NOWGONG GIRLS' COLLEGE

Re-Accreditated at A Grade (2nd Cycle) by the
National Assessment and Accreditation Council

CRITERIA 1 : CURRICULAR ASPECTS

1.3.2: Percentage of students undertaking project work/field work/ internships

Submitted to
The NAAC for 3rd Cycle of Assessment and Accreditation

SYLLABUS OF THE COURSES HAVING PROJECT/FIELD WORK

Submitted to the NAAC for 3rd Assessment Cycle of Assessment & Accreditation

NOWGONG GIRLS' COLLEGE

Re-accreditated at A Grade by the NAAC (2nd Cycle)

CHOICE BASED CREDIT SYSTEM

Syllabus

For

B.Sc. BOTANY HONOURS

DEPARTMENT OF BOTANY
GAUHATI UNIVERSITY
GUWAHATI-781014

Effective from Academic Session 2019-2020

9

BOT-HC-4026
Plant Ecology and Phytogeography

Total Lectures : 60 Credits : 6 (Theory - 4, Practical - 2)

9.1 THEORY

Unit 1 : *Introduction* **(4 lectures)**

Basic concepts; Levels of organization. Inter-relationships between the living world and the environment, the components and dynamism, homeostasis.

Unit 2 : *Soil* **(8 lectures)**

Importance; Origin; Formation; Composition; Physical; Chemical and Biological components; Soil profile; Role of climate in soil development.

Unit 3 : *Water* **(4 lectures)**

Importance: States of water in the environment; Atmospheric moisture; Precipitation types (rain, fog, snow, hail, dew); Hydrological Cycle; Water in soil; Water table.

Unit 4 : *Adoptation of plants to various environmental factors* **(6 lectures)**

Light, temperature, wind and fire

Unit 5 : *Biotic interactions* **(2 lectures)**

Trophic organization, basic source of energy, autotrophy, heterotrophy; symbiosis, commensalism, parasitism; food chains and webs; ecological pyramids; biomass, standing crop.

Unit 6 : *Population ecology* **(4 lectures)**

Population characteristics, Growth curve, population regulation, r and k selection. Ecological speciation: Allopatric/ Sympatric and Parapatric speciation.

Unit 7 : *Plant communities* **(8 lectures)**

Concept of ecological amplitude; Habitat and niche; Characters: analytical and synthetic; Ecotone and edge effect; Dynamics: succession – processes, types; climax concepts.

Unit 8 : *Ecosystems* **(4 lectures)**

Structure; Processes; Trophic organisation; Food chains and Food webs; Ecological pyramids.

Unit 9 : *Functional aspects of ecosystem* **(8 lectures)**

Principles and models of energy flow; Production and productivity; Ecological efficiencies; Biogeochemical cycles; Cycling of Carbon, Nitrogen and Phosphorus.

Unit 10 : *Phytogeography* **(12 lectures)**

Principles; Continental drift; Theory of tolerance; Endemism; Brief description of major terrestrial biomes (one each from tropical, temperate & tundra); Phytogeographical division of India; Vegetation types of NE India with special reference to Assam.

9.2 PRACTICAL

1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer/hygrometer, rain gauge and lux meter.
2. Determination of pH of various soil and water samples using pH meter.
3. Analysis for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency from two soil samples by rapid field tests.
4. Determination of organic matter of different soil samples by Walkley & Black rapid titration method.
5. Determination of dissolved oxygen of water samples from polluted and unpolluted sources.
6. (a). Study of morphological adaptations of hydrophytes and xerophytes (four each).

(b). Study of biotic interactions of the following: Stem parasite (*Cuscuta*), Root parasite (*Orobanche*) Epiphytes, Predation (Insectivorous plants).

7. Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus, by species area curve method (species to be listed).
8. Quantitative analysis of herbaceous vegetation in the college campus for frequency and comparison with Raunkiaer's frequency distribution law.
9. Quantitative analysis of herbaceous vegetation for density and abundance in the college campus.
10. Field visit to familiarise students with ecology of different sites.

Suggested Readings

1. Odum, E.P. (2005). Fundamentals of ecology. Cengage Learning India Pvt. Ltd., New Delhi. 5th edition.
2. Singh, J.S., Singh, S.P., Gupta, S. (2006). Ecology Environment and Resource Conservation. Anamaya Publications, New Delhi, India.
3. Sharma, P.D. (2010). Ecology and Environment. Rastogi Publications, Meerut, India. 8th edition.
4. Wilkinson, D.M. (2007). Fundamental Processes in Ecology: An Earth Systems Approach. Oxford University Press. U.S.A.
5. Kormondy, E.J. (1996). Concepts of ecology. PHI Learning Pvt. Ltd., Delhi, India. 4th edition.
6. Smith and Smith(2012): Elements of Ecology. Pearson Publisher (Sixth edition).
7. Bhattacharya, K., Ghosh, A.K. and Hait, G. (2017). A text Book of Botany (Ecology, Environmental Biology, Economic Botany and Pharmacognosy). New Central Book Agency (P) Ltd.
8. Ambasht and Ambasht (2002): A text book of Plant Ecology. CBS publisher and Distributors.
9. Agarwal, A.K. and Deo, P.P. (2006). Plant Ecology. Agrobios (India)
10. William D Bowmen, Sally D Hacker and Michael L. Cain (2018) Ecology, Oxford University Press
11. Verma, P.S. and Agarwal V. K.(2003) Environmental Biology-Principles of Ecology. S Chand & Company Ltd, Ramnagar, New Delhi-110055.

10

BOT-HC-4036
Plant Systematics

Total Lectures : 60 Credits : 6 (Theory - 4, Practical - 2)

10.1 THEORY

Unit 1 : *Significance of Plant systematics* **(8 lectures)**

Introduction to systematics; Plant identification, Classification, Nomenclature. Evidences from palynology, cytology, phytochemistry and molecular data. Functions and importance of Herbarium; Important herbaria and botanical gardens of the world and India; Virtual herbarium; E-flora; Concept of taxa (family, genus, species); Categories and taxonomic hierarchy.

Unit 2 : *Botanical nomenclature* **(10 lectures)**

Principles and rules (ICN); Ranks and names; Typification, author citation, Effective and valid publication, rejection of names, principle of priority and its limitations; Names of hybrids.

Unit 3 : *Systems of classification* **(12 lectures)**

Major contributions of Theophrastus, Bauhin, Tournefort, Linnaeus, Adanson, de Candolle, Bessey, Hutchinson, Takhtajan and Cronquist; Classification systems of Bentham and Hooker (upto series) and Engler and Prantl (upto series); Brief reference of Angiosperm Phylogeny Group (APG) classification.

Unit 4 : *Numerical taxonomy and cladistics* **(10 lectures)**

Characters; Variations; OTUs, character weighting and coding; Cluster analysis; Phenograms, cladograms (definitions and differences).

Unit 5 : *Phylogeny of Angiosperms* **(12 lectures)**

Terms and concepts (primitive and advanced, homology and analogy, parallelism and convergence, monophyly, Paraphyly, polyphyly and clades). Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).

Unit 6 : *Angiospermic Families* **(8 lectures)**

Detail study of the following families:

Magnoliaceae, Fabaceae, Asteraceae, Solanaceae, Acanthaceae, Lamiaceae, Euphorbiaceae, Orchidaceae, Musaceae, Zingiberaceae, Poaceae.

10.2 PRACTICAL

1. Study of vegetative and floral characters of locally available angiospermic plants belonging to the following families (Description, V.S. flower, section of ovary, floral diagram/s, floral formula/e and systematic position according to Bentham & Hooker's system of classification): Fabaceae, Solanaceae, Acanthaceea, Lamiaceae, Euphorbiaceae, Musaceae, Orchidaceae.

2. Field visit to familiarise students with vegetation of an area and identification of plant species / Visit to Academic or Research Institutions.

3. Mounting of a properly dried and pressed specimen of any wild plant with herbarium label (to be submitted in the record book).

Suggested Readings

1. Singh, (2012). *Plant Systematics:* Theory and Practice Oxford & IBH Pvt. Ltd., New Delhi. 3rd edition.
2. Jeffrey, C. (1982). An Introduction to *Plant Taxonomy.* Cambridge University Press, Cambridge.
3. Judd, W.S., Campbell, C.S., Kellogg, E.A., Stevens, P.F. (2002). Plant Systematics-A Phylogenetic Approach. Sinauer Associates Inc., U.S.A. 2nd edition.
4. Maheshwari, J.K. (1963). *Flora* of Delhi. CSIR, New Delhi.
5. Radford, A.E. (1986). Fundamentals of *Plant Systematics*. Harper and Row, New York.
6. Pandey, B.P. (2018). A Textbook of Botany: Angiosperm. S. Chand Publishing, 7361, Ram Nagar, Qutab Road, New Delhi-110055.

2

BOT-HE-5026
Horticultural Practices and Post-Harvest Technology

Total Lectures : 60 Credits : 6 (Theory - 4, Practical - 2)

2.1 THEORY

Unit 1 : *Introduction* **(4 lectures)**

Scope and importance, Branches of horticulture; Role in rural economy and employment generation; Importance in food and nutritional security; Urban horticulture and ecotourism.

Unit 2 : *Ornamental plants* **(4 lectures)**

Types, classification (annuals, perennials, climbers and trees); Identification and salient features of some ornamental plants [rose, marigold, gladiolus, carnations, orchids, poppies, gerberas, tuberose, sages, cacti and succulents (opuntia, agave and spurges)] Ornamental flowering trees (Indian laburnum, gulmohar, Jacaranda, Lagerstroemia, fishtail and areca palms, semul, coraltree).

Unit 3 : *Fruit and vegetable crops* **(4 lectures)**

Production, origin and distribution; Description of plants and their economic products; Management and marketing of vegetable and fruit crops; Identification of some fruits and vegetable varieties (citrus, banana, mango, chillies and cucurbits).

