

*COMMON COURSES for NEP based
Curriculum*

ABILITY ENHANCEMENT COURSES (AEC)

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.

1st semester

Department: Assamese

Bengali

Bodo

English

Sanskrit

Nepali

Hindi

Subject: Assamese
Semester: First
Course Name: যোগাযোগমূলক অসমীয়া—১
Common Course
Ability Enhancement Course
Existing Base Syllabus: UG CBCS Syllabus
Course Level: 100-199

Unit No.	Unit Content	No. of Classes	Marks
১	ভাষাজ্ঞান : উচ্চাৰণ, আখৰ জোঁটনি, যতিচিহ্নৰ জ্ঞান, প্রত্যয়-বিভক্তিৰ ব্যৱহাৰ, কথন কৌশল	১২	২০
২	কৰ্মক্ষেত্ৰৰ অসমীয়া : আবেদন, বিজ্ঞাপন, প্ৰতিবেদন 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

Graduate Attributes: জ্ঞান-আধাৰ, ব্যৱহাৰিক উপযোগিতা, জীৱনজোৰা বিদ্যা

Course Objective: এই কাকতখনৰ উদ্দেশ্য অসমীয়া ভাষাৰ ব্যৱহাৰিক জ্ঞানৰ আভাস দিয়া।

Learning Outcome: এই কাকতখন অধ্যয়ন কৰিলে ছাত্ৰ-ছাত্ৰীসকলে ভাষাটোৰ ব্যৱহাৰিক জ্ঞান আয়ত্ত কৰাৰ লগতে কৰ্মক্ষেত্ৰত অসমীয়া ভাষা প্ৰয়োগৰ দক্ষতা আহৰণ কৰিব পাৰিব।

Theory Credit: 1

Practical Credit: 1

No. of required classes: 24

No. of contact classes: 20

No. of non-contact classes: 4

Subject: Bengali

COURSE DETAILS

a. Four Year Undergraduate Programme

b. Subject- Bengali

c. Semester – First

d. Course Name – AEC paper wise course names of each semester are included in the syllabus (Column no. g)

f. Course Level- 100

g. Syllabus-

SEMESTER 1

Paper Code - BEN AEC PAPER- ICredits-2			
Paper Title - বাংলা সাহিত্য এবং প্রয়োগমূলক বাংলা ব্যাকরণ			
External Marks—80 Internal Marks—20*			
Units	Topics	No. of Class	Marks
I	শরৎচন্দ্র চট্টোপাধ্যায়—‘দত্তা’	8	20
II	রবীন্দ্রনাথ ঠাকুর—সোনার তরী নির্বাচিত কবিতা—সোনার তরী, যেতে নাহি দিব, ব্রাহ্মণ, দুই পাখি, বর্ষাষাপন, নিরুদ্দেশ যাত্রা, আত্মসমর্পণ,	8	20
III	প্রমিত বাংলা বানান ও বাক্য বাংলা বানান বিধি, গত্ব বিধান, ষত্ব বিধান, অশুদ্ধি সংশোধন, বাংলা বাক্যের গঠন	7	20
IV	ব্যবহারিক বাংলা ব্যাকরণ কারক, বিভক্তি, সন্ধি, সমাস, বাগধারা, ভিন্নার্থক সমোচ্চারিত শব্দ, সমার্থক শব্দ, বিপরীতার্থক শব্দ	7	20

*Candidates have to attend one Sessional Exam, of 40 marks and submit two Home Assignments each of 20 Marks for Internal Assessment Marks. Internal Assessment marks will be given out of 20 marks by averaging the marks obtained in Sessional Examination and Home Assignments.

h. Reading list-

Reference Books:

- ১। শ্রীকুমার বন্দ্যোপাধ্যায় - বঙ্গসাহিত্যে উপন্যাসের ধারা, মডার্ন বুক এজেন্সী
- ২। সরোজকুমার বন্দ্যোপাধ্যায় – বাংলা উপন্যাসের কালান্তর, দে'জ
- ৩। সুবোধচন্দ্র সেনগুপ্ত – শরৎচন্দ্র, এ মুখার্জী এণ্ড কোম্পানি
- ৪। ডঃ শ্যামসুন্দর বন্দ্যোপাধ্যায় – শরৎচন্দ্রের চিন্তা জগৎ ও তাঁহার সাহিত্য, জি. এ. এন্টারপ্রাইজ
- ৫। প্রমথনাথ বিশী – রবীন্দ্রকাব্য প্রবাহ, মিত্রালয়
- ৬। উপেন্দ্রনাথ ভট্টাচার্য – রবীন্দ্র কাব্য পরিক্রমা, ওরিয়েন্ট বুক কোম্পানি
- ৭। চারুচন্দ্র বন্দ্যোপাধ্যায় – রবিরশ্মি (১ম ও ২য় খণ্ড), এ মুখার্জী অ্যান্ড কোং প্রাইভেট লিমিটেড
- ৮। পরেশচন্দ্র মজুমদার – বাংলা ভাষা পরিক্রমা (১ম ও ২য় খণ্ড), দে'জ
- ৯। সুকুমার সেন – ভাষার ইতিবৃত্ত, বর্ধমান সাহিত্য সভা
- ১০। শ্রীবামনদেব চক্রবর্তী – উচ্চতর বাংলা ব্যাকরণ, অক্ষয় মালঞ্চ
- ১১। পবিত্র সরকার – ব্যবহারিক বাংলা বানান অভিধান, লতিকা প্রকাশনী
- ১২। অশোক মুখোপাধ্যায় সংকলিত – সংসদ বানান অভিধান, সাহিত্য সংসদ
- ১৩। সুভাষ ভট্টাচার্য – আধুনিক বাংলা প্রয়োগ অভিধান, আনন্দ
- ১৪। সুনীতিকুমার চট্টোপাধ্যায় – ভাষাপ্রকাশ বাঙ্গালা ব্যাকরণ, রূপা
- ১৫। রামেশ্বর শ্ব – সাধারণ ভাষাবিজ্ঞান ও বাংলা ভাষা, পুস্তক বিপণি
- ১৬। সাহিত্য অকাদেমি - বাংলা বানান অভিধান

i. (ii) Learning Outcome -

Paper Title - বাংলা সাহিত্য এবং প্রয়োগমূলক বাংলা ব্যাকরণ

In this course the students will go through the writings of two great writers of Bengali Literature, Rabindranath Tagore and Saratchandra Chattapadhyay. Poetry Book 'Sonar Tari' of Tagore and 'Dutta' of Saratchandra will definitely enrich the students to learn the aspects of modern Bengali literature. Apart from this, some concepts of grammar, spelling and sentence formation etc. will also enrich the students in practical fields of communicative system.

j. Theory Credit- 80

k. Practical Credit - 20

l. No. of Required Classes –Total class 30

m. No. of Contact Classes - 60

n. No. of Non-Contact Classes - 0

o. Particulars of Course Designer–

BODO-Ability Enhancement Course (for Sem-I)

Communicative Bodo

Marks: 80 (Theory) + 20 (Internal Assessment) Total =100

Course outcomes:

- Come to know about the spelling system used in writing Bodo language.
- Come to know about practical application of Bodo language in different perspectives.

Unit-I Spelling System in Bodo	20
Unit-II Applied Grammar (Use of Case and Case endings, Tone, Tense and Tense Markers, Synonyms, Antonyms)	20
Unit-III Commercial Advertisement (Use of Bodo Language in Print and Electronic Media, Administrative terminology)	20
Unit-IV Essay writing (Current Issues, commercial and literary pursuits)	20

Suggested Readings:

- BoroBhasaShiksha-Mohini Mohan Brahma
- Boro Rao- BhabenNarzee
- GwzvuRaokhanthi-MadhuramBoro
- GwnangRaokhanthi-Kamal Kumar Brahma
- BoroRaokhanthi-SwarnaPrabhaChaina

AEC (Ability Enhancement Course)
Alternative English I (In lieu of MIL)
Semester 1
Credits 2
(30 External +20 Internal = 50 Marks)

Course Outcome:

This paper would seek to acquaint students with the literary practices and trends. It presents a sampling of poems and stories so as to enable students to engage with possibilities of reading and approaching English literature.

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

FYUG Course

AEC Paper I (Ability Enhancement Course)

Sub: Sanskrit, MIL (Communicative)

Basics of Sanskrit Communication

Marks-50

Total Credit: 2

Base Syllabus : UG CBCS

Course Level : 100-199

Unit No.	Unit Content	Credit	No. Of Class	Marks
I	Scientific Background of Sanskrit Alphabets and Vedic Svaras	0.5	6	10
II	The Speech Apparatus and Pronunciation of Sanskrit Sounds.	0.5	6	20
III	Sanskrit Speaking Skill	1	10	20

(Self Introduction through 10 Sentences,

10 Sentences on any Topic from the

Surrounding, Ten Sentences each about

India and Assam)

Reading List:

- 1. Mishra Gopabandhu, *SanskritaBharatiPraveshika*, BharatiBhawan, Delhi, 2021**
- 2. Pandey, Acharya Rajbali, *SanskritaSvayamShikshaka*, Vikas Paper Backs, 2021**
- 3. ShastriShyamNandan, *AdhunikSanskritaVyakaranaurRacana*, BharatiBhawan Publishers & Distributers, Delhi, 2017**
- 4. NaraleProf.Ratnakar, *Sanskrit Grammar and Reference Book*, RatnakarPustakBharati Books, India**

5. SarmaRajendraNath, SamskritaVyakaranaSurabhi, Lakshmi Prakashan, Guwahati, 2016.
6. BhandarkarRamkrishnaGopal, *First book of Sanskrit*, Gyan Publishing House, 2021
7. Burrow T, *The Sanskrit Language*, MotilalBanarsidass, 2016
8. Hedge, Janardan,*Sambhambhāṣaṇasopānam*, Akṣaram, Bengaluru, 2014
9. *enjoylearningsanskrit.com*
10. you tube channelदेववाणीसंस्कृत E-Gurukulam

Graduate Attributes : Knowledge of Sanskrit sounds , Ideas and Technicalities required for Sanskrit Communication , Self Introduction in Sanskrit Language, Ability to project India and Assam in Sanskrit.

Course Objectives : a. Students will acquire the basic knowledge of the domain of Communicative Sanskrit

b. Students will gain knowledge about the Scientific Background of Sanskrit sounds and the Vedic Svaras

c. Students will overcome the barriers of Speaking Sanskrit for communication in day to day life

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

- a. to grasp the details of pronunciation techniques in connection with Spoken Sanskrit .
- b. to understand the Science that remains behind the Sanskrit sounds through practical use.
- c. to acquire the skill of presenting oneself before any person in Sanskrit .
- d. to be habituated in forming small Sanskrit sentences for day to day life.

Total Credit=2. No. of Theory Class= 14. No. of Practical Class -8 (in Unit III)

नेपाली व्याकरण र खण्डकाव्य

एकाइ १	नेपाली शब्दवर्ग-नाम, सर्वनाम, विशेषण, क्रियापद, क्रियायोगी, नामयोगी, संयोजक, व्याकरणिक कोटि-लिङ्ग, वचन, पुरुष, काल, पक्ष, वाच्य, आदरार्थी
एकाइ २	मुनामदन- लक्ष्मीप्रसाद देवकोटा

सन्दर्भ सामग्री -

१. मुनामदन- लक्ष्मीप्रसाद देवकोटा
२. नेपाली साहित्य मञ्जरी- डा. तिलक शर्मा र कमल सेढाई
३. उच्चतर माध्यमिक नेपाली व्याकरण र रचना – घनश्याम नेपाल र पुष्कर पराजुली
४. उच्च माध्यमिक नेपाली व्याकरण र रचना- घनश्याम नेपाल र कविता लामा
५. आदर्श नेपाली व्याकरण – तारापति उपाध्याय र द्रोणकुमार उपाध्याय
६. पूर्वोत्तर माध्यमिक नेपाली व्याकरण र रचना – शिवराज शर्मा
७. क्याम्पस स्तरीय नेपाली वाक्य व्याकरण- डा. माधवप्रसाद पोखरेल
८. नेपाली क्रियाका रूपावली- डा खगेन शर्मा

□□य □□रम

□□

□□ : प्रथम

□□स-□□ड : HIN-AEC-1

□□स □□ □□म : हिन्दी काव्य-धारा

□□स-□□वल : 100-199

□□ल □□क : 50

□□षण : 40

□□षण : 10

इ □□ई	□□ट	□य -□□षय	□□	□□क □□षण + त □□क □□षण)
1	1	(क) आदिकालीन, भक्तिकालीन और रीतिकालीन हिन्दी काव्यधारा का सामान्य परिचय (ख) हिन्दी काव्य सुधा - पाब्लिकेशन डिपार्टमेंट, गौ.वि. <u>□□त □□ठ</u> : पदावली-- 1, 6 (विद्यापति), साखी- 1-5 (कबीरदास), भ्रमरगीत (सूरदास), पद-- 1, 2, 3 (मीराँबाई), केवट प्रसंग (तुलसीदास), दोहे- 1-5 (बिहारीलाल), कवित्त-- 1, 2, 3 (घनानन्द)	15	25 (20+5)
2	1	(क) आधुनिक हिन्दी काव्य-धारा का संक्षिप्त परिचय (ख) हिन्दी काव्य सुधा - पाब्लिकेशन डिपार्टमेंट, गौ.वि. <u>□□</u>	15	25 (20+5)

		(भारतेन्दु हरिश्चन्द्र), चित्रकूट में सीता (मैथिलीशरण गुप्त), पुष्प की अभिलाषा (माखनलाल चतुर्वेदी), अशोक की चिन्ता (जयशंकर प्रसाद), तोड़ती पत्थर (सूर्यकान्त त्रिपाठी 'निराला'), मेरे दीपक (महादेवी वर्मा), उधार (अज्ञेय), टूटा पहिया (धर्मवीर भारती), कुत्ता (धूमिल)		
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□□र □□ट □□य : इकाई 1 (क) एवं 2 (क) से केवल अतिलघु एवं लघु-उत्तरीय प्रश्न पूछे जाएंगे ।

