical knowledge of dance form – JhumuraRamdani, JhumuraGeetorNach, JhumuraMelaNaach.
- One Ramdani of SaliNaach- Takjiddhei di didhei.

SEC0109803: Soft Skill-1

Total Marks: 75 (External: 45 + Internal/Practical: 30)	Credits: 3 [2 (Theory) +1 (Practical)] No. of Hours: 2x11+1x22=44 hours
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Course Description:

This course on Soft Skills for undergraduate students builds on the Skill Enhancement Courses under FYUGP offered in the first semester. It aims to the soft skills of the students. The sustained content in this course is based on Reading and Writing pedagogy, and uses authentic materials to teach students. The accessible short texts used will help the students develop their speaking, reading, writing, vocabulary and grammar skills.

Objectives:

This course will enable students to

- Equip the students with the skills to communicate effectively through innovative teaching methods.
- motivate the students to speak according to the context and with confidence
- train the students in interview skills, group discussions and presentation skills
- expose the students to other important skills such as computing and programming
- enhance the students' interpersonal skills
- improve the students' critical thinking skills
- make them ready to face any interview and group discussion
- inculcate positive attitude in students
- inculcate overall employability skills especially leadership skills, emotional intelligence and other personal attributes crucial for success in business or career.

Learning Outcomes:

This course will well equip the students with necessary skills for their career building and growth.

Courses it feeds into

This course will feed into all the students across all streams /disciplines and will help them in their preparation for career goals.

Mode of delivery:

Interactive discussions, digital tasks, personalization of topics, exercises and activities based on the selected texts, on the spot writing assignments, pair and group discussions, and feedback sharing.

Evaluation:

Students will be evaluated through an internal component of 50 marks comprising sessional examination, Class test, class assignments, home assignments, class discussions, oral presentations, and so on. There will also be a written end-of-term External examination of 50 marks where students will be evaluated on their understanding of the course and their ability to use the skills and strategies studied in the course.

Course Content:

UNITS	CONTENTS	T	T/P	Total Hours
Unit -I	• Introduction to Soft Skills- define and understand Soft Skills • List and overcome the filters/barriers in Soft Skills	2	0	02
Unit -II	• Soft Skills Communication Skills (without being language specific) • Essential and basic rules of Body Language	08	04	12
Unit -III	• Leadership development • Time management • Teamwork • Critical thinking • Problem solving • interpersonal skills • Manners and attitudes	08	06	14
Unit -IV	• Handling a Smart Phone in a better way • Basic Computer Knowledge	01	04	05
Unit -V	• Writing a CV/job applications • GD Skills • Interview skills	03	08	11

Suggested Readings:

1. English and Soft Skills. S.P. Dhanavel. Orient Black Swan 2013
2. Business English. Sharmistha Panja et al. Pearson, 2009.
3. Fluency in English - Part II, Oxford University Press, 2006.
4. Any other books related to the course.

SEC0110003: Spoken Arabic-1

Total Marks: 75

Credit: 3

UNIT-I: Fundamentals of Arabic Language

- ✓ Introduction to Arabic Alphabets
- ✓ Listening to texts, listening to Arabic audio-videos
- ✓ Introduction to Arabic phonetic Symbols, consonants & Vowels with illustrations in use
- ✓ Pronunciation Practice preferably using ICT tools

UNIT-II: Development of Reading and writing Skill

- ✓ Recognition of Arabic letters
- ✓ Reading comprehension and Combination of Letters
- ✓ Description of Human vocal organs (مخارج الحروف)
- ✓ Writing Practices

UNIT-III: Vocabulary Enrichment

Arabic vocabulary related to

- ✓ Nature e.g. Earth, Moon, Sun, river mountain and season etc.
- ✓ Relatives e.g. father, mother, brother etc.
- ✓ Body parts, dresses and time related words like Month, Week, Day and Direction etc.
- ✓ Arabic numeral (1 to 100), Plants, Vegetables, Flowers, Fruits etc.

UNIT-IV: Basic Grammar and Conversation Practices

- ✓ Parts of Speeches
- ✓ Person, Number and Gender
- ✓ Conversation Practices using demonstrative pronouns
- ✓ Conversation Practices using simple sentences

Reading References:

1. معلم اللغة العربية, Standard-I, Published by MESCO-ALEEF, Hyderabad
2. معلم اللغة العربية (الثروة اللغوية) Published by MESCO-ALEEF, Hyderabad
3. Teach Yourself Arabic by Prof. S. A. Rahman
4. Arabic for Beginners by. S. Ali
5. Madina Arabic, Vol. I by Dr. V. Abdur Rohim
6. Let's Speak Arabic By Prof. S. A. Rahman

Graduate attributes:

1. Creativity
2. Communication skill
3. Learning how to learn skill

Learning outcomes:

1. The learners will be able to recognize Arabic alphabet and pronounce them correctly.
2. The course will help the learners in social interactions and will help them convey basic information in Arabic.
3. The course will guide the learners to comprehend simple written texts on common topics.
4. At the end of the course the students will be at ease to compose simple texts in Arabic.
5. The course will lead the students to comprehend simple audio-video texts in Arabic.