Unit 4 : *Horticultural techniques* **(8 lectures)**

Application of manure, fertilizers, nutrients and PGRs; Weed control; Biofertilizers, biopesticides; Irrigation methods (drip irrigation, surface irrigation, furrow and border irrigation); Hydroponics; Propagation Methods: asexual (grafting, cutting, layering, budding), sexual (seed propagation), Scope and limitations.

Unit 5 : *Landscaping and garden design* **(6 lectures)**

Planning and layout (parks and avenues); gardening traditions - Ancient Indian, European, Mughal and Japanese Gardens; Urban forestry; policies and practices.

Unit 6 : *Floriculture* **(6 lectures)**

Cut flowers, bonsai, commerce (market demand and supply); Importance of flower shows and exhibitions.

Unit 7 : *Post-harvest technology* **(10 lectures)**

Importance of post harvest technology in horticultural crops; Evaluation of quality traits; Harvesting and handling of fruits, vegetables and cut flowers; Principles, methods of preservation and processing; Methods of minimizing loses during storage and transportation; Food irradiation - advantages and disadvantages; food safety.

Unit 8 : *Disease control and management* **(8 lectures)**

Field and post-harvest diseases; Identification of deficiency symptoms; remedial measures and nutritional management practices; Crop sanitation; IPM strategies (genetic, biological andchemical methods for pest control); Quarantine practices; Identification of common diseases andpests of ornamentals, fruits and vegetable crops.

Unit 9 : *Horticultural crops - conservation and management* **(10 lectures)**

Documentation and conservation of germplasm; Role of micropropagation and tissue culture techniques; Varieties and cultivars of various horticultural crops; IPR issues; National, international and professional societies and sources of information on horticulture.

Unit 10 : *Field trip*

Field visits to gardens, standing crop sites, nurseries, vegetable gardens and horticultural fields at suitable locations.

Suggested Readings

1. Singh, D. & Manivannan, S. (2009). Genetic Resources of Horticultural Crops. Ridhi International, Delhi, India.
2. Swaminathan, M.S. and Kochhar, S.L. (2007). Groves of Beauty and Plenty: An Atlas of Major Flowering Trees in India. Macmillan Publishers, India.
3. NIIR Board (2005). Cultivation of Fruits, Vegetables and Floriculture. National Institute of Industrial Research Board, Delhi.
4. Kader, A.A. (2002). Post-Harvest Technology of Horticultural Crops. UCANR Publications, USA.
5. Capon, B. (2010). Botany for Gardeners. 3rd Edition. Timber Press, Portland, Oregon.

3

BOT-HE-6016
Industrial and Environmental Microbiology

Total Lectures : 60 Credits : 6 (Theory - 4, Practical - 2)

3.1 THEORY

Unit 1 : ***Scope of microbes in industry and environment*** **(6 lectures)**

Unit 2 : ***Bioreactors/Fermenters and fermentation processes*** **(12 lectures)**

Solid-state and liquid-state (stationary and submerged) fermentations; Batch and continuous fermentations. Components of a typical bioreactor, Types of bioreactors-laboratory, pilotscale and production fermenters; Constantly stirred tank fermenter, tower fermenter, fixed bed and fluidized bed bioreactors and air-lift fermenter.

A visit to any educational institute/ industry to see an industrial fermenter, and other downstream processing operations.

Unit 3: Microbial production of industrial products **(12 lectures)**

Microorganisms involved, media, fermentation conditions, downstream processing and uses; Filtration, centrifugation, cell disruption, solvent extraction, precipitation and ultrafiltration, lyophilization, spray drying; Hands on microbial fermentations for the production and estimation (qualitative and quantitative) of Enzyme: amylase or lipase activity, Organic acid (citric acid or glutamic acid), alcohol (Ethanol) and antibiotic (Penicillin)

Unit 4: Microbial enzymes of industrial interest and enzyme immobilization **(8 lectures)**

Microorganisms for industrial applications and hands on screening microorganisms for casein hydrolysis; starch hydrolysis; cellulose hydrolysis. Methods of immobilization, advantages and applications of immobilization, large scale applications of immobilized enzymes (glucose isomerase and penicillin acylase**).**

Unit 5: Microbes and quality of environment. **(6 lectures)**

Distribution of microbes in air; Isolation of microorganisms from soil, air and water.

Unit 6: Microbial flora of water. **(8 lectures)**

Water pollution, role of microbes in sewage and domestic waste water treatment systems. Determination of BOD, COD, TDS and TOC of water samples; Microorganisms as indicators of water quality, check coliform and fecal coliform in water samples.

Unit 7: Microbes in agriculture and remediation of contaminated soils. **(8 lectures)**

Biological fixation; Mycorrhizae; Bioremediation of contaminated soils. Isolation of root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.

3.2 PRACTICAL

1. Principles and functioning of instruments in microbiology laboratory
2. Hands on sterilization techniques and preparation of culture media.
3. Pure culture techniques.

Suggested Readings

1. Pelzar, M.J. Jr., Chen E.C. S., Krieg, N.R. (2010). Microbiology: An application based approach. Tata McGraw Hill Education Pvt. Ltd., Delhi.
2. Tortora, G.J., Funke, B.R., Case. C.L. (2007). Microbiology. Pearson Benjamin Cummings, San Francisco, U.S.A. 9th edition.

5

BOT-HE-6036
Project Work/Dissertation

Credits : 6

Syllabus for B.Sc. (Honors)

Chemistry

Choice Based Credit System (CBCS)

Course effective from academic year 2019-20

This is approved in the Academic Council held on 08/11/2019

Gauhati University

Guwahati::Assam

laboratory waste, disposal of chemicals in the sanitary sewer system, incineration and transportation of hazardous chemicals.

(12 Lectures)

Data Analysis

The Investigative Approach: Making and Recording Measurements. SI Units and their use.Scientific method and design of experiments.

Analysis and Presentation of Data: Descriptive statistics. Choosing and using statistical tests.Chemometrics. Analysis of variance (ANOVA), Correlation and regression, Curve fitting,fitting of linear equations, simple linear cases, weighted linear case, analysis of residuals, General polynomial fitting, linearizing transformations, exponential function fit, *r* and its abuse. Basic aspects of multiple linear regression analysis.

(13 Lectures)

Electronics

Basic fundamentals of electronic circuits and their components used in circuits of common instruments like spectrophotometers, typical circuits involving operational amplifiers for electrochemical instruments. Elementary aspects of digital electronics.

(10 Lectures)

Recommended Books

1. Dean, J. R., Jones, A. M., Holmes, D., Reed, R., Weyers, J. & Jones, A. (2011) *Practical skills in chemistry*. 2nd Ed. Prentice-Hall, Harlow.
2. Hibbert, D. B. & Gooding, J. J. (2006) *Data analysis for chemistry*. Oxford University Press.
3. Topping, J. (1984) *Errors of observation and their treatment.* Fourth Ed., Chapman Hall, London.
4. Harris, D. C. *Quantitative chemical analysis*. 6th Ed., Freeman (2007) Chapters 3-5.
5. Levie, R. de, *How to use Excel in analytical chemistry and in general scientific data analysis.* Cambridge Univ. Press (2001) 487 pages.
6. Chemical safety matters – IUPAC – IPCS, Cambridge University Press, 1992.
7. OSU safety manual 1.01.

CHE-HE-6056: DISSERTATION

Student will complete a project work and then prepare a report on that.

Skill Enhancement Courses

CHE-SE-3024: IT SKILLS FOR CHEMISTS

(Credits: 04)
60 Lectures

Syllabus

Mathematics (Honours)

Version 2 submitted to

Gauhati University

under the

Choice Based Credit System

By

Department of Mathematics

Gauhati University

1. Introduction to CHOICE BASED CREDIT SYSTEM (CBCS):

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill-based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to be given with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

2. Outline of Choice Based Credit System:

2.1 Core Course: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2.2 Elective Course: Generally, a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domainornurturesthecandidate'sproficiency/skill is called an Elective Course.

2.2.1 Discipline Specific Elective (DSE) Course: Elective courses may be offered by them an indiscipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of inter disciplinary nature (to be offered by main discipline/subject of study).

2.2.2 Dissertation/Project: An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.

2.2.3 Generic Elective (GE) Course: An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective. P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

3. Ability Enhancement Courses (AEC)/Competency Improvement Courses/Skill Development Courses /Foundation Course: The Ability Enhancement (AE) Courses may be of two kinds: AE Compulsory Course (AECC) and AE Elective Course (AEEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement. They are

((i) Environmental Science(ii) English/MIL Communication) are mandatory for all disciplines. AEEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc.

3.1 AE Compulsory Course (AECC): Environmental Science, English Communication /MIL Communication.

3.2 AE Elective Course (AEEC): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based instruction.

Project work/Dissertation is considered as a special course involving application of knowledge in solving /analyzing /exploring a real life's situation/difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.

