SYLLABI FOR FOUR-YEAR UNDERGRADUATE PROGRAMME

IN

GEOGRAPHY

AS PER NATIONAL EDUCATION POLICY (NEP) 2020

Recommended by the 1st meeting of the Board of Studies (BoS), Department of Geography, and approved by the 1st meeting of the Academic Council of Lakhimpur Girls' College (A), held on 28 June 2026, vide Resolution No. AC/1/2026/05.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)

NORTH LAKHIMPUR, LAKHIMPUR -787031, ASSAM

Endorsed syllabi of Dibrugarh University as model syllabi for the development of syllabi of the Department of Geography, Lakhimpur Girls' College (A), with necessary modifications and additions, keeping in view the context and academic requirements.

FYUGP SYLLABI

DEPARTMENT OF GEOGRAPHY

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)

THE PREAMBLE

Geography is a vast and diverse field of study that examines the earth's physical and human features and their interrelationships. It is a vital discipline that helps us understand and appreciate the world we live in. Geography is not only about learning the names of countries and their capital cities; it is about comprehending the complexities of the natural and cultural landscapes and the processes that shape them. In the present-day context, the significance of geography cannot be overstated. As the world becomes increasingly globalized, interdependent, and rapidly changing, geography provides us with essential tools to analyze and interpret the challenges and opportunities that arise. For instance, geospatial technologies such as geographic information systems (GIS), remote sensing, and satellite imagery are extensively used in diverse fields, including urban planning, natural resource management, disaster response, climate change adaptation, and public health. Geography also plays a vital role in understanding social and cultural phenomena, such as migration patterns, language distribution, and ethnic diversity. In summary, geography is a discipline that contributes to our knowledge and understanding of the world and helps us make informed decisions about our planet's present and future. Change is the unchangeable law of nature and therefore, society is not a static entity. With the continuous changes taking place in the society, the nature and scope of geography also changes and enlarges. The main purpose of the Undergraduate Programme in Geography is to develop and disseminate knowledge, skills and values through education, field-based training and research relevant for promoting, maintaining and improving the functioning of individuals, families, groups, organizations and communities existing in the society. The curriculum for Geography at undergraduate level therefore, has incorporated certain new components of learning in order to make it relevant to the contemporary society and modern practices. It is expected that the prepared LOCF for Education at undergraduate level and FYUGP will be of immense relevance to the prospective graduates having interest in education and practice. It will be very advantageous to make students of Geography more dynamic and adaptable by enhancing their skills leading to their increased employability. The discipline will also help in shaping the students' overall personalities to take on the challenges of an emerging competitive society. It has incremental learning experiences that will enhance the abilities of students who come from diverse backgrounds. It will also provide opportunities to develop individual potentialities and to produce a pool of better professionals each year.

INTRODUCTION:

Higher Education in India is considered as a critical core in the development and growth strategy of the nation. According to NEP 2020, Higher Education should put an emphasis on recognising, identifying, and fostering each student's unique strengths by educating teachers and parents about the need of encouraging each student's holistic development in both curricular and co-curricular areas. It must be flexible enough to allow students to select their learning paths and programmes and, in turn, pick their own life choices based on their talents and interests. For a pluralistic world, there should be a focus on multidisciplinary and a comprehensive education in the sciences, social sciences, arts, humanities, and sports to ensure the unity and integrity of all knowledge. Geography is a multifaceted discipline that explores the interactions between the natural and human worlds, and the spatial patterns and processes that shape our planet. It encompasses a broad range of sub-disciplines, including physical geography,

human geography, environmental geography, and geospatial sciences, each with their unique perspectives and methodologies. The Four-Year Undergraduate Programme (FYUGP) in Geography provides students with a comprehensive understanding of this dynamic field through a balanced mix of theoretical and practical courses. The Bachelor of Arts/Science in Geography degree of Lakhimpur Girls' College (Autonomous) affiliated to Dibrugarh University adapted as per the recommendations of NEP 2020 will also be of either three- or four-year duration, with multiple exit options within the period with appropriate certification. After completion of one year a UG certificate, after completion of two years a UG diploma, after completion of three years a Bachelor's degree in the programme will be provided to the students. The four year undergraduate programme in Geography will allow the student an opportunity to experience the full range of holistic and multidisciplinary education, along with the chosen Major and Minor choices of the students.

AIMS OF FOUR YEAR UNDER-GRADUATE PROGRAMME (FYUGP) IN GEOGRAPHY:

1. Provide a comprehensive understanding of the discipline of geography: The FYUGP in Geography aims to introduce students to the breadth and depth of the field of geography, including its sub-disciplines, theories, methods, and applications. Students will gain a broad-based knowledge of the natural and human systems that shape the earth's landscapes and environments, as well as the social and cultural processes that influence them.

2. Develop critical thinking and analytical skills: The FYUGP in Geography aims to develop students' ability to analyse and interpret geospatial data and phenomena using a range of tools and technologies. Students will learn how to identify and evaluate spatial patterns, relationships, and trends, and apply critical thinking and problem solving skills to real-world scenarios.

3. Foster an interdisciplinary and holistic approach to problem-solving: The FYUGP in Geography aims to cultivate an interdisciplinary and holistic approach to understanding and addressing complex issues that affect the environment, society, and economy. Students will learn how to integrate knowledge and methods from different disciplines, such as biology, geology, economics, sociology, and political science, to develop innovative and sustainable solutions to environmental and social problems.

4. Provide opportunities for experiential learning and research: The FYUGP in Geography aims to provide students with opportunities for experiential learning and research, through field trips, internships, research projects, and collaborations with faculty and peers. Students will gain hands-on experience in using geospatial technologies, conducting fieldwork, collecting and analysing data, and communicating their findings to diverse audiences.

5.Prepare graduates for diverse career paths and lifelong learning: The FYUGP in Geography aims to prepare graduates for diverse career paths in the public, private, and non-profit sectors, as well as for further education and lifelong learning. Graduates will be equipped with a range of transferrable skills, including communication, teamwork, leadership, and problem-solving, that will enable them to adapt to changing professional and societal contexts.

GRADUATE ATTRIBUTES OF THE FYUGP IN GEOGRAPHY:

1. **Disciplinary knowledge**: Graduates of the FYUGP in Geography will possess a deep and comprehensive understanding of the principles, theories, and methodologies of the field of geography, including its sub-disciplines such as physical geography, human geography, and geomatics. They will have a strong foundation in the theoretical and empirical underpinnings of geography, and be able to apply this knowledge to analyze and interpret environmental and social phenomena. They will also be able to articulate the relevance and significance of geography to contemporary environmental and social issues.

2. **Geospatial literacy**: Graduates of the FYUGP in Geography will possess a strong foundation in geospatial literacy, including the ability to analyze and interpret geospatial data, use geographic information systems (GIS), and apply remote sensing techniques. They will have a thorough understanding of the principles of cartography, geodesy, and spatial statistics, and be able to apply these principles to real-world problems.

3. **Critical thinking and problem-solving:** Graduates of the FYUGP in Geography will be skilled critical thinkers and problem-solvers, able to identify and analyze complex environmental, social, and economic issues, and develop innovative and sustainable solutions. They will have experience in using qualitative and quantitative methods to collect and analyze data, and be able to communicate their findings effectively to diverse audiences.

4. **Interdisciplinary perspective:** Graduates of the FYUGP in Geography will have an interdisciplinary perspective on complex issues, drawing on knowledge and methods from diverse fields such as ecology, economics, sociology, and political science. They will be able to integrate this knowledge to develop holistic and nuanced understandings of complex issues, and develop innovative and sustainable solutions.

5. **Global and cultural competence**: Graduates of the FYUGP in Geography will have a global and cultural competence, with an understanding of the diverse cultural, social, and economic contexts in which environmental and social issues occur. They will be able to work effectively with people from different cultural backgrounds, and have a nuanced understanding of the implications of cultural differences for environmental and social problem-solving.

6. **Ethical and professional practice:** Graduates of the FYUGP in Geography will be committed to ethical and professional practice, with an understanding of the ethical and legal issues involved in environmental and social problem-solving. They will be able to work collaboratively and responsibly with colleagues and stakeholders, and have a commitment to lifelong learning and continuous professional development.

PEO Number Objective Description

PEO1 Graduates will acquire in-depth knowledge of Geography including concepts, theories, and methodologies relevant to contemporary issues and challenges.
PEO2 Graduates will develop a comprehensive understanding of Geography as a multidisciplinary field encompassing physical, human, and environmental dimensions.
PEO3 Graduates will possess a broad understanding of Geography and apply theoretical knowledge and practical skills to address real-world problems and contribute to sustainable development initiatives.
PEO4 Demonstrate proficiency in geographic technologies and analytical tools for data collection, visualization, and decision-making.
PEO5 Cultivate professional competencies such as critical thinking, problem-solving, and interdisciplinary collaboration necessary for success in academic and professional settings

PEO6 Graduates will be inspired to engage in advanced studies and research activities to address the educational needs of the nation.