SEC0110103: Spoken English

Total Marks: 75

Credit: 3

GRADUATE ATTRIBUTES: This introductory course in Spoken English is designed to equip students from all disciplines with spoken English skills which have become absolutely necessary in our personal, social, and professional lives in this age of globalization and the internet. Students will be familiarized with the nuances of spoken English and given practice in the use of English in a variety of formal and informal settings so that, by the end of the course, they are able to use the language confidently in different contexts of interpersonal interaction. The spoken English skills will enable the graduates to confidently collaborate with others and coordinate activities thereby developing their team spirit and social skills. The communicative ability of the graduates will also be seen in their digital and technological skills which they will imbibe through the incorporation of information and communication technology in the teaching process.

Teaching Methodology: Activities in the language lab and appropriate audio-visual aids and ICT will be used wherever necessary to hone the spoken English skills of the students.

Assessment: The spoken skills acquired by the students will be tested through an oral examination which may involve components like **i)** Group discussion, **ii)** An interview situation, **iii)** An oral presentation **iv)** Reading a passage with correct pronunciation and appropriate stress and intonation, **v)** Description of a scene in a photographer video clipping etc.

THEORY CREDIT: 2

PRACTICAL CREDIT: 1

- a) **No. of Contact Classes:** 2 classes per week
- b) **No. of Non-contact Classes:** None (students will be allotted reading and listening exercises and other assignments to be done when they are not attending contact classes.)

UNIT – I: ELEMENTS OF SPOKEN COMMUNICATION

Here students will get a broad understanding of the sound system of English-the vowel and consonant sounds, word stress and sentence stress, weak forms, and intonation patterns. They will be made aware of the importance of using correct pronunciation in speaking. Exercises in listening and repeating

preferably in a language laboratory will go a long way in developing pronunciation and in imbibing the features of spoken English communication. The students will also be acquainted with the non-verbal features of spoken communication-gestures and postures, eye contact, and other features of body language so that they acquire the ability to communicate effectively.

UNIT -II GRAMMAR AND VOCABULARY

Students will be offered instruction on avoiding common grammatical mistakes in speaking-mistakes related to tense, subject-verb agreement, prepositions etc. They will be encouraged to listen and read so that they can build up a good vocabulary which will help them in written as well as spoken communication.

UNIT – III SPEAKING ACTIVITIES

Students will be given practice in speaking English in a variety of formal and informal situations. The practice activities will strive to incorporate the following:

- Basic speaking skills like making statements, asking questions, requesting, apologizing, issuing orders etc.
- Description of an event or an incident
- Role play involving dialogue
- Telling a story from outlines given
- Group discussion on a given topic
- Interview (face-to-face, telephonic and video)
- Oral presentation on a topic using audio-visual aids like power point
- Public speaking

REFERENCE BOOKS & MATERIALS:

Eastwood, John. Oxford Guide to English Grammar. OUP, 1994

McCarthy, Michael and Felicity O Dell. English Vocabulary in Use, Upper Intermediate with CD-rom, Cambridge University Press, 2008.

Yates, Jean. English Conversation. McGraw Hill, 2020

Yule and Brown. Teaching the Spoken Language: An Approach Based on the Analysis of Conversational English (Cambridge Language Teaching Library, 1983)

SEC0110203: Spoken Hindi

सैद्धांतिक परीक्षण :45

व्यावहारिक परीक्षण:30

कक्षाएँ60 :घण्टे

Total Marks: 75

Credit: 3

स्नातक:गुण-स्पोकन हिन्दी के इस पाठ्यक्रम को इस रूप में प्रस्तुत किया गया है ताकि विद्यार्थियों में खड़ीबोली हिन्दी के कथितबोलचाल के रूप से संबंधित इतनी योग्यता विकसित हो कि वे दैनन्दिन जीवन के सभी संदर्भों में मौखिक स्तर/ पर सफलतापूर्वक हिन्दी का प्रयोग कर सकें।

लक्ष्य: विद्यार्थियों की हिन्दी-कथन-क्षमता को सम्यक् रूप से विकसित करना प्रस्तुत पाठ्यक्रम का प्रमुख लक्ष्य है।

इकाई 1 क्रेडिट : (1 :स्पोकन हिन्दी : अवधारणा, स्वरूप, उपयोगिता ;

