

Ability Enhancement Course:

This is an 8-credit course covering Modern Indian Languages (MIL) and English Usage (Communication). Each student needs to complete two papers of 4-credits each – one from English Usage and other from the group of MIL, especially designed for this purpose. Both these courses are further divided into two 2-credit courses each. The MIL course is to be completed during Semesters 1 & 5 while the English Communication course is to be completed during Semesters 2 & 6.

Subject: Assamese

Semester: First

Course Name: যোগাযোগমূলক অসমীয়া—১

Ability Enhancement Course

Course Level: 100-199

Unit No.	Unit Content	No. of Classes	Marks
১	ভাষাজ্ঞান : উচ্চারণ, আখৰ জোঁটনি, যতিচিহ্নৰ জ্ঞান, প্রত্যয়-বিভক্তিৰ ব্যৱহাৰ, কথন কৌশল	১২	২০
২	কৰ্মক্ষেত্ৰৰ অসমীয়া : আবেদন, বিজ্ঞাপন, প্রতিবেদন লিখন, বাতৰি লেখন, নিবিদা লেখন দক্ষতা	১২	২০

পঠন-সামগ্ৰী:

নিকা অসমীয়া ভাষা	: মহেশ্বৰ নেওগ
অসমীয়া ব্যাকৰণ প্ৰৱেশ	: গোলোকচন্দ্ৰ গোস্বামী
অসমীয়া ৰচনা সংকলন	: তুলতুল বৰুৱা (সম্পা.)
ধ্বনিবিজ্ঞানৰ ভূমিকা	: গোলোকচন্দ্ৰ গোস্বামী
যোগাযোগ কলা	: নীৰাজনা মহন্ত বেজবৰা
অসমীয়া আখৰ জোঁটনিৰ কথা	: শিৱনাথ বৰ্মন
অসমীয়া আখৰ জোঁটনি আৰু লিপ্যন্তৰ পদ্ধতি	: গুৱাহাটী বিশ্ববিদ্যালয়
অসমীয়া ভাষা-সাহিত্য চৰ্চাকাৰীসকলৰ হাতপুথি	: ৰমেশ পাঠক
ব্যৱহাৰিক অসমীয়া ব্যাকৰণ	: উপেন ৰাভা হাকাচাম
বিজ্ঞানলেখকৰ হাতপুথি	: দীনেশ চন্দ্ৰ গোস্বামী

Theory Credit: 1

Practical Credit: 1

No. of required classes: 24

No. of contact classes: 20

No. of non-contact classes: 4

AEC-Alternative English I (In lieu of MIL)

Semester 1

Credits 2 (30 External +20 Internal = 50 Marks)

Poetry: 30 Marks

W. B. Yeats: No Second Troy

Sarojini Naidu: The Palanquin Bearers

Sujata Bhatt: So Many Oaks

Margaret Atwood: This was a Photograph of Me

Stories: 20 Marks

Mahim Bora: Audition

Bryan MacMahon: The Ring

-----*****-----

MULTI DISCIPLINARY COURSES (MDC)

Semester-1

MDC-1

Disciplines: (Choose any one of the following)

A. Natural and Physical Sciences (Only for Science Stream)

B. Humanities and Social Sciences (Only for Arts Stream)

Syllabus

A. Natural and Physical Sciences (Only for Science Stream)

MDC-1: Introduction to Natural and Physical Sciences

Unit 1: Structure and Constituents of the Material World—atoms, molecules, and ions; Essential Elements; Structure and Bonding; Acids and Bases; Chemical Formula and Equations; Night Sky.

Unit 2: Laws of Nature— Gas laws; Kinds of Forces; Equilibrium, Kinetics, Osmosis; Heat and Thermodynamics; Electrical and Magnetic Behaviour of Nature, Friction, Waves & Oscillations.

Unit 3: Properties of Matter— States and Strength of Materials, Optical properties-
- Emissions and Absorptions, Interference, Diffraction, and Polarization; Nanomaterials; Smart Materials; Sounds and Musical Instruments.