स□□द □□भ □□र □□थ :

□□स – बाबू गुलाबराय, लक्ष्मी नारायण अग्रवाल, आगरा ।

2. हिन्दी साहित्य का इतिहास-- डॉ॰ नगेन्द्र (संपा.), नेशनल पब्लिशिंग हाउस, नयी दिल्ली ।

3. विद्यापति– डॉ॰ आनन्द प्रकाश दीक्षित (संपा॰), साहित्य प्रकाशन मन्दिर, ग्वालियर ।

□□द ।

□□र , अ□□गढ़ ।

□□ ।

7. गोस्वामी तुलसीदास– आचार्य रामचन्द्र शुक्ल, प्रकाशन संस्थान, नयी दिल्ली ।

8. बिहारी का नया मूल्यांकन– डॉ॰ बच्चन सिंह, लोकभारती प्रकाशन, इलाहाबाद ।

9. घनानन्दः काव्य और आलोचना– डॉ॰ किशोरीलाल, साहित्य भवन प्राइवेट लिमिटेड, इलाहाबाद ।

10. भारतेन्दुः एक नयी दृष्टि– लहरी राम मीणा, स्वराज प्रकाशन, नयी दिल्ली ।

11. मैथिलीशरण गुप्त के काव्य की अंतर्कथाओं के स्रोत-- शशि अग्रवाल, हिन्दी साहित्य सम्मेलन, प्रयाग ।

12. माखनलाल चतुर्वेदीः काव्य एवं दर्शन– डॉ॰ दिनेश चन्द्र वर्मा, विद्या प्रकाशन, कानपुर ।

13. महादेवी का नया मूल्यांकन– डॉ॰ गणपतिचन्द्र गुप्त, लोकभारती प्रकाशन, इलाहाबाद ।

14. प्रसाद-निराला-अज्ञेय– डॉ॰ रामस्वरूप चतुर्वेदी, लोकभारती प्रकाशन, इलाहाबाद ।

15. धर्मवीर भारती की काव्य-साधना– डॉ॰ मंजूषा श्रीवास्तव, मिलिन्द प्रकाशन, हैदराबाद ।

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□□षण -उपलब्धि : हिन्दी काव्य-धारा से संबंधित प्रस्तुत योग्यतावर्धक पाठ्यक्रम को इस रूप में तैयार किया गया है, जिससे कि विद्यार्थियों को सहस्राधिक वर्षों की हिन्दी काव्य-धारा की सामान्य जानकारी प्राप्त हो । इसके अलावा चयनित रचनाओं के पठन-पाठन के

□

जरिए काव्य-रस एवं आधुनिक युगबोध तथा हिन्दी भाषा के साहित्यिक स्वरूपों से वे परिचित हों और इन बातों से उनलोगों की व्यावहारिक योग्यता में भी अपेक्षित वृद्धि घटित हो सके ।

□□ट : 2

□□ट : 0

□□ : 30

□□र □□य □□ष कक्षाएँ : 30

अ□□र □□य □□ष कक्षाएँ : 0

□□इनर □□ □□वरण :

नाम : डॉ॰ अच्युत शर्मा

संस्थान : गौहाटी विश्वविद्यालय

ईमेल : sarmaachyut291058@gmail.com

VALUE ADDED COURSES (VAC)

Value Added Courses (VAC)

The VAC courses will come from four sub groups — (i) Understanding India, (ii) Environmental Science, (iii) Digital and Technological Solutions, and (iv) 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.

Semester 1

1. Srijanimulok Sahitya-1
2. Traditional Knowledge System of the Bodos
3. Understanding Indian Constitution
4. India Through The Ages
5. Cyber Ethics
6. Psychology For Health And Well Being
7. Environmental ethics & Forest ecology
8. Natural Resource Management and Sustainable Development
9. Environmental Studies

Four-Year Undergraduate Programme
Semester: First
Course Name: সৃজনীমূলক সাহিত্য- ১
Common Course
Value Added Course
Existing Base Syllabus: UG CBCS Syllabus
Course Level: 100-199

Unit No.	Unit Content	No. of Classes	Marks
১	অনুকরণ আৰু কল্পনা, কবিতাৰ আঙ্গিক আৰু ধাৰা	১২	২০
২	কবিতাৰ ভাষা; ব্যৱহাৰিক লেখা/প্ৰকল্প	১২	২০

পঠন-সামগ্ৰী:

সাহিত্য নিৰ্মাণ প্ৰসঙ্গঃ

সৃজনীশীল সাহিত্যঃ প্ৰেৰণা আৰু আৰ্হিঃ

Creative Writing: The Essential Guide:

নতুন সাহিত্য পৰিষদ

অতনু ভট্টাচাৰ্য

Tim Atkinson

Graduate Attributes: সৃষ্টিশীল মনোভাব, চিন্তনৰ নতুনত্ব, সমাজমুখিতা

Course Objective: কবিতাৰ ভাষা আৰু আংগিক নিৰ্দেশ কৰা আৰু ইয়াৰ ৰচনা শৈলীৰ আভাস দিয়াই এই কাকতখনৰ উদ্দেশ্য।

Learning Outcome: এই কাকতখন অধ্যয়ন কৰিলে ছাত্ৰ-ছাত্ৰীসকলে আবেগ, চিন্তন আৰু মনন কৌশল প্ৰয়োগ কৰি কবিতা-ৰচনাৰ ক্ষেত্ৰত দক্ষতা অৰ্জন কৰিব পাৰিব।

Theory Credit: 2

Practical Credit: 0

No. of required classes: 24

No. of contact classes: 20

No. of non-contact classes: 4

Value Added Course

Traditional Knowledge System of the Bodos (for Sem-I)

Marks: 80 (Theory) + 20 (Internal Assessment) Total =100

Credit Point : 2

Course Outcome:

- Student will come to gain a comprehensive understanding of traditional knowledge systems, including their origins and significance.
- Students will learn about the importance of preserving traditional knowledge and methods for documenting and recording this knowledge to ensure its continuity and accessibility for future generation.

Unit-I: An Introduction to Bodo Traditional knowledge system	20
Unit-II: Bodo Traditional knowledge system and ethno botany	20
Unit-III: Bodo Traditional knowledge system related to agriculture	20
Unit-IV: Bodo Traditional knowledge system and sustainable development	20

References:

Traditional Knowledge and Intellectual Property-Stephen A. Hansen and Justin W. VanFleet
The Protection of Biodiversity and Traditional Knowledge in International Law of Intellectual Property-
Jonathan Curci Monograph of the Boros-Phukan Ch Basumatary & Swarna Prabha Chainary
Boro Kacharir Samaj Aru Sanskriti-Bhaben Narzee
Mainao Boraynay-Indramalati Narzaree

Understanding Indian Constitution

Unit-I: The Making of the Indian Constitution

- a. The historical background
- b. Constituent Assembly of India
- c. Philosophy of the Constitution and features

Unit-II: Rights and Duties

- a. Fundamental rights of the Indian citizen
- b. Fundamental Duties of the Citizen
- c. The Directive Principles of State Policy

Unit-III: Government and Legislature

- a. Union Executive: President, Vice-President, Prime Minister and Council of Ministers
- b. Lok Sabha, Rajya Sabha.
- c. Passing of bills

Unit-IV: Federalism in India

- a. The centre-state relations
- b. Key characteristics of federalism in India
- c. Role of Governor

Reading List:

Unit-I:

D. Basu, (2012) *Introduction to the Constitution of India*, New Delhi: Lexis Nexis.

G. Austin, (2010) 'The Constituent Assembly: Microcosm in Action', in *The Indian Constitution: Cornerstone of a Nation*, New Delhi: Oxford University Press, 15th print, pp.1-25.

Mellalli, Praveenkumar (2015), *Constitution of India, Professional Ethics and Human Rights*, New Delhi, Sage Publications

R. Bhargava, (2008) 'Introduction: Outline of a Political Theory of the Indian Constitution', in

R. Bhargava (ed.) *Politics and Ethics of the Indian Constitution*, New Delhi: Oxford University Press, pp. 1-40.

S. Chaube, (2009) *The Making and Working of the Indian Constitution*, Delhi: National Book Trust. Chakrabarty, Bidyut. (2017), *Indian Constitution: Text, Context and Interpretation*, New Delhi, Sage Publications

Unit-II:

G. Austin, (2000) 'The Social Revolution and the First Amendment', in *Working a Democratic Constitution*, New Delhi: Oxford University Press, pp. 69-98.

A .Sibal, (2010) 'From Niti to Nyaya,' *Seminar*, Issue 615, pp 28-34.

Chakrabarty, Bidyut. (2017), *Indian Costitution: Text, Context and Interpretation*, New Delhi, Sage Publications

Mellalli, Praveenkumar (2015), *Constitution of India, Professional Ethics and Human Rights*, New Delhi, Sage Publications

Unit-III:

B. Shankar and V. Rodrigues, (2011) 'The Changing Conception of Representation: Issues, Concerns and Institutions', in *The Indian Parliament: A Democracy at Work*, New Delhi: Oxford University Press, pp. 105-173.

H. Khare, (2003) 'Prime Minister and the Parliament: Redefining Accountability in the Age of Coalition Government', in A. Mehra and G. Kueck (eds.) *The Indian Parliament: A Comparative Perspective*, New Delhi: Konark, pp. 350-368.

J. Manor, (1994) 'The Prime Minister and the President', in B. Dua and J. Manor (eds.) *Nehru to the Nineties: The Changing Office of the Prime Minister in India*, Vancouver: University of British Columbia Press, pp. 20-47.

J. Manor, (2005) 'The Presidency', in D. Kapur and P. Mehta P. (eds.) *Public Institutions in India*, New Delhi: Oxford University Press, pp.105-127.

V. Hewitt and S. Rai, (2010) 'Parliament', in P. Mehta and N. Jayal (eds.) *The Oxford Companion to Politics in India*, New Delhi: Oxford University Press, pp. 28-42.

Unit-IV:

B. Sharma, (2010) 'The 1990s: Great Expectations'; 'The 2000s: Disillusionment Unfathomable', in *Unbroken History of Broken Promises: Indian State and Tribal People*, Delhi: Freedom Press and SahyogPustakKuteer, pp. 64-91.

Kincaid(eds.) *A Global Dialogue on Federalism*, Volume 3, Montreal: Queen's University Press, pp.166-197.

M. Singh, and R. Saxena (eds.), (2011) 'Towards Greater Federalization,' in *Indian Politics: Constitutional Foundations and Institutional Functioning*, Delhi: PHI Learning Private Ltd., pp.166-195.

R. Dhavan and R. Saxena, (2006) 'The Republic of India', in K. Roy, C. Saunders and J. R. Manchanda, (2009) *The No Nonsense Guide to Minority Rights in South Asia*, Delhi: Sage Publications, pp. 105-109.

The Constitution of India: Bare Act with Short Notes, (2011) New Delhi: Universal, pp 192-213.

V. Marwah, (1995) 'Use and Abuse of Emergency Powers: The Indian Experience', in B. Arora and D. Verney (eds.) *Multiple Identities in a Single State: Indian Federalism in a Comparative Perspective*, Delhi: Konark, pp. 136-159.

Semester-I

India Through The Ages

Marks-100

Total Credit: 2

Base Syllabus : UG CBCS

Course Level : 100-199

Unit No.	Unit Content	Credit	No of Class.	Marks
I	Origin and Development of Astrology, Astronomy, Mathematics and Ayurveda in India	0.5	07	25
II	Indian concept of Nationalism and the Freedom Movement of India	0.5	07	25
III	Contribution of Indian Scientists in the Academia	0.5	07	25
IV	Policies of the 21 st Century Regarding Women and Girl Child Undertaken by the Government of India	0.5	07	25

Readings List

1. Gaurinath Shastri, *A Concise History of Sanskrit Literature*, MLBD, Delhi.

2. Maurice Winternitz, *Indian Literature (Vol. I-III)*, also Hindi Translation, MLBD, Delhi.
3. Baldev Upadhyay, *Sanskrit Sahitya ka Itihas*, Sharda Niketan, Varanashi.
4. Baldev Upadhyay, *Vedik Sahitya aur Sanskriti*, Varanasi.
5. Charakasamhita, MLBD, Delhi
6. Sushrutasamhita MLBD, Delhi
7. Altekar, A.S. – *State and Government in Ancient India*, MLBD, Delhi, 2001
8. Ghosal, U.N- *A History of Indian Political Ideas*, Bombay, 1959
9. Sharma, R.S.- *Aspects of Political Ideas and Institutions in Ancient India*, MLBD, Delhi, 1996
10. Yadav, B.S. and Man Mohan. *Ancient Indian Leaps into Mathematics*, Boston: Birkhauser, 2010
11. Tomar, Ankit and Suratha K. Malin. *Ancient And Medieval Indian Thoughts: Themes And Traditions*. Delhi: Sage, 2020
12. Chousalkar, A.S. *Revisiting the Political Thought of Ancient India: Pre- Kautilyan Arthashastra Tradition (First)*. SAGE Publication Pvt. Ltd. 2018
13. Mehta, V.R. *Foundations of Indian Political Thought : An Interpretation (From Manu to the Present Day)* . South Asia Books, 1996
14. Sampath. V. *Bravehearts of Bharat: Vignettes from Indian History*. Viking. 2022
15. Kashyap, Samudra Gupta. *Untold Stories of the Freedom Struggle From NorthEast India* . Ministry of Information & Broadcasting . Government of India, 2022
16. Gupta, Manmathnath. *Bharat ke krantikari*. Penguin Books , India. 2019
17. Dasgupta. A.K. *History of Indian Economic Thought*. Routledge. 2002

Graduate Attributes : Disciplinary Knowledge, , Sense of pride for Indian Culture, Inclination to Indian Knowledge System, First Hand Idea about Indian Concept of Good Health, Indian Freedom Struggle and Original Idea on Indian Nationalism, contributions of Indian Scientists in the world forum as well as Economic policies of Indian Government regarding women and girl child.