हिन्दी की स्वर) विधियाँ-व्यंजन ध्वनियाँ एवं उनकी उच्चारण-ह्रस्व और दीर्घ स्वरों के उच्चारण में अन्तर ; शब्द के आद्य, मध्य और अंत्य 'अ' के उच्चारण की विशेषताएँ; च, छ, ज, झ के उच्चारण की विशेषताएँ ; दंत्य और मूर्धन्य ध्वनियों के उच्चारण में अन्तर; श,ष, स ध्वनियों के उच्चारण में अन्तर;'र' ध्वनि के उच्चारण की विविध स्थितियाँ;'क्ष' और 'च्छ' के उच्चारण की विशेषताएँ ; र, ड और ढ के उच्चारण में अन्तरइन बातों -- (पर विशेष ध्यान

इकाई 2 क्रेडिट : (1 :हिन्दी की आधारभूत शब्द-सम्पदा : शरीर के अंग,मनुष्य एवं मानवीय संबंध,

पोशाक, गहने, खाद्य-पदार्थ, साग-सब्जी, फल-फूल, पशु-पक्षी, पेड़-पौधे, घरेलू चीज़ें, काम करने के औज़ार, सवारी, बीमारी-दवा, खेल-कूद, तिथियाँ, दिनों के नाम, महीनों के नाम, संख्या-गिनती, संगीत-वाद्य, अनाज, रंग, व्यवसाय, आकाश, क्रियाएँ इत्यादि सूचक संज्ञा शब्द ;हिन्दी के सर्वनाम, विशेषण और अव्यय शब्द

इकाई 3 क्रेडिट : (1 :अभिवादन;अपना परिचय प्रदान-; दूसरे की परिचयप्राप्ति-; आत्मीयजनों एवं-

मित्रोंके साथ वार्तालाप, अपरिचित-जनों के साथ बातचीत; शिक्षण-संस्थान, बाज़ार, यातायात-परिवहन, बैंक-डाकघर, विभिन्न कार्यालय, खेल-कूद, मनोरंजन, सांस्कृतिक

कार्यक्रम, अस्पताल, संचार-माध्यम इत्यादि के संदर्भों में सम्बद्ध जनों के साथ विविध प्रकार)अर्थ और संरचना की दृष्टि से(के वाक्यों के जरिए विचारों का आदान-प्रदान; मुहावरेदार भाषा में बातचीत

द्रष्टव्य: व्यावहारिक परीक्षण के अन्तर्गत प्रश्नोत्तर, किसी विषय पर भाषण, दो जनों का वार्तालाप, समूह में चर्चा आदि की व्यवस्था रहेगी। विभागीय प्राध्यापकगण, महाविद्यालय के अध्यक्ष उनके द्वारा शिक्षण संस्थान के प्रमुख अथवा/ कार्य सम्पन्न होगा।-नामित प्रतिनिधि के समक्ष व्यावहारिक परीक्षण एवं मूल्यांकन

अभ्यास पुस्तकें(सिर्फ पढ़ने के लिए) :

- .1 बात-चीत- असम राष्ट्रभाषा प्रचार समिति, गुवाहाटी।
- .2 जानने की बातें- केशव सागर, राजपाल एण्ड संज, दिल्ली।
- .3 पाँच एकांकी- असम राष्ट्रभाषा प्रचार समिति, गुवाहाटी।
- .4 सप्तसरोज- मुंशी प्रेमचन्द, सरस्वती प्रेस, इलाहाबाद।

सन्दर्भ ग्रन्थ :

- .1 शुद्ध हिन्दी- डॉ॰ हरदेव बाहरी, लोकभारती प्रकाशन, इलाहाबाद।
- .2 आधुनिक हिन्दी व्याकरण एवं रचना- डॉ॰ वासुदेवनन्दन प्रसाद, भारती भवन, पटना।
- .3 मानक व्यावहारिक हिन्दी व्याकरण तथा रचना- श्यामजी गोकुल वर्मा, आर्य बुक डिपो, नई दिल्ली।
- .4 असमीया हिन्दी लर्निंग कोर्स- रेपिडेक्स पब्लिकेशन्स।
- .5 शुद्ध हिन्दी कैसे सीखें- राजेन्द्र प्रसाद सिन्हा, भारती भवन, पटना।
- .6 Complete Hindi Beginner to Intermediate Course: Learn to read, write, speak and understand a new language with Teach Yourself – Rupert Snell, John Murray Learning.
- .7 Spoken Hindi from Scratch – Atharwa Madbhavi, Notion Press Publisher.
- .8 Word Book 4 in 1 (Learn English, Hindi, Assamese and Bengali) – G.B.D.'s Editorial Board, Good Books Distributors Publishers, Kolkata.