Program Specific Outcomes (PSOs)

The following table describes the outcomes that graduates of the BA/B.Sc. Geography programs are expected to achieve after the successful completion of their studies:

PSO Number Outcome Description

PSO1 Graduates will adeptly solve a variety of problems and will be able to critically analyse their findings.

PSO2 Graduates will analyse and interpret results, and foster innovation by developing ideas that reflect broader Geo-environmental contexts.

PSO3 Graduates will apply their knowledge to design effective methodologies for addressing real-world problems.

PSO4 Graduates will utilize learned techniques, skills, and modern tools appropriately to address specific challenges.

PSO5 Graduates will acquire enhanced problem-solving abilities, analytical thinking and creativity,

PSO6 Graduates will be proficient in writing comprehensive reports, creating impactful presentations, and efficiently communicating findings.

PSO7 Graduates will build the confidence necessary to excel in competitive exams such as NET, SET, UPSC/APSC etc.

Program Outcomes (POs)

The following table describes the outcomes that graduates of the B.A/B.Sc. Geography programs are expected to achieve the following upon successful completion of their studies:

PO Number Outcome Description

PO1: Graduates will comprehend fundamental concepts and be able to expand upon the concepts, theories, methods and techniques in Geography.

PO2: Graduates will possess advanced knowledge and deep insights in various Geographical domains.

PO3: Graduates will master diverse problem-solving methodologies applicable to Socioeconomic and environmental problems.

PO4: Graduates will be adept at communicating geographical ideas with precision and clarity.

PO5: Graduates will enhance their professional skills and gain expertise in specialized areas of geography.

PO6: Graduates will acquire skills necessary for engaging in independent research.

PO7: Graduates will become professionals capable of addressing real-life problems.

PO8: Graduates will be trained to prepare reports such as field reports, dissertation, thesis, etc. with clarity.

COURSE STRUCTURE AS PER UGC FRAMEWORK OF MAY, 2024

Year	Semester	Course Code	Title of the course	TOTAL CREDIT
Year 01	1st Semester	GGR-MAJ-4-101	Geomorphology	4
		GGR-MIN-4-101	Geomorphology and Oceanography	4
		GGR-GEC-3-101	Human Geography	3
		GGR-SEC-3-101	Mapping Techniques in Geography	3
	2nd Semester	GGR-MAJ-4-201	Climatology	4
		GGR-MIN-4-201	Climatology and Biogeography	4
		GGR-GEC-3-201	Fundamentals of Economic Geography	3
		GGR-SEC-3-201	Disaster Management	3
Year 02	3rd Semester	GGR-MAJ-4-301	Environmental Geography	4
		GGR-MAJ-4-302	Biogeography and Oceanography	4
		GGR-MIN-4-301	Human, Social and Cultural Geography	4
		GGR-GEC-3-301	Physical Geography	3
		GGR-SEC-3-301	Field study on Hazards and Disaster.	3
	4th Semester	GGR-MAJ-4-401	Human and Settlement Geography	4
		GGR-MAJ-4-402	Political Geography	4
		GGR-MAJ-4-403	Statistical methods in Geography	4
		GGR-MAJ-4-404	Remote Sensing and GIS in Geography	4
		GGR-MIN-4-401	Geography of Resource and Economic Development	4

SEMESTER - I

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE: GEOMORPHOLOGY

Course Description:

This course provides an in-depth understanding of the earth's physical form and structure. It explores the fundamental concepts and processes in geomorphology, focusing on both internal (endogenetic) and external (exogenetic) processes that shape the earth's surface. Students will learn to analyse various landforms and their evolution through lectures, tutorials, and practical exercises, equipping them with skills essential for careers in environmental and land-use management.

Prerequisites: There are no formal prerequisites for this course.

Course Objectives:

1. Enhance understanding of geomorphology and its fundamental concepts. Acquire knowledge about the earth's interior and its movements.
2. Understand diverse geomorphic processes and their impact on landform development under various geo-climatic conditions.
3. Comprehend the processes responsible for the development of diverse landforms on the earth's surface.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
students will be able to:

CO1 : Understand key concepts and terminologies in geomorphology.
ILO 1.1: Recall definitions of geomorphological terms.
ILO 1.2: Identify different geomorphic processes.
ILO 1.3: List various landforms created by geomorphic processes.
CO2 : Explain the earth's interior structure and geomorphic processes.
ILO 2.1: Describe the structure of the earth's interior.
ILO 2.2: Explain the concepts of isostasy, plate tectonics, and geosynclines.
ILO 2.3: Discuss the processes of weathering and mass wasting.
CO3: Apply geomorphic knowledge to analyse and interpret landscapes and landforms.
ILO 3.1: Use topographical maps to interpret landforms.
ILO 3.2: Perform morphometric and slope analysis on various terrains.
ILO 3.3: Analyse fluvial, karst, aeolian, glacial, and coastal landforms.
CO4: Differentiate between erosional and depositional processes.
ILO 4.1: Compare and contrast different types of erosional landforms.
ILO 4.2: Identify depositional features in various environments.
ILO 4.3: Assess the impact of climatic conditions on geomorphic processes.
CO5: Integrate geomorphic principles to solve complex geomorphological problems.
ILO 5.1: Combine knowledge of endogenetic and exogenetic processes to explain landform evolution.
ILO 5.2: Create models representing different geomorphic processes.
ILO 5.3: Propose solutions to geomorphological issues in environmental management.

CO6: Critically evaluate geomorphic processes and their implications on landform development.
ILO 6.1: Judge the effectiveness of different geomorphic theories.
ILO 6.2: Evaluate the role of geomorphic processes in landscape modification.
ILO 6.3: Appraise the implications of human activities on geomorphic processes.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : GEOMORPHOLOGY
COURSE CODE : GGR-MAJ-4-101
NATURE OF THE COURSE : MAJOR
TOTAL CREDITS : 4 CREDITS (3+1=4)
DISTRIBUTION OF MARKS : 60 (End Sem) (45T+15P) + 40 (In Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (15 marks)	Introduction to Geomorphology	a. Geomorphology: Definition,Nature and Scope. b. Basic geomorphic concepts : catastrophism, uniformitarianism, dynamic equlibrium. c. Introduction to geomorphic processes: endogenetic and exogenetic	12	2		14
2 (15marks)	Geomorphic Processes (Endogenetic)	a. Earth's interior structure and Isostasy. b. Endogentic processes : Folding and Faulting; Earthquakes andVolcanoes; concepts of continental drift and Plate Tectonics,. **c. Perspectives on major landforms of the Earth according to ancient Indian knowledge.**	13	2		15
3 (15marks)	Geomorphic Processes (Exogenetic) and Evolution of Landforms	a. Exogenetic Processes: Weathering, Mass Wasting, erosion, transportation and deposition b. Models of landform evolution : Davis and Penck. c. Evolution of Landforms: Fluvial, Karst, Aeolian and Glacial, .	14	2		16
4 (15marks)	Practical	a. Topographical Map – Interpretation of Topographical map, Profile drawing (serial, superimposed, projected and composite). b. Morphometric analysis: Stream ordering (Strahller & Horton), drainage basin area demarcation and mapping: drainage density, bifurcation ratio. c. Slope Analysis : Wentworth's method and Smith's Method.		2	28	30
		TOTAL	**39**	**8**	**28**	**75**

Where, *L: Lectures* *T: Tutorials* *P: Practicals*

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks

Two Internal Examination - **20 Marks**

Others (Any one) - **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

Practical : **10 Marks**

Suggested Readings:

1. Bloom A. L., 2003: Geomorphology: A Systematic Analysis of Late Cenozoic Landforms, Prentice-Hall of India, New Delhi.
2. Bridges E. M., 1990: World Geomorphology, Cambridge University Press, Cambridge.
3. Christopherson, Robert W., (2011), Geosystems: An Introduction to Physical Geography, 8 Ed., Macmillan Publishing Company
4. Kale V. S. and Gupta A., 2001: Introduction to Geomorphology, Orient Longman, Hyderabad.
5. Knighton A. D., 1984: Fluvial Forms and Processes, Edward Arnold Publishers, London.
6. Richards K. S., 1982: Rivers: Form and Processes in Alluvial Channels, Methuen, London.
7. Selby, M.J., (2005), Earth's Changing Surface, Indian Edition, OUP
8. Skinner, Brian J. and Stephen C. Porter (2000), The Dynamic Earth: An Introduction to physical Geology, 4th Edition, John Wiley and Sons
9. Thornbury W. D., 1968: Principles of Geomorphology, Wiley.
10. Gautam, A (2010): Bhautik Bhugol, Rastogi Publications, Meerut 11. Tikkaa, R N (1989): Bhautik Bhugol ka Swaroop, Kedarnath Ram Nath, Meerut
11. Singh, S (2009): Bhautik Bhugol ka Swaroop, Prayag Pustak, Allahabad.
12. IKS REF: Kaushik S.D. & Rawat D.S : GEOGRAPHICAL THOUGHT & METHODOLOGY, RASTOGI PUBLICATIONS

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : GEOMORPHOLOGY AND OCEANOGRAPHY

Course Descriptions:

This course provides an overview of geomorphology and oceanography, focusing on the processes shaping the Earth's surface and the dynamics of oceanic systems. It covers fundamental concepts in geomorphology, including landforms, geological processes, and the interaction between land and water bodies. Additionally, it explores key aspects of oceanography, such as ocean currents, waves, tides, and marine ecosystems. Practical sessions offer hands-on experience in interpreting topographic maps, drawing profiles, and analysing bathymetric data.