Course Objectives : a. Students will acquire knowledge of Ancient India's Tradition of Mathematics etc.

b. Students will study the history and background of Indian Nationalism and the history of India's freedom movement.

c. Students will gain the basic Idea of Indian Nationalism

d. students will gain ideas about the contributions of Indian scientists.

e. Students will know various aspects of different policies of Indian government regarding women and girls child.

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

- a. to appreciate the value of knowledge regarding ancient Indian wisdom.
- b. to gain knowledge about various Indian original ideas which are at the root of different areas of cognition.
- c. to appreciate Indian Knowledge System that evolved in the initial stage of human civilization.
- d. to grasp the Idea of Indian nationalism and Indian Freedom struggle.
- e. to gain knowledge about the concept and application of various policies of the Government of India undertaken for the development of women and girl child.

Total Credit : 2. No. of Theory Class= 28. No of. Practical Class -0

Course Designer : Chairperson, UGCCS, Dept of Sanskrit, Gauhati University

Name . Prof. Sudeshna Bhattacharjya, HOD, Sanskrit, Gauhati University

Email ID: sbmgu2010@gmail.com

VAC [PHILOSOPHY] - I

- a. Four-year Undergraduate Programme
- b. Semester: **First**
- c. Course Name: **CYBER ETHICS**
- d. Course Level: 100-199
- e. Syllabus showing each unit against class number and marks :

Unit No.	Unit Content	No. of Classes	Marks
I (Theory)	-Meaning, Definitions and Dimensions of Cyber Ethics -Cyber Space, Cyber Crime-Classification and Types of Cyber Crime	15	40

	-Cybersecurity—its Importance, Need for Cyber Regulations, Cyber Technologies and Ethics—Artificial Intelligence(AI), Fintech, Blockchain		
II (Practical)	Practical can be conducted by writing a report (2,000 words) on any issue concerning cyber crime.	15	20

f. Reading list:

- Spinello Richard A. (2011). *Cyberethics Morality and Law in Cyberspace*
 Stuckelberger C. & Duggal P. (2018). *Cyber Ethics 4.0 Serving Humanity with Values*,
 Globalethics.net Global Series No. 17
- Tavani, H. (2010). *Ethics and Technology: Controversies, Questions, and Strategies for Ethical Computing*

g. Graduate Attributes

i.Course Objectives-

- The course is designed to make the students understand the roles and the significance of Cyber ethics.
- The course introduces the students to the understanding of the relationship between ethics and cyberspace.
- The course will opportune students to make various case studies on cyber crimes.

ii. Learning outcomes:

- On the completion of the course, students will be able to develop various ways to face ethical challenges in the field of cybersecurity.
- The course will enable the students to protect data and sensitive information in the world of cyber security.
- The students will encourage students to use technology in a responsible way.

j.Theory Credit 01

k. Practical Credit 01

l. No. of Required Classes 30

m. No. of Non-Contact Classes 00

**GAUHATI UNIVERSITY
VALUE ADDED COURSES (VAC)**

Four-year Undergraduate Programme

Semester: First

Course Name: **PSYCHOLOGY FOR HEALTH AND WELL BEING**

Course Level: 100-199

Unit no.	Unit content	No.of classes	Marks
1	Health and Well Being: Continuum and models of health and illness: Medical, Bio-Psychosocial, Holistic Health; Health and Well Being; Cultural Approaches to Medicines	15	25
2	Health Management: Health-Enhancing Behaviours: Exercise, Nutrition, Health Compromising Behaviours; Health Protective Behaviours, Health Promotion through Yoga; Illness Management	15	25

Reading list:

Agarwala, S., Das, I., Kumar, K., & Kumar, S. (2009). Health Psychology. New Delhi, Allied Publishers. Allen, F. (2011). Health Psychology and Behaviour. New Delhi Tata McGraw Hill.

Dalal, A. K., & Misra, G. (Eds.). (2012). New Directions in Health Psychology. New Delhi: Sage. DiMatteo, M. R., & Martin L. R. (2017). Health Psychology. Noida: Dorling Kindersley.

Sarafino, E.P., & Smith, T.W. (2016). Health Psychology: Bio Psychosocial Interactions (9th Ed.). New York: Wiley. Snyder,

C.R., Lopez S. J., & Pedrotti, J. T. (2011). Positive psychology: The scientific and practical explorations of human strengths. New Delhi: Sage. Taylor, S.E. (2017). Health psychology (10th Ed.) New Delhi: Tata McGraw Hill.

i. Graduate Attributes

i. Course Objective: To introduce the concept and significance of Psychology for Health and Well Being

ii. Learning outcome:

- Understanding the spectrum of health and illness.
 - Demonstrating adequate knowledge about issues related to stress, stress management and coping.
 - Developing adequate knowledge about the promotion of healthy behaviour.
 - Cultivating inner strengths and virtues, like hope and optimism.
- j. Theory Credit: 2
 - k. Practical Credit: 0
 - l. No. of Required Classes :30
 - m. No. of Contact Classes: 30
 - n. No. of Non-Contact Classes: 0
 - o. Particulars of Course Designer

Four-Year Undergraduate Programme

Course name: Environmental ethics & Forest ecology

Total no. of Contact classes: 30

Total Marks: 50

Credits: 2

Course objectives:

This paper aims to provide students with a comprehensive understanding of environmental ethics, ecology, and forest ecology and protection. Through theoretical knowledge, practical examples, and case studies, students will develop a deep appreciation for the importance of environmental sustainability, responsible innovation, and ethical decision-making in the context of environmental challenges.

Learning outcomes:

Upon successful completion of the paper, students will be able to:

1. Demonstrate a comprehensive understanding of environmental ethics, including its definition, historical development, and the application of major ethical theories to environmental issues.
2. Critically assess the ethical implications of emerging technologies, such as AI and genetic engineering, on the environment and sustainability.
3. Analyze the environmental impacts of technology and the importance of responsible innovation in addressing environmental challenges.
4. Identify and propose technological solutions to environmental issues with a focus on promoting sustainability and conservation.

5. Evaluate the values associated with conserving nature and ensuring equitable use of resources for sustainable development.
6. Understand the scope of ecology and its relevance in studying the interactions between organisms and their environments.
7. Recognize ecological levels of organization and their significance in maintaining ecological balance and environmental sustainability.
8. Examine the importance of ecological principles for promoting sustainable environmental practices and conservation efforts.
9. Understand the role of environmental impact assessment (EIA) in evaluating potential environmental consequences and its role in green practices.
10. Discuss the ethics of environmental stewardship and the role of individual actions in promoting green practices and sustainability.
11. Explain the concept of a forest ecosystem and its significance in supporting biodiversity and ecosystem services.
12. Evaluate the structural and functional aspects of forest ecosystems and their role in maintaining ecological balance.
13. Assess the impact of forest fires, grazing, browsing, and invasive species on forest health and ecosystem functioning.
14. Understand the process of biodegradation of wood and the importance of fungi in tree health.

THEORY [Total no. of contact classes: 30; Credits: 2]

Unit 1: Introduction to Environmental Ethics (Marks: 16 No. of Contact Classes: 08)

Defination; Historical development; Major ethical theories and their application to the environment; Ethical implications of emerging technologies (e.g., AI, genetic engineering); Environmental impacts of technology and responsible innovation; Technological solutions to environmental challenges; Environmental Values vis a vis conserving Nature, Equitable use of Resources.

Unit 2: Ecology and Environmental Sustainability (Marks: 16 No. of Contact Classes: 12)

Definition and scope of ecology; Ecological levels of organization; Importance of ecological principles for environmental sustainability; Understanding environmental impact assessment (EIA); EIA process and its role in green practices; Case studies of successful and unsuccessful EIAs; Green Ethics and Individual Actions: Ethics of environmental stewardship; Role of individuals in promoting green practices; action for a sustainable future.

Unit 3: Forest ecology and protection (Marks: 18 No. of Contact Classes: 10)

Concept of forest ecosystem, Significance of forest, forest ecosystem structural and functioning; Measurement of forest productivity; General Concept and Forest Fire; Factors affecting forest health; grazing & browsing, weeds and other invasive species. Forest fire (History, types, main causes, prevention and control), Evaluation of losses due to forest fire; Biodegradation of wood; Important fungal diseases of seedlings in forest nursery, Role of mycorrhiza in tree health.

Reading list:

1. Susan Armstrong and Richard Botzler (2014) Environmental Ethics: Divergence and Convergence, McGraw-Hill Education.
2. Ronald Sandler (2012) Environmental Ethics: Theory in Practice, Oxford University Press.
3. Dale Jamieson (2008) Ethics and the Environment: An Introduction, Cambridge University Press.
4. Robin Attfield (2015) The Ethics of the Environment, Edinburgh University Press.
5. Colin R. Townsend, Michael Begon, and John L. Harper (2008) Essentials of Ecology, Wiley.
6. Daniel D. Chiras (2016) Environmental Science: Creating a Sustainable Future, Jones & Bartlett Learning.
7. John J. Berger (2002) Forests Forever: Their Ecology, Restoration, and Protection, Island Press.
8. K. P. S. Chandel and R. S. Purohit (2014) Forest Ecology and Environment, S. Chand & Co Ltd.
9. Leda P. K. Zapponi and Marcos G. Hevia (2019) Forest Fires: Detection, Suppression, and Prevention, Nova Science Publishers.

Department of Environmental Science

- a. Four Year Undergraduate Programme
- b. Subject: **Environmental Science**
- c. Semester: **First**
- d. Course Name: **Natural Resource Management and Sustainable Development**
- e. Existing Base Syllabus: **Class XII Science**
- f. Course level: **100-199**
- g. Syllabus:

Unit	Contents
Unit-I: Introduction	Introduction to natural resources-Air, Water, Soil, Mineral resources, Forests and Energy resources; Classification of natural resources

Unit-II: Water and Forest resource and its management	Brief about water resource management-Surface and Groundwater (Global, National and Regional perspectives); Indigenous Water management techniques in NE India (Dong, Zabo, Bamboo drip irrigation) Forest types and their characteristics; Status and distribution of forests-National and regional scenario
Unit-III: Mineral resource and its management	Use and exploitation of mineral resources; Environmental effects of extracting and using mineral resources-case studies; Mineral resources of NE India and the associated environmental issues and management strategies.

h. Reading list:

- 1 Sustainable natural resource management in North east India: K.C.Das, P.J.Das and S.Ojha
- 2 Dying Wisdom- A.Agarwal and S.Narain
- 3 Environmental management and Sustainable Agriculture: M.A.Khan
- 4 Environmental Conservation-promises and actions: A.Ghosh
- 5 River Water sharing-Transboundary conflict and cooperation in India: N.S.Mohan;

i. Graduate Attributes

I. Course Objective:

- The course objective is to develop an understanding of the basic concepts of environmental significances of natural resources. It also aims to make the students understand about the risks factors associated with natural resource extraction and uses.

II. Learning Outcome:

- Natural resources represent a potentially transformational opportunity to support development, but they are ultimately finite. So, by this course attempts have been made to teach the students about the complex and interwoven aspects of natural resources and to make the learners committed to harnessing the transformational impacts of the natural resource with sustainability aspects.

j. Theory Credit: **2**

k. No. of Required Classes: **60**

l. No. of Contact Classes: **45**

m. No. of Non-Contact Classes:**15**

n. Particulars of Course Designer :

- Dr. Pallavi Sharma, Assistant Professor, Department of Environmental Science, GU, pallavi.sharma@gauhati.ac.in, 9859182234
- Dr Minakshi Bora, Assistant professor, Department of Environmental Science, GU, minakshi18@gmail.com, 9101127945

Environmental Studies

Total marks: 50

Course level:100-199

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 Property resources, 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 5: 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

Suggested Readings:

1. Bharucha Erach : Text book on Environmental Studies, UGC, New Delhi
2. Carson, R 2002. Silent Spring. Houghton Mifflin Harcourt.
3. De A.K.: Environmental Chemistry, Wiley Eastern Ltd.
4. Kaushik Anubha and C.P.Kaushik : Perspective in Environmental Studies, New Age International
5. Rajagopalan, R. (2018). Environmental Studies. (3rd Edition) Oxford University Press

6. S. C. Santra (2011): Environmental Science, New Central Book Agency

Graduate Attributes

I. Course Objective:

The course objective is to develop an understanding of the basic concepts of environmental studies. This course will help to know the environment around us. It also gives an idea of various laws to protect environment.

II. Learning Outcome:

- After going through this course students can visualize the importance of environment for human mankind. This course will help to make an understanding of the various concepts which are frequently used by us. This course also enable students to know the problems of a particular environmental event through case studies and also help them to go through the various available laws that can minimize the environmental problems.

Theory Credit: **2**

No. of Required Classes: **30**

No. of Contact Classes: **30**

No. of Non-Contact Classes: **0**

Course designer: Prof. Ratul Mahanta, Department of Economics, GU

MULTI DISCIPLINARY COURSES (MDC)

Gauhati University::NEP-2020::FYUGP::

Multi Disciplinary Courses:

Semester-1: MDC-1

Semester-2: MDC-2

Semester-3: MDC-3

Disciplines:

1. Natural and Physical Sciences
2. Mathematical Sciences
3. Library, Information and Media Sciences
4. Commerce and Management
5. Humanities and Social Sciences
6. Information and Communication Technologies
7. Life Sciences
8. Earth Sciences

- Generic in nature-Content
- Three papers in the pipeline
- Credit: 3 each
- No practical Components

Discipline wise Paper Names::

1. Natural and Physical Sciences

MDC-1: Introduction to Natural and Physical Sciences

MDC-2: Natural and Physical Sciences in Everyday Life

MDC-3: Applications and Prospects of Natural and Physical Sciences

2. Mathematical Sciences

MDC-1: Foundations of Mathematical Sciences- I

MDC-2: Foundations of Mathematical Sciences - II

MDC-3: Foundations of Mathematical Sciences - III

3. Library, Information and Media Sciences

MDC-1: Foundations of Library and Information Science

MDC-2: Information Sources and Services

MDC-3: Fundamentals of Mass Media Studies

4. Commerce and Management

MDC-1: Basics of Commerce & Management

MDC-2: Personal Financial Management

MDC-3: Personal Income-tax Planning

5. Humanities and Social Sciences

MDC-1: Humanities & Social Sciences-I: Makers of Modern Assam

MDC-2: Humanities & Social Sciences- II: Democracy and Peoples' Rights

MDC-3: Humanities & Social Sciences- III: Understanding Globalization

6. Information and Communication Technologies

MDC-1: Information and Communication Technologies-I

MDC-2: Information and Communication Technologies-II

MDC-3: Information and Communication Technologies-III

7. Life Sciences

MDC-1: Basics in Life Sciences

MDC-2: Life Sciences and Environment

MDC-3: Bioresources and Traditional Knowledge

8. Earth Sciences

MDC-1: Understanding Physical Formations of the Earth

MDC-2: Understanding the Changing Environment

MDC-3: Land and People of Assam

Syllabus::

1. Natural and Physical Sciences

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.