SEC0110303: Stress Management

Total Marks: 75 (Theory: 45 + Practical: 30)

Credit: 3 [(2(T) + 1(P))]

Objectives: In everyday life we experience stress related to various situations. Students will learn how they can make adjustments and manage to cope with stress more effectively.

- 1. Stress:** Introduction, Nature, Symptoms, and Sources of Stress: Environmental, Social, Physiological and Psychological.
- 2. Stress and Health:** Effects of stress on health, eustress.
- 3. Managing Stress-I:** Methods- yoga, meditation, relaxation techniques.
- 4. Managing Stress-II:** Problem focused and emotion focused approaches.

Practicum: Students have to carry out any practicum based on the syllabus or any related topic.

Readings:

Carr, A.(2004). Positive Psychology: The Science of happiness and human strength. UK: Routledge.

DiMatteo, M.R & Martin, L.R.(2002). Health Psychology. New Delhi: Pearson Neiten, W. & Lloyd,

M.A(2007). Psychology applied to modern life. Thompson Detmar Learning

Sarafina, E.P.(2009: Health Psychology: Bio psychosocial interactions(4th Ed.). NY: Wiley.

SEC0110403: Teaching Skill

Total Marks: 75

Credit: 3

UNIT 1:

- Concept of teaching and teaching skills
- Introduction of some important teaching skills
- Phases of Teaching.

UNIT 2:

- Meaning
- Nature and importance of Lesson Plan
- Criteria of good lesson plan
- Herbartian Steps of Lesson Plan.

UNIT 3: (PRACTICAL)

- Preparation of Lesson Plan for practice teaching

SEC0110503: Tools & Techniques for Local Handicraft Entrepreneurship

Total Marks: 75

Credit: 3

Unit- I

Entrepreneurship- Concepts, elements, determinants & importance of entrepreneurship. Entrepreneurs- Essential Qualities, characteristics, different types of entrepreneurs and entrepreneurship.

Unit-II

Levels of Entrepreneurship - Micro, Small & Medium. Indian business traditions & Entrepreneurship- Family, Group, Community Society. Traditional values & ethics in relation to business & culture of entrepreneurship.

Unit-III

Handicrafts Traditions of India - A historical background and its legacy for trade & commerce in handicraft products. Different types of handicrafts in practice in Assam, handicraft traditions of undivided Goalpara District and present position of handicraft in Dhubri district.

Unit-IV

Tools & Techniques for establishment of Handicraft based business: Idea for new business, preparation of business plan, writing of project proposal, submission process of project report, detailing of location layout, raw material, marketing facilities, finance, online platform, e-commerce, market place, segment, competitors & rival.

Unit-V

Practical Training on Sales & Marketing, meeting with local craftsman & understanding real time to real life production of handicraft items, visiting craft bazaars, handicraft fair for practical selling to marketing experiences through internship programme and to meet real life entrepreneurs dealing in handicraft products.

Books and References:

1. Robert Hisrich, Michael peters, Dean Sheperd, Entrepreneurship, McGraw-Hill Education.
2. Desai Vasant Dynamics of Entrepreneurial Development and Management. Himalayan Publishing House Mumbai
3. Holt, David H. Entrepreneurship: New Venture Creation. Prentice Hall of India New Delhi.
4. Singh Nagendra P. Emerging Trends in Entrepreneurship Development ASEED. New Delhi.
5. Ranjan Aditi Handmade in India Mapin publishing private limited. (for Library collection)
6. Ranjan M.P. Handmade in India: A Geographic Encyclopedia of Indian Handicrafts. Abbeville Publishing group. (for Library collection)
7. Chottopadhyaya Kamaladevi: Handicrafts of India. Indian Council for Cultural Relation.
8. Handique Krishna Jyoti: Handicrafts in Assam, Kalpaz publication.
9. Sarma Mrinmoy K: Traditional Crafts of Assam, Shipra Publications.

SEC0110603: Tour Packaging Management

Total Marks: 75

Credit: 3

Course Objectives:

The Course will help the students to gain the knowledge about various concepts, Scope, nature and type of tourism. Further it will help the Students to evaluate the socio - economic, cultural and environmental impact of tourism Industry.

Course Outcome:

- Study the fundamental concept of tourism.
- Understand the nature and types of tourism.
- Define the elements, classification and Historical development of Tourism.
- Identify the importance of tourism impacts.
- Elaborate the concepts of sustainable tourism development.

Unit -I : Introduction to tourism.

Unit -II : Tourism Principles, Policies and Practices.

Unit -III : Global tourism History.

Unit -IV : Travel Agency and tour Operations.

Unit -V : Tourism Entrepreneurship.