Prerequisites: None

Course Objectives

1. To introduce students to the fundamental concepts of geomorphology and oceanography.
2. To develop an understanding of the processes shaping the Earth's surface and oceanic dynamics.
3. To enhance students' analytical skills in interpreting topographic maps and bathymetric data.
4. To cultivate an appreciation for the interconnectedness of geological and oceanic systems.
5. To provide practical experience in applying theoretical knowledge to real-world scenarios.
6. To prepare students for further studies or careers in Earth sciences, environmental science, or related fields.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs): Students will be able to:

CO1: Describe the nature and scope of geomorphology and oceanography. **ILO 1.1:** Define and differentiate between geomorphology and oceanography.
ILO 1.2: Explain the significance of geomorphic and oceanographic processes in shaping the Earth's surface.
ILO 1.3: Analyse geomorphological and oceanographic concepts to understand real worldlandscapes and marine environments.
CO2: Analyse the processes and landforms associated with endogenetic and exogenetic forces.
ILO 2.1: Analyse the causes and effects of endogenetic forces such as tectonic movements and exogenetic forces like weathering and erosion.
ILO 2.2: Integrate knowledge of Earth's interior structure and surface processes to explain the formation of specific landforms.
ILO 2.3: Critically evaluate the impact of geological processes on human activities and the environment.
CO3: Evaluate the factors influencing ocean salinity, temperature, waves, tides, and currents.
ILO 3.1: Understand the factors influencing ocean salinity, temperature variations, and oceanic circulation patterns.

ILO 3.2: Apply knowledge of oceanographic processes to interpret regional variations in marine environments.
ILO 3.3: Analyse the relationships between oceanic phenomena such as waves, tides, andcurrents.
CO4: Apply practical techniques for interpreting topographical maps and geomorphic data.
ILO 4.1: Apply practical skills to interpret topographical maps and analyse geomorphicdata.
ILO 4.2: Synthesize information from multiple sources, including topographical maps and field observations, to draw conclusions about landscape evolution.
ILO 4.3: Evaluate the accuracy and reliability of data obtained through practical techniques.
CO5: Critically analyse the interplay between geological processes and environmental dynamics.
ILO 5.1: Analyse the interactions between geological processes and environmental factors such as climate change and land use.
ILO 5.2: Evaluate the sustainability of human activities in geomorphologically and oceanographically sensitive areas.
ILO 5.3: Develop strategies for mitigating the impact of geological hazards on human populations and ecosystems.
CO6: Demonstrate effective communication of geomorphological and oceanographic concepts.
ILO 6.1: Communicate geomorphological and oceanographic concepts effectively through written reports, presentations, and discussions.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B. A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : GEOMORPHOLOGY AND OCEANOGRAPHY
COURSE CODE : GGR-MIN-4-101
NATURE OF THE COURSE : MINOR
TOTAL CREDITS : 4 CREDITS (3+1)
DISTRIBUTION OF MARKS : 60 (End Sem) (45T+15P) + 40 (In Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (15 marks)	Introduction to Geomorphology and Oceanography	a. Geomorphology: Definition,Nature and Scope. b. Oceanography: Definition, Nature and Scope	6	2		8
2 (15 marks)	Geomorphic Processes (Endogenetic and Exogenetic)	a. Earth's Interior Structure and Isostasy. b. Endogenetic processes: Folding and Faulting, Earthquakes and Volcanoes, Plate tectonics. c. Exogenetic Processes-Weathering, Mass\ Wasting, erosion d. Davisian concept of Cycle of Erosion . e. **Perspectives on major landforms of the Earth according to ancient Indian knowledge.**	21	2		23

3 (15 marks)	Ocean Bottom morphology & characteristics	a. Ocean Bottom Relief Features b. Ocean Salinity and its distribution c. Ocean Temperature and distribution d. Ocean currents –types and distribution	12	2		14
4 (15 marks)	Practical	Practical's on Toposheet Interpretation, Profile Drawing, Stream Ordering (Strahller & Horton), Bathymetric and Hypsometric Curve.	8	2	20	30
		TOTAL	**47**	**8**	**20**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: **40 Marks**

Two Internal Examination - **20 Marks**

Others (Any one) - **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate
- o Home assignment

Practical : **10 Marks**

Suggested Readings :

1. Bloom A. L., 2003: Geomorphology: A Systematic Analysis of Late Cenozoic Landforms, Prentice-Hall of India, New Delhi.
2. Bridges E. M., 1990: World Geomorphology, Cambridge University Press, Cambridge.
3. Christopherson, Robert W., (2011), Geosystems: An Introduction to Physical Geography, 8 Ed., Macmillan Publishing Company
4. Kale V. S. and Gupta A., 2001: Introduction to Geomorphology, Orient Longman, Hyderabad.
5. Knighton A. D., 1984: Fluvial Forms and Processes, Edward Arnold Publishers, London.
6. Richards K. S., 1982: Rivers: Form and Processes in Alluvial Channels, Methuen, London.
7. Selby, M.J., (2005), Earth's Changing Surface, Indian Edition, OUP
8. Skinner, Brian J. and Stephen C. Porter (2000), The Dynamic Earth: An Introduction to physical Geology, 4th Edition, John Wiley and Sons
9. Thornbury W. D., 1968: Principles of Geomorphology, Wiley.
10. Gautam, A (2010): Bhautik Bhugol, Rastogi Publications, Meerut 11.
11. Tikkaa, R N (1989): Bhautik Bhugol ka Swaroop, Kedarnath Ram Nath, Meerut
12. Singh, S (2009): Bhautik Bhugol ka Swaroop, Prayag Pustak, Allahabad.
13. Alan P. Trujillo , Harold V. Thurman (2016):Essentials of Oceanography, 12thEdition, Pearson K. Siddhartha (2018): Oceanography: A Brief Introduction, Kitab Mahal
14. IKS REF: Kaushik S.D. & Rawat D.S : GEOGRAPHICAL THOUGHT & METHODOLOGY, RASTOGI PUBLICATIONS

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : HUMAN GEOGRAPHY

Course Description:

This course, Human Geography, delves into the various dimensions of human interaction with the Earth's surface and how it shapes societies and cultures. Through a mix of theoretical frameworks and case studies, students explore topics such as population growth and distribution, theories of population, the relationship between space and society, and the dynamics of tribal life in India.

Prerequisites: No specific prerequisites are required for this course.

Course Objectives:

1. To understand the fundamental concepts and theories in Human Geography and their contemporary relevance.
2. To analyse the factors influencing population growth and distribution, and comprehend the theories explaining population dynamics.
3. To explore the relationship between space and society, including the concept of social space and cultural regions.
4. To gain insights into the diversity and dynamics of tribal life in India, focusing on major tribes and their socio-cultural characteristics.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO1: Recall and define key concepts in Human Geography, including environmental determinism, demographic transition theory, and cultural regions.
ILO 1.1: Identify and define key terms and concepts in Human Geography.
ILO 1.2: Recall and explain the theories of environmental determinism and demographic transition.
ILO 1.3: Describe the characteristics of different cultural regions.
CO2: Demonstrate an understanding of the factors influencing population growth and distribution, and the relationship between space and society.
ILO 2.1: Explain the factors affecting population growth and distribution.
ILO 2.2: Interpret the relationship between space and society.
ILO 2.3: Summarize the main characteristics of social space and cultural regions.
CO3: Apply theoretical frameworks to analyse real-world examples of population dynamics and cultural landscapes.
ILO 3.1: Apply demographic transition theory to analyse population trends in different regions.
ILO 3.2: Apply concepts of social space and cultural regions to analyse cultural landscapes.
ILO 3.2: Analyse case studies of population distribution using geographical methods and tools.
CO4: Analyse and evaluate the complexities of tribal life in India, including the sociocultural characteristics of major tribes.
ILO 4.1: Analyse the socio-cultural characteristics of major tribes in India.
ILO 4.2: Evaluate the impact of socio-economic factors on tribal communities.
ILO 4.3: Compare and contrast the lifestyles of different tribes in India.