CBCS Course Structure for B.Sc. (Hons.) Mathematics Program SEMESTER WISE PLACEMENT OF THE COURSES

Sem	Core Course (14)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (2)	Discipline Specific Elective (DSE) (4)	Generic Elective (GE) (4) (Other than Mathematics Honours)
I	MAT-HC-1016: Calculus (including practical) MAT-HC-1026:Algebra	ENG-AE-1014			MAT-HG-1016 / MAT-RC-1016MAT-HG-1026
II	MAT-HC-2016: Real Analysis MAT-HC-2026: Differential Equations (including practical)	ENV-AE-2014			MAT-HG-2016 /MAT-RC-2016 MAT-HG-2026
III	MAT-HC-3016: Theory of Real Functions MAT-HC-3026: Group Theory-I MAT-HC-3036: Analytical Geometry		MAT-SE-3014 MAT-SE-3024		MAT-HG-3016 /MAT-RC-3016MAT-HG-3026
IV	MAT-HC-4016: Multivariate Calculus MAT-HC-4026: Numerical Methods (including practical) MAT-HC-4036: Ring Theory		MAT-SE-4014 MAT-SE-4024 MAT-SE-4034		MAT-HG-4016 / MAT-RC-4016MAT-HG-4026
V	MAT-HC-5016: Complex Analysis MAT-HC-5026: Linear Algebra			DSE-1 MAT-HE-5016 MAT-HE-5026 MAT-HE-5036 DSE-2 MAT-HE-5046 MAT-HE-5056 MAT-HE-5066	
VI	MAT-HC-6016: Riemann Integration and Metric spaces MAT-HC-6026: Partial Differential Equations (including practical)			DSE-3 MAT-HE-6016 MAT-HE-6026 MAT-HE-6036 MAT-HE-6046 DSE-4 MAT-HE-6056 MAT-HE-6066 MAT-HE-6076 Project in lieu of DSE-3 or DSE-4	

Legends: HC: Core Papers HE: Discipline Specific Elective Papers SE: Skill

Enhancement Papers HG: Generic Elective Papers

Core Papers:

- MAT-HC-1016: Calculus (including practical)
- MAT-HC-1026: Algebra
- MAT-HC-2016: Real Analysis
- MAT-HC-2026: Differential Equations (including practical)
- MAT-HC-3016: Theory of Real Functions
- MAT-HC-3026: Group Theory-I
- MAT-HC-3036: Analytical Geometry
- MAT-HC-4016: Multivariate Calculus
- MAT-HC-4026: Numerical Methods (including practical)
- MAT-HC-4036: Ring Theory
- MAT-HC-5016: Complex Analysis
- MAT-HC-5026: Linear Algebra
- MAT-HC-6016: Riemann Integration and Metric spaces
- MAT-HC-6026: Partial Differential Equations (including practical)

Skill Enhancement Course (SEC)

papers SEC1(choose one)

(i) MAT-SE-3014: Computer Algebra Systems and Related Software
(ii) MAT-SE-3024: Combinatorics and Graph Theory

SEC2(choose one)

(i) MAT-SE-4014: R-Programming
(ii) MAT-SE-4024: LATEX and HTML
(iii) MAT-SE-4034: Boolean Algebra

Discipline Specific Electives (DSE) papers

DSE1(choose one)

(i) MAT-HE-5016: Number Theory
(ii) MAT-HE-5026: Mechanics
(iii) MAT-HE-5036: Probability and Statistics

DSE2(choose one)

(i) MAT-HE-5046: Linear Programming
(ii) MAT-HE-5056: Spherical Trigonometry and Astronomy
(iii) MAT-HE-5066: Programming in C

DSE-3(choose one)

(i) MAT-HE-6016: Boolean Algebra and Automata Theory
(ii) MAT-HE-6026: Bio-Mathematics
(iii) MAT-HE-6036: Mathematical Modeling
(iv) MAT-HE-6046: Hydromechanics

DSE4(choose one)

(i) MAT-HE-6056: Rigid Dynamics

(ii) MAT-HE-6066: Group Theory II
(iii) MAT-HE-6076: Mathematical Finance

Project (in lieu of DSE3 or DSE4

Syllabus for B.Sc.(Honors) Zoology

Choice Based Credit System (CBCS)

Course effective from academic year 2019-20

This is approved in the Academic Council on 08//11/2019

Gauhati University

Guwahati::Assam

ZOO-HE-6056

DISSERTATION

Dissertation of Zoology Specific subject

GENERIC ELECTIVE COURSES

CODE: ZOO-HG-1016

ANIMAL DIVERSITY

THEORY **(CREDITS 4)**

Unit 1:Kingdom Protista **4**

General characters and classification up to classes; Locomotory Organelles and locomotion in Protozoa

Unit 2: Phylum Porifera **3**

General characters and classification up to classes; Canal System in *Sycon*

Unit 3: Phylum Cnidaria **3**

General characters and classification up to classes; Polymorphism in Hydrozoa

Unit 4:Phylum Platyhelminthes **3**

General characters and classification up to classes; Life history of *Taenia solium*

Unit 5: Phylum Nemathelminthes **5**

General characters and classification up to classes; Life history of *Ascaris lumbricoides* and its parasitic adaptations

Unit 6:Phylum Annelida **3**

General characters and classification up to classes; Metamerism in Annelida

Unit 7:Phylum Arthropoda **5**

General characters and classification up to classes; Vision in Arthropoda, Metamorphosis in Insects

সম্মান পাঠ্যক্রম
(HONOURS COURSE)

This is approved in the Academic Council held on 08/11/2019

সন্মান পাঠ্যক্রম
(Honours Course)

☐ গুৱাহাটী বিশ্ববিদ্যালয়ৰ অসমীয়া বিষয়ৰ স্নাতক (সন্মান) পাঠ্যক্রম ৬ টা যাণ্মাসিকত সম্পন্ন হ'ব।

☐ প্রত্যেক পাঠ্যৰ বাবে (Course) ৬ ক্রেডিট অথবা ৪ ক্রেডিট ধার্য কৰা হৈছে। ৬ ক্রেডিটৰ পাঠ্যৰ বাবে সপ্তাহত ৬ বিদ্যায়তনিক ঘন্টা আৰু ৪ ক্রেডিটৰ পাঠ্যৰ বাবে ৪ বিদ্যায়তনিক ঘন্টা নির্দিষ্ট কৰা হৈছে। সপ্তাহটোৰ ৬ ক্রেডিটৰ পাঠ্যত ৫ টা শৈক্ষিকশ্রেণী আৰু ১ টা শৈক্ষিক বৈঠক (Tutorial Class) অনুষ্ঠিত হ'ব।

অসমীয়া সন্মান পাঠ্যক্রমৰ পাঠ্য বিভাজন

(Course Structure for BA in Assamese (Honours) under CBCS)

২০১৯

Semester	ধৰণ (Type)	বুনিয়াদী পাঠ্য (Core Course)	সক্ষমতা বিকাশ পাঠ্য (AECC)	দক্ষতা বিকাশ পাঠ্য (SEC)	বিষয় সম্পৰ্কীয় ঐচ্ছিক পাঠ্য (DSE)	বৰ্গীয় ঐচ্ছিক পাঠ্য (GE)
	গুৰুত্ব (Credit)	14 x 6 = 84	2 x 4 = 8	2 x 4 = 8	4 x 6 = 24	4 x 6 = 24
I		ASM-HC-1016 ASM-HC-1026	ASM-AE-1014 / ENG-AE-1014/ Other MIL Communication			ASM-HG-1016
II		ASM-HC-2016 ASM-HC-2026	ENV-AE-2014			ASM-HG-2016
III		ASM-HC-3016 ASM-HC-3026 ASM-HC-3036		ASM-SE-3014		ASM-HG-3016
IV		ASM-HC-4016 ASM-HC-4026 ASM-HC-4036		ASM-SE-4014		ASM-HG-4016
V		ASM-HC-5016 ASM-HC-5026			ASM-HE-5XX6 ASM-HE-5YY6	
VI		ASM-HC-6016 ASM-HC-6026			ASM-HE-6XX6 ASM-HE-6YY6	

নির্দেশনা ঃ

অসমীয়া (সন্মান)ৰ শিক্ষার্থীয়ে অসমীয়া বিষয়ৰ বাহিৰে মহাবিদ্যালয়ত উপলব্ধ অন্য যিকোনো বিষয়ৰ পৰা ঐচ্ছিক বৰ্গীয় পাঠ্য ল'ব পাৰিব।

বিষয় সম্পৰ্কীয় ঐচ্ছিক পাঠ্য

এই কাকতখনৰ বাবে ছাত্ৰ-ছাত্ৰীয়ে বিভাগীয় শিক্ষকৰ তত্ত্বাৱধানত কোনো গুৰুত্বপূৰ্ণ স্থান, উৎসৱ-পাৰ্বণ, লোকাচাৰ, লোকপৰিৱেশ্য কলা, লোক সাহিত্য, লোকভাষা আদি যিকোনো এটা বিষয়ত প্ৰকল্প প্ৰস্তুত কৰিব লাগিব। প্ৰকল্পৰ শব্দসংখ্যা ৪০০০-৫০০০ ৰ ভিতৰত হ'ব লাগিব। বিভাগৰ মুৰব্বী/ অধ্যাপক/অধ্যাপিকাই তত্ত্বাৱধায়কৰ সহযোগত মূল্যায়নৰ ব্যৱস্থা কৰি প্ৰকল্পটি আৰু নম্বৰ তালিকা বিশ্ববিদ্যালয়ৰ পৰীক্ষা নিয়ন্ত্ৰকলৈ প্ৰেৰণ কৰিব। এই প্ৰকল্পৰ মুঠ 100 নম্বৰৰ ভিতৰত 80 নম্বৰ প্ৰকল্পৰ বাবে আৰু 20 নম্বৰ মৌখিক পৰীক্ষাৰ বাবে ধাৰ্য কৰা হৈছে।

GAUHATI UNIVERSITY

UGCBCS

B.A HONS. & REGULAR COURSE IN BENGALI

2019

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

স্নাতক বাংলা পাঠক্রম

সাম্মানিক ও সাধারণ

২০১৯

UGCCS BENGALI DEPARTMENT, G.U

ইউজিসিসিএস, বাংলা বিভাগ

গৌহাটি বিশ্ববিদ্যালয়, গুয়াহাটি

This is approved in the Academic Council held on 08/11/2019

		পাতমুগি, কন্যা	74	15	1
UNIT-II	ওড়িয়া	ছ মণ আঠ গুণ্ঠ– ফকির মোহন সেনাপতি			
UNIT-III	হিন্দি	প্রেমচন্দের গল্পগুচ্ছ – কফিন, দুধের দাম , দ্বিতীয় শৈশব, শেষ কিস্তি			