MDC-2: Natural and Physical Sciences in Everyday Life

Unit 1: Carbohydrates, Proteins, and Amino Acids, Vitamins & Minerals, Foods and Beverages; Germicides, Pesticides; Human Health; Patterns and Variations in Nature.

Unit 2: Solutions and Colloids, Plastics, Cements, Glass, Soaps and Detergents; Pollutants and Contaminants; Heavy Metal Poisoning; Poisonous Gases; Green House Effect; Acid Rain, Corrosion.

Unit 3: Waste Water Treatment; Nuclear Energy; Conventional and Renewable Energy Sources; Battery Basics; Future Fuels.

MDC-3: Applications and Prospects of Natural and Physical Sciences

Unit 1: Solar Light and Radiations; Introduction to Microscopic and Spectroscopic Techniques; MRI and CT Scan; Fluorescence.

Unit 2: Sensors & Detectors; Telescopes; Images and Information; Communications; Space and Atmosphere.

Unit 3: Measurements and Errors; Observation, Representation, and Interpretation—Testing and Analysis; Evaluation and Conclusion.

2. Mathematical Sciences

MDC-1: Foundations of Mathematical Sciences- I

UNIT-I: Numbers, Division algorithm, Divisibility test, Test of prime numbers. Definition of number system (decimal and binary), Conversion from decimal to binary system and vice – versa. Indices, Logarithm and Antilogarithm, Laws and properties of logarithms. **No of contact hours: 10**

UNIT-II: Percentage, Average, Discount, Profit & loss. Problems based on Age, Time, speed & distance, Time & work, clock & calendar, Partnership, Ratio & Proportions, Simple Interest and Compound Interest, Effective rate of interest, Present value, net present value and future value, Annuities, Calculating value of Regular Annuity, Pipes and Cisterns, Mixture and Allegation, Boats and Streams, Races and Games. **No of contact hours: 13**

UNIT-III: Historical development of statistics, statistics in everyday life, statistics through observed data, Scope, limitations, importance, and applications of statistics in other fields, roles of computer in statistics. Statistical data: primary and secondary data and methods of their collection. Time series data, qualitative data and quantitative data. Data Representation: Frequency distribution, Graphical representation of frequency distribution Histogram, Frequency polygon, Frequency curve, Ogive. **No of contact hours: 11**

UNIT-IV: Data Analysis: Arithmetic mean, Geometric mean, Harmonic mean, Median, Mode and their properties. Partition Values: Quartiles, Deciles, Percentiles. Graphical location of Mode, Quartiles, Deciles and Percentiles. **No of contact hours: 11**

Course Learning Out comes: This course will enable the students to:

- (i) learn about numbers, conversion of decimal numbers in binary system and binary to decimal system.
- (ii) relate indices and logarithm /antilogarithm and learn about properties of logarithms.
- (iii) Learn basic mathematical tools to solve real life problems.
- (iv) Know application of mathematical tools in decision making problems
- (v) acquire the skill of statistical analysis of data from real life situation in a scientific manner.
- (vi) acquire knowledge on the basic aspects of statistical reasoning and drawing conclusions

Text Books:

1. Dinesh Khattar, The Pearson Guide to Objective Arithmetic for Competitive Examinations, Pearson 2nd Edition 2008.
2. S.C. Gupta, V.K. Kapoor, Fundamentals of Mathematical Statistics, S. Chand and Sons, 11th Ed 2002.

Reference Books:

1. R.V. Praveen, Quantitate Attitude and Reasoning, 7th Edition, PHI 2013.
2. A.M. Goon, M.K. Gupta and B. Dasgupta, Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata, 2002.
3. Irwin Miller Marylees Miller, John E. Freund's Mathematical Statistics with Applications, 8th Edition, Pearson 2014.

MDC-2: Foundations of Mathematical Sciences – II

UNIT-I: Mathematical reasoning: Meaning of mathematical statements, Negation, Compound statements, Quantifiers, Converse and Contrapositive of the statement, Implications, Validating statements. Sequence and Series (AP, GP), Logical reasoning: Odd man out and series, Blood relations, Coding Decoding, Logical sequence, Logical matching, Logical thinking, missing numbers, Logic puzzles.

No of contact hours: 11

UNIT-II: Factorial notations, Permutation & Combination (basic definition and everyday problems), Pigeonhole principle, Mathematical Induction, Binomial theorem (for positive index), Principle of Inclusion and Exclusion, Derangements, Inversion formulae, Inequalities, Solution of inequations, Trigonometry, problems based on height and distances. Mensuration, area, volume, surface area and perimeter.

No of contact hours: 12

UNIT-III: Measures of Dispersion - Range, Inter-quartile Range, Quartile deviation, Mean Deviation, Standard Deviation, Coefficient of variation. Ideal measures of Dispersion. Idea of Skewness and kurtosis (without moments). Idea of Moment and Moment generating function.

No of contact hours: 12

UNIT-IV: Bivariate distribution, Scalier diagram, Correlation and regression, Karl Pearson's Correlation coefficient and its properties. Two regression lines (without derivation), principle of least squares and fitting of polynomials, Relation between correlation coefficient and regression coefficients.

No of contact hours: 10

Course Learning Out comes: This course will enable the students to:

- (i) understand the truth and false of a logical statement and solve logical problems of real-life situation

- (ii) learn combinatorial ideas to solve algebraic and real life problems
- (iii) learn techniques to solve daily life problems.
- (iv) develop aptitude for applications of statistical techniques in Social sciences & Humanities.

Text Books:

1. Seymour Lipschutz, Theory and problems of Set Theory and Related Topics, 2nd Edition, Schaum's Series, McGraw Hill, 1998.
2. Dinesh Khattar, The Pearson Guide to Objective Arithmetic for Competitive Examinations, Pearson 2nd Edition 2008.
3. Richard A. Brualdi, Introductory Combinatorics, 5th Edition Pearson Education Inc., 2009.
4. S.C. Gupta, V.K. Kapoor, Fundamentals of Mathematical Statistics, S. Chand and Sons, 11th Ed 2002.

Reference Books:

1. Ajit Kumar, S. Kumaresan, Bhaba Kumar Sarma, A foundation Course on Mathematics, Alpha Science International Ltd, Oxford, UK. First Edition 2018.
2. R.V. Praveen, Quantitate Attitude and Reasoning, 7th Edition, PHI 2013.
3. A.M. Goon, M.K. Gupta and B. Dasgupta, Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata, 2002.
4. Irwin Miller Marylees Miller, John E. Freund's Mathematical Statistics with Applications, 8th Edition, Pearson 2014.

MDC-3: Foundations of Mathematical Sciences – III

UNIT-I: Set theory and its simple applications, Types of sets and their notations, Subsets, Classes of Sets, Power Sets, Venn diagrams, Operations on sets, Ordered pairs, Cartesian product of two sets. Finite sets, Fundamental Principle of Counting, sum rule and product rule of counting. Relations & Functions (definitions, examples and solution techniques).

No of contact hours: 10

UNIT-II: Matrices and determinants: Addition, Subtraction and Multiplication of matrices with their properties (only upto third order). Determinants with properties and solution of systems of linear equations with the help of determinant (only upto third order) problems related to economics and business.

No of contact hours: 10

UNIT-III: Differential Calculus: Basic concept of limit and continuity of a function; derivative of a function, Rule of differentiation, Derivative as a Rate of Change, Product Rule, Quotient Rule, Chain Rule, Derivatives of Logarithmic Functions, Exponential Functions, Elasticity of Demand and supply. Second Order Derivatives, Maxima and Minima of function related to cost, revenue and profit functions.

No of contact hours: 14

UNIT-IV: Probability: Idea of Probability generating function and characteristic function and its utility in statistics. Random Experiments, sample space, events and algebra of events. Classical, statistical, and axiomatic of Probability. Conditional Probability, laws of addition and multiplication, independent events, theorem of total probability, Random variables: discrete and continuous random variables.
No of contact hours: 13

Course Learning Out comes: This course will enable the students to:

- (i) Have knowledge and critical understanding, visualization, of basic concepts, terms of sets
- (ii) Know about counting principle
- (iii) Learn about relation and functions
- (iv) Learn matrices and determinants, solving systems of linear equations through determinants
- (v) Learn about derivative of different type of functions and application of derivative in economics
- (vi) Know about sample spaces, basic ideas of probability and its application in practical problems

Text Books:

1. Seymour Lipschutz, Theory and problems of Set Theory and Related Topics, 2nd Edition, Schaum's Series, McGraw Hill, 1998.
2. C.E. Cullis, Matrices and Determinants, Vol 3, Cambridge University Press, 2013.
3. E. Haeussler, R. Paul and R. Wood, Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences, Pearson, 13th Edition, 2014
4. S.C. Gupta, V.K. Kapoor, Fundamentals of Mathematical Statistics, S. Chand and Sons, 11th Ed 2002.

Reference Book:

1. A.M. Goon, M.K. Gupta and B. Dasgupta, Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata, 2002.
2. Irwin Miller Marylees Miller, John E. Freund's Mathematical Statistics with Applications, 8th Edition, Pearson 2014.

3. Library, Information and Media Sciences

MDC-1: Foundations of Library and Information Science

Course Objectives: To make the learners aware of the Library and Information Science subject, libraries in general and its relation and contribution to society.

Graduate Attributes: After completion of this course, you will be able to:

- Get acquainted with the library and information science subject and its different dimensions;
- Explain the different types of libraries and their functions;
- Describe the role played by different organisations in the development of libraries;
- Grasp the role of ILA, IASLIC, ALA and other library associations in the promotion of libraries; and
- Get acquainted with the information and library related rules, regulations and acts.

Detailed Syllabus

Unit 1 Library and Information Science: Library and Information Science (LIS) as a subject, LIS as a profession, Professional skills and competencies, professional ethics, and academic status of a librarian; library as a social institution, linkage of LIS with other subjects, LIS education in India, Career prospect in LIS, Librarians' Day and National Library Week, World Book Day.

Unit 2 Basics of Library: Definition, types. Concept, functions, authority, collection, personnel, finance, services of academic, public, special, national, school, archives, museum and oriental libraries. Library Acts in India; RRRLF. Libraries for differently abled persons, children, women and aged people. Library of Congress, National library of India; Depository Libraries. Libraries under Ministry of Culture, Govt. of India.

Unit 3 Library and its Promoters and Associations: UNESCO, National Knowledge Commission, India and National Mission on Libraries, India, Library and Information Policy. Library associations at international (ALA, CILIP, IFLA), national (ILA, IASLIC, IATLIS), state levels (ALA, ACLA).

Unit 4 Library and Information related Regulations: The Press and Registration of Books Act, 1867; the Delivery of Books 'and Newspapers' (Public Libraries) Act, 1954 and 1956; [Information Technology Act, 2000](#), Right to Information Act, 2005. Commissions and Committees in relation to LIS.

MDC-2: Information Sources and Services

Course Objectives: To make the learners aware of the different sources of data and information and make acquaintance with the different services provided by

libraries and knowledge resource centres as well as to give an introduction to the correlation between information services and media.

Graduate Attributes: After completion of this course, you will be able to:

- Describe the structure of different kinds of documentary sources useful and accessible to a variety of users;
- Describe the need, use and functions of bibliographies;
- Grasp the process involved in providing reference and information services;
- Comprehend the sources for different types of information;
- Enumerate different types of abstracting & indexing periodicals with examples; and
- State the process involved in rendering biographical information services.
- Evaluate the different types of information sources and its application in media
- Apply analytical thought during reception of information.

Detailed Syllabus

Unit 1: Basics of Reference and Information Sources: Nature of information, characteristics, types and formats, non-documentary sources of information, Documentary sources of information: Primary, Secondary and Tertiary, reference sources of information, Evaluation of Reference Sources. Misinformation, Disinformation, Fake news- identification and precautions for media persons, Fact checking in media, issues of credibility.

Unit 2: Types of Reference and Information Sources: Dictionary, Thesaurus, Encyclopaedia, Biographical, Geographical and Statistical sources of information; Abstracting and Indexing, Citation Index and Bibliographical Sources. Definition, features, types and origin; Different databases of E-resources. Information sources for media persons.

Unit 3: Reference Service: Concept, types, functions, Reference enquiry, Reader's profile, Fact finding, Referral service, Alerting Services: CAS and SDI services, interlibrary loan, Document Delivery Service; Documentation Service,

Unit 4: Digital Reference Services: Concept, Definition, Characteristics, Importance, and Types – Asynchronous and Synchronous; Web 2.0 and 3.0 services - Social Networking Services, Social tagging, Social Bookmarking, RSS Feeds. Privacy and Security, Surveillance society, Media Convergence, Digital media ethics, Digital content creation, Digital Literacy.

MDC-3: Fundamentals of Mass Media Studies

Course Objectives: To introduce various aspects of mass media studies and its implication and modifications in order to adapt to changing dynamics of the media world.

Graduate Attributes: After completion of this course, learners will be able to:

- Comprehend different types of mass media
- Comprehend appropriate use of mass communication tools
- Describe the need, use and functions of ethical values related to the mass media;
- Enumerate different tools and terms associated with mass media; and
- Express thoughts and ideas strategically

Detailed Syllabus

Unit 1: Basics of Mass Media Studies: Definitions of Mass Communication, Mass Media: Types and Characteristics (Print, Electronic, Advertising, Public Relations, Cinema, Traditional and Alternative media), Use of Mass media for social development and social change: case studies (including gender, children and sustainable development)
Understanding types of audience in Mass Media.