CO5: Synthesize information from various sources to propose solutions to challenges faced by tribal communities.
ILO 5.1: Synthesize information to propose strategies for sustainable development in tribal areas.
ILO 5.2: Develop recommendations for policies aimed at improving the socio-economic conditions of tribal communities.
ILO 5.3: Create a comprehensive understanding of the complexities of tribal life through interdisciplinary approaches.
CO6: Critically evaluate the relevance and applicability of theories and concepts in understanding contemporary human geographical phenomena.
ILO 6.1: Critically justify the strengths and limitations of demographic transition theory.
ILO 6.2: Assess the relevance of environmental determinism and possibilism in explaining human-environment interactions.
ILO 6.3: Critique the representation of cultural regions and human groups in geographical literature and discourse.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : HUMAN GEOGRAPHY
COURSE CODE : GGR-GEC-3-101
NATURE OF THE COURSE : GENERIC ELECTIVE COURSE
(GEC)TOTAL CREDITS : 3 CREDITS
DISTRIBUTION OF MARKS : 60 (End Sem) + 40 (In-Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (15 marks)	Introduction to Human Geography	a. Human Geography: Definition, Nature and Scope . b. Concept of Environmental Determinism, Possibilism, and Neo-Determinism.	11	1		12
2 (15 marks)	Population	a. Factors affecting Growth and Distribution b. Composition (Age-Sex). c. DemographicTransition Theory	10	1		11
3 (15 marks)	Space and Society	a. Social Space : Concept and Types. b. Cultural Regions c. Racial classification and distribution of major racial groups in the world.	10	1		11
4 (15	Tribal Life in India	a. Definition of Tribe b. Major Tribes of India- Bhil, Gond and	10	1		11

marks)		Santhal c. Major tribes of North East India: Bodo, Khasi and Adi				
		TOTAL	**41**	**4**		**45**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: **40 Marks**

Two Internal Examination - **30 Marks**

Others (Any one) - **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate
- o Home assignment

Suggested Readings:

1. Singh, L.R. (2005). Fundamentals of Human Geography. Sharda Pustak Bhawan,
2. Allahabad.
3. De Blij, H.J. Human Geography: Culture, Society and Space. John Wiley, New York.
4. Haggett, P. (2004). Geography: A Modern Synthesis. Harper & Row, New York
5. Hussain, M. (1994): Human Geography. Rawat Publication, Jaipur.
6. Kaushik, S.D. & Sharma, A.K. (1996): Principles of Human Geography (in Hindi),
7. Rastogi Pub. Meerut.
8. Norton W. (1995). Human Geography. Oxford University Press, New York.
9. Singh, K.N. & Singh J. (2001). ManviyaBhoogol. GyanodayaPrakashan, Gorakhpur.
10. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
11. Hassan, M.I. (2005) Population Geography, Rawat Publications, Jaipur
12. Daniel, P.A. and Hopkinson, M.F. (1989) The Geography of Settlement, Oliver &
13. Boyd, London.

B.A. /B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : MAPPING TECHNIQUES IN GEOGRAPHY

Course Description :
This course introduces students to the fundamentals of cartography, emphasizing the significance of various techniques in geographical analysis. It covers topics such as map scales, map projections, and practical exercises in scale construction and map projection.

Prerequisites: None

Course Objectives:

1. Understand the importance of cartographic techniques in geographical analysis.
2. Explore different types of map scales and learn their construction methods.
3. Examine the principles and classifications of map projection techniques**.**

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:

CO1: Demonstrate comprehension of cartographic principles through the application of various map scales and projections**.**
ILO 1.1: Identify different types of map scales and their representations.
ILO 1.2: Explain the significance of choosing the appropriate map scale for a given geographical context. **ILO 1.3:** Compare and contrast various methods of map scale notation.
CO2: Analyse geographical data effectively by selecting appropriate map scales for representation**.**
ILO 2.2: Interpret geographical data to determine the most suitable map scale**.**
ILO 2.2: Justify the selection of a specific map scale based on the characteristics of the geographical area being represented.
ILO 2.3: Utilize map scales to accurately measure distances and areas on maps.
CO3: Apply mathematical skills to accurately construct and manipulate map scales**.**
ILO 3.1: Apply mathematical techniques to convert between different types of map scales.
ILO 3.2: Demonstrate proficiency in enlarging and reducing map scales using appropriate methods.
ILO 3.3: Utilize mathematical principles to construct representative fractions and graphical notations for map scales
CO4: Evaluate the suitability of different map projection techniques for specific geographical regions.
ILO 4.1: Classify map projection techniques based on their principles of construction.
ILO 4.2: Evaluate the advantages and disadvantages of different map projections for specific geographical regions.
ILO 4.3: Justify the choice of map projection technique for a given mapping project.
CO5: Demonstrate proficiency in constructing map scales and graticules through practical exercises.
ILO 5.1: Demonstrate practical skills in constructing comparative scales and diagonal scales.
ILO 5.2: Apply geometric principles to enlarge and reduce map scales accurately.
ILO 5.3: Utilize appropriate tools and techniques to construct map projections effectively
CO6: Synthesize knowledge of cartographic techniques to create accurate and informative maps for geographical analysis.
ILO 6.1: Integrate knowledge of cartographic techniques to design maps that effectively communicate geographical information.

ILO 6.2: Apply critical thinking skills to analyse and interpret maps created using various cartographic techniques.
ILO 6.3: Demonstrate creativity in map design to enhance visual appeal and usability for geographical analysis.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 1ST SEMESTER

TITLE OF THE COURSE : **MAPPING TECHNIQUES IN GEOGRAPHY**
COURSE CODE : **GGR-SEC-3-101**
NATURE OF THE COURSE : **SKILL ENHANCEMENT COURSE (SEC)**
TOTAL CREDITS : **3 CREDITS (1+2=3)**
DISTRIBUTION OF MARKS : **60 (End-Sem) (20T+40P)+ 40 (In-Sem)**

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Introduction to mapping and cartography	a. Meaning of map and cartography; importance of map in Geography. b. Co-Ordinate System ; LatitudeLongitude and their importance (location and time); International time zone c. Types of maps (based on scale, purpose and theme) d. Concept of map scale and map projection	9	1	-	10
4 (15 Marks)	Practical (Construction of scale and graticule)	a. Construction of simple, comparative and graphical scale b. Construction of Diagonal scale c. Conversion of map scales d. Enlargement and Reduction of map (graphical method) e. Construction of Map projections: Polar Zenithal Gnomonic Projection, Conical one Standard Parallel Projection, Simple cylindrical projection,.		2	28	30
		TOTAL	26	6	28	60

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT : **40 Marks**
· **Two Internal Examination :** **20 marks**
· **Others (Any one) -** **10 Marks**
  o Group Discussion
  o Seminar presentation on any of the relevant topics
  o Debate
· **Practical** **10 Mark**

Suggested Readings:

1. Campbell, J.,1984: Introductory Cartography, Prentice Hall Inc.
2. Mishra, R.P. and Ramesh, A. 1995: Fundamentals of Cartography, Concept Publishing
3. Company.
4. Monkhouse F.J. and Wilkinson, H.R. 1971: Maps and Diagrams: Their Compilation and
5. Construction; B. I. Publications Private Ltd. New Delhi.
6. Robinson, A.H., et al: Elements of Cartography, John Wiley Sons, New York.
7. Sarkar A. 1997, Practical Geography: A Systematic Approach, Orient Longman. Ltd.
8. Hyderabad.

SEMESTER II

COURSE TITLE : CLIMATOLOGY

Course Description:

This course focusing on the scientific study of Earth's climate system and the factors influencing climate change. Through a comprehensive examination of atmospheric phenomena and climatic patterns, students delve into topics such as atmospheric temperature, insolation, pressure systems, wind patterns, moisture, weather, and climate classification. Practical components include interpreting weather symbols, analysing weather maps, and representing climatic data graphically.

Prerequisites: There are no specific prerequisites for this course.

Course Objectives:

1. To develop a scientific understanding of the physical aspects of Earth's climate system and the factors influencing climate change.
2. To explore the global balance of energy and transfer of radiation in the atmosphere through in-depth quantitative analysis and the study of general circulation of winds.
3. To highlight important atmospheric phenomena and their direct impact on human activities, emphasizing the understanding of weather phenomena and its implications on day-to-day life.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:

CO1: Understand the fundamental concepts and principles of climatology.
ILO 1.1: Identify the components and structure of the atmosphere.
ILO 1.2: Explain the factors influencing atmospheric temperature distribution.
ILO 1.3: Define insolation and its role in the Earth's heat budget.
CO2: Interpret and explain various atmospheric phenomena and climatic patterns.
ILO 2.1: Interpret weather symbols and analyse weather maps effectively.
ILO 2.2: Describe the characteristics of pressure belts and planetary winds.
ILO 2.3: Explain the concept of airmass, fronts, cyclones, and anticyclones.
CO3: Apply climatological knowledge to analyse and interpret real-world climatic data.
ILO 3.1: Utilize Climograph, hythergraphs, and ergographs to represent climatic data.
ILO 3.2: Analyse rainfall distribution maps to identify regional climatic patterns.
ILO 3.3: Apply climatic classification systems to categorize climates.
CO4: Analyse the relationships between atmospheric variables and their impacts.
ILO 4.1: Analyse the relationship between evaporation, humidity, and condensation processes.
ILO 4.2: Evaluate the influence of atmospheric pressure systems and wind patterns.
ILO 4.3: Assess the role of oceanic and atmospheric circulation patterns in regional climate variations.
CO5: Propose solutions for climate-related challenges.
ILO 5.1: Develop strategies to mitigate the impact of extreme weather events.
ILO 5.2: Propose adaptation measures to address the challenges posed by climate change.
ILO 5.3: Synthesize interdisciplinary perspectives to address complex climate-related issues.
CO6: Critically evaluate climatic data and climate change theories.
ILO 6.1: Critically evaluate the reliability and limitations of climatic data sources.
ILO 6.2: Assess the validity of climate change theories and predictions.