B. Humanities and Social Sciences (Only for Arts Stream)

MDC-1: Humanities & Social Sciences-I:

Makers of Modern Assam

Unit I: Language, Literature & Culture

a) Architects of modern Assamese language & literature

Anandaram DhekiyalPhukan, Lakshminath Bezbaruah & Banikanta Kakati

b) Architects of modern Assamese music & culture

Jyoti Prasad Agarawala, Bisnhu Prasad Rabha & Dr. Bhupen Hazarika

Readings:

Anandaram DhekiyalPhukan:

- Amalendu Guha, *Impact of Bengal Renaissance on Assam 1825-1875*, The Indian Economic and Social History Review, 1972.
- Anandaram Dhekiyal Phukan, *A Few Remarks on the Assamese Language and vernacular education in Assam*
- Gunabhiram Barua, *Anundaram Dhekiyal Phukanar Jivan Charitra*., Publication Board Assam, 1971

- Hiren Gohain, *Origins of the Assamese Middle Class*, Social Scientist, 1973
- Maheswar Neog, *AnandaramDhekiyalPhukan: Plea for Assam and Assamese*., Assam Sahitya Sabha, 1977
- Nanda Talukdar (ed), *Ananda Ram DhekiyalPhukanarRachanaSangrah* (9th Edition): published by Khagendra Narayan Dutta Barua, Lawyers Book Stall, 1999
- Prafulla Mahanta, *AsomiyaMadhyabittaShrenirItihas*., Purbanchal Prakash, Guwahati, 2021.

LakshminathBezbarua:

- Hiren Gohain, *Origin of the Assamese Middle class*, Social Scientist, 1973
- Lakshminath Bezbaroa, *Mur Jivon Sowaran*., Lawyers Book Stall, 1999
- Madhumita Sengupta, *Becoming Assamese: Colonialism and New Subjectivities inNortheast India*, Routledge, 2016
- Maheswar Neog, *Lakshminath Bezbaroa; The Sahityarathi of Assam*., GauhatiUniversity, 1972
- Maheswar Neog, *Lakshminath Bezbarua: An Introduction*, Assam Sahitya Sabha, 1968
- Prafulla Mahanta, *Asomiya Madhyabitta Shrenir Itihas*., Purbanchal Prakash, Guwahati, 2021.
- TilottamaMisra, *Literature and Society in Assam*, Bhabani Books, Guwhati, 2019

Banikanta Kakati:

- MaheswarNeog, *Banikanta Rachanvali* (2nd Edition), Publication Board Assam, 2002
- Jagat Chandra Kalita (ed), *Assamese: Its Formation and Development* (4th Edition): BanikantaKakati, LBS Publications

Jyoti Prasad Agarwala

- Akhil Ranjan Dutta, *Jyoti Prasad Agarwala: A Revolutionary Cultural Architect of Twentieth century Assam*, Social Change, 2012
- Arup Kumar Dutta, *Jyotiprasad: Prince of Beauty*, Anwesha, 2003
- Anil Roychowdhury, *Axamiya Bhashar Darshan*, AankBaak, 2016.
- Dayananda Pathak, *JyotiprasadAgarwala: Man and Mission*, Publication Board of Assam, 2007
- Hiren Gohain (ed), *JyotiprasadRachanavali* (6th edition), Publication Board Assam, 2003
- SurjyaKanta Hazarika, *Bhupen Hazarika Rachanavali*(Vol 1, 2, 3), S.H Educational Trust, 2008

Bishnu Rabha

- Anil Roychowdhury, *AxamiyaBhashar Darshan*, AankBaak, 2016.
- ArupjyotiSiakia, *A Century of Protests: Peasant Politics in Assam Since 1900*, Routledge, New Delhi, 2014.
- Ismail Hussain, *Bishnu Rabhar Jivon Aru Darshan* (2nd Edition), JyotiPrakashan, 2000
- Rava Rachanavali Prakasan Sangha, *Bishnuprasad RabhaRachanaSamahar*, 2008
- Surjya Hazarika (ed), *Bhinnajonar Dristit Bishnu Prasad Rabha*, S.H EducationalTrust, 2008