সহায়ক গ্রন্থ –

১. লক্ষ্মীনাথ বেজবরুয়ার নির্বাচিত রচনা (সাহিত্য অকাদেমি) – অনুবাদ সম্পাদনা উষারঞ্জন ভট্টাচার্য

২. উনিশ বিঘা দুই কাঠা (এন.বি.টি) – অনুবাদ – মৈত্রী শুক্ল

৩. প্রেমচন্দের গল্পগুচ্ছ (এন.বি.টি) -- অনুবাদ- প্রসূন মিত্র

৪. ওড়িয়া সাহিত্য – প্রিয়রঞ্জন সেন (বিশ্ববিদ্যা সংগ্রহ)

৫. হিন্দি সাহিত্যের ইতিহাস – রামবহাল তেওয়ারি

৬. আধুনিক হিন্দি সাহিত্যঃ গতি ও প্রকৃতি – বিপ্লব চক্রবর্তী

Or

PAPER- BEN-HE 6036 (For Honors Course)

UNIT	Paper Title/ Topic	SELECTED BOOK(S)/SECTION	CLASS HOURS		
	গবেষণামূলক সন্দর্ভ লিখন		Ther.	Tutr.	I.A
UNIT-I	যে কোনো ১টি ইউনিট থেকে ১টি প্রবন্ধ তৈরি করতে হবে	উনিশ ও কুড়ি শতকের বাংলা সাময়িক পত্র	75	15	--
UNIT-II		কুড়ি শতকের সাহিত্য ব্যক্তিত্ব: কবিতা, প্রবন্ধ			
UNIT-III		কুড়ি শতকের সাহিত্য ব্যক্তিত্ব : গল্প, উপন্যাস			

সহায়ক গ্রন্থ :

১. গবেষণাপত্র অনুসন্ধান ও রচনা – জগমোহন মুখোপাধ্যায়

২. গবেষণা : প্রকরণ ও পদ্ধতি – সুরভি বন্দ্যোপাধ্যায়

৩. বাংলা সাময়িকপত্রের ইতিবৃত্ত ১ম ও ২য় – সন্দীপ দত্ত

৪. A Manual for Writers of Research Papers, Thesis and Dissertations – K.L Turabian

৫. Assignment and Thesis writing – J. Anderson & Millicent Poole

PAPER-BEN-SE-6014 (For Regular Course)

UNIT	Paper Title/ Topic	SELECTED BOOK(S)/SECTION	CLASS HOURS		
	অনুবাদ চর্চা		Ther.	I.A	--
UNIT-I		অনুবাদ চর্চার ইতিহাস – প্রাচ্য ও পাশ্চাত্য , বাংলা অনুবাদ চর্চার বিভিন্ন স্তর , অনুবাদের পদ্ধতি ও প্রকারভেদ, অনুবাদ ও অনুসৃষ্টি , অনুবাদের সমস্যা , সার্থক অনুবাদের গুণাবলি	50	--	--
UNIT-II		ইংরেজি, অসমিয়া থেকে অনুবাদ			

সহায়ক গ্রন্থ :

১. অনুবাদ অধ্যয়ন : তত্ত্ব আরু প্রয়োগ – মদন শর্মা

২. A Handbook of Translation Studies – Bijay Kr. Das

৩. Introducing Translation Studies – Jeremy Munday

৪. বিভিন্ন অভিধান (বাংলা থেকে ইংরেজি ও অসমিয়া থেকে ইংরেজি)

EDUCATION

FOR

UNDER GRADUATE CBCS COURSE (HONOURS)

(REVISED)

(Approved by Academic Council on 8th November, 2019 effective from July, 2019)

GAUHATI UNIVERSITY

GUWAHATI

EDU-HC-6026
PROJECT

Total Marks: 100 (External: 80 and Internal: 20)
Credit-6

Course Objectives:

After completion of this course the learner will be able to:

- Explain the process of conducting a Project.
- Prepare a Project Report.

Guideline:

Each student is required to complete anyone project related to any area of the syllabus to be evaluated by Internal and External Examiners jointly through viva-voce test. The project work will be completed according to following heads:

- Title of the Project
- Introduction
- Importance of the Study
- Objectives of the Study
- Review of related literature (if any)
- Methods and Procedure
- Data Analysis and Discussion
- Conclusion

Internal Assessment (20 Marks):

Home Assignment/Group Discussion related to Project: 10 Marks

Library Works: 6 Marks

Attendance: 4 Marks

External Assessment (80 Marks):

Project Report: 60 Marks

Viva Voce: 20 Marks

Syllabus for

BA/B.Sc.(Honours) Geography

Choice Based Credit System (CBCS)

Course effective from the academic year 2019-20

This is approved in the Academic Council held on 8/11/2019

Department of Geography

GAUHATI UNIVERSITY

Guwahati-781014

September 2019

CBCS-based U.G. Course in Geography, 2019

Syllabus of Core Course

Course Name: Geography of India with Special Reference to N.E. India

Paper Code: GGY-HC-3026

Total Credit: 6 (4+2)

Total Marks: 100

(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives:

- ThisisacorepaperwhichintendstointroducestudentstoIndiaasageographicalentity.
- It seeks to develop new insights among students on significant geographical dimensions of the country along with its north-eastern part.
- A field study is incorporated to make the students understand regional diversity of India with respect to its land, people and economy.

Course outcomes:

- The paper will be useful for students in developing understanding on Indian geography and its various dimensions.
- It will also be useful for students preparing for various competitive examinations including civil services.

Part 1: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

1. India's location and its significance; administrative divisions. **(2classes)**

2. Physical setting: Physiographic divisions and their characteristics; Climate and its seasonal and regional characteristics; vegetation; soil types and its distribution. **(8classes)**

3. Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic and religious composition. **(6classes)**

4. Agriculture: Regional distribution and production patterns of rice, wheat and millet. **(4classes)**

5. Industry: Distribution and production patterns of iron and steel, cotton textile and fertilizers; Role of transport system in industrial development. **(6classes)**

6. North-East India: Land of seven sisters and its locational significance; physiographic framework; forest cover; agricultural practices including shifting cultivation; industrial development scenario; population growth, distribution and ethnic composition.**(14 classes)**

Part II: Practical and Field Report
Credit: 2 (20 Marks)
(20 classes of 2 hour duration each)

Unit1: Practical Works (10 marks)

(2 Questions of 5 markseach)

1. Trend of population growth and growth rates in India and N.E. India since 1901 using Census data(Source:censusindia.gov.in). **(2assignments)**
2. Choroplethmappingtoshowspatialvariationindecennialpopulationgrowthrate inIndia. **(1assignment)**
3. Spatial variation in the patterns of religious composition of population in India and Social compositionofpopulation(SC,STandGeneral)inN.E.Indiausingpie-graph. **(2assignments)**
4. Trend of foodgrains production (rice, wheat, maize, barley, jowar and bajra) in India since 1950-51usingband-graph. **(1assignment)**
5. Map showing distribution of major tribal groups in North-EastIndia. **(1assignment)**

Unit2: Field Report (6 Marks)

6. Preparation of field report based on field study of observational knowledge about the geographicalpersonalityofanypartofIndia/N.E.Indiaunderthegpidanceofteacher(s). (Evaluation of Field Report: 4 marks and Viva-voce: 2 marks)

Unit II: Practical Note-Book and Viva-voce (4 Marks)

1. Evaluation of Practical Note-Book (2 marks)
2. Viva-voce (2 marks)

Reading List:

1. Deshpande C. D., 1992: India: A Regional Interpretation, ICSSR, NewDelhi.
2. Johnson,B.L.C.,ed.2001.GeographicalDictionaryofIndia.VisionBooks,NewDelhi.
3. Mandal R. B. (ed.), 1990: Patterns of Regional Geography – An Intenational Perspective. Vol. 3 –IndianPerspective.
4. Sdyasuk Galina and P Sengupta (1967): Economic Regionalisation of India, Census of India
5. Sharma, T. C. 2003: India - Economic and Commercial Geography. Vikas Publ., New Delhi.
6. Singh R. L., 1971: India: A Regional Geography, National Geographical Society of India.
7. Singh, Jagdish 2003: India - A Comprehensive & Systematic Geography, GyanodayaPrakashan,Gorakhpur.
8. Spate O. H. K. and Learmonth A. T. A., 1967: India and Pakistan: A General and Regional Geography,Methuen.
9. Tirtha, Ranjit 2002: Geography of India, RawatPubls., Jaipur & NewDelhi.

10. Pathak, C. R. 2003: Spatial Structure and Processes of Development in India. Regional Science Assoc.,Kolkata.
11. Tiwari, R.C. (2007) Geography of India. PrayagPustakBhawan,Allahabad.
12. Sharma, T.C. (2013) Economic Geography of India. Rawat Publication,Jaipur
13. Bhagabati, A.K., Bora, A. K. and Kar, B.K.: Geography of Assam, Rajesh Publications, NewDelhi.
14. Taher, M and Ahmed, P.: Geography of North East India, Mani ManikPrakash, Guwahati.
15. Das,M..M.:PeasantAgricultureinAssam,Inter–IndiaPublications,NewDelhi.
16. Gopal Krishnan, R : Geography of North EastIndia
17. Bhattacharya, P.2006 : Trend in Tourism Potentiality, BaniMandir,Guwahati
18. Bhagabati,A.K.(ed):BiodiversityofAssam,EasternBookHouse,Guwahati
19. Bhattacharyya, N.N. : North East India, Rajesh Publication, NewDelhi
20. Srivastava, S.C. : Demographic Profile of N.E. India, MittalPublications.