Unit 2: Indian Society and Mass Media: Indian society: Nature, Meaning and Definition, Role of media in freedom struggle, post independent development (economic and political history) and media, Foundations of the Indian Constitution; Freedom of speech and expressions, Nation building in India: problems and prospects from journalistic point of views

Unit 3: Mass Media and Assam: Mass Communicators of Assam (Srimanta Sankaradeva, Lakshminath Bezbaroa, Jyotiprasad Agarwala, Bishnu Prasad Rabha and Dr. Bhupen Hazarika). Contribution of press in language and literature development in Assam (with focus on *Arunudoi*, *Jonaki*, *Abahan*, *Ramdhenu* and post *Ramdhenu* era till contemporary period). Traditional and community media in Assam

Unit 4: Foundations in Mass Media: Content generation (News, Letters to the Editor, Articles, Features) for various media platforms (Print, electronic and on-line platforms including blog, vlog, shorts etc.), Art of Anchoring, Qualities of a successful mass media communicator, Basics Genres of film, understanding the use of photography and documentary films in documentation, Ethics in Media practise. Careers in Mass Media

4. Commerce and Management

MDC-1: Basics of Commerce & Management

Unit-1: Foundations of Business- Business, Trade and Commerce; Forms of Business Organization; Private, Public and Global Enterprises; Business Services; Emerging modes of business, Social Responsibilities of Business. (15 hrs)

Unit 2: Business Environment: meaning and features, Importance of business environment; Dimensions of business environment – Economic environment, Social environment, Technological environment, Political environment and Legal environment ; Economic environment in India- Impact of Government Policy changes on business and industry. (15 hrs)

Unit 3: Management – Meaning and Significance of management, Principles of Management; Functions of Management- Production Management, Financial Management, Human Resource Management and marketing Management; Process of Management - Planning, Organizing, Staffing, Directing, Coordinating and Controlling. (15 hrs)

Recommended Books:

1. Business Organisation and Management by P.C. Tulsian , Pearson Education.
2. Business Environment by [V. C. Sinha & Ritika Sinha](#), SPBD Publishing House.
3. Business Environment by Amit Kumar, Sahitya Bhawan Publications.
4. Principles and Practice of Business Management by L M Prasad, Sultan Chand & Sons.

MDC-2: Personal Financial Management

Unit 1: Basics of Personal Finance: Financial Goals – Short-term and long term, Income and Expenditure Planning, Life-time financial planning, Investment Goals, Return and Risk in Investment, Avenues of Investment – Investment in Physical Assets and Financial Assets, Fixed income investments, investment in New Issue Market and stock market, Investment in Insurance, annuities and Pension funds, Investment in Gold and Bullions, Investment in Real Assets. (15 hrs)

Unit 2: Financial Markets and Instruments: Money Market, Capital Market, Forex Market and Derivative Market; Money Market Instruments and features, Capital Markets and Features, New Issue Market and Stock Market; New Issue market- Issue Mechanism, Market Players, Understanding and Analyzing a Prospectus, Secondary Market – Equity and Debentures, BSE and NSE, Index and its uses; Basics of Insurance and Mutual Funds. (15 hrs.)

Unit 3: Stock Market Investment: Fundamental Analysis- Economic Analysis- Industry Analysis and Company Analysis; Technical Analysis – Tools of technical

analysis, Understanding various types of charts and patterns, Interpretation of charts and investment decisions. (15 hrs.)

Recommended Books:

1. The Investment Game: How to Win, Prasanna Chandara, tata McGrawHill.
2. Security Analysis and Portfolio Management, S. Kevin, Prentice Hall India.
3. Fundamentals of Insurance, Inderjit Singh, Rakesh Kayal, S kaur and S Arora, Kalyani Publishers.
4. Principles of Insurance, C Krishnaswamy, Excel Books.
5. Indian Financial System, Bharati Pathak, Pearson Education.

MDC-3: Personal Income-tax Planning

Unit 1: Personal Tax Planning- Meaning, Scope and importance, Different types of taxes- Direct Taxes and Indirect taxes, Direct Taxes- Income tax and Wealth Tax, Income-tax Act 1960 and its scope, Meaning of Income, Basis of Charge- Person, Assessment and Previous Year, Assessee, Framework for Calculating Personal Tax Liability- Different Heads of Income, Residential Status for the purpose of Income Tax, Method of Accounting Recognized under Income tax Act. (10 hrs.)

Unit 2: Computation of Income: Income under the Head 'Salaries' - Meaning and scope of Salary, Different forms of salary and taxability, Income under the 'Head House Property' - Tax Chargeability, Computation of Income from House property, Let out property and Self Occupied Property, Income under 'Capital Gains' - Basis of Charge, Computation of Short-term and Long-term Capital Gains, Income-tax under the Head 'Income from Other Sources'- Interest income, dividend, Clubbing of Income, Gross Total Income, Permissible Deductions- Sec 80C to 80U, Tax Liability. (20 hrs.)

Unit 3: Tax Planning and Filing Returns: Contribution to Recognised Provident Funds, Deemed Self Occupied Property, Reduction through Deductions- Health Insurance premium, Pay Rent and Save Tax, Tax-saving Investments, Medical Expenses of Senior Citizen Dependents, Deduction on Home Loan Interest and Principal Repayments, Old tax Regime and New Tax Regime, Senior Citizen Tax Payers, 26 AS and Annual Information System, Filing Returns in due time, Consequences of Not Filing Returns. (15 hrs.)

Recommended Books:

1. Students Guide to Income Tax by V. K. Singhania, Taxman.
2. Principles of Income Tax Law & Practice by Dr. Naveen Mittal, Cengage Learning India Pvt. Ltd.
3. Swamy Income Tax on Salaries by Muthuswamy, Brinda, Sanjeev, Swamy Publications.

5. Humanities and Social Sciences

MDC-1: Humanities & Social Sciences-I: Makers of Modern Assam

Unit I: Language, Literature & Culture

- a. Architects of modern Assamese language & literature
AnandaramDhekiyalPhukan, LakshminathBezbaruah&BanikantaKakati
- b. Architects of modern Assamese music & culture
Jyoti Prasad Agarawala, Bisnhu Prasad Rabha&Dr.Bhupen Hazarika

Readings:

AnandaramDhekiyalPhukan:

AmalenduGuha, *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, *AnundaramDhekiyalPhukanarJivanCharitra.*, 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 Bezbarua, *Mur Jivon Sowaran.*, Lawyers Book Stall, 1999

Madhumita Sengupta, *Becoming Assamese: Colonialism and New Subjectivities in Northeast India*, Routledge, 2016

Maheswar Neog, *Lakshminath Bezbarua; The Sahityarathi of Assam.*, Gauhati University, 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

BanikantaKakati:

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*,Anwasha, 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

BishnuRabha

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), *Bhinnajanar Dristit Bishnu Prasad Rabha*, S.H Educational Trust, 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 Rachanavali* (Vol 1, 2, 3), S.H Educational Trust, 2008

Unit: Framers of the Political Foundations

- a. Initial foundation: *AsomChatraSanmilan& Assam Association*
- b. Consolidating the foundation: *Tarun Ram Phukan&GopinathBardoloi*
- c. Tribal consciousness and their rights: *Kalicharan Brahma &BhimbarDeori*

Readings

Asom Chatra Sanmilan and Assam Association:

Devabrata Sharma, *AsomiyaJatigathanPrakriya Aru JatiyaJanagosthigataAnusthanSamuh*,EkalavyaPrakashan, 2022
Manorama Sharma, *Student Power and Nationalism: An Assessment of the Assam ChatraSanmilan, 1916-1939*, in *Student power in Northeast India: Understanding Student Movements*, Apurba K. Baruah (ed), Regency Publications, New Delhi, 2002.
PrafullaMahanta, *AsomiyaMadhyabittaShrenirItihas:*, 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:

LaxmiNathTamuly, *GopinathBordoloi (2nd Edition)*, Publication Board Assam, 2003

TarunramPhukanRachanvali: AxamPrakashanParishad, 2015

Gopinath Bordoloi:

Bordoloi Committee Report/ Sub-committee on the Northeast Frontier (Assam) Tribal and Excluded Areas.

LaxmiNathTamuly, *GopinathBordoloi (2nd Edition)*, Publication Board Assam, 2003

Nirode K Barooah,*GopinathBordoloi, The Assam Problem and Nehru's Centre*,Bhabani Publications, 2010

Nirode Kumar Barooah, *GopinathBordoloi 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, *GurudevKalicharan Brahma*, Assam Sahitya Sabha, 1983

KumudRanjanBasumatary, *GurudevKalicharan Brahma: The Emergence of Bodo Ethnic Consciousness in early 20th century*, International Journal of Humanities and Social Sciences, 2017

M.K Brahma, *GurudevKalicharan Brahma: His Life and Deeds*, N.L Publications, 2001

Sujit Choudhury, *The Bodos: Emergence and Assertion of an Ethnic Minority:*

BhimbarDeuri

Dr.RatneshwarDeuri, *JononetaBhimbarDeuri*, Publisher AnjanliDeuri, 2018

IndibarDeori,*JonogosthiyoSamasya: Atit, Bartaman Aru Bhabishyat*, Bandhab, 2015

MadhabjyotiDeuri, *AxomorTrankortaBhimbarDeuri*, SamannayPrakashan, 2009

Munindra Das, *AxamarNrigosthiyaUttaranarItihash: Samashya- Sangram- Praptil*, Banalata, 2020

Unit 3: Women Education, Politics and Literature

- a. Baptist Missionaries & women education
- b. ChandraprabhaSaikiani, AmalPrabha Das & Raja Bala Das
- c. AsomLekhikaSamaroh

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.

ArchanaChakravarty, *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 Asam or Stri Sikshaaru Nari Jagaran*, Anwasha 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

MDC-2: Humanities & Social Sciences- II: Democracy and Peoples' Rights

Unit 1: Debates on Democracy

Is democracy only about elections & procedures?

Peoples' rights and democracy

Dissent in democracy

Reading list:

Bhargava, Rajeev and Ashok Acharya. (2008). *Political theory: An Introduction*. New Delhi: Pearson.
Heywood, Andrew. (2015). *Political Theory*. New York: Palgrave.
Gaubha, O. P. (2021). *An Introduction to Political Theory*. New Delhi: Macmillan.
Ramaswamy, Sushila. (2014). *Political Theory: Ideas and Concepts*. New Delhi: Macmillan.
Abbas, Hoveyda and R. Kumar. (2012). *Political Theory*. New Delhi: Pearson.
Held, David. (1989). *Political Theory and the Modern State: Essays on State, Power and Democracy*, New Delhi: Maya Polity.
Held, David. (1991). *Political Theory Today*. California: Stanford University Press.
Dahl, Robert. (1989). *Democracy and its critics*. London: Yale University Press.

- Mckinnon, Catriona(ed). (2008). *Issues in Political Theory*. New York: Oxford University Press.
- Thapar, Ramila. (2020). *Voices of Dissent: An Essay*. New Delhi: Seagull Books.
- Merriam, Charles E. (1941). The Meaning of Democracy. *The Journal of Negro Education*. Vol. 10, No. 3.
- Saffon, M.P. and Nadia Urbinati. (2013). Procedural Democracy, the Bulwark of Equal Liberty. *Political Theory*. Vol. 41, No. 3
- [Wegner](#), G. (2009). Substantive versus Procedural Liberalism: Exploring a Dilemma of Contemporary Liberal Thought. *Journal of Institutional and Theoretical Economics*. Vol. 165, No. 3
- Kampelman, [Max M. \(1970\)](#). Dissent, Disobedience, and Defense in a Democracy. *World Affairs*. Vol. 133, No. 2.
- [Shiffrin](#), S. (2011). Dissent, Democratic Participation, and First Amendment Methodology. *Virginia Law Review*, Vol. 97, No. 3

Unit 2: Constitution, Citizenship & Federalism

Constitution as a fundamental law

What is all about citizenship under democracy?

Why federalism matter in a plural society?

Reading list:

- Bhargava, Rajeev and Ashok Acharya. (2008). *Political theory: An Introduction*. New Delhi: Pearson.
- Rajeev Bhargava, Rajeev. (2008). *Politics and Ethics of the Indian Constitution*. New Delhi: Oxford University Press.
- Heywood, Andrew. (2005). *Political Theory*. New York: Palgrave.
- Gauga, O. P. (2021). *An Introduction to Political Theory*. New Delhi: Macmillan.
- Kymlicka, Will. (2002). *Contemporary Political Philosophy: An Introduction*. New York: Oxford University Press.
- Heywood, A. (2002). *Politics*. New York: Palgrave.
- [Levinson](#), B. (2005). Citizenship, Identity, Democracy: Engaging the Political in the Anthropology of Education. *Anthropology & Education Quarterly*. Vol. 36, No. 4.
- Young, Iris M. 1989. 'Polity and Group Difference: A Critique of the Ideal of Universal Citizenship' *Ethics*. Vol. 99, No.2.
- Watts. R. (2008). *Comparing Federal Systems*. Montreal: McGill Queen's Univ. Press.

Unit 3: Democracy and Peoples' Rights in India

Right to livelihood: MGNREGA

Right to Information & Education

Right to Food

Reading List:

- Laxmikanth, M. (2021). *Governance in India*. New Delhi: McGraw Hill.