Bhupen Hazarika:

- AkhilRanjan Dutta, *Forcing Prison Doors: Socio-Cultural Mission of Bhupen Hazarika*, Social Change, 2012
- Tarun Kalita, Manik Chandra Nath (eds), *Dr. Bhupen Hazarika: A Multifaceted Personality*, TTN College Publication Board
- Surjya Kanta Hazarika, *Bhupen Hazarika Rachanvali* (Vol 1, 2, 3), S.H EducationalTrust, 2008

Unit:2 Framers of the Political Foundations

- Initial foundation: *AsomChatraSanmilan & Assam Association*
- Consolidating the foundation: *Tarun Ram Phukan & Gopinath Bordoloi*
- Tribal consciousness and their rights: *Kalicharan Brahma & Bhimbar Deuri Readings*

Asom Chatra Sanmilan and Assam Association:

- Devabrata Sharma, *Asomiya Jatigathan Prakriya Aru Jatiya Janagosthigata Anusthan Samuh*, Ekalavya Prakashan, 2022
- Manorama Sharma, *Student Power and Nationalism: An Assessment of the Assam Chatra Sanmilan, 1916-1939*, in *Student power in Northeast India: Understanding Student Movements*,
- Apurba K. Baruah (ed), Regency Publications, New Delhi, 2002. Prafulla Mahanta, *Asomiya Madhyabitta Shrenir Itihas: Purbanchal Prakash*, Guwahati, 2021.
- Shiela Bora, *Trends in the Rise of Student Power in Assam 1916-1947*, in *Student power in Northeast India: Understanding Student Movements*, Apurba K. Baruah (ed), Regency Publications, New Delhi, 2002.

Tarunram Phukan: •

- Laxmi Nath Tamuly, *Gopinath Bordoloi* (2nd Edition), Publication Board Assam, 2003 •
- Tarunram Phukan *Rachanvali*: Axam Prakashan Parishad, 2015

Gopinath Bordoloi:

- Bordoloi Committee Report/ Sub-committee on the Northeast Frontier (Assam) Tribal and Excluded Areas. •
- Laxmi Nath Tamuly, *Gopinath Bordoloi* (2nd Edition), Publication Board Assam, 2003 •
- Nirode K Barooah, *Gopinath Bordoloi*, The Assam Problem and Nehru's Centre, Bhabani Publications, 2010 •
- Nirode Kumar Barooah, *Gopinath Bordoloi Aru Assam: Tetia Aru Etia*, 2010 •
- UdayonMisra, *Burden of History*, Oxford University Press, 2018

Kalicharan Brahma: •

- B. Narzary, M. Mitra, *Journey Towards Enlightenment: Gurudev and Bodo Society*, GBD Publishers, 2004
- Devendranath Sharma, *Gurudev Kalicharan Brahma*, Assam Sahitya Sabha, 1983
- Kumud Ranjan Basumatary, *Gurudev Kalicharan Brahma: The Emergence of Bodo Ethnic Consciousness in early 20th century*, *International Journal of Humanities and Social Sciences*, 2017
- M.K Brahma, *Gurudev Kalicharan Brahma: His Life and Deeds*, N.L Publications, 2001
- Sujit Choudhury, *The Bodos: Emergence and Assertion of an Ethnic Minority:*

Bhimbar Deuri

- Dr. Ratneshwar Deuri, *Jononeta Bhimbar Deuri*, Publisher Anjanli Deuri, 2018

- Indibar Deori, Jonogosthiyo Samasya: Atit, Bartaman Aru Bhabishyat, Bandhab, 2015
- Madhabjyoti Deuri, Axomor Trankorta Bhimbar Deuri, Samannay Prakashan, 2009
- Munindra Das, Axamar Nrigosthiya Uttaranar Itihash: Samashya- Sangram- Praptil, Banalata, 2020