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CBCS-basedU.G. Course in Geography, 2019

Syllabus of Honours Core Course

Course Name: Field Techniques in Geography

Paper Code: GGY-HC-5026

Total Credit: 6 (4+2)

Total Marks 100

(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives:

This paper on Field Techniques in Geography is of pedagogical importance as it helps the students of geography to acquire the first hand experience about the geography of a particular area. It also helpsthe students to learn the various techniques of data collection from the field andto understand any pre-defined problem in proper perspective.

Course outcomes:

- This course will help students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed for doing quality research.
- Students perceive fieldwork to be beneficial to their learning, because through it they experience 'geographical reality', and have deeper understanding of the subject.
- The students will have a chance to interact with respondents and collect data through questionnaire directly from the field.
- This course will develop understanding about designing and writing a field report.

Part I: Theory

Credit: 4 (60 Marks)

(40 Classes of 1 hour each)

1. Geography and Field Studies: Geography as a field science; Need of field work in geography; Nature of field studies in physical geography and human geography. (4 classes)

2. Concept of Case Study and Its identification in the varying geographical contexts (Physical/Human/Rural/Urban/Environmental). (4 classes)

3. Tools and Techniques in Field Studies:Nature of data and their collection techniques relating to various geographical phenomena (Physical and Human); Structure of field survey questionnaire; Collection of Physical geographic data: Observations and photography, field interview, questionnaire survey, Equipment/Measurement-based survey, etc; Collection of Human geographic data: Questionnaire survey, Participant observation, PRA, Focus group interview/discussion, etc. (14 classes)

4. Surveying: Concept of ground surveying and mapping;Conduct of traverse surveying with Prismatic Compass; Profile levelling and contouring with Dumpy Level; Pont distribution survey with GPS; Field mapping of Village, River bank, Wetland, Landslides, Market, etc through Transect, Quadrant and sketch map. (14 classes)

5. Preparation of Field Study Report and its broad design: Basis of selection of the theme of field study; Objectives, Methods of data collection, Location/Situation of the study area, Data Analysis and mapping, Interpretation/Findings. (4 classes)

Part II: Field Book

Credit: 2 (20 Marks)

(20 classes of two hour duration each)

Unit I: Field Book Preparation and Evaluation (15 Marks)

Based on understanding of various field techniques of geography in theory course the students shall undertake the following field assignments within or nearby the College campus and some other area, as the case may be, under the guidance of respective teachers. The students shall present their assignments in A4 size paper as a Field Book and submit the same with teachers' signature in binding form (Spiral or Kutcha binding) for evaluation in the examination. The evaluation shall be based on average of marks given by the external examiner and internal examiner.

Contents of Field Book:

1. Field observations of a near-by area and preparation of a brief report (within 4-5 pages) about the prevailing physical and human landscape of the area along with its spot photograph.
(2 Assignments)

2. Preparation of two field survey questionnaire/schedule (within 2 pages each) for collection of data relating to two different broad phenomena/problems (one on physical phenomenon and another on human phenomenon), and processing, tabulation and graphical representation of the same.
(2 Assignments)

3. Closed traverse surveying within College campus with Prismatic Compass and plotting of some details within the polygon, and preparation of a plan with appropriate scale and error correction, if any. (1 Assignment)

4. Longitudinal profile levelling and contouring in College campus and any nearby area with Dumpy Level, and plotting of collected data in the forms of longitudinal profile and contour map. (2 Assignments)

5. Collection of point data from an area with handheld GPS and preparation of a GPS data table and distribution map with down-loaded data. (1 Assignment)

6. Preparation of field map of a village, urban locality/market, river bank/wetland and its adjoining area or their any section through Transect, Quadrant and sketch map along with a spot photograph of the same. (3 Assignments)

Unit II: Viva-voce (5 Marks)

Reading List:

1. Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.
2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.

3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in *Qualitative Methods in Human Geography*, eds. J. Eyles and D. Smith, Polity.

4. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.

5. Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Publs. Co., New Delhi.

6. Robinson A., 1998: "*Thinking Straight and Writing That Way*", in *Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences*, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.

7. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2 (2001).

8. Stoddard R. H., 1982: *Field Techniques and Research Methods in Geography*, Kendall/Hunt.

10. Wolcott, H. 1995. The Art of Fieldwork.Alta Mira Press, Walnut Creek, CA.

11. Monkhouse, F.J. and Wilkinson, H.R., 1989: Maps and Diagrams, B.I. Publications Ltd., Mumbai.

12. Singh R. L. and Singh R. P. B., 1999: Elements of Practical Geography, Kalyani Publishers.

13. Singh, L.R., 2013: Fundamentals of Practical Geography, ShardaPustakBhawan, Allahabad.

14. Sarkar, A., 2015: Practical Geography: A Systematic Approach. Orient Black Swan Private Ltd., New Delhi.

15. Misra, R. P. and Ramesh, A., 1989: Fundamentals of Cartography, Concept Publishing Company, New Delhi.

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CBCS-basedU.G. Course in Geography, 2019

Syllabus of Honours Core Course

Course Name: Research Methods in Geography and Project Work

Paper Code: GGY-HC-6026

Total Credit: 6 (4+2)

Total Marks: 100

(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course Objectives:

The paper on Research Methods will enable the students:

- To understand how to approach a research problem and to formulate research objectives and research questions in proper perspective. In addition, knowledge of formulation of hypothesis and testing, framing of questionnaires, techniques of collection of both qualitative and quantitative data and their analysis.
- To develop understanding of the basics and utility of review of literature and preparation of research report.

Course Outcomes:

- This course will help the students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed while doing quality research.

Part I: Theory

Credit: 4 (60 Marks)

(40 Classes of 1 hour each)

1. Meaning and significance of research; types of research; Basics of research methodology; Review of literature and its need; Ethics of research. (6 Classes)

2. Geographic Research: Meaning and Characteristics; Formulation of research problem. (4 Classes)

3. Research Design: Statement of the problem, Review of research works, Objectives, Research questions, Hypotheses, Database and methodology, Significance, Organization of the Work and Referencing. (10 Classes)

4. Data Collection: Types and Sources of Data; Methods of primary data collection (both qualitative and quantitative, and physical and human geographic data); Concept of sample survey; Pilot survey; Data processing (Manual and computerised). (10 Classes)

5. Statistical Analysis of Data: Qualitative data analysis; Quantitative data analysis; Data representation (Manual and computerised). (5 Classes)

6. Structure of a Research Report: Preliminaries; Text; Tables, Figures and Appendices; Citations, References and Bibliography; Research/Project Report Writing; Executive Summary.

(5 Classes)

Part II: Project Report

Credit: 2 (20 Marks)

(21 classes of two hour duration each)

Project Report Preparation and Evaluation (20 Marks)

1. Each student will have to prepare a Project Report on a suitable geographical problem under the guidance of respective teacher following appropriate methodology, data base and literature review.
2. Length of the Report: 30-40 printed A4 size pages (font size 12 in Times New Roman with 1.5 spacing) including text, tables, figures, references, etc.
3. The project report in binding form (Kutcha or Spiral binding) duly signed by the guide concerned has to be submitted to the department at least 3 days before the scheduled date of examination.
4. The marks distribution of the Project Report in the final semester examination is as follows:
   (i) Total marks: 20
   (ii) Evaluation of Content: 15 (average between external examiner and internal teacher guide)
   (iii) Viva-voce: 5 (exclusively by the external examiner)

Reading List:

1. Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.
2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in *Qualitative Methods in Human Geography*, eds. J. Eyles and D. Smith, Polity.
4. Kothari, C. R., 1993: *Research Methodology: Methods and Techniques*, 2nd ed., Wiley Eastern Ltd., New Delhi.
5. Misra, H.N. and Singh, V.P., 1998: *Research Methodology in Geography*, Concept Publishing Company, New Delhi.
6. Misra, R.P. (2002) Research Methodology, Concept Publications, New Delhi.
7. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.
8. Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Publs. Co., New Delhi

9. Robinson A., 1998: "*Thinking Straight and Writing That Way*", in *Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences*, eds. By F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
10. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2 (2001).
11. Stoddard R. H., 1982: *Field Techniques and Research Methods in Geography*, Kendall/Hunt.
12. Wolcott, H. 1995. The Art of Fieldwork.Alta Mira Press, Walnut Creek, CA.
13. Yadav, H. (2013) ShodhPravidhiEvamMatratamakBhugol, Raja Publications, Delhi.

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Syllabus for

BA/B.Sc.(Regular) Geography

Choice Based Credit System (CBCS)

Course effective from the academic year 2019-20

This is approved in the Academic Council held on 8/11/2019

GAUHATI UNIVERSITY

Guwahati-781014

June, 2019

CBCS-basedU.G. Course in Geography, 2019
Syllabus of Skill Enhancement Course
Course Name: Field Techniques in Geography and Project Work
Paper Code: CGY-SL-6014
Total Credit: 4 (2+2)
Total Marks: 100

(Theory: 40, Practical: 40 and Internal Assessment: 20)

Course objectives:
This paper on Field Techniques in Geography is of pedagogical importance as it helps the students of geography to acquire the first hand experience about the geography of a particular area. It also helpsthe students to learn the various techniques of data collection from the field andto understand any pre-defined problem in proper perspective.

Course outcomes:
- This course will help students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed for doing quality research.
- Students perceive fieldwork to be beneficial to their learning, because through it they experience 'geographical reality', and have deeper understanding of the subject.
- The students will have a chance to interact with respondents and collect data through questionnaire directly from the field.
- This course will develop understanding about designing and writing a field report.