Reference Books:

- Archer, B.H. (1982) The value of Multipliers and their Policy.
- Bramwell, B. (1993) Tourism and the environment.
- Butler, R.W (1980) The Concept of Tourism: an evolving global approach.
- Evans, N. Cambell, B. & Stakeholders, G (2003) Strategic Management for travel and tourism.
- Freeman R.E (1983) Strategic Management: A Stoker holder approach.

SEC0110703: Traditional Medicinal System in Mayong, Assam

Total Marks: 75 (Theory- 45, Internal – 30)

Credit: 3

Aim of the course: As in other indigenous societies, the practices of folk medicine have also been in continuance among the tribal and non-tribal societies of Assam since very early age. The Folk Medicinal system in Assam is known as '*BezaliSikitsa*' and the healers or practitioners are popularly called as '*Bez*', '*Kabiraz*' or '*Oja*'. The *Bez*es or *Oja*s use both herbal medicines and versified incantations or charms for the removal of diseases and other evil spirits from the body of the patients. An enormous amount of the knowledge and practices of magic and medicine is still deeply rooted in some places of Assam among its indigenous societies. The proposed course on Traditional Medicinal System will deal with this problem.

Objectives of the Course:

The underlying objectives of the course are –

- i) to transmit the whole body of primitive knowledge and practices of traditional medicinal system of India to the next generation in an innovative and scientific way of thinking.
- ii) to create a group of knowledge based professional traditional medicinal practitioners for the wellbeing of the society at the grass root levels.
- iii) to create a group of skill man powers and entrepreneurs to develop herbal medicinal parks, production centers of herbal medicines, herbal medicinal plants, centers for traditional treatment etc.
- iv) to add value to this branch of Indian traditional knowledge system (People's Primitive Science) which has been continuing till today since time immemorial to mankind.
- v) to create an environment for reviving and developing the skill of this Indian system of traditional medicine.
- vi) to explore, understand and document the whole body of knowledge and practices of herbal medicines, its different ways and procedures of application traditionally continued in oral form among different indigenous societies.
- vii) to explore, understand and document the texts and contexts of the mantras (incantations) having therapeutic uses, its different ways and procedures of application traditionally continued in oral form among different indigenous societies.
- viii) to identify, understand and document all the plants and animal materials used by the folk healers as source of medicine.

Expected Output/Outcomes of the Course:

The output/outcomes expected from the course are –

- i) The Indian knowledge and practices of magic and herbal medicine could be revived and transmitted to the new generation in an innovative and scientific way of thinking.
- ii) A group of knowledge based, skilled professional traditional medicinal practitioners for the wellbeing of the society at the grass root levels could be created.
- iii) A group of skill man powers and entrepreneurs to develop herbal medicinal parks, production centers of herbal medicines, herbal medicinal plants, centers for traditional treatment etc. could be created.
- iv) Traditional herbal medicinal prescriptions (continued in oral form) could be explored and documented with their methods of preparation and application.
- v) Different diseases or ailments with their local names could be identified and documented with their symptoms and causes of the occurrence of diseases as viewed by traditional healers.
- vi) Medicinal plants and animal parts used as source of traditional medicine could be identified and documented with their local and scientific names. Which parts of the plants are used as medicine and for what types of diseases could also be explored and documented.
- vii) Case studies of traditional herbal healing and magical healing could be carried out with video documentation in a large scale.
- viii) Mantras (Incantations) having therapeutic uses (continued in oral form) could be explored and documented with their texts, contexts and procedures of application etc. etc.

Contents of the Course:

Chapter-1 Introduction – Meaning and Concept of different types of Traditional Medicinal Systems of the World

Chapter-2 History of Traditional Medicine in India

Chapter-3 History of Traditional Medicine in Assam and North-East India

Chapter-4 Beliefs in the Causation of Disease in Traditional Medicinal System- Natural Causes, Supernatural Causes

Chapter-5 Diagnostic Criteria in Traditional Medicinal System - Diagnosis from Symptoms, Diagnosis through Divination, Diagnosis with the help Interrogation, Diagnosis through Astrology, Diagnosis on the basis of Dreams, Diagnosis on the basis of some other Folk Beliefs etc.

Chapter-6 Methods of Healing in Traditional Medicinal System - Magico-Religious Healing- its different types, procedures of application etc., Herbal Healing- procedures of herbal preparation, the Diseases Treated and Herbal Medicines Recommended, Plants, Animals parts used as Medicine etc.

Chapter-7 The Folk Healers: Life Histories of Eminent Folk Healers of Assam/India, General Ethics of the Folk Healers, General Restrictions of Folk Healers, Social Standing of Folk Healers etc.

Chapter-8 Practical- Observation through participating in magic or folk healing related activities and rituals, In-depth Case studies of Magico-Religious Healing and Herbal Healing, Collection of treatment histories of the patients, Audio and video recording of magical and herbal treatments, interviews with expert herbalists or magicians, practice of herbal preparation etc.