- Basu, R. (2015). *Public Administration in India Mandates: Performance and Future Perspectives*. New Delhi: Sterling Publishers
- Singh, [R.K.](#) (2017). MGNREGA: The History of an Idea. *Proceedings of the Indian History Congress*. Vol. 78, pp. 1070-1077
- Pole, [Kantrao P.](#) (2015). The Role of MGNREGA in Rural Development: A Study of Maharashtra. *The Indian Journal of Political Science*. Vol. 76, No. 3
- [Khanwalker](#), V. (2011). The Right to Information Act in India: Its Connotations and Implementation. *The Indian Journal of Political Science*. Vol. 72, No. 2
- [Srivastava](#), P. and [Claire Noronha](#). (2014). Institutional Framing of the Right to Education Act: Contestation, Controversy and Concessions. *Economic and Political Weekly*. Vol. 49, No. 18
- [Krishnan](#) P. and [Mangala Subramaniam](#). (2014). Understanding the State: Right to Food Campaign in India. *The Global South*. Vol. 8, No. 2.
- Ray, B. (2019). *Rethinking Good Governance: Holding to Account India's Public Institutions*. New Delhi: Rupa Publications.
- [Chakrabarti](#) R. and [k. Sanyal](#). (2016). *Public Policy In India*. New Delhi: Oxford University Press.
- Sharan, A., Upadhyaya and Ashild Kolas and Ruchita Beri (2023). *Food Governance in India: Rights Security and Challenges in the Global Sphere*. New Delhi: Routledge.

MDC-3: Humanities & Social Sciences- III: Understanding Globalization

Unit 1: Globalization: The Context

- a. Disintegration of the Soviet Union & collapse of the socialist economy
- b. Washington Consensus
- c. Neoliberal approach to development

Reading List:

- Scheuermann, William. (2014). Globalisation. In Stanford *Encyclopedia* of Philosophy. Retrieved from <http://www.bibme.org/citation-guide/apa/website/>
- Steger, Manfred B. (2003). *Globalisation – A Very Short Introduction*. Oxford: OUP.
- Ritzer, George. (2010). *Globalisation: A Basic Text*. Sussex: Wiley Blackwell
- Lockwood, David (2000). *The Destruction of the Soviet Union: A Study in Globalization*. Palgrave Macmillan
- Lechini, Gladys (2006). *Globalization and the Washington Consensus: Its Influence on Democracy and Development in the South*.
- Nedeveren Pieterse, Jan. (2017). Neoliberal Globalization and the Washington Consensus. 10.4324/9781315092577-5.

Unit 2: The Drivers of Globalization

- a. IMF & the World Bank
- b. Multinational Companies
- c. Structural Adjustment Policies of the National Governments

Reading List:

- Ritzer, George. (2010). *Globalisation: A Basic Text*. Sussex: Wiley Blackwell
- Stiglitz, Joseph (2002). *Globalization and its Discontents*. W. W. Norton & Company.
- Heywood, Andrew. (2011). *Global Politics*. Palgrave Macmillan
- Oatley, T. (2006). *International Political Economy: Interests and Institutions in the Global Economy*. New York: Pearson-Longman.
- Frieden, J. A. and D. A. Lake. 2000. *International Political Economy: Perspectives on Global Wealth and Power*. New York: Bedford/St. Martin's.

Unit 3: Emerging Concerns under globalization

- a. UN and SDGs
- b. Gender Equity
- c. Climate Crisis

Reading List:

- Ritzer, George. (2010). *Globalisation: A Basic Text*. Sussex: Wiley Blackwell
- Held, David & McGrew, Anthony. (2002). *The Global Transformations Reader An Introduction to the Globalization Debate (Second Edition)*. Polity Press.
- Newell, Peter. (2013). *Globalization and Environment: Capitalism Ecology and Power*. Polity Press.
- Lee, Kelly. (2003). *Globalization and Health: An Introduction*. Palgrave and Macmillan.
- Lingard, Bob. (2021). *Globalization and Education*. Routledge Publications.
- Beneria, Lourdes, Berik, Günseli, & Floro, Maria. (2016). *Gender, development and Globalization: Economics as if all people mattered*. Routledge Publications.

Further readings:

- Sandbrook, R. (2000). Globalization and the Limits of Neoliberal Development Doctrine [Review of *Development as Freedom*, by A. Sen]. *Third World Quarterly*, 21(6), 1071–1080. <http://www.jstor.org/stable/3993558>
- Beck, Ulrich. (1992). *Risk Society: Towards a New Modernity*. London: Sage.
- Giddens, Anthony. (1999). *Runaway World: How Globalisation is Reshaping our Lives*. London: Profile Books Ltd.
- Stiglitz, Joseph (2007). *Making Globalization work*. W.W. Norton & Company
- Fernandez, John S. (1994). Globalization: Processes of Integration and Disintegration. *International Journal of Politics, Culture, and Society*, Vol. 8, No. 2, pp. 203-223 (21 pages)

- World Bank: World Development Indicators (WDI) and poverty data:
<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>
<http://povertydata.worldbank.org/poverty/home>
- IMF data: <http://www.imf.org/external/data.htm>
- OECD statistics: <http://stats.oecd.org/>
- WTO trade and tariffs statistics:
<http://www.wto.org/english/ress e/statis e/statis e.htm>
- Data on financial openness (Chinn & Ito Index)
http://web.pdx.edu/~ito/Chinn-Ito_website.htm
http://web.pdx.edu/~ito/trilemma_indexes.htm
- Economic sanctions episodes:
<http://www.piiie.com/research/topics/sanctions/sanctions-timeline.cfm>
- Foreign aid statistics:
 OECD:
http://www.oecd.org/document/49/0,3746,en_2649_34447_46582641_1_1_1_1,00.html
- World Bank's WDI:
<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>
- UN peace operations: <http://www.un.org/en/peacekeeping/>

6. Information and Communication Technologies

MDC-1: Information and Communication Technologies-I

Early History of Computer, Evolution of computing system, Generations of Computer, Types of Computer.

Components of Computer System, Functionalities of a computer, Basic I/O devices: Point and draw devices, Data Scanning device, Voice Recognition Devices, Digitizers. Introduction to number system. Different computer software and types, Classification of software, classification based on task, source and licence, quality of a good software.

Introduction to IT revolution, Overview on development in the field of Information Technology, Hardware and software development, Recent development in Information Technology, Application of ICT in various disciplines, Basic concept on innovation.

Concept of Internet; Uses of Internet; connecting to internet; ISP; Basics of internet connectivity. World Wide Web and Websites; Web Browsing softwares, Search Engines; Searching information in web. Understanding URL; Domain name; IP Address; Basics of electronic mail; Email account; Sending and receiving emails; Accessing sent emails; Email attachment.

Introduction to Storage Systems: Overview of storage hierarchy and storage technologies, Characteristics of primary, secondary, and tertiary storage. Introduction to cloud storage models (e.g., S3, Azure Blob Storage), Data durability, availability, and scalability in cloud storage. Emerging Trends in Storage: Flash-based storage technologies (e.g., SSD, NVMe).

MDC-2: Information and Communication Technologies-II

Concept of Digital Technology, Logic and Flow Chart; Networks, Examples of Programming Languages.

Concept of Digital Technology: Number Systems, Digital Information Representation and Transmission, Codes including UNICODE, Logic and Flow Charts, concept of algorithm.

Computer Networks, LAN, WiFi and interconnected networks. Physical Media, Network Devices. Chat and Video Conference over internet.

Programming concepts, programming languages.

MDC-3: Information and Communication Technologies-III

Social Media platforms, Cyber Ethics, Cyber Laws, Databases, App, AI and ML Major Social Media platforms and their important functional and security attributes. Cyber Ethics, Cyber Laws.

Definition and importance of DBMS, Evolution of data management systems, Advantages and disadvantages of using DBMS, Conceptual, logical, and physical

data models. Database Security and Integrity, User authentication and authorization, Concept of Data encryption and access control, Roles and responsibilities of a database administrator, Backup and recovery strategies, Big Data and data analytics.

Introduction to Apps and App Development, mobile operating systems (iOS, Android, etc.), User Interface (UI) Design.

Definition and basic concepts of AI and ML, Historical overview of AI and ML, Applications of AI and ML in various disciplines. Ethical and Social Implications of AI, Impact of AI and ML on creativity, authorship, and artistic expression, Cultural and societal implications of AI and ML in the society.

7. Life Sciences

MDC-1: Basics in Life Sciences

Course objectives:

The paper will provide a comprehensive overview of topics in plant science, anthropology, Zoological Science, and the applications of life science. Students will gain knowledge and understanding of the general features of organisms, the principles and practices in these areas, and the significance of these fields in various contexts.

Learning outcomes:

By completing the paper, students will -

1. Learn the general features of organisms like bacteria, viruses, algae, fungi, bryophytes, pteridophytes, gymnosperms, and angiosperms; about economic botany, disease management, breeding methods, crop domestication, and the role of national institutes in plant breeding; and the importance of agriculture in the national economy.
2. Gather knowledge on the mechanisms of evolution in mammals, primates, modern apes, and human evolution through fossil evidence; explore racial criteria, classification, and elements in India, along with basic concepts in genetics and heredity.
3. Learn about the principles of aquaculture, freshwater aquaculture in India and the North Eastern States, artificial fish breeding, integrated fish farming, and the market potential of aquatic organisms. They will also study sericulture, including races, economic advantages, and types of silk produced, as well as the importance and history of apiculture and bee rearing techniques.
4. Explore biotechnology, including its origin, history, scope, and definition. They will learn about genes, genetic engineering, DNA, RNA, PCR, molecular markers, cloning, and sequencing. The unit also covers the applications of biotechnology in medicine, agriculture, the environment, food, and industry.

THEORY [Total no. of contact classes: 45; Credits: 3]

Unit 1: Basics of Plant science

No. of Contact Classes:12

General features of Bacteria, Viruses, Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms; Elements of economic botany; integrated diseases management; Breeding methods for self-pollinated, cross-pollinated and clonally propagated crops; Crop domestication; Objectives and accomplishments in plant breeding and the role of National institutes; Importance of Agriculture in national economy.

Unit 2: Basics of Anthropology

No. of Contact Classes:10

Basic concepts: mechanism of evolution of life; Mammal, Primate, Modern apes, Man's place in the animal kingdom, Fossil evidence of human evolution; Racial criteria, Major races, Racial classification, Racial elements in India; Genetics, Heredity.

Unit3:Basics in Economic Zoology

No. of Contact Classes:13

Aquaculture:Basic principles of aquaculture; Prospects & Challenges of Aquaculture in North Eastern States; Diversification of Aquaculture,Induced breeding& larval rearing, integrated& composite fishfarming, Pearl Culture, Prawn Culture, Crustacean and Crab Culture, Post harvest Technology, Fish Preservation: principle & practices.

Sericulture:Origin and history; Races & classification of silkworm;economic advantages; scope of sericulture in India; Domesticated and semi domesticated Silk worm of NE Indiaand their economic viability. Culture of Silk worm. Propagation of food plants of Silk worm. Sericulture as an entrepreneurship venture, Natural dye of silk

Apiculture: General morphology& behaviour of honey bee, Importance and history of Honey bee culture in NE India. Diversity &major types of economically important honeybees in NE India. Selection of bee species for apiculture; Artificial Bee Rearing (Newton and Langstroth box).

Unit4: Applications of life science

No. of Contact Classes:10

Origin, history, scope and definition of biotechnology, concept of gene, gene manipulation & genetic engineering. Concept of DNA, RNA, PCR, molecular markers, cloning and sequencing. Applications of biotechnology in medicine, agriculture, environment, food, and industry.

Reading list:

1. Ahsan J, Sinha SP (2010) *A Hand Book on Economic Zoology*, S Chand Publishing.
2. Das BM (1980) *Outlines of Physical Anthropology*. Kitab Mahal Publication.
3. Ember CR, Ember M, Peregrine PN (2011). *Anthropology*. Pearson Education Asia, Singapore.
4. Gardner A, Davies T (2012) *Human Genetics*. Viva Books Pvt Ltd., Delhi, India.
5. Graham LE, Graham JM, Wilcox LW (2013) *Plant Biology*, 2nd edition, Pearson Education, Inc., Upper Saddle River, NJ.
6. Harris M (1991) *Cultural Anthropology*, Harper & Row, New York, NY
7. Kochhar SL (2016) *Economic Botany*, Cambridge University Press.
8. Lewin R (1998) *Principles of Human Evolution*. Blackwell Sciences Inc. USA
9. Lewis B (2004) *Genes VIII*, 3rdEdition, Oxford University & Cell Press, NY.
10. Nicholl DST (2008) *Introduction to Genetic Engineering*, 3rd edition, Cambridge Universitypress, UK.
11. Pillay TVR (2005) *Aquaculture - Principles and Practices*, Wiley-Blackwell.
12. Raven PH, Evert RF, Eichhorn SE (2005)*Biology of Plants*, 7th edition, W. H. Freeman and Company, New York, NY.
13. Stanford C, Allen SJ, Anton CS (2013) *Biological Anthropology: The Natural History of Mankind*, 3rdedition. Pearson India Education Services, Noida.
14. Swindler DR (2009) *Introduction to the Primates*. Overseas Press India Pvt. Ltd., New Delhi, India.
15. Thieman WJ, PalladinoMA(2021) *Introduction to Biotechnology*, Pearson publisher, Boston, MA.

MDC-2: Life Sciences and Environment

Course objectives:

This paper will provide a comprehensive understanding of environmental science, from the fundamental principles and composition of different environmental components to the application of biotechnology in addressing environmental challenges.

Learning outcomes:

Upon successful completion of the paper, students will:

1. Understand the definition, principles, and scope of Environmental Science; comprehend the structure and composition of the atmosphere, hydrosphere, lithosphere, and biosphere.
2. Recognize the interaction between Earth, Man, and the environment; grasp the concept of sustainable development.
3. Appreciate the importance of environmental education and awareness and understand the principles of environmental ethics.
4. Gain knowledge of the fundamentals of Environmental Chemistry.
5. Be familiar with the biochemical aspects of heavy metals; understand air pollution and its major regions; chemical reactions; air pollutants; and their effects.
6. Understand ecology as an interdisciplinary science, gain knowledge about the origin of life and speciation, and learn about human ecology and settlement.
7. Understand ecosystem structure and functions; comprehend biogeochemical cycles, ecological succession, niches, and ecosystem stability.
8. Learn about population ecology, including characteristics, carrying capacity, and population growth; understand community ecology, including definitions, types, and interactions.
9. Understand the gene-environment interaction and the impact of climate change on living beings; comprehend the concepts of epigenetics, the evolution of pathogenic microbes, and emerging diseases in animals, plants, and humans.
10. Learn about the role of biotechnology in pollution control, bioremediation, phytoremediation, bioenergy, biofuels, and restoration of degraded lands; and understand the conversion of waste to wealth and waste treatment using biotechnology.