Unit 3: Women Education, Politics and Literature

- a. Baptist Missionaries & women education
- b. Chandraprabha Saikiani, Amal Prabha Das & Raja Bala Das
- c. Asom Lekhika Samaroh

Baptist Missionaries and Women Education:

- American Baptist work in Assam, India, 1926.
- Anupama Ghosh, Evangelism in Assam: Schools and Print Culture 1830s-1890s, Indian History Congress, 2014.
- Archana Chakravarty, History of Education in Assam 1826-1919, Mittal Publications, 1989
- Lakshahira Das, Development of Secondary Education in Assam, Omsons Publications, 1990
- Milton S Sangma, History of American Baptist Mission in North-East India (Vol 2), Mittal Publications, New Delhi, 1992 • Suryasikha Pathak, Missionary Wives in the Evangelical Project in Colonial Assam: Life and Times of Mrs P.H Moore, ICHR, Guwhati, 2008

Chandraprabha Saikiani

- Aparna Mahanta, Chandraprabha Saikiani: Swadhinatapurba Asamor Stri-Siksha aru Nari Jagaran, Anwesa Publications, 2014.
- Hiranya Borah, Chandraprabha: The Iron Lady of Assam, Bluerose publishers, 2021
- Madhurima Goswami (ed), Chandraprabha Saikiani: A Force in History, DVS Publishers, 2020
- Nandana Dutta (ed), Communities of Women in Assam: Being, Doing and Thinking Together, Routledge, London, 2016
- R Doley, N Choudhury, Agnikanya Chandraprabha Saikiani: A Collection of Articles, Tezpur University, 2014.

Amal Prabha Das

- Smaranika: A Souvenir of Amal Prabha Das Birth Centenary Celebration, Sarania Ashram, Guwatai, 2011
- Samiran Das, Amalprabha Das: A Biographical Work, Kasturba Gandhi National Memorial Trust, Guwahati, 2004/2011

Rajabala Das

- Rajabala Das, Three Score Years and Ten: One Life Many Memories (An autobiography of Rajabala Das translated by Aditi Choudhury), Handique Girls' College, Guwahati, 2017
- Pori Hiloidari, Assamese Women: The Pathbreakers, Handique Girls' College, Guwahati

Asom Lekhika Samaroh:

- Nandana Dutta, Communities of Women in Assam: Being, Doing and Thinking Together, Routledge, London, 2016

B.A./B.Sc. First Semester
Syllabus for FYUGP, Skill Courses (SEC): 2023-24
(ARTS STREAM)

1. Department of Assamese
Asamiya Akhar Jotani

প্ৰথমমান্যাৰক

(Skill Course) Syllabus

অসমীয়াআখৰজোঁটনি

(উদ্দেশ্য:

অসমীয়াভাষাবৃদ্ধিগতভাৱেব্যৱহাৰকৰিবলৈশুদ্ধআখৰজোঁটনিৰজ্ঞানঅপৰিহাৰ্য।এইপাঠ্যতঅসমীয়াআখৰজোঁটনিৰনিয়মআৰুকৌশলসম্পৰ্কীয়জ্ঞানসম্মিলিতহৈছে।

প্ৰথমগোট	: বৰ্ণাশুদ্ধিৰকাৰণ:
	স্বৰধ্বনিগতবৰ্ণাশুদ্ধি - স্বৰধ্বনিআৰুআখৰৰসম্পৰ্ক, স্বৰচিহ্ন।
দ্বিতীয়গোট	: ব্যঞ্জনধ্বনিগতবৰ্ণাশুদ্ধি:
	ব্যঞ্জনধ্বনিআৰুআখৰৰসম্পৰ্ক, যুক্তাক্ষৰ।
তৃতীয়গোট	: ভুলপ্ৰয়োগ:
	বিভক্তি, প্ৰত্যয়, চন্দ্ৰবিন্দু, যতিচিহ্ন, তৎসমশব্দৰবানান, ধলুৱাশব্দৰবানান
চতুৰ্থগোট	: লিপ্যন্তৰপদ্ধতিআৰুপ্ৰয়োগ