Part I: Theory
Credit: 2 (40 Marks)

(20 Classes of 1 hour each)

1. Geography and Field Studies: Geography as a field science; Need of field work in geography; Nature of field studies in physical geography and human geography (Basic ideas only). (2classes)

2. Concept of Case Study and Its identification in the varying geographical contexts (Physical/Human/Rural/Urban/Environmental). (2classes)

3. Tools and Techniques in Field Studies:Nature of data and their collection techniques relating to various geographical phenomena (Physical and Human); Structure of field survey questionnaire; Collection of Physical geographic data: Observations and photography, field interview, questionnaire survey, etc; Collection of Human geographic data: Questionnaire survey, Focus group interview/discussion, etc. (6classes)

4. Surveying: Concept of ground surveying and mapping;Conduct of traverse surveying with Prismatic Compass; Profile levelling and contouring with Dumpy Level; Point distribution survey with GPS; Field mapping of Village, River bank, Landslides, Market, etc through transect and sketch map. (7classes)

5. Preparation of ProjectReport: Basis of selection of the theme of field-based project work; Basic concept of citation, referencing and bibliography; Broad design of project report: Preliminaries; Text; Tables, Figures and Appendices; Project Report Writing; Executive Summary. (3Classes)

Part II: Field Book and Project Report

Credit: 2 (40 Marks)

(20 classes of two hour duration each)

Unit I: Field Book Preparation and Evaluation (15 Marks)

Based on understanding of various field techniques of geography in theory course the students shall undertake the following field assignments within or nearby the College campus and some other area, as the case may be, under the guidance of respective teachers. The students shall present their assignments in A4 size paper as a Field Book and submit the same with teachers' signature in binding form (Spiral or Kutcha binding) for evaluation in the examination. This field book shall be evaluated by the external examiner.

Contents of Field Book:

1. Field observations of a near-by area and preparation of a brief report (within 4-5 pages) about the prevailing physical and human landscape of the area along with its spot photograph. (1 Assignment)
2. Preparation of two field survey questionnaire/schedule (within 1 page each) for collection of data relating to two different broad phenomena/problems (one on physical phenomenon and another on human phenomenon), and processing, tabulation and graphical representation of the same. (2 Assignments)
3. Closed traverse surveying within College campus with Prismatic Compass and plotting of some details within the polygon, and preparation of a plan with appropriate scale and error correction, if any. (1 Assignment)

4. Longitudinal profile levelling/Contouring in College campus or any nearby area with Dumpy Level, and plotting of collected data in the form of longitudinal profile / contour map. (1 Assignment)
5. Preparation of field map of a village, urban locality/market, river bank/wetland and its adjoining area or their any section through Transect and sketch map along with a spot photograph of the same. (2 Assignments)

Unit II: Project Report Preparation and Evaluation (15 Marks)

1. Each student will have to prepare a Project Report on a suitable geographical problem under the guidance of respective teacher following appropriate methodology, data base and literature review.
2. Length of the Report: 25-30 printed A4 size pages (font size 12 in Times New Roman with 1.5 spacing) including text, tables, figures, references, etc.

3. The project report in binding form (Kutcha or Spiral binding) duly signed by the guide concerned has to be submitted to the department at least 3 days before the scheduled date of examination.
4. The content and quality of the project report shall be evaluated as an average of the marks out of 15 given by the external examiner and the teacher guide.

Unit III: Viva-voce of Field Book and Project Report (10 Marks)

(i) Viva-voce on Field Book: 5 Marks

(ii) Viva-voce on Project Report: 5 Marks

(The viva-voce of the above shall be conducted by the external examiner)

Reading List:

1.Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.

2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.

3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in *Qualitative Methods in Human Geography*, eds. J. Eyles and D. Smith, Polity.

4. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.

5. Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Publs. Co., New Delhi.

6. Robinson A., 1998: "*Thinking Straight and Writing That Way*", in *Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences*, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.

7. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2 (2001).

8. Stoddard R. H., 1982: *Field Techniques and Research Methods in Geography*, Kendall/Hunt.

10. Wolcott, H. 1995. The Art of Fieldwork.Alta Mira Press, Walnut Creek, CA.

11. Monkhouse, F.J. and Wilkinson, H.R., 1989: Maps and Diagrams, B.I. Publications Ltd., Mumbai.

12. Singh R. L. and Singh R. P. B., 1999: Elements of Practical Geography, Kalyani Publishers.

13. Singh, L.R., 2013: Fundamentals of Practical Geography, ShardaPustakBhawan, Allahabad.

14. Sarkar, A., 2015: Practical Geography: A Systematic Approach. Orient Black Swan Private Ltd., New Delhi.

15. Misra, R. P. and Ramesh, A., 1989: Fundamentals of Cartography, Concept Publishing Company, New Delhi.

16. Kothari, C. R., 1993: *Research Methodology: Methods and Techniques*, 2nd ed., Wiley Eastern Ltd., New Delhi.

17. Misra, H.N. and Singh, V.P., 1998: *Research Methodology in Geography*, Concept Publishing Company, New Delhi.

18. Misra, R.P. (2002) Research Methodology, Concept Publications, New Delhi.

***

DEPARTMENT OF HINDI, GAUHATI UNIVERSITY

MODIFIED SYLLABUS FOR B.A. HONOURS UNDER CBCS CURRICULUM

(PASSED IN THE CCS-UG HINDI MEETING HELD ON 19.03.2021)

LIST OF PAPERS

हिन्दी विभाग, गौहाटी विश्वविद्यालय

चयन आधारित क्रेडिट-व्यवस्था की पाठ्यचर्या के अन्तर्गत संशोधित स्नातक (ऑनर्स) पाठ्यक्रम

{दिनांक 19.03.2021 को आयोजित सीसीएस-यूजी (CCS-UG) हिन्दी की बैठक में गृहीत}

प्रश्न-पत्रों की सूची

क्रम-संख्या	प्रश्न-पत्रों के कोड	प्रश्न-पत्रों के शीर्षक
		मुख्य कोर्स {CORE COURSE (कुल 14 प्रश्न-पत्र)}
1	HIN-HC-1016	हिन्दी साहित्य का इतिहास (रीतिकाल तक)
2	HIN-HC-1026	हिन्दी साहित्य का इतिहास (आधुनिक काल)
3	HIN-HC-2016	आदिकालीन एवं मध्यकालीन हिन्दी कविता
4	HIN-HC-2026	आधुनिक हिन्दी कविता (छायावाद तक)
5	HIN-HC-3016	छायावादोत्तर हिन्दी कविता
6	HIN-HC-3026	भारतीय काव्यशास्त्र
7	HIN-HC-3036	पाश्चात्य काव्यशास्त्र
8	HIN-HC-4016	भाषाविज्ञान, हिन्दी भाषा एवं देवनागरी लिपि
9	HIN-HC-4026	हिन्दी कथा साहित्य
10	HIN-HC-4036	हिन्दी नाटक एवं एकांकी
11	HIN-HC-5016	हिन्दी निबंध एवं अन्य गद्य-विधाएँ
12	HIN-HC-5026	प्रयोजनमूलक हिन्दी
13	HIN-HC-6016	हिन्दी की साहित्यिक पत्रकारिता
14	HIN-HC-6026	हिन्दी परियोजना कार्य (Hindi Project Work)

भारतेन्दुयुगीन साहित्यिक पत्रकारिता : परिचय और प्रवृत्तियाँ

इकाई 2 **द्विवेदीयुगीन साहित्यिक पत्रकारिता :** परिचय और प्रवृत्तियाँ

प्रेमचन्द और छायावादयुगीन साहित्यिक पत्रकारिता : परिचय और प्रवृत्तियाँ

इकाई 3 **स्वातंत्र्योत्तर साहित्यिक पत्रकारिता :** परिचय और प्रवृत्तियाँ

समकालीन साहित्यिक पत्रकारिता : परिचय और प्रवृत्तियाँ

महत्वपूर्ण पत्र-पत्रिकाएँ : सरस्वती, भारत मित्र, हिन्दी प्रदीप तथा जनसत्ता का सामान्य परिचय

सन्दर्भ ग्रन्थ :

1. *सिर्फ पत्रकारिता* – अजय कुमार सिंह, लोकभारती प्रकाशन, इलाहाबाद ।
2. *हिन्दी पत्रकारिता* – कृष्ण बिहारी मिश्र, लोकभारती प्रकाशन, इलाहाबाद ।
3. *पत्रकारिता : परिवेश और प्रवृत्तियाँ* – पृथ्वीनाथ पाण्डेय, लोकभारती प्रकाशन, इलाहाबाद ।
4. *पत्रकारिता के नए आयाम* – एस.के. दुबे, लोकभारती प्रकाशन, इलाहाबाद ।
5. *हिन्दी पत्रकारिता : संवाद और विमर्श* – कैलाशनाथ पाण्डेय, लोकभारती प्रकाशन, इलाहाबाद ।
6. *पत्रकारिता में अनुवाद* – जितेन्द्र गुप्ता, प्रियदर्शन एवं अरुण प्रकाश, लोकभारती प्रकाशन, इलाहाबाद ।
7. *हिन्दी पत्रकारिता का प्रतिनिधि संकलन* – तरुशिखा सुरजन, लोकभारती प्रकाशन, इलाहाबाद ।

HIN-HC-6026

हिन्दी परियोजना कार्य (Hindi Project Work)

कुल अंक : 100

लघु शोध-प्रबन्ध : 80

मौखिकी : 20

क्रेडिट : 6

लक्ष्य : *विद्यार्थियों की शोध-प्रवृत्ति को जगाना, उनकी आलोचनात्मक समीक्षा की योग्यता को प्रोत्साहित करना, साथ ही तकनीकी (डी.टी.पी., पावर पॉइंट प्रेजेंटेशन के रूप में) उपयोग हेतु उन्हें प्रेरित करना इस परियोजना-कार्य का प्रमुख लक्ष्य है ।*