ILO 6.3: Formulate well-reasoned arguments and recommendations for addressing climate change challenges in policy and practice.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 2ND SEMESTER

COURSE TITLE : CLIMATOLOGY
COURSE CODE : GGR-MAJ-4-201
NATURE OF THE COURSE : MAJOR
TOTAL CREDITS : 4 CREDITS (3+1=4)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (15 marks)	Introduction to Climatology and Atmosphere	a. Climatology: Definition and importance b. Atmosphere: Definition, Composition and structure	10	2		12
2 (15 marks	Elements of weather and climate	a. Temperature – Insolation, distribution, temperature inversion and Heat budget b. Pressure and Wind: Pressure belts, Planetary Winds and seasonal winds, Local wind and jet stream c. Concept of Airmass, Front, Cyclone and Anticyclone. d. Concept of Humidity and precipitation	13	3		16
3 (15 marks)	Factors of weather climate and climatic classification	a. Factors influencing of weather and climate, b. World classification climate: Koeppen and Thornthwaite. **c. Perspectives on knowledge about seasons and climates of ancient India**	15	2		17
4 (15 marks)	Practical	a. Drawing of weather symbols and Interpretation of weather map with to respect pressure, wind, cloud cover and sea condition for summer and winter. . b. Representation of climatic data: i. Drwaing and interpretation of Climograph, Hythergraph and Ergograph ii. Average annual Rainfall distribution map of Assam		2	28	30
		TOTAL	**38**	**9**	**28**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT : **40 Marks**

Two Internal Examination - **20 Marks**

Others (Any one) - **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

Practical : **10 Marks**

Suggested Readings:

1. Anthes R. A., Panofsky H. A., Cahir J. J. and Rango A., 1978: The Atmosphere, Columbus.
2. Barry R. G. and Carleton A. M., 2001: Synoptic and Dynamic Climatology, Routledge, UK.
3. Barry R. G. and Corley R. J., 1998: Atmosphere, Weather and Climate, Routledge, New York.
4. Batten L. J., 1979: Fundamentals of Meteorology, Prentice-Hall Inc., Englewood Cliffs, New Jersey. 5. Boucher K., 1975: Global Climates, Halstead Press, New York.
5. Critchfield H. J., 1987: General Climatology, Prentice-Hall of India, New Delhi
6. Das, P.K.,1968: The Monsoon, National Book Trust, New Delhi.
7. Hobbs, J.E.,1980: Applied Climatology, Butterworth.
8. Lal, D.S.,1998: Climatology, Sharda Pustak Bhawan, Allahabad.
9. Lockwood, J.G.,1976: World Climatology-Environmental Approach, Ed. Arnold Ltd.
10. Lutgens F. K., Tarbuck E. J. and Tasa D., 2009: The Atmosphere: An Introduction to Meteorology, Prentice-Hall, Englewood Cliffs, New Jersey
11. Menon,P.A.: Our Weather, National Book Trust
12. Miller, A.A.,1953: Climatology, Dutton.
13. Oliver J. E. and Hidore J. J., 2002: Climatology: An Atmospheric Science, Pearson Education, New Delhi.
14. Stringer, E.N., 1982: An Introduction to Climate, International Studies.
15. Thompson D. R. and Perry A. (eds.), 1997: Applied Climatology: Principles and Practice, Routledge, USA and Canada.
16. Trewartha G. T. and Horne L. H., 1980: An Introduction to Climate, McGraw-Hill.
17. IKS REF: Kaushik S.D. & Rawat D.S : GEOGRAPHICAL THOUGHT & METHODOLOGY, RASTOGI PUBLICATION

COURSE TITLE : CLIMATOLOGY AND BIOGEOGRAPHY

Course Description:

This course provides a comprehensive understanding of the physical aspects of Earth's climate system and the intricate relationship between climate and geography. It delves into the mechanisms governing atmospheric phenomena, global energy balance, and climatic patterns across the globe. Additionally, it explores the distribution of organisms and ecosystems on Earth's surface and addresses the significance of biodiversity conservation.

Prerequisites: None

Course Objectives:

1. To foster a scientific understanding of the Earth's climate system and the factors influencing climate change.
2. To analyze the global energy balance and the transfer of radiation in the atmosphere through quantitative methods, elucidating the general circulation of winds. · To emphasize the relevance of atmospheric phenomena to human activities, focusing on the impact of weather on daily life.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:

CO1: Analyze the components and dynamics of Earth's climate system.
ILO 1.1: Identify the key elements of Earth's atmosphere and their role in climate regulation.
ILO 1.2: Interpret temperature distribution patterns and the mechanisms driving heat exchange within the atmosphere.
ILO 1.3: Analyze the causes and implications of temperature inversions.
CO2: Evaluate the influence of atmospheric pressure and wind patterns on global climate.
ILO 2.1: Examine the concept of pressure belts and their role in shaping global atmospheric circulation.
ILO 2.2: Evaluate the impact of jet streams and monsoons on regional climate variability.
ILO 2.3: Assess the significance of cyclones, anticyclones, and local wind systems in atmospheric circulation.
CO3: Assess the biogeographical patterns and their significance in biodiversity conservation.
ILO 3.1: Define biogeography and its relevance in understanding the distribution of spacies.
ILO 3.2: Analyze the major zoogeographical and phyto-geographical regions of the world.
ILO 3.3: Evaluate the causes and consequences of biodiversity loss and conservation.
CO4: Apply quantitative methods to interpret weather data and climatic classifications.
ILO 4.1: Interpret weather symbols depicted on maps to analyze atmospheric conditions.
ILO 4.2: Utilize rainfall-temperature graphs, hythergraphs, and Climograph to represent climatic data.
ILO 4.3: Demonstrate proficiency in mapping protected areas and biodiversity hotspots.
CO5: Synthesize information to understand the interactions between climate, geography, and human activities.
ILO 5.1: Analyze climatic patterns and their impact on agriculture, economy, and society.
ILO5.2: Cite examples illustrating the interplay between climate change and human livelihoods.
ILO 5.3: Evaluate strategies for mitigating and adapting to climate change at different levels.
CO6: Demonstrate proficiency in critical thinking and problem-solving related to climatic and biogeographical issues.
ILO 6.1: Critically analyze debates on climate change and biodiversity conservation.

ILO 6.2: Apply theoretical concepts to real-world scenarios to propose sustainable solutions.
ILO 6.3: Interpret biodiversity mapping and address complex environmental challenges.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 2ND SEMESTER

COURSE TITLE : CLIMATOLOGY AND BIOGEOGRAPHY
COURSE CODE : GGR-MIN-4-201
NATURE OF THE COURSE : MINOR
TOTAL CREDITS : 4 CREDITS (3+1)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Introduction to Climatology	a. Meaning, Nature and Scope of Climatology b. Composition and Structure of Atmosphere, Elements of weather and climate,	12	1		13
2 (15 Marks)	Elements of Weather, climate and climatic classsificatio n	a. Temperature : Insolation, Distribution and Heat budget, b. Pressure Belts and General Circulation, Jet Streams, Monsoon - characteristics ; Local winds c. Concept of Airmass and Fronts, Cyclone and Anticyclone, d. Humidity, Condensation and Precipitation e. Koeppen's climatic classification f. **Perspectives on knowledge about seasons and climates of ancient India**	14	1		15
3 (15 Marks)	Biogeograph y	a. Biogeography: Definition, scope and significance b. Zoogeographical and Phyto-geographical regions of the world c. Biodiversity and its Conservation.	15	2		17
4 (15	Practical	a. Drawing of weather symbols depicted on maps. b. Preparation of rainfall-temperature graphs; Hythergraph and Climograph c. Mapping of protected areas (National Park, and wildlife sanctuary) of Assam. Mapping of	7	3	20	30

Marks)		Biodiversity hotspots of North East India				
		TOTAL	***48***	***7***	***20***	***75***

Where, L: Lectures T: Tutorials P: Practicals

Modes of In-Semester assessment: **40 marks**

· **Two internal assessment 30 marks**

· **Any one of the following activities listed below - 10 marks**

a. Group Discussion
b. Seminar presentation on any of the relevant topics
c. Home assignment

· **Practical : 10 Marks**

Suggested Reading.