সহায়কগ্ৰন্থ (নিৰ্বাচিত)

অসমীয়াআখৰ-জোঁটনিআৰুলিপ্যন্তৰপদ্ধতি : গুৱাহাটী বিশ্ববিদ্যালয়

অসমীয়াআখৰ-জোঁটনিঅসমীয়া: গোলকচন্দ্ৰগোস্বামী

ব্যাকৰণতত্ত্বআৰুতাত্ত্বিক : খগেশসেনডেকা

নিকাঅসমীয়াভাষা : মহেশ্বৰনেওগ

2. Department of Arabic **SPOKEN ARABIC-I**

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 (الحروف مخارج)
- Writing Practices

UNIT-III: Vocabulary Enrichment

Arabic vocabulary related to

- Nature e.g. Earth, Moon, Sun, river mountain. and seasonsetc.
- 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

3. DEPARTMENT OF ECONOMICS

Data Collection and Presentation

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.

Unit 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.

Unit 2. Questionnaires and Schedules Meaning;

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

Unit 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

4. DEPARTMENT OF ENGLISH

Spoken English

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 inter personal 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 photo graph or video clipping etc.

THEORY CREDIT: 1

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 CDrom, 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

1. DEPARTMENT OF EDUCATION

Teaching Skill

PAPER TITLE: - SKILLS ON PRACTICE TEACHING.

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: Preparation of Lesson Plan for practice teaching (PRACTICAL).

2. DEPARTMENT OF HISTORY

Historical Tourism in North East India

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 N	on-contact classes : 2	Marks
: 25			

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 wildlife habitats: Kaziranga, Manas, Orang, Nameri, Dibru Saikhowa, Namdapha, Keibul Lamjao, Rain forests of Assam.

Unit: II	Contact Classes : 8	Non-contact classes : 2	Marks : 25
-----------------	----------------------------	--------------------------------	-------------------

Ancient remains and Important tourist places of the North– East

[a] : Ancient remains: Goalpara, Ambari, Tezpur, Deopahar, Malinitan, Doyang–Dhansiri Valley

[b] : Tourist places: Shillong, Cherapunjee, Aizwal, Gangtok, Kohima, Tawang, Poa Mecca (Hajo), Azan Pir Dargah, Jatinga

Unit: III **Contact Classes : 8** **Non-contact classes : 2** **Marks : 25**

Architectural Heritage

[a] : Dimapur, Kasomari, Maibong, Khaspur

[b] : Charaideo, Garhgaon, Sivasagar and Rangpur

[c] : Ujayantapalace, Neer Mahal

[d] : Kamakhya, Hayagriva Madhava, Tripura Sundari Temple, Rumtek monastery

[e] : Kanglafort

Unit: IV **Contact Classes : 8** **Non-contact classes : 2** **Marks : 25**

[a] : Festivals- Bihu, Ali Aye Lrigang, Mopin festival, Tai–Buddhist festivals in Assam

[b] : Bhaona, Rascelebration in Majuli

[c] : Fairs- Jonbil Mela, Ambubachifair at Kamakhya

[d] : Tourist festivals based on ethnic culture– Horn Bill festival, Sangai festival, Dihing Patkai festival

3. DEPARTMENT OF POLITICAL SCIENCE **(PANCHAYATI RAJ AND PRACTICE)**

Course Objective:

This course acquaints students with the Panchayati Raj Institutions and their actual working. It further encourages a study of Panchayati Raj Institutions in their mutual interaction and their interaction with the people.

Course Outcomes:

- This paper will help students to understand the importance of grass root political institutions in empowering people.
- This paper will highlight the complex challenges faced by Panchayati Raj Institutions in India and mechanisms involved to make it more participatory and inclusive in nature.