THEORY [Total no. of contact classes: 45; Credits: 3]

Unit 1: Fundamentals of Environmental Sciences

No. of Contact Classes: 10

Definition, Principles, and scope of Environmental Science; Structure and composition of atmosphere, hydrosphere, lithosphere, and biosphere; Interaction between Earth, Man and Environment; Concept of sustainable development; Environmental education and awareness; Environmental ethics.

Unit 2: Environmental Chemistry

No. of Contact Classes: 12

Fundamentals of Environmental Chemistry: Classification of elements, Hydrological cycle, Concept of DO, BOD and COD; Inorganic and organic components of soils; Biogeochemical cycles - nitrogen, carbon, phosphorus and sulphur; Biochemical aspects of heavy metals (Cd, Pb, Cr); PAN, VOC and POP; Air Pollution: Major regions of atmosphere, chemical and photochemical reactions in atmosphere; air pollutants: types, sources, particle size and chemical nature; Photochemical smog; Ozone depletion; effects of air pollution on living organisms and vegetation; Greenhouse effect and Global warming; Water Pollution: sources and nature of water pollutants, Impacts of water pollution on hydrological and ecosystems.

Unit 3: Ecology and Environment

No. of Contact Classes: 15

Ecology as an inter-disciplinary science; Origin of life and speciation; Human Ecology and Settlement; Ecosystem Structure and functions: Structures - Biotic and Abiotic components. Functions - Energy flow in ecosystems, energy flow models, food chains and food webs; Biogeochemical cycles, Ecological succession; niche; Ecosystem stability and factors affecting stability; Ecosystem services; Biomes: concept, classification and distribution. Characteristics of different biomes: Tundra, Taiga, Grassland, Savanna, Tropical Rain forest; Population ecology: Characteristics of population, concept of carrying capacity, population growth and regulations; population fluctuations; Concept of 'r' and 'k' species; Community ecology: Definition, community concept, types and interaction - predation, herbivory, parasitism and allelopathy.

Unit 4: Environmental Biotechnology

No. of Contact Classes: 08

Gene environment interaction, impact of climate change on living beings, epigenetics, evolution of pathogenic microbes, deadly viruses, emerging diseases in animals, plants, humans; Biotechnology in pollution control, bioremediation, phytoremediation, bioenergy, biofuels, restoration of degraded lands, conversion of waste to wealth, waste treatment.

Reading list:

1. Bharucha E (2012) *Textbook of Environmental Studies for Undergraduate Courses*. University Grants Commission (UGC) - University Press (India), New Delhi, India
2. Manahan SE (2016) *Environmental Chemistry*. CRC Press, Boca Raton, FL, USA
3. Odum EP (2007) *Fundamentals of Ecology*. Cengage Learning, Belmont, CA, USA
4. Rajagopalan R (2010) *Environmental Studies: From Crisis to Cure*. Oxford University Press, New Delhi, India
5. Scragg A (2005) *Environmental Biotechnology: Principles and Applications*. Springer, Dordrecht, Netherlands.
6. Sharma BK, Misra AK (2019) *Environmental Chemistry: An Analytical Approach*. Springer, Singapore.
7. Sharma PD (2015) *Ecology and Environment*. Rastogi Publications, Meerut, India
8. Thakur IS, Ray M, Sharma P (2021) *Environmental Biotechnology: A Sustainable Approach*. CRC Press, Boca Raton, FL, USA

MDC-3: Bioresources and Traditional Knowledge

Course objectives:

This paper will provide a comprehensive understanding of biodiversity, conservation practices, bioresources, and traditional knowledge, emphasizing their significance and applications in various fields.

Learning outcomes:

Upon successful completion of the paper, students will:

1. Understand the concept, scope, and laws of biodiversity; identify biodiversity hotspots; and understand the classification of species based on their conservation status.
2. Recognize the direct and indirect uses of biodiversity.
3. Understand the role of Remote Sensing and GIS in biodiversity studies, the Wildlife Protection Act, and the significance of biosphere reserves, national parks, wildlife sanctuaries, wetlands, Ramsar Sites, and mangroves; identify international initiatives for biodiversity conservation, including the IUCN and CoP.
4. Recognize the role of biotechnology in biodiversity conservation, including global environmental facilities, biosafety levels, and cryopreservation.
5. Understand the nutritional value of food supplements from plants, endemic fishes, crustaceans, molluscs, reptiles, and social insects; the role of fermented food and beverages in traditional knowledge.
6. Recognize traditional conservation practices related to plants and pet animals, the role of traditional knowledge in bioprospecting and the issues of biopiracy.

THEORY [Total no. of contact classes: 45; Credits: 3]

Unit 1: Biodiversity

No. of Contact Classes: 15

Concept and scope; Laws of biodiversity, biodiversity hotspots, biodiversity classification (rare, threatened, vulnerable, endangered, critically endangered, flagship and keystone species), Levels of biodiversity— organisational (genetic, species and ecosystem), spatial (alpha, beta, and gamma); Biodiversity of northeast India; Valuing biodiversity - direct- and indirect use values; Role of Remote Sensing and Geographical Information System in biodiversity studies.

Unit 2: Conservation Practices

No. of Contact Classes: 10

International initiatives for biodiversity conservation (including IUCN, CoP), *In-situ* and *Ex-situ* conservation, Biological Diversity Act, National Biodiversity Action Plan (a brief summary), wildlife protection act, biosphere reserves, national parks, wildlife sanctuaries, wetlands and Ramsar Sites, Mangroves; role of biotechnology in biodiversity conservation (global environment facilities, biosafety levels, cryopreservation).

Unit 3: Bioresources

No. of Contact Classes: 12

Distribution, parts used and method of use, nutritive value – Food supplements [plants: Bora rice, Bamboo shoot, *Diplazium esculentum* (Dhokia sak), *Houttuynia cordata* (Masundari); Endemic fishes (carps, minnows, shads, barbs, murrels, eels, catfishes, perches, trouts), crustaceans, molluscs, reptiles (snakes and lizards), social insects (bees, wasps, ants)], Sources of beverages (Apong, Judima, Jumai, Sulai), Fibers (*Corchorus olitorius* – Mora paat), Timbers (Holong – *Dipterocarpus retusus*, *Bombax ceiba*), non-timber forest products (bamboos, canes, rattan, wild medicinal plants, wild fruits, lesser-known fruits, ferns, leaves, roots, cones, seeds, wild honey, mushrooms), sacred groves, large ponds and lakes.

Unit 4: Traditional Knowledge

No. of Contact Classes: 08

Cuisine diversity, food, ethnozoology, ethnobotany, ethnomedicine, food processing and preservation techniques, fermented food and beverages, conventional animal husbandry, milk and milk products, goods produced from animals; Role of traditional knowledge in bioprospecting; Biopiracy; Traditional Knowledge Digital Library (TKDL) - concept and importance. ITK in Biodiversity conservation, ITK & harvesting of Aquatic Resources.

Reading list:

1. Acharya D, Shrivastava A (2008) *Indigenous Herbal Medicines: Tribal Formulations and Traditional Herbal Practices*. Aavishkar Publishers Distributor, Jaipur, India.
2. Babu NS, Manickam S, Kumar SS (2019) *Biodiversity Conservation and Legal Perspectives*. Springer, Singapore.
3. Bebarta KC, Mohanty AK (2017) *Ethnobiology of India: Volume 1 - Eastern and Northeastern India*. CRC Press, Boca Raton, FL, USA.
4. Gaston KJ, Spicer JJ (2014) *Biodiversity: An Introduction*. Wiley-Blackwell, Chichester, UK.
5. Krishnan M (2008) *Plants That Heal*. Rupa Publications, New Delhi, India.
6. Primack RB (2018) *Essentials of Conservation Biology*. Sinauer Associates, Sunderland, MA, USA.
7. Pushpangadan P, Ramawat KG (2017) *Ethnobotany and Medicinal Plants: India and Nepal*. Springer, Cham, Switzerland.
8. Ramakrishnan PS, Saxena KG, Gupta U (2010) *Biodiversity: Conservation and Management*. Biotech Books publisher, Delhi, India.

8. Earth Sciences

MDC-1: Understanding Physical Formations of the Earth

Unit	Contents	Lecture
Unit-I Origin of the Earth	Views on origin and age of the earth; Components of the earth system and the characteristics of the Lithosphere from the perspective of geological formations; Geological time scale	7
Unit-II Internal structure of the earth	General constitution of the earth; Layers of the earth and their composition and characteristics: Crust, mantle, outer core and inner core	7
Unit-III Rocks and minerals	Definition of rock and mineral; Mineral: Properties and types; Rock: Classification and types	6
Unit-IV Landform dynamics on the earth	Landform and its classification; Geomorphic forces, associated processes and landform development: Endogenic and exogenic; Folding and faulting; Erosion, mass wasting and landslide; Earthquake and volcanic eruption-Causes, consequences and distribution	14

Books Recommended:

1. Klein, C. and Philpotts, A. (2016). Earth Materials: Introduction to Mineralogy and Petrology, 2nd edition, Cambridge University Press, 616p.
2. Patwardhan, A. M. (2020). The Dynamic Earth System. 4th edition, PHI Learning Pvt. Ltd., 576p.
3. Plummer, C. C., Carlson, D., and Hammersley, L. (2015). Physical Geology., 15th edition, McGraw Hill, 672p.
4. Reynolds, S. and Johnson, J. (2021). Exploring Geology. 6th edition, McGraw Hill, 704p.
5. Singh, S. (2012). Geomorphology, Pravalika Prakashans, Allahabad, 652p.

MDC-2: Understanding the Changing Environment

Unit	Contents	Lect.
Unit-I Environment as a system	Meaning of environment; Components of earth's environment system and their characteristics and interrelationship: Lithosphere, Hydrosphere, Atmosphere and Biosphere; Ecosystem, its components and functioning; Concept of balanced environment	8
Unit II Changing man and environment relationship	Impact of natural environment on man and his activities (Agriculture, food, dress, house, power development, human adjustment in different	10

	environments); Population growth and environmental changes; Impact of man on natural environment (Deforestation, soil erosion, soil degradation, depletion of mineral resources, air and water pollution)	
Unit-III Environmental changes and associated environmental problems	Global environmental changes: Global warming, Ozone layer depletion, Climate change Environmental problems: Sea level change; Extreme weather events; Land, air and water pollution; Desertification; Deforestation, biodiversity loss and man-animal conflicts	10
Unit-IV Environmental Management	Meaning of environmental management; Conservation of natural environment and its resources; Management of environmental problems; Concept of sustainable development	6

Recommended Books:

1. S. C. Santra (2011): Environmental Science, New Central Book Agency
2. Michael Allaby (2000): Basics of Environmental Science (2nd Ed.), Taylor & Francis
3. R. W. Jackson and J. M. Jackson (1998): Environmental Science – The natural environment and human impact, Longman
4. 4.D. D. Mishra (2019): Fundamental Concepts in Environmental Studies, S Chand Publication

MDC-3: Land and People of Assam

Unit	Contents	Lect.
Unit-I	Locational significance of Assam; Assam as an administrative division - Pre and Post-Independence Changes; Present administrative divisions	8
Unit II	Physical Characteristics (Relief, drainage, climate and vegetation) and associated problems (River-bank erosion, landslides and floods)	10
Unit-III	Natural resources (Forests, wildlife and biodiversity, mineral resources)	8

Unit-IV	Unit 4: Population (Trend of growth, spatial variation in growth, density, ethno-religious and linguistic composition, age composition, urbanization, literacy)	8
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Books Recommended:

1. Bhagabati, A.K., Bora, A.K. and Kar, B.K. (edited), 2022: *Geography of Assam*, Rajesh Publications, New Delhi (Revised & Enlarged Edition).
2. Bora, A.K. and Nath, M. (edited), 2022: *An Illustrated Geography of Assam*, EBH Publishers (India), Guwahati.
3. Dikshit, K.R. and Dikshit, J.K., 2013: *North-East India: Land, People and Economy*, Springer Science.
4. Taher, M. and Ahmed, P., 2007: *Geography of North-East India*, Mani ManilPrakash, Guwahati.