1. 1. Anthes R. A., Panofsky H. A., Cahir J. J. and Rango A., 1978: The Atmosphere, Columbus.
2. 2. Barry R. G. and Carleton A. M., 2001: Synoptic and Dynamic Climatology, Routledge, UK.
3. 3. Barry R. G. and Corley R. J., 1998: Atmosphere, Weather and Climate, Routledge, New York.
4. 4. Batten L. J., 1979: Fundamentals of Meteorology, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
   5. Boucher K., 1975: Global Climates, Halstead Press, New York.
5. 5. Critchfield H. J., 1987: General Climatology, Prentice-Hall of India, New Delhi
6. 6. Das, P.K.,1968: The Monsoon, National Book Trust, New Delhi.
7. 7. Hobbs, J.E.,1980: Applied Climatology, Butterworth.
8. 8. Lal, D.S.,1998: Climatology, Sharda Pustak Bhawan, Allahabad.
9. 9. Lockwood, J.G.,1976: World Climatology-Environmental Approach, Ed. Arnold Ltd.
10. 10. Lutgens F. K., Tarbuck E. J. and Tasa D., 2009: The Atmosphere: An Introduction to
11. Meteorology, Prentice-Hall, Englewood Cliffs, New Jersey
12. 11. Menon, P. A.: Our Weather, National Book Trust
13. 12. Miller, A.A.,1953: Climatology, Dutton.
14. 13. Oliver J. E. and Hidore J. J., 2002: Climatology: An Atmospheric Science, Pearson Education, New Delhi.
15. 14. Stringer, E.N., 1982: An Introduction to Climate, International Studies.
16. 15. Thompson D. R. and Perry A. (eds.), 1997: Applied Climatology: Principles and Practice, Routledge, USA and Canada.
17. 16. Trewartha G. T. and Horne L. H., 1980: An Introduction to Climate, McGraw-Hill.
18. 17. Cox, C. B., R. Ladle, and P. D. Moore. 2016. Biogeography: An Ecological and Evolutionary Approach. John Wiley & Sons.
19. 18. Darwin, C. 1859. The Origin of Species. P. F. Collier & Son.
20. 19. Flannery, T. 2015. The Eternal Frontier: An Ecological History of North America and Its Peoples. Grove/Atlantic, Inc.
21. 20. Gavin, D. G. 2012. Biogeography. Pages 77-89 in J. P. Stoltman, editor. 21st Century Geography: A Reference Handbook. SAGE Publications, Thousand Oaks, CA.
22. 21. Jackson, S. T. 2004. Quaternary biogeography: Linking biotic responses to environmental variability across timescales. Pages 47-65 in M. V. Lomolino and L.

23. R. Heaney, editors. Frontiers of Biogeography: New Directions in the Geography of Nature. Sinauer, Sunderland, MA.
24. IKS REF: Kaushik S.D. & Rawat D.S : geographical thought & methodology, rastogi publications

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B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 2ND SEMESTER

TITLE OF THE COURSE : FUNDAMENTALS OF ECONOMIC GEOGRAPHY

Course Description:
This course introduces students to the fundamental concepts of economic geography, focusing on the dynamics of economic activities, resource utilization, and the rationale behind the spatial distribution of industries and agricultural activities. Through systematic and spatial approaches, students explore the relationship between human activities and geographical factors shaping economic landscapes.

Prerequisites: None

Course Objectives:

1. To convey an understanding of the fundamental concepts of economic geography.
2. To understand the dynamics of economic activities, resource utilization, and population pressure on resource bases.
3. To comprehend the rationale for the spatial distribution of industries and agricultural activities through locational theories.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO1: Demonstrate comprehension of the fundamental concepts of economic geography and its relevance in analysing spatial patterns of economic activities.
ILO 1.1: Define key terms and concepts in economic geography.
ILO1.2: Explain the significance of economic geography in understanding regional development patterns.
ILO 1.3: Interpret spatial data to analyse economic trends and patterns.
CO2: Apply theoretical frameworks to analyse the impact of natural resources on economic activities and assess locational factors influencing industrial and agricultural locations.
ILO 2.1: Utilize theoretical models to analyse resource distribution and its impact on economic development.
ILO 2.2: Evaluate the suitability of locations for different economic activities based on locational theories.
ILO2.3: Apply spatial analysis techniques to understand the spatial distribution of economic activities.
CO3: Analyse the dynamics of economic activities and their relationship with the natural environment, identifying patterns of resource utilization and their implications.
ILO 3.1: Analyse the impact of environmental factors on economic decision-making and resource utilization.
ILO 3.2: Compare and contrast different types of economic activities in terms of their environmental impacts.
ILO 3.3: Evaluate the sustainability of economic activities based on their environmental footprint.
CO4: Evaluate the significance of international trade and examine its role in shaping global economic networks.
ILO 4.1: Assess the role of international trade in influencing regional economic development.
ILO 4.2: Evaluate the impacts of globalization on economic landscapes and spatial patterns.
ILO 4.3: Critically analyse trade policies and their implications for economic geography.
CO5: Synthesize knowledge of locational theories to propose solutions for optimizing industrial andagricultural locations.
ILO 5.1: Design strategies for sustainable industrial and agricultural development.
ILO 5.2: Develop a comparison for spatial models to optimize resource utilization and minimize environmental impacts.
ILO 5.3: Propose policy recommendations for promoting balanced regional development.
CO6: Demonstrate an understanding of the historical development and contemporary theories in economic geography.

ILO 6.1: Trace the historical evolution of locational theories in economic geography.
ILO 6.2: Analyse case studies the application of locational theories in real-world contexts.

ILO 6.3: Evaluate the relevance of traditional and contemporary locational theories.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 2ND SEMESTER

COURSE TITLE : FUNDAMENTALS OF ECONOMIC GEOGRAPHY
COURSE CODE : GGR-GEC-3-201
NATURE OF THE COURSE : GENERIC ELECTIVE COURSE
TOTAL CREDITS : 3 CREDITS
DISTRIBUTION OF MARKS : 60 (End-Sem.) + 40 (In Sem)

UNITS	NAME	CONTENTS	L	T	P	TOTAL HOURS
1 (15 MARKS)	Introduction to Economic Geography	a. Definition, Nature and Scope of Economic Geography, b. Approaches to the study of Economic Geography: Systematic and Spatial approaches	8	3		11
2 (15 MARKS)	Introduction to Resources	a. Resource; Concept and Resource creating factors. b. Classification and Types of resources. c. Functional Theory of Resources d. Concept of resource conservation	8	4		12
3 (15 MARKS)	Economic Activities	a. Effect of Natural Environment on Economic Activities, b. Classification of economic activities: Primary, Secondary, Tertiary, Quaternary and Quinary activities.	6	4		10
4 (15 MARKS)	Geography of agriculture and industry	a. World Distribution and production of crops –rice, tea and cotton b. World Distribution and production of iron and steel, cotton textile, and automobile	8	4		12
		TOTAL	30	15		45

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: (40 Marks)

- **Two Internal Examination - 30 Marks**

- **Others (Any one) - 10 Marks**
  - Group Discussion
  - Seminar presentation on any of the relevant topics
  - Debate

Suggested Readings:

1. Alexander J. W., 1963: Economic Geography, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Bagchi-Sen S. and Smith H. L., 2006: Economic Geography: Past, Present and Future, Taylor and Francis.
3. Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A
4. Contemporary Introduction, Wiley-Blackwell.
5. Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press9. Clark, Gordon L.; Feldman,
6. M.P. and Gertler, M.S., eds. 2000: The Oxford6.
7. Durand L., 1961: Economic Geography, Crowell
8. Gautam A.: Economic Geography:
9. Hodder B. W. and Lee Roger, 1974: Economic Geography, Taylor and Francis.
10. Wheeler J. O., 1998: Economic Geography, Wiley.
11. Willington D. E., 2008: Economic Geography, Husband Press.

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 2ND SEMESTER

TITLE OF THE COURSE : DISASTER MANAGEMENT

Course Description:

The Disaster Management course under the B.A./B.Sc. in Geography program introduces students to the fundamental concepts of hazards, disasters, risk, and vulnerability. It delves into the causes, impacts, and distribution of both natural and manmade disasters, with a focus on those prevalent in India. The course emphasizes response strategies, mitigation techniques, and community-based disaster management approaches. Through theoretical learning and practical fieldwork, students gain insights into disaster preparedness, response protocols, and the role of indigenous knowledge in mitigating disasters.

Prerequisites:
There are no specific prerequisites for this course, although a basic understanding of geography, environmental science, or related disciplines would be beneficial.