Resource Persons for the Course:

Folk healers, Eminent Herbalists, Magic Practitioners, Botanist, Zoologist, Psychologist, Anthropologist, Ayurvedic Medical Practitioners, Yuga Masters, Researchers of Traditional Medicinal System etc.

References books:

Will be framed later on.

SEC0110803: Understanding Psychology

Total Marks: 75

Credit: 3

Unit-I: Nature and scope of study of Educational Psychology:-

Involve concept of psychology, characteristics of psychology different branches of psychology, relation between education and psychology, need of the study of educational psychology, need of the study of educational psychology for the teacher.

Unit-II: Heredity and Environment:

What is heredity, theoretical study and analysis on heredity and environment, types environment relative importance of heredity and environment role of the Teacher in regard to environment.

Unit-III: Memory and forgetting:-

What is memory characteristics of memory, factors of memory, memory trace, marks of good memory, improve of memory, forgetting, cause of forgetting theories of forgetting.

Unit-IV: Thinking reasoning and problem solving:-

Nature of thinking, constituent characteristics of thought, thought and imagination types of thinking reasoning meaning definition, types of reasoning scientific method of problem solving.

SEC0111103: Web Front-end Designing

Total Marks: 75

Credit: 3 [2(T) + 1(P)]

Learning Objective:

- (1) To introduce the basic concepts and techniques of front end web designing.
- (2) To enable students to apply the basic concepts and techniques of front end web designing.

Course Outcome:

After studying this course, students will be able to design interactive web pages.

Unit Wise Syllabus:

THEORY

UNIT 1:

(3 Hours)

The Basics Introduction to HTML, the Head, the Body, Colors, Attributes, Check box, Radio Button, Text, Text Area, Lists, ordered and unordered

UNIT 2:

(4 Hours)

HTML Formatting: New Paragraph, Line Break, Blank Space, Preformatted text, Div element Bold text, Important text, Italic text, Emphasized text, Marked text, Small text, Deleted text, Inserted text, Subscript text, Superscript text, HTML quotations, HTML Comments, HTML colors

UNIT 3:

(3 Hours)

Links Introduction, Relative Links, Absolute Links, Link Attributes, Using the ID Attribute to Link within a Document

UNIT 4:

(3 Hours)

Images : Putting an Image on a Page, Using Images as Links, Putting an Image in the Background

UNIT 5:

(5 Hours)

Tables : Creating a Table, Table Headers, Captions, Spanning Multiple Columns, Styling Table

UNIT 6:

(4 Hours)

Forms: Basic Input and Attributes, Other Kinds of Inputs

PRACTICAL / LAB WORKSHEET TO BE PERFORMED (22 hours)

1. Create an HTML document with the following formatting options:

- (i) Bold
- (ii) Italics
- (iii) Underline
- (iv) Headings (Using H1 to H6 heading styles)
- (v) Font (Type, Size and Color)
- (vi) Background (Colored background/Image in background)
- (vii) Paragraph
- (vii) Line Break
- (ix) Horizontal Rule
- (x) Pre tag

2. Create an HTML document which consists of:

- (i) Ordered List
- (ii) Unordered List
- (iii) Nested list
- (iv) image

3. Create an HTML document which implements Internal linking as well as External Linking.

4. Create a table using HTML which consists of columns for Roll No., Student's name and grade.

Result		
Roll No	Name	Grade

5. Create a Table with the following view:

			Place an Image Here			

6. Create a form using HTML to collect personal information.

7. Create HTML documents (having multiple frames) in the following three formats:

Frame 1
Frame 2

Frame 1	
Frame 2	Frame 3

Reading List:

- a) David DuRocher -HTML and CSS quickstart guide
- b) <https://www.w3schools.com/html>

SEC0111203: Workshop Practice (Mechanical, Carpentry and Electronics)

Total Marks: 75

Credit: 3

Unit: 1

Introduction to electronic workshop: Familiarization/Application of testing instruments and commonly used tools (multimeter, function generator, power supply, digital cathode ray oscilloscope (DSO), Breadboard, etc. Soldering techniques (soldering iron, desoldering pump, wrapping, crimping), pliers, cutters, wire strippers, screwdrivers, tweezers, etc.]

Unit 2:

Introduction to electronics components: familiarization/identification of electronic components with specification (functionality, type, size, color coding, package, symbol, cost, etc.), Active, Passive, Electro-mechanical, Wires, Cables, Connectors, Fuses, Switches, Relays, Displays, etc.

Unit 3:

Measurement: Measuring of various electrical components like resistance, voltage, current, frequency, phase difference, amplitude, power, and power factor for a. c. supply, Use of various analog, digital meters, Signal Generator, DSO, etc, testing of IC's using IC tester.