*(**द्रष्टव्य** : प्राध्यापकों द्वारा निर्धारित किए गए विषयों पर विद्यार्थी अपने परियोजना-कार्य को स्वयं कम्प्यूटर में टंकित करें । मौखिकी में विद्यार्थी पावर पॉइंट प्रेजेंटेशन द्वारा अपनी प्रस्तुति देंगे । इस प्रस्तुति में विभागीय अध्यक्ष, परियोजना-निर्देशक, विभागीय प्राध्यापकगण एवं महाविद्यालय के अध्यक्ष या अध्यक्ष के प्रतिनिधि की उपस्थिति अपेक्षित है ।)*

स्नातक (ऑनर्स) पाठ्यक्रम के अन्तर्गत विद्यार्थी को किसी एक हिन्दी साहित्यिक विभूति के जीवन एवं साहित्यिक उपलब्धियों पर साहित्य-सर्वेक्षण के तहत एक लघु शैक्षिक परियोजना-कार्य एक शोध-निर्देशक के अधीन रहकर संपादित करना पड़ेगा। परियोजना-कार्य का विषय (निम्नलिखित सूची में से) और शोध-निर्देशक विद्यार्थी को उक्त छमाही के आरम्भ में ही कॉलेज के संबद्ध विभाग द्वारा निर्धारित कर दे दिए जाएंगे। विद्यार्थी को एम.फिल. के लघु शोध-प्रबन्ध (स्पाइरल बाइंडिंग रूप में) की तरह ही तैयार किए गए लगभग **50** पृष्ठों के परियोजना-कार्य को उक्त छमाही की अन्तिम परीक्षा के आरम्भ के एक सप्ताह पूर्व ही जमा करना होगा। विभाग के अध्यक्ष, परियोजना-कार्य के निर्देशक और महाविद्यालय के अध्यक्ष अथवा उनके द्वारा नामित प्रतिनिधि से बनी मूल्यांकन-समिति में से अध्यक्ष या उनके प्रतिनिधि **40** अंक (लेखन : 30 + मौखिकी : 10) तथा विभाग के अध्यक्ष **30** अंक (लेखन : 25 + मौखिकी : 5) एवं परियोजना के निर्देशक **30** अंक (लेखन : 25+ मौखिकी : 5) के अन्तर्गत मूल्यांकन करेंगे। परियोजना-कार्य के मूल्यांकन के दौरान अन्य बातों के साथ ही विद्यार्थी की आलोचनात्मक समीक्षा की योग्यता को ध्यान में रखा जाएगा।

<u>हिन्दी साहित्यिक विभूति</u>

चंदबरदाई, विद्यापति, कबीरदास, मलिक मुहम्मद जायसी, सूरदास, मीराँबाई, गोस्वामी तुलसीदास, रहीम, रसखान, केशवदास, बिहारीलाल, देव, भूषण, घनानन्द, भारतेन्दु हरिश्चन्द्र, हरिऔध, मैथिलीशरण गुप्त, माखनलाल चतुर्वेदी, जयशंकर प्रसाद, सूर्यकान्त त्रिपाठी 'निराला', सुमित्रानन्दन पन्त, महादेवी वर्मा, भगवतीचरण वर्मा, सुभद्रा कुमारी चौहान, चन्द्रधर शर्मा 'गुलेरी', हरिवंशराय 'बच्चन', मुंशी प्रेमचन्द, रामधारी सिंह 'दिनकर', आचार्य रामचन्द्र शुक्ल, अज्ञेय, जैनेन्द्र कुमार, यशपाल, लक्ष्मीनारायण मिश्र, धर्मवीर भारती, नागार्जुन, मुक्तिबोध, फणीश्वरनाथ रेणु, मोहन राकेश, सुदामा पाण्डेय 'धूमिल' और *उषा प्रियम्वदा।*

योग्यता-वर्धक अनिवार्य कोर्स

{ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)}

HIN-AE-1014

हिन्दी व्याकरण और सम्प्रेषण

कुल अंक : 100

बाह्य परीक्षण : 80

आन्तरिक परीक्षण : 20

क्रेडिट : 4

COURSE STRUCTURE AND SYLLABUS OF B.A. (HONOURS) THREE YEAR DEGREE

PROGRAMME IN HISTORY

GAUHATI UNIVERSITY

(As approved by the meeting of the Academic Council held on 08.11.2019)

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BA (Honours) Programme in History

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Skill Enhancement Elective Courses

(2 Courses)

HIS –SE-3014: Historical Tourism in North East India
HIS –SE-4014: Oral Culture and Oral History

HIS –SE-3014: Historical Tourism in North East India

Lecture : 03; Tutorial : 01 (per week)

Course Outcome:

After completing this course, students will be able to explain Tourism in North East India with special reference to the historical monuments, cultural and ecological elements and places of the north east India country as tourist and heritage sites of the nation. They will be able to relate to the growing vocation of tourism as an industry and the applicability of historical knowledge for its growth.

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

Unit I : Theoretical aspects of tourism, Elementary geography and bio – diversity of North East India

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

Unit II : Ancient remains and Important tourist places of the North – East India

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

Unit III : Architectural Heritage

[a] :Dimapur, Kasomari, Maibong, Khaspur
[b] :Charaideo, Garhgaon, Sivasagar and Rangpur
[c] :Ujayanta palace, NeerMahal
[d] :Kamakhya, HayagrivaMadhava, Tripura Sundari Temple, Rumtek monastery
[e] :Kangla fort

Unit IV : Fairs and festivals of the North – East

[a] : Festivals - *Bihu, Ali Aye Lrigang, Mopin* festival, Tai – Buddhist festivals in Assam
[b] : *Bhaona, Ras* celebration in Majuli
[c] : Fairs – Jonbil Mela, Ambubachi fair at Kamakhya
[d] : Tourist festivals based on ethnic culture – Horn Bill festival, Sangai festival, Dihing Patkai festival

Readings :

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

HIS –SE-4014: Oral Culture and Oral History

Lecture : 03; Tutorial : 01 (per week)

Course Outcome:

After this course the students will be able to explain complex interrelationships of structures or events in the context of broader social and cultural framework of societies through 'public memory' and use oral history to preserve oral culture and local history The students will be able to espouse the relevance to the northeastern region of India with its diverse culture and ethnic communities whose history is largely oral. The students will be able to use 'Public memory' as a tool and a source not only to write public history but also to explore new knowledge in the humanities , social sciences and even in disciplines like architecture, communication studies, gender studies, English, history, philosophy, political science, religion, and sociology.

In-semester assessment: Students shall carry out a small project (submission not less than 2000 words) using the Oral History method. It may be based on interviews of persons having information of past event or phenomena. No sessional examination is required for this course.

Unit I. Concepts:

(a) Orality, Oral Tradition, Oral Culture
(b) Oral History
(c) Distinction between Oral Tradition and Oral History

Unit II. History and Historiography

(a) Oral History as a tool for analysis
(b) Social issues : Gender, conflict, violence, etc.
(c) Economic issues : Development schemes and their impact, displacement, etc

SYLLABUS

Ability Enhancement Compulsory Course
(All Undergraduate Degree Programmes under Gauhati University)
ENV -AE -2014: Environmental Studies
Total marks: 100 (External: 80 + Internal: 20)
Nature of Course: AECC

No. of Credits: 4 **No. of hours: 60**

(Approved in the Academic Council 08-11-2019)

Unit1: Introduction to Environmental Studies

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

(3 lectures)

Unit 2: Ecosystems

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

(8 lectures)

Unit 3: Natural Resources: Types, Renewable and Non-renewable Resources

- Land resources : landuse change, land degradation, soil erosion and desertification
- Forest resources: Deforestation: Causes and impacts due to mining, Construction of big dams and their effects on forests and people.
- Water resources: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state: Indo-China, Indo-Bangladesh, Cauveri disputes) .
- Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies – coal mining, crude oil extraction.

(8 lectures)

Unit 4: Biodiversity and Conservation

- Levels of biological diversity: genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity: Habitat loss, poaching of wildlife, man- wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex situ conservation of biodiversity.
- Ecosystem and diversity services: Ecological, economic, social, ethical, aesthetic and informational value.

(8 lectures)

Unit 5: Environmental Pollution

- Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution
- Nuclear hazards and human health risks
- Solid waste management: Control measures of urban and industrial waste.
- Pollution case studies – Bharali river, Deepor Beel, Kolong river

(8 lectures)

Unit 6: Environmental Policies & Practices

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture
- 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; Montreal and Kyoto protocols and Convention on Biological Diversity (CBD), CITES.
- Nature reserves, tribal populations and rights, and human wildlife conflicts in the context of Assam

(8 lectures)

Unit 7: Human Communities and the Environment

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

(9 lectures)

Unit 8: Field work

- Visit to an area to document environmental assets : river/forest/flora/fauna, etc
- Visit to a local polluted site - Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystems- pond, river, stream

(Equivalent to 8 lectures)

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. (2015). Environmental Studies. (3rd Edition) Oxford University Press
6. S. C. Santra (2011): Environmental Science, New Central Book Agency

GAUHATI UNIVERSITY
DEPARTMENT OF PHILOSOHY
REVISED SYLLABUS FOR TDC
Skill Enhancement Course

Semester III
PHI-SE-3014
Philosophical Counselling
B.A. (Honours/Regular)

Course Description:

The course is designed to introduce the key concepts of Philosophical Counselling (PC)/Philosophical Practice amongst students with a view to developing the skill of applying philosophical approach in practical contexts. The course is divided into two parts: (a) theory, comprised of introduction to PC and various approaches to PC (units I & II); and (b) practical, comprised of application of the skill to discover problems through practical sessions and writing a dissertation on the investigated problem.