Course Objectives:
1. To familiarize students with the concepts of hazards, disasters, risk, and vulnerability.
2. To explore the causes, impacts, and distribution of natural and manmade disasters, with a focus on those affecting India.
3. To introduce students to response and mitigation strategies employed in disaster management.
4. To emphasize the importance of preparedness, both at individual and community levels, before and after disasters.
5. To plant an understanding of the do's and don'ts during and post-disaster situations.
6. To engage students in practical fieldwork to apply theoretical knowledge in assessing and addressing various types of disasters.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO1: Define and classify disasters according to their nature and impact.
ILO 1.1: Define hazards, disasters, risk, and vulnerability, distinguishing between various types of disasters.
ILO 1.2: Classify disasters based on their causes and impacts.
ILO 1.3: Identify and categorize different types of disasters encountered globally and within India.
CO2: State the causes, impacts, and distribution of disasters in India.
ILO 2.1: Explain the causes behind prevalent disasters such as floods, landslides, droughts, earthquakes, tsunamis, and cyclones in India.
ILO 2.2: State the socio-economic and environmental impacts of these disasters on affected regions and communities.
ILO 2.3: Evaluate the distribution patterns of disasters across different geographical regions of India.
CO3: Evaluate response and mitigation strategies employed in disaster management.
ILO 3.1: Annalyse the concepts of response and mitigation in disaster management.
ILO 3.2: Critically justify the effectiveness of various response and mitigation strategies employed during and after disasters.
ILO 3.3: Propose mitigation measures for specific disaster scenarios.
CO4: Develop preparedness plans and protocols for disaster situations.
ILO 4.1: Apply their knowledge to develop preparedness plans for different types of disasters.
ILO 4.2: Synthesize information to create comprehensive disaster preparedness protocols.
ILO 4.3: Evaluate the adequacy and effectiveness of preparedness plans in mitigating disaster risks.
CO5: Demonstrate effective communication and leadership skills in disaster scenarios.
ILO 5.1: Demonstrate effective communication skills in disseminating disaster-related information to communities.
ILOP 5.2: Analyse the role of leadership in coordinating disaster response and mitigation efforts.
ILO 5.3: Find strategies for effective communication and leadership during disasters.
CO6: Apply theoretical knowledge in practical fieldwork to assess and address various types of disasters. **ILO 6.1:** Application of theoretical concepts learned in class to practical fieldwork scenarios.
ILO 6.2: Analyse real-world disaster scenarios during fieldwork and propose appropriate solutions.

ILO 6.3: Evaluate the effectiveness of their practical interventions in mitigating disaster impacts.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 2nd SEMESTER

TITLE OF THE COUR : DISASTER MANAGEMENT
COURSE CODE : GGR-SEC-3-201
NATURE OF THE COURSE : SKILL ENHANCEMENT COURSE
(SEC)TOTAL CREDITS : 3 CREDITS (1+2=3)
DISTRIBUTION OF MARKS : 60 (End Sem) (20T+40P) + 40 (In Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (15 marks)	Disasters	a. Concepts Hazard, Disaster, Risk and Vulnerability b. Types of disaster : Natural (flood, landslide, cyclone) Manmade (industrial, transportational, war)	9	1		10
2 (15 marks)	Disasters in India	a. Disasters in India: Flood, Earthquake Tsunami and Cyclone: Causes, Impact and Distribution	9	1		10
3 (15 marks)	Management of Disasters in Indian context	a. Response and Mitigation to Disasters: Preparedness, Mitigation, adaptation, role of NDMA and NIDM in disaster management; Indigenous Knowledge and Community-Based Disaster Management practices; Do's and Don'ts during and PostDisasters.	9	1		10
4 (15 marks)	Field Work (Practical)	a. Field Work (Flood, Landslide, Earthquake,Cyclone and Manmade Disaster) b. Demonstration based learning of disaster management skill through (NDRF/SDRF/Redcross Society. Etc.)		2	43	45
		TOTAL	**27**	**5**	**43**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: **40 Marks**

Two Internal Examination - **20 Marks**

Others (Any one) - **10 Marks**

- Group Discussion
- Seminar presentation on any of the relevant topics
- Debate
- Home assignment

Practical : **10 Marks**

Suggested Readings :

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi. Chapter 1, 2 and 3
5. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
7. Stoltman, J.P. et al. (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.
8. Singh Jagbir (2007) “Disaster Management Future Challenges and Opportunities”, 2007. Publisher I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

SEMESTER III

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE : ENVIRONMENTAL GEOGRAPHY

Course Description:

This course delves into Environmental Geography, exploring its concepts, principles, and the intricate relationship between humans and their environment. It covers the fundamentals of ecology, ecosystem dynamics, environmental degradation, conservation efforts, and sustainable development practices.

Prerequisites: Basic understanding of geography and ecological principles.

Course Objectives:

1. Understand the fundamental concepts, scope, and developments in environmental geography.
2. Analyse the structure, functions, and dynamics of ecosystems, along with their distribution patterns.
3. Explore the intricate relationship between human activities and the environment across various biomes.
4. Examine the causes, impacts, and measures for mitigating environmental degradation.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs)
CO1: Demonstrate a comprehensive understanding of environmental geography principles and concepts.
ILO 1.1: Identify key concepts in environmental geography.
ILO 1.2: Define the scope and nature of environmental geography.
ILO 1.3: Recall the developments in the field of environmental geography.
CO2: Interpret the principles of ecology and their application in understanding ecosystems.
ILO 2.1: Explain the principles governing ecological systems.
ILO 2.2: Interpret the structure and function of ecosystems.
ILO 2.3: Discuss the significance of ecological dynamics in environmental studies.
CO3: Apply ecological concepts to analyse the relationships between human activities and the environment.
ILO 3.1: Apply ecological principles to analyse human-environment interactions.
ILO 3.2: Evaluate the impact of human activities on different biomes.
ILO 3.3: Propose adaptive strategies for sustainable human-environment coexistence.
CO4: Analyse environmental degradation processes and evaluate conservation strategies.
ILO 4.1: Analyse the causes and consequences of environmental degradation.
ILO 4.2: Evaluate conservation efforts for water, soil, forests, and marine ecosystems.
ILO 4.3: Critically assess environmental policies and their effectiveness.
CO5: Integrate knowledge from field observations to propose solutions for environmental challenges.
ILO 5.1: Synthesize field observations to identify environmental issues.
ILO 5.2: Generate hypotheses for addressing environmental problems.
ILO 5.3: Develop action plans for environmental conservation based on collected data.
CO6: Evaluate the effectiveness of environmental protection policies and practices.
ILO 6.1: Critique environmental protection policies for their efficacy.
ILO 6.2: Assess the impact of environmental impact assessments (EIA).
ILO 6.3: Formulate recommendations for promoting sustainable development practices.

TITLE OF THE COURSE : ENVIRONMENTAL GEOGRAPHY
COURSE CODE : GGR-MAJ-4-301
NATURE OF THE COURSE : MAJOR
TOTAL CREDITS : 4 CREDITS (3+1=4)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In-Sem.)

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Environmental Geography	a. Definition , nature and scope of environmental geography. b. Significance of Environmental Geography **c. Perspectives on Indian Knowledge System on environment.**	12	3	-	15
2 (15 Marks)	Ecosystem	a. Ecosystem: Concept, types; Structure and Functions of pond and forest ecosystem, Food chain, Food web, Trophic level b. Man as an agent of ecosystem change	12	3	-	15
3 (15 Marks)	Environmental Degradation	a. Environmental degradation : meaning, types (deforestation, air, water, land pollution) ; associated consequences (biodiversity loss and human health concern) b. Policies of Environmental protection &conservation; c. Concept of EIA and Sustainable Development	12	3	-	15
4 (15 Marks)	Practical	• Preparation and submission of Report based on Environmental policies /field observation/ secondary data relating to specific environmental issues		2	43	45
		TOTAL	**36**	**11**	**43**	**90**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks
· **Two Internal Examination - 20 Marks**
· **Others (Any one) - 10 Marks**
o Group Discussion
o Seminar presentation on any of the relevant topics
o Debate
· **Practical : 10 Marks**

Suggested Readings:
1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480 p.

2. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.
3. Mckinney, M.L. & School, R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition. 639 p.
4. Mhaskar A.K., Matter Hazardous, Techno-Science Publication (TB) n) Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB)
5. Odum, E.P., Odum, H.T., and Andrews, J. (1971). Fundamentals of Ecology. Saunders, Philadelphia, USA.
6. Raven, P.H, Hassenzahl, D.M., Hager, M.C, Gift, N.Y., and Berg, L.R. (2015). Environment, 8thEdition. Wiley Publishing, USA.
7. Singh, J.S., Singh, S.P., and Gupta, S.R. (2017). Ecology, Environmental Science and Conservation. S.Chand Publishing, New Delhi. Chapter 1 (Page: 3-28)

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE :FUNDAMENTALS OF REMOTE SENSING AND GIS

Course Description

Remote Sensing and GIS in Geography offers a comprehensive exploration of remote sensing and Geographic Information Systems (GIS) as integral tools in geographic analysis. The course covers fundamental principles of remote sensing, including electromagnetic radiation, sensor technology, and image processing techniques. Students will gain hands-on experience in GIS software for spatial data management, analysis, and visualization, nhancing their capability to apply remote sensing and GIS in addressing real-world geographic problems such as land-use change, resource management, and urban planning. Through critical engagement with current research and practical applications, students will develop proficiency in both technical skills and the communication of complex geospatial concepts.