Unit 4:

Interconnection methods and soldering practice in general purpose PCB, Crimping, Breadboard assembling of simple circuits – Soldering and testing of electronic components and circuits, safety precautions.

Unit 5:

Assembling of electronic circuit/system on a general-purpose PCB, test and show the functioning (Any Two circuits)

1. Fixed/variable and dual voltage power supply
2. Square wave generation using IC 555 timer in IC base.
3. Sine wave generation using IC 741 OP-AMP in IC base.
4. RC coupled amplifier with transistor BC107
5. Portable PM10 PM2.5 Pollution Analyzer
6. DC Motor Speed Control Using Arduino & Pulse Width Modulation (PWM)

Skill Enhancement Course 11: Certificate Course in Tally
Skill Enhancement Course 12: Certificate Course in Human Rights
Skill Enhancement Course 13: Hands on Training of Basic Chemistry Softwares
Skill Enhancement Course 14: News Writing and Anchoring
Skill Enhancement Course 15: Translation and Translation Technique
Skill Enhancement Course 16: Nursery Management
Skill Enhancement Course 17: Terrace Gardening
Skill Enhancement Course 18: Organic Farming and Hydroponic Farming

SEC0111303: Mental Health and Hygiene

Total Marks: 75 (Practical 60+ Theory 15 Marks)

Credit: 3

Course Objectives:

After completion of the Course the learner will be able to understand the concept of mental health and development of mental health and the Characteristics of a mentally healthy persons. The relationship between mental health and hygiene will be cleared. They will be able to learn the factors, principles which promoted mental health and the role of school and society for providing proper mantel health. It will also help the learner to develop a positive attitude on life which is most important in today's society.

Unit-I: Concept of mental Health (Meaning, definitions and Scope of Mental Health, Signs of mentally healthy person)

Unit -2: Concept of Mental Hygiene (Meaning, Nature, Aims and objectives and function of mental Hygiene)

Unit -3: Need and importance of mantel health and Hygiene:

Unit-4: Relationship between Education and Mantel Health

(Role of School, home and Society, Mental Health of teachers)

Unit -5: Preservation of Mental Heaths and Hygiene (Contribution of the Educational psychology (Meaning, Nature and importance of educational psychology)

Unit-6: Various ways of stress Management (Role of Yoga, Steps to create a beautiful mind)

SEC0111403: Historical Tourism in North East India

Total Marks: 75

Credit: 3

Course Objective: After completing this course, students will be able to-

- Take part in the Tourism industry in North East India as tourist guides as well as engage in destination research with special reference to the historical monuments, cultural and ecological elements and places of the north east India country as tourist and heritage sites of the nation.
- They will be able to relate to the growing vocation of tourism as an industry and the applicability of historical knowledge for its growth.

In-semester assessment:

Students shall carry out a small project (submission not less than 2000 words) based on survey of an area or monument. The project should try to unearth the tourism potential of the surveyed area or monument. The project may also be on an existing tourist site. No sessional examination is required for this paper.

Unit: I	Contact Classes : 8	Non-contact classes : 2	Marks: 15
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Theoretical aspects of Tourism, Elementary geography and Bio-diversity of North East India:

- [a] Tourism–Concept, meaning and significance
- [b] Different types of Tourism
- [c] Physiographical divisions, water bodies and climatic conditions
- [d] Important wild life habitats: Kaziranga, Manas, Orang, Nameri, Dibru-Saikhowa, Namdapha, Keibul Lamjao, Rain forests of Assam.

Unit: II	Contact Classes : 8	Non-contact classes : 2	Marks: 20
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Ancient remains and important tourist places of the North–East:

- [a] Ancient remains: Goalpara, Ambari, Tezpur, Deopahar, Malinithan, Doyang–Dhansiri Valley
- [b] Tourist places: Shillong, Cherapunjee, Aizwal, Gangtok, Kohima, Tawang, PoaMecca (Hajo), Azan-Pir-Dargah, Jatinga

Unit: III	Contact Classes : 8	Non-contact classes : 2	Marks: 20
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Architectural Heritage:

- [a] Dimapur, Kasomari, Maibong, Khaspur
- [b] Charaideo, Garhgaon, Sivasagar and Rangpur
- [c] Ujayanta palace, NeerMahal
- [d] Kamakhya, Hayagriva Madhava, Tripura Sundari Temple, Rumtek monastery
- [e] Kanglafort

Unit: IV	Contact Classes : 8	Non-contact classes : 2	Marks: 20
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- [a] Festivals-*Bihu, Ali-Aye-Ligang, Mopin* festival, Tai-Buddhist festivals in Assam
- [b] Bhaona, Ras celebration in Majuli
- [c] Fairs-Jonbil-Mela, Ambubachi fair at Kamakhya
- [d] Tourist festivals based on ethnic culture-Horn Bill festival, Sangai festival, Dihing Patkai festival