Unit 1. Introduction of Panchayati Raj System

- Definition of Panchayati Raj System
- Evolution of Panchayati Raj in India and its importance
- Devolution

Unit 2. Provisions of Panchayati-Raj System in Indian Constitution

- Role of 73rd Amendment Act of Panchayati-Raj System in India
- Constitutional Provisions on Panchayat Finances
- Fiscal Decentralization and Audit System

Unit 3. Problems and Needs of Disadvantaged Groups and their Participation

- Women
- Scheduled Tribes, Scheduled Castes and Minorities
- 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 people's participation in the political system etc.

SCIENCE STREAM

8. DEPARTMENT OF BOTANY

Ecology and Environmental Management

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.

9. DEPARTMENT OF CHEMISTRY

Basic Analytical Chemistry

Unit I: Introduction (6 Lectures)

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.

Unit II: Basic principles of quantitative analysis (6 Lectures)

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

Unit III: Analysis of soil (8 Lectures)

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.

Unit IV: Analysis of water (8 Lectures)

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.

Unit V: Analysis of food products (9 Lectures)

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.

Unit VI: Chromatography (8 Lectures)

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.

Suggested Applications

- To study the use of phenolphthalein in trap cases.

Suggested Instrumental demonstrations:

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

10. DEPARTMENT OF ZOOLOGY **Ornamental Fish and Fisheries**

Course Contents:

1. Ornamental Fish Diversity of North East India
2. Aquarium plant diversity in the wetland of Assam
3. Construction and management of Home Aquarium
4. Natural feed of Ornamental Fish
5. Strategies for maintenance of natural colour of Ornamental Fish
6. Natural Breeding of Tricogaster species
7. Health management of Ornamental Fish
8. Feed formulation of Ornamental Fish
9. Development of Biological filtration in Aquarium
10. Pure culture of planktons

Practical

1. Identification of Ornamental Fish
2. Culture of Indigenous ornamental fish in Aquarium
3. Estimation of Physico-chemical characteristics of Aquarium water
4. Biological filter for removal of Ammonia from Aquarium
5. Culture of Planktons

11. DEPARTMENT OF PHYSICS **Physics Workshop Skills**

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 IV: 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

12. DEPARTMENT OF MATHHEATICS

Reasoning & Logic

Title: APTITUDE AND LOGICAL REASONING COURSE

Total Marks = 100 (Final Exam 80 Marks + Project 20 Marks)

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

VALUE ADDED COURSES (VAC)

The VAC courses will come from four sub groups —

1. Understanding India,
2. Environmental Science,
3. Digital and Technological Solutions, and
4. Health & Wellness, Yoga Education, Sports, and Fitness.

All together they will have a credit allocation of 6.

Each student will have to take any three courses, each of 2-credit, from any three groups during Semesters 1, 2, & 4. Here one course from the Environmental Science group is compulsory except if the student takes a core course on Environmental Science.

ENVIRONMENTAL STUDIES

Total Marks 50

Semester-1

No. of Credits: 2 No. of hours: 30

Unit1: Introduction to Environmental Studies

5 lectures

- Multidisciplinary nature of environmental studies;
- Scope and importance;
- Basic concepts: Renewable resources, non renewable resources, Common Propertyresources, Tragedy of commons, Climate change, global warming
- Concept of sustainable development

Unit 2: Ecosystems

10 lectures

- What is an ecosystem? Difference between ecology and ecosystem. Structure and function of ecosystem: Energy flow in an ecosystem: food chains, food web and ecological succession
- Case studies on any one of the following
 - a) Forest ecosystem
 - b) Grassland ecosystem
 - c) Aquatic ecosystems (ponds, streams, lakes, rivers)
 - d) Mountain ecosystem

Unit 3: Environmental Pollution and laws

15 lectures

- Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution

- Solid waste management: Control measures of urban and industrial waste.

- Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements, policies and treaties

-

-----*****-----

HATSINGIMARI COLLEGE, HATSINGIMARI