SKILL ENHANCEMENT COURSES (SEC)

Gauhati University: FYUGP-2023-24: SEC Papers:

Sl No	SEC Course Name	Semester
1	Academic Writing	1st
2	Agricultural Production System in North East India	1st
3	Anthropological Tourism	1st
4	Anuvad Charcha (Bengali-English/IndianLanguages)	1st
5	Apiculture	1st
6	Art of Acting	1st
7	ASAMIYA AKHAR JOTANI	1st
8	BAKERY SCIENCE	1st
9	Bamboo and Cane Technology	1st
10	Basic Analytical Chemistry	1st
11	Basic Animation and Graphic Design	1st
12	Basic Instrumentation Skills	1st
13	Basic Programming in C	1st
14	Basic Science Laboratory Skills	1st
15	Basics of Laboratory Practices in Zoology	1st
16	Basics of Photography	1st
17	Beautician and Makeup	1st
18	Bhasha Skhsan Ra Prabridhi in Nepali	1st
19	Bodo Cuisine and FOOD PROCESSING Skills	1st
20	BUSINESS COMMUNCATION	1st
21	Byabaharik Asomiya	1st
22	বাংলা ভাষার বিভিন্ন ব্যাবহারিক দিক ও সম্ভাবনা	1st
23	Computer and Office Automation	1st
24	COMPUTER APPLICATIONS	1st
25	CSSD Technology-I	1st
26	Cyber Laws	1st
27	Data Collection and Presentation	1st
28	DEMOCRACY AND LEADERSHIP BUIDING	1st
29	Developing Soft Skills in English	1st
30	Digital Photography and editing	1st
31	Document Presentationand Presentation Software	1st
32	Domestic and Industrial Electrical wiring	1st
33	Early Childhood Care and Development	1st
34	Ecology and Environmental Management	1st
35	Electronic Circuit Design	1st
36	Electronic Data Processing	1st
37	Elements of Art and Design	1st
38	ELT Skill-1	1st
39	Ethno botany	1st
40	Field Survey: Techniques and Application	1st
41	Floriculture	1st
42	Folk Dance of Goalpara	1st
43	Food Processing & Quality Management	1st
44	Foundamentals of Disaster Management	1st

45	Functional Assamese	1st
46	Functional Persian	1st
47	Fundamentals of Typography	1st
48	Fundamentals of Weather and Climate Sciences	1st
49	Gender Sensitization	1st
50	Geography of Tourism	1st
51	Geological Laboratory Techniques	1st
52	Grammar and Composition Skills	1st
53	Gymnasium Skills	1st
54	Handloom and Textile	1st
55	Herbarium Techniques and its role in Modern Science	1st
56	HINDI BHASA SHIKSHAN	1st
57	হিন্দী ভাষা শিক্ষা	1st
58	Legal Literacy & its application	1st
59	Legislative Support	1st
60	Life Skill Education	1st
61	Managing Stress	1st
62	Manipuri indigenous game & festivals	1st
63	Microbiological Analysis of Air and Water	1st
64	Microsoft Excel (Beginners)	1st
65	<i>Mushroom Cultivation Technology</i>	1st
66	Nepali Language learning	1st
67	Non-Mulberry Sericulture	1st
68	Nursery and Gardening	1st
69	Organic Farming	1st
70	Ornamental Fish and Fisheries	1st
71	Page Maker	1st
72	Panchayati Raj and Practice	1st
73	Paramporagato Asomiya Lokanityar Paribekhan Soili	1st
74	Pest Management	1st
75	Philosophical Counseling	1st
76	Photo Journalism	1st
77	Photoshop	1st
78	Physics Workshop Skills	1st
79	Political Institutions and Its practices in India	1st
80	Post Harvesting Technology	1st
81	Principals & techniques of food processing & preservation	1st
82	Programming in C	1st
83	Quantitative Aptitude and Reasoning	1st
84	Rachna Lekhan in Nepali	1st
85	Reasoning & Logic	1st
86	Renewable Energy and Energy Harvesting	1st
87	Report Writing and presentation	1st
88	Retail Management	1st
89	River Basin Studies	1st
90	Rural Marketing	1st
91	Sankritik Paryatan aru Bhraman Byabasthapana	1st
92	Sattriya Dance Skill	1st

93	SCILAB	1st
94	Secretarial Practice	1st
95	Small Poultry Farming	1st
96	Small Tea Garden Management	1st
97	Social Media Marketing	1st
98	Soft Skill-1	1st
99	Soil and Water Analysis	1st
100	Spoken Arabic-1	1st
101	Spoken English	1st
102	Spoken Hindi	1st
103	Stress Management	1st
104	Teaching Skill	1st
105	Tools & techniques for Local Handicraft Entrepreneurs	1st
106	Tour Packaging Management	1st
107	Traditional Medicinal System in Mayong, Assam	1st
108	Understanding Psychology	1st
109	Video editing for social media	1st
110	Weaving, Basic Weaves and Standard Fabrics	1st
111	Web Front-end Designing	1st
112	Workshop Practice (Mechanical, Carpentry and Electronics)	1st
113	Abrittikala/Art of Recitation	1st
114	Mental Health and Hygiene	1st

Sl No	SEC Course Name	Semester
1	Academic Reading in English	2nd
2	Advertising and Public Relations	2nd
3	Analytical Clinical Biochemistry	2nd
4	Android App Development	2nd
5	Animation and Media Design	2nd
6	Basic Programmin in C++	2nd
7	Basic Skills on Archives and Museum Management	2nd
8	Basic Skills on Elctronic Equipments	2nd
9	Basic Skills on Historical Tourism in North-East India	2nd
10	Basics of Adobe Pagemaker	2nd
11	Basics of Scriptwriting I	2nd
12	Biofertilizers	2nd
13	Biofertilizers and Biopesticides	2nd
14	Business Leader/ Multi Outlet Retailer	2nd
15	বাংলা ভাষা ও সাহিত্য-পাঠ পদ্ধতি ও সাহিত্যের রূপান্তর	2nd
16	Catering Technology and Hotel Management	2nd
17	Commercial Clothing	2nd
18	Commercial Correspondence in Persian	2nd
19	Computer Assembling and Networking	2nd
20	Computer Oriented Financial Accounting	2nd
21	CONFLICT AND PEACE BUILDING	2nd
22	Costume and Textile Design of the Bodos	2nd
23	Creative Writing	2nd

24	Creative Writing in Persian	2nd
25	Critical Thinking	2nd
26	CV Writing and Interview Skills	2nd
27	Cyber Ethics	2nd
28	Developing Emotional Competence	2nd
29	DEVELOPING TEACHING SKILLS	2nd
30	Drama and Mime	2nd
31	DTP	2nd
32	DUCK RAISING AND BUSINESS	2nd
33	E-Commerce	2nd
34	Educational Psychology	2nd
35	ELT Skill-2	2nd
36	Emotional Intelligence	2nd
37	English Reading & Comprehension	2nd
38	Envirnmental Impact Assessment	2nd
39	Environmental Geology	2nd
40	Enzymology	2nd
41	Extension Activities	2nd
42	Farm Management	2nd
43	Fishery Management	2nd
44	Floristic Methods of Vegetation Description	2nd
45	Folk Music of Goalpara	2nd
46	Food Fermentation Techniques	2nd
47	Foundamentals of Ecology & Wildlife Management	2nd
48	FRONT OFFICE MANAGEMENT	2nd
49	Fundamentals of Social Statistics	2nd
50	Gardening	2nd
51	Geo Chemistry	2nd
52	Geographical Information Systems	2nd
53	Geoinformatics in Geology	2nd
54	Guest Relation Management	2nd
55	Herbal Technology	2nd
56	Heritage Study of India	2nd
57	Hindi Advertisement	2nd
58	Hindi Patrakarita	2nd
59	Historical Tourism in North East India	2nd
60	HTML Programming	2nd
61	Intellectual Property Rights	2nd
62	Introduction to COREL Draw	2nd
63	Introduction to Drug Delivery System	2nd
64	Karyalini Anuvad in Hindi	2nd
65	Laptop/Desktop/Tab/Mobile/DSLR Repairing	2nd
66	LaTeX	2nd
67	Management of Human Microbial Diseases	2nd
68	MANIPURI TRANSLATION	2nd
69	Manuscript Preparation in Bodo	2nd
70	Marketing of Indigenou Agricultural Products	2nd

71	Maternal and Child Nutrition	2nd
72	Measurement & Evaluation in Sports	2nd
73	Medicinal Botany	2nd
74	Microbial Diagnosis in Health Clinics	2nd
75	Microsoft Excel (Advance)	2nd
76	Natyakala- Abhinay Kaukhal aru Rasanasoili	2nd
77	Nepali Anubad Sahitya	2nd
78	New Venture Planning	2nd
79	Open Source Software	2nd
80	Operation Theater Technology & Dialysis	2nd
81	Oral Culture and Oral History	2nd
82	Pandulipi Prostuti in Bengali	2nd
83	Personal Selling and Salesmanship	2nd
84	Pharmaceutical Chemistry	2nd
85	Photogeology and Remote Sensing	2nd
86	Plant diseases and their Management	2nd
87	Practical Assamese-1	2nd
88	Preparation of Lesson Plan	2nd
89	Print Journalism Production	2nd
90	Proofreading	2nd
91	PSYCHOLOGY IN EDUCATION	2nd
92	Public Speaking skill	2nd
93	Radio Programme Production	2nd
94	Remote Sensing, GIS and GPS	2nd
95	Research and Technical Writing	2nd
96	Retail Sales Specialist cum Cashier	2nd
97	Sakhyatkar- Prastuti aru Karyakarita	2nd
98	SANSKRIT GRAMMAR and TRANSLATION	2nd
99	Science Communication	2nd
100	SERICULTURE AND ITS PROSPECTS	2nd
101	Soft Skill-2	2nd
102	Spoken Arabic-2	2nd
103	Sports Technology	2nd
104	Statistical Techniques for Research Methods	2nd
105	Statistical Techniques in Geography	2nd
106	Surface Ornamentation	2nd
107	Technical Drawing	2nd
108	Technical Writing	2nd
109	Techniques in Social Research	2nd
110	Testing and Calibration	2nd
111	Textile Processing	2nd
112	Tour Guide	2nd
113	Translation : Principles & Practice	2nd
114	Vermicomposting and Organic Farming	2nd
115	Video and Photo Editing	2nd
116	Visual Merchandiser	2nd
117	Web Designing	2nd
118	Wildlife photography and Ecotourism	2nd

SI No	SEC Course Name	Semester
1	Advanced Statistical Techniques for Spatial Analysis	3rd
2	Application of IT in Sports	3rd
3	Applied Optics	3rd
4	Aquarium construction and ornamental fish keeping	3rd
5	Arduino Programming	3rd
6	Building Academic Skills in English Writing	3rd
7	Basics of Computer Programming	3rd
8	Basics of Scriptwriting II	3rd
9	Biostatistics	3rd
10	Business Skills for Chemist	3rd
11	বাংলা অনুবাদ-চর্চা	3rd
12	Chemistry of Cosmetics & Perfumes	3rd
13	Chemoinformatics	3rd
14	Children and Human Rights	3rd
15	Citranatya Rasana aru Bangla Sahitya	3rd
16	Combinatorics and Graph Theory Applications	3rd
17	Comprehension Skills on Oral Culture and Oral History	3rd
18	Computational Physics	3rd
19	Computer aided Data Analysis and Geographical Presentation	3rd
20	Computer Application in Business	3rd
21	Computer Skills in Tourism	3rd
22	Contemporary Economic Issues	3rd
23	Craft	3rd
24	Crafts & Artisans: Living Traditions	3rd
25	Cyber Security	3rd
26	Data Analysis	3rd
27	Data Analysis in Social Sciences	3rd
28	Democratic Awareness Through Legal Literacy	3rd
29	Design and Fabrication of Printed circuit boards	3rd
30	Digital Marketing	3rd
31	Driving & Road Safety (Traffic Rules & Regulations)	3rd
32	Economic Geology Fieldwork	3rd
33	Effective Decision Making	3rd
34	E-Filing of Returns	3rd
35	Electronic Gadgets Assembly Technician	3rd
36	ELT Skill-3	3rd
37	Entrepreneurship	3rd
38	ENVIRONMENTAL ETHICS	3rd
39	Event Management	3rd
40	Film Appreciation	3rd
41	Fishery and Aquaculture Statistics	3rd
42	Food Analysis	3rd
43	Foundamentals of Human Settlement & Urban Planning	3rd
44	Fuel Chemistry	3rd

45	Fundamentals of Public Health and Epidemiology	3rd
46	Geoinformatics	3rd
47	Geological Mapping	3rd
48	Geomorphology and Geo-tectonics	3rd
49	Graphic Design for Digital Advertising	3rd
50	Green Methods in Chemistry	3rd
51	Himalayan Geology Fieldwork	3rd
52	Hindi Translation	3rd
53	Hospitality, Accommodation & Transportation Management	3rd
54	ICT Hardware	3rd
55	Indian Drug Regulatory Guidelines	3rd
56	Industrial Fermentations	3rd
57	Information Security and Cyber laws	3rd
58	IT Skills for Chemists	3rd
59	Java Programming	3rd
60	Kaya Yoga and Naturopathy	3rd
61	Knowledge of Accounting Software	3rd
62	Lab VIEW	3rd
63	MAKING EFFECTIVE COMMUNICATION	3rd
64	Management Information System	3rd
65	Microbial Quality Control in Food and Pharmaceutical Industries	3rd
66	Microscopy and its applications in Modern Biology	3rd
67	Motion Graphics for Advertising and Films	3rd
68	Multi Channel Retailing	3rd
69	MULTIMEDIA APPLICATION	3rd
70	Museum Methods	3rd
71	Natural Resource Management	3rd
72	NEPALI SAHITTIK PATRAKARITA	3rd
73	NGO Management & CSR	3rd
74	Officiating in Games And Sports	3rd
75	Parliamentary Procedures and Practices	3rd
76	PATTERN MAKING AND DRAPING	3rd
77	Persian Language Development Skill	3rd
78	Pharmaceutical Unit Operation	3rd
79	PHP Programming	3rd
80	Plant Diversity and Human Welfare	3rd
81	Plant propagation and Tissue culture Technique	3rd
82	PLC and SCADA	3rd
83	Political Journalism	3rd
84	Practical Assamese-2	3rd
85	Pre-cambrian Geology fieldwork	3rd
86	Programming in Python	3rd
87	Programming using MATLAB	3rd
88	Programming with C#	3rd
89	Programming with VB/GAMBAS	3rd
90	Prop Designing	3rd
91	Public Opinion and Survey Research	3rd
92	R Programming	3rd

93	Radiation Safety	3rd
94	Reading and Comprehension Skills	3rd
95	Reading Films	3rd
96	Reading Sanskrit Meters and Music	3rd
97	R-Programming	3rd
98	Samanya R Sirjyanatmak Lekhon in Nepali	3rd
99	Scientific Research and Technical Writting	3rd
100	Script Writing	3rd
101	Shell Scripting	3rd
102	Short Film Making	3rd
103	Spoken Arabic-3	3rd
104	Srijanimulak Sahitya (Assamese)	3rd
105	Statigraphy and Paleontology fieldwork	3rd
106	Statistical Data Analysis Using R	3rd
107	Statistical-Data Analysis Using Software Packages	3rd
108	Surveying Technique	3rd
109	System Administration and Maintenance	3rd
110	Taxonomy	3rd
111	Theatre Studies	3rd
112	Thematic Cartography	3rd
113	Tourism Entrepreneurship	3rd
114	Tourism Marketing	3rd
115	Translation Skills in Bodo	3rd
116	Travel Agency and Tour Operations	3rd
117	Understanding Design	3rd
118	UNIX/LINUX Programming	3rd
119	Virtual Instrumentation	3rd
120	Visual and Performing Arts	3rd
121	VLSI Design	3rd
122	Voice & Speech in Entertainment	3rd
123	Weather Forecasting	3rd