Readings:

- Bezboruah, M.: *Tourism in North East India*
- Bora, S, & Bora, M.C. : *The Story of Tourism: An Enchanting Journey through India's North – East, UBSPD, Delhi, 2004.*
- : *Paryatanar Ruprekha: Uttar Purbanchalar Itihas Aru Sanskritir Patabhumi*
- Bhatia, A.K. : *International Tourism-Fundamentals and Practices, New Delhi, 1997*
- : *Tourism in India*
- Gogoi, Atanu: *Paryatan Aru Uttar Purbanchal, Bani Mandir, Guwahati, 2006*
- Nath, R.M. : *The Background of Assamese Culture, Guwahati, 1978*
- Sarma, P.: *Architecture of Assam, Delhi- 1988*
- Ahmed, Kamaluddin: *The Art and Architecture of Assam, Spectrum Publication, Guwahati, 1994.*
- Bhattacharya, P.: *Tourism in Assam, Bani Mandir, Guwahati, 2004*
- Neog, M. : *Pavitra Asom, LBS, Guwahati*
- : *Asamiya Sanskritir Ruprekha, Guwahati - 1970*
- Boruah, P.: *Chitra-Bichitra Asom, Guwahati, 2003*
- Taher & Ahmed: *Geography of North East India, Mani Manik Prakash, Guwahati, 2010.*

SEC0111503: Tour Guide

Total Marks: 75

Credits: 3

Theory classes: 17 classes (one hour each – 17 hrs)
Practical classes: 16 classes (two hours each – 32 hrs)

Theory: 45 Marks
Practical: 30 Marks

Practical classes will include:

- 16 hours of survey,
- 4 hours of presentation preparation,
- 4 hours of group discussion,
- 8 hours of project work preparation.

Unit – 1: Introduction to Tourism

Marks: 10

- Tourism – Concept and nature
- Different segments and forms of tourism
- Destination and travel information
- Different kinds of travel modes

Unit – 2: Tourism Management

Marks: 10

- Destination information and details: geography, history, and culture of destination
- Visa, passport and airport procedure
- Documents required for tour detailing
- Environment and Safety norms to be followed in tourism

Unit – 3: Tourism Resources of Assam and North East India

Marks: 15

- Natural tourism resources
- Historical tourism resources of Assam and North East India
- Cultural tourism resources: Tribes, cultural fairs and festivals, dances, dresses, ornaments, cuisine etc.
- Manmade tourism resources, etc.

Unit – 4: Reading, Writing and Communication Skills

Marks: 10

- Defining tour guide and skills required for a tour guide
- Read about tour activities and plans for escorting

- Read information on travel market
- Filling forms related to travel
- Communication with guests and vendors / suppliers

Reading List:

Bhatia, A.K., (2002) *Tourism Principles and Practices*. Sterling Publishers.

Bhattacharya, P., (2004) *Tourism in Assam: Trend and Potentialities*. Bani Mandir.

SEC0111603: FRENCH LANGUAGE, LEVEL-I

Total Marks: 75

Credit: 3

Introduction to the language: Basic grammar, phonetics, comprehension, oral communication and composition.

Course Objectives:

- The course aims at the acquisition of basic language skills (listening, speaking, reading and writing) and the development of basic communicative abilities that would allow students to communicate in simple situations.
- The course seeks to enable the students to attain partially A1 level of the Common European Framework of Reference for Languages (CEFR).

Course Learning Outcomes:

At the end of the semester the students will be able to:

- Read and understand simple texts.
- Speak and respond to questions about herself / himself or others.
- Write short messages, and short compositions (100 words) on familiar subjects.

Prescribed Units: Unit 0 and Unit 1

Component 1: Reading: Reading simple texts related to one's immediate environment such as classroom, home, market, restaurant, cinema etc.

Component 2: Listening: Understanding simple and familiar words and very basic phrases about oneself, one's family, and immediate surroundings.

Component 3: Writing: Guided composition that includes writing simple phrases about familiar subjects, writing short messages, invitations etc.

Component 4: Speaking: Introducing oneself and others, basic communication in the classroom, asking and answering to simple questions about familiar subjects.

Pedagogy: Interactive, participatory and learner-centred approach will be adopted. Learners will be introduced to the target language through ITC enabled audio –visual aids, Learners will be encouraged to take part in group activities in the classroom that are required to develop oral communication skills. The learners will be encouraged to evaluate their own language skills through self-correction.

Prescribed Text: Jumelage, Methode de français, Niveau 1, Entreprise

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