Course Objectives:

The course aims at developing the skills of:

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

Course Outcomes

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

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

The Syllabus

Part A (Theory) **Marks 50**

Unit I **Introduction to Philosophical Counselling** **25**

Philosophical Counselling—its meaning and scope
History of Philosophical Counselling
Philosophical Counselling versus Psychological Counselling

Unit II **Approaches to Philosophical Counselling** **25**

a. Critical Thinking Approach –Logic- Based Therapy (LBT)—Philosophical Principles of LBT, LBT fallacies, antidotes
b. Wisdom Approach
c. Existential Approach— Existentialism Based Therapy –Authentic and Inauthentic Life

Part B (Practical) **Marks 50**

Project/Dissertation
Practical will be conducted in the form of project/dissertation which is to be typed or neatly hand written (3,000- 5,000 words). The project/dissertation will be based on practical session(s) which is to be conducted by the student (counsellor) with a counsellee/client.
Given below is a list of *Problems* out of which any one may be chosen for addressing in the project/dissertation. The same has to be carried out under the supervision of a teacher.

Moral issues
Value disagreements
Political issues and disagreements
Time management issues
Procrastination
Career issues
Financial issues
Adult children of aging parents
Problems with family/ Domestic problems
Breakups and divorce
Sibling rivalry
Loss of a family member
Friendship issues
Peer pressure
Academic or school-related issues
Rejection
Discrimination
Religion and race-related issues
Technology-related issues

GAUHATI UNIVERSITY

DEPARTMENT OF ASSAMESE

PG Syllabus
CBCS
2016

Syllabus Structure

Course Code	Semester	Nature of the Course
	First Semester	
ASM 1016	Rise and Development of the Assamese Language	C
ASM 1026	History of Assamese Literature : 1889-2015	C
ASM 1036	Study of Culture of Assam	C
ASM 1046	History of Sanskrit Literature: History, Features and Genres	C
ASM 1054	Creative Writing	VA
	Second Semester	
ASM 2016	Assamese Poetry : 1889-2015	C
ASM 2026	Assamese Prose : 1846-2015	C
ASM 2036	Assamese Drama and Performance : 1857-2015	C
ASM 2046	Indian Criticism	C
ASM 2054	Editing	VA
	Third Semester Courses ASM 3016 and ASM 3026 are core (i.e., compulsory). Students shall choose one Elective Course from ASM 3036, ASM 3046, ASM 3056, ASM 3066 and ASM 3076, and another from ASM 3086, ASM 3096, ASM 3106, ASM 3116 and ASM 3126. Course ASM 3126 will also be Elective Open.	
ASM 3016	Assamese Novel: 1890-2015	C
ASM 3026	Translation : Theory and Practice	C
ASM 3036	World Literature	E
ASM 3046	Ethnic Literature of North-East India	E
ASM 3056	Sanskrit Texts	E

ASM 1054
Creative Writing
(Value Added Course)
(Credits: 4)

Unit I:

Imitation
Imagination
Anatomical components of poetry, drama and fiction

Unit II:

Trends in poetry, drama and fiction
Language of modern poetry and modern novel

Unit III:

Performance (Traditional and experimental)
Functional writing

Unit IV:

Project

References:

Creative Writing- The Essential Guide: Tim Atkinson
Modernism: Malcolm Bradbury and James Mcfarlane.
Naïve and the Sentimental Novelist: Orhan Pamuk
Postmodernism: Christopher Butler
Sahitya Nirman Prasanga: Natun Sahitya Parishad
Sristisheel Sahitya: Prerana aru Arhi: Atanu Bhattacharyya
The Cambridge Companion to Creative Writing: David Morley
The Cambridge Introuction to Creative Writing: David Morley
The Creative Compass: Writing Your Way from Inspiration to Publication: Millman and Prasada
The Romantic Imagination: Maurice Bowra
The Routledge Creative Writing Coursebook: Paul Mills
Writing Fiction : A Practical Guide: Gotham Writers Workshop
Writing Spirit: Finding Your Creative Soul: Lynn V. Andrews

MA/MSc. SYLLABUS IN GEOGRAPHY

GAUHATI UNIVERSITY

(REVISED IN 2016)

Department of Geography

GAUHATI UNIVERSITY Jalukbari, Guwahati-781014

CBCS-based P.G. Course in Geography, 2016

Syllabus of Core Course

Course Name: **Practical on Population and Settlement Geography and Regional Development of India and N.E. India**

Course No. GGY 2104

Course Credit/Marks: 4 Credit/100 Marks

(Including 20 Marks for Internal Assessment)

Total Number of Assignments: 40

Course objectives:

This course enables the students to add a spatial perspective to population and settlement issues through maps and diagrams.

Course outcome:

Practical on these issues help the students to portray problems as well as resource based in spatial perspectives and encourage the students to accommodate the significance of dimension in planning and policy making.

Unit I: Population and Settlement Geography (36 marks)

[To attempt three questions carrying 12marks each]

1. Population concentration and density pattern in North East India and Assam (6Assignments)

2. Trend of population growth (Exponential and Non-Linear methods) and population projection of India, N.E. India/Assam/India(6Assignments)

3. Determination of spatial mean center of population, spatial mean center of urban population and settlements of selected areas. (4Assignments)

4. Distribution pattern of services/economic activities/settlements using Nearest Neighbour Analysis Statistic. (2 Assignments)

5. Determination of settlement hierarchy using centrality index. (2 Assignments)
6. Population Density Gradient Analysis (2 Assignments)
7. Mapping volume and direction of population migration in North East India (2 Assignments)

Unit II: Regional Development of India and North East India (24marks)

[To attempt two questions carrying 12marks each]

1. Analysis of trend of population growth and food production in India. (3Assignments)
2. Spatial pattern of population density in Assam (district level) and dispersion of population density in India (state level).

(3Assignments)

3. Mapping of population distribution of North-East India and analysis of its relationship with relief.

(2Assignments)

4. Analysis of connectivity and centrality of transport networks in North East India.

(4Assignments)

5. Determination of levels of infrastructural development inNorth East India using simple composite index. (2Assignments)
6. Flow pattern of selected commodities of India and N.E. India using standard carto-statistical techniques. (2 Assignments)

Unit III: Field work (Preferably outside the state) **(10 Marks)**

Unit IV: Practical Note-Book and Viva-voce (10 Marks)

1. Evaluation of Practical Note-Book (5 marks)
2. Viva-voce (5 marks)

Books Recommended for Course No. GGY 2104:

1. Berry, B.J.L. and Marble, D.F., 1968: *Spatial Analysis: A Reader in Statistical Geography*, Prentice-Hall, Inc.
2. Chorley, R.J. and Haggett, P., (ed), 1968: *Models in Geography*, Methuen & Co. Ltd.
3. Fitgerald, Brian, P., (General editor): *Science in Geography*, Series 1 to 4, Oxford University Press.
4. Gregory, S., 1978: *Statistical Methods and the Geographers*, Longman.
5. Hammond, R. and McCullagh, P., 1977: *Quantitative Techniques in Geography*: *An Introduction*, Clarendon Press.
6. King, L.J., 1969: *Statistical Analysis in Geography*, Prentice Hall. Inc.
7. Mahmood, A., 2005: *Statistical Methods in Geographical Studies*, Rajesh Publications, New Delhi.
8. Misra, R.P., and Ramesh, A., 1989: *Fundamentals of Cartography*, Concept Publishing co. New Delhi.
9. Monkhouse, F.J., and Wilkinson, H.R., 1989: *Maps and Diagrams*, B. I., Publications Pvt. Ltd., New Delhi.
10. Sarkar, Ashis., 2008: Practical Geography :A Systematic Approach, Orient BlackSwan, New Delhi.
11. Singh, R.L. and Singh Rana, P.B., 1998: *Elements of Practical Geography*, Kalyani Publishers, New Delhi.

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CBCS- based P.G. Course in Geography, 2017

Syllabus for Elective Course

Course Name: Fluvial Geomorphology (Dissertation)

Course No. : GGY 4223 (3)

Course Credit/Marks: 3 Credit/50 Marks

(Including 10 Marks for Internal Assessment)

Course objectives:

To get acquainted with dissertation writing methods and processes.

Course outcome:

Students will write a dissertation on suitable topic related to special paper applying all required methodology and dissertation writing procedure.

Units:

1. Each student will have to prepare a dissertation under the guidance of respective teacher as per specialization following appropriate methodology, data base and literature review.
2. The dissertation duly signed by the guide concerned has to be submitted to the department at least one week before the scheduled date of examination.
3. The marks distribution of dissertation in the final semester examination is as follows:
   (i) Total marks: 40
   (ii) Evaluation of Content: 25 (average between external and internal examiners)
   (iii) Viva-voce: 15 (exclusively by the external examiner)

Books Recommended for Course No. GGY4206 &GGY 4214:

1. Chorley, Wolman and Millerm, 1969: *Fluvial Processes in Geomorphology*, W.H. Freeman and Company, San Francisco.
2. Chorley, R. J. (ed), 1969: *Water, Earth and Man*, Methuen, London.
3. Chouhan,T. S.,1995: *Remote Sensing: Principles and Interpretation*, H.W. Freeman and Company, San Francisco.
4. Chow, V. T., 1964: *Handbook of Applied Hydrology*, McGraw Hill Book Company, New York.
5. Folk, R. L., 1980: *Petrology of Sedimentary Rocks*, Hemphill Publishing Co. Austin, Tx.
6. Garde, R. J. and Ranga Raju, K.G.: *Mechanism of Sediment Transportation*.
7. Gregory, K. J. and Walling, D. E., 1973: *Drainage basin Form and Processes*, Arnold, London.
8. Knighton, D., 1984: *Fluvial Forms and Processes*, Edward Arnold, London.
9. Leopold, Wolman and Miller, 1964: *Fluvial Processes in Geomorphology*, W. H. Freeman and Company, San Francisco.