Prerequisites There are no formal prerequisites for this course, but a foundational understanding of geography and basic computer skills is recommended.

Course Objectives :

1. Understand Remote Sensing Principles: Comprehend the principles of remote sensing, including the properties of electromagnetic radiation, sensors, and platforms.
2. Analyze Remote Sensing Data: Utilize image processing techniques to enhance, classify, and interpret remote sensing data.
3. Understand GIS Principles: Grasp the fundamentals of GIS, including data management, spatial analysis, and cartography.
4. Apply GIS Software: Employ GIS software to manage, analyze, and visualize spatial data, integrating remote sensing information. Solve Geographic Problems: Apply remote sensing and GIS techniques to address geographic issues such as land-use change, resource management, and urban planning.

Course Outcomes (Cos) and Intended Learning Outcomes (ILOs):
Students will be able to
CO1: Describe the fundamental concepts, components and historical development of remote sensing
ILO 1.1: Define remote sensing and explain its significance in geographic studies.
ILO 1.2: Identify key components and platforms used in remote sensing.
ILO 1.3: Outline the historical milestones in the development of remote sensing technology.
CO2: Analyse and interpret remote sensing data using digital image processing techniques.
ILO2.1: Differentiate between types of digital images and their characteristics.
ILO 2.2: Explain the steps involved in digital image processing.
ILO 2.3: Perform image enhancement and classification using appropriate software tools.
CO3: Explain the principles of GIS, including the management and analysis of spatial and non-spatial data.
ILO 3.1: Define GIS and discuss its core components and functions.
ILO 3.2: Differentiate between raster and vector data structures and their applications.
ILO 3.3: Describe methods for collecting and geo-referencing spatial data.
CO4: Utilize GIS software to create, manage, and analyse spatial data, including the integration of remote sensing data.
ILO 4.1: Import and manipulate raster and vector data within a GIS interface,
ILO 4.2: Create and edit shapefiles, and perform spatial analysis such as buffering.
ILO 4.3: Conduct GIS-based data visualization and interpretation.
CO5: Apply remote sensing and GIS techniques to practical geographic problems, such as land-use change detection.
ILO 5.1: Identify appropriate remote sensing and GIS methods for specific geographic problems.
ILO 5.2: Analyse and interpret satellite images for landform and land-use analysis;

ILO 5.3: Develop GIS-based solutions for resource management and urban planning challenges.
CO6: Critically evaluate and communicate remote sensing and GIS research and findings effectively.
ILO 6.1: Review and critique recent literature on remote sensing and GIS methodologies.
ILO 6.2: Prepare and present research findings clearly and concisely.
ILO 6.3: Write comprehensive reports and papers on remote sensing and GIS applications.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE : FUNDAMNETALS OF REMOTE SENSING AND GIS
COURSE CODE : GGR-MAJ-4-302
NATURE OF THE COURSE : MAJOR
TOTAL CREDITS : 4 CREDITS (3+1=4)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In-Sem.)

UNITS	NAME	CONTENT	L	T	P	Total Hours
1 (15 Marks)	Remote Sensing	a. Meaning of Remote Sensing, Components, Historical Development. b. Types of Remote sensing (Air borne, space borne) Platforms and Types of Satellites, Sensors, Orbit; Resolution of remote sensing data c. Principles of Remote Sensing : Electromagnetic Spectrum, Atmosphere and Surface interaction	12	3		15
2 (15 Marks)	GIS	a. Definition of GIS, Components, Historical Development. b. Spatial and Non-spatial Data, Raster and Vector Data Structure. c. Concept of Geo-referencing of topographical map (raster image). Concept of Spatial Data: Point, Line, Polygon features.	12	3		15
3 (15 Marks)	Image Interpretation and Digital Image processing	a. Elements of image interpretation; Image interpretation: visual and digital. b. Digital image processing: unsupervised and supervised classification.	12	3		15
4 (15 Marks)	Practical	a. Visual interpretation of satellite image and air photo b. Georefencing of toposheet using open source, GIS software c. Digitization of point, line, polygon feature and generation of attribute data including length / area		2	28	30

		calculation d. Image interpretation using unsupervised classification e. Thematic map composition				
		TOTAL	**36**	**11**	**28**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks

· **Two Internal Examination - 20 Marks**

· **Others (Any one) - 10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical : 10 Marks**

Suggested Readings:

1. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen, J.R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
3. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
4. Lillesand, T.M., Kiefer, R.W. and ChipmanJ.W.,2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
5. Nag, P. and Kudra, M.,1998: *Digital Remote Sensing*, Concept, New Delhi.
6. Rees, W.G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
7. Singh, R.B. and Murai, S.,1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
8. Wolf, P.R. and Dewitt, B.A.,2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw-Hill.
9. Sarkar, A. (2015): Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
10. Chauniyal, D.D. (2010) Sudur SamvedanevamBhogolik Suchana Pranali, Sharda Pustak Bhawan, Allahabad.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE : HUMAN, SOCIAL AND CULTURAL GEOGRAPHY
COURSE CODE : GGR-MIN-4-301
NATURE OF THE COURSE : MINOR
TOTAL CREDITS : 4 CREDITS (3+1)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In-Sem.)

Course Objectives:

- To introduce fundamental concepts in Human, Social, and Cultural Geography.
- To explore various approaches and schools of thought in geographical studies and their significance.
- To comprehend spatial distribution and address social issues related to key components of geography.
- To develop practical skills in using statistical and graphical techniques for geographical analysis.

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Human Geography	a. Definition, Nature, Major Subfields, Contemporary Relevance. b. Schools: Determinism, Possibilism and Neo-Determinism. c. Human development index: Developed, developing and Underdeveloped countries, problems and prospects	12	3		15
2 (15 Marks)	Social Geography	a. Definition, Nature and Scope of Social Geography. b. Concept and types of space in Social Geography. c. Society and environment. d. Social problems in India: Education, Health, Gender, Housing and Crime.	12	3		15
3 (15 Marks)	Cultural Geography	a. Definition, nature and scope of Cultural Geography. b. Cultural Regions of the World. **c. Varna system in ancient India.** d. Cultural diffusion: meaning, factors affecting cultural diffusion.	12	3		15
4 (15 Marks)	Practical in Human Geography	a. Age–Sex Pyramid (Developed and Developing), sex disparity map (India and North East India). b. Human development index: developed, developing and Under-developed countries (through histogram, line graph and pie diagram).	8	2	20	30
		TOTAL	**44**	**11**	**20**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks

· **Two Internal Examination - 20 Marks**

· **Others (Any one) - 10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical : 10 Marks**

Suggested Readings:

1. Smith, David M. (1977): Human Geography- A Welfare approach, Arnold-Hinmann, London. 11.
2. Hussain, Majid (1994): Human Geography, Rawat Publications, Jaipur.
3. Ahmed, A, (1999) Social Geography, Rawat publications, Jaipur.
4. Registrar General of India, (1972), Economic and Socio-cultural Dimensions of
5. Regionalization of India, Census Centenary Monograph No 7, New Delhi.
6. Ahmad, A, (1993) (ed) Social Structure and regional Development: A Social Geography
7. Perspective, Rawat Publications, Jaipur.
8. Sen, J, (2012) Social and Cultural Geography, Kalyani Publishers, New Delhi.
9. Subba Rao B. (1958), 'Personality of India', MS University Press, Baroda.
10. Pain R, M. Barke, D Fuller, J Gough, R MacFarlane, G Mowl, (2001), Introducing Social
11. Geographies, Arnold Publishers, London.
12. 8. Dutt NK., (1986), Origin and Growth of Caste in India, Firma Kin, Calcutta.
13. 9. Taher, M, (2017), Social Geography, Ashok Book Stall, Guwahati.
14. Sopher D. (1980) (ed) 'An Exploration of India: Geographical Perspectives on Society and Culture', Cornell Press, New York.

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE : PHYSICAL GEOGRAPHY

Course Description:

The Physical Geography course introduces students to the fundamental concepts and processes governing the Earth's physical environment. It covers topics such as the Earth's structure, atmosphere, lithosphere, biosphere, and hydrosphere. Through theoretical study and practical applications, students gain an understanding of Earth systems and their interconnectedness.

Prerequisites: No specific prerequisites are required.

Course Objectives:

1. To explain the concept, definition, and scope of earth systems.
2. To understand the atmospheric composition and structure.
3. To acquire knowledge about the interior of the earth and its interior movements.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
students will be able to:
CO1: Define Physical Geography and its scope.
ILO1.1: Identify and list the key components of Physical Geography.
ILO 1.2: Explain how Physical Geography differs from other branches of geography.
ILO 1.3: Apply the concepts of Physical Geography to analyse real-world phenomena.
CO2: Describthe composition and structure of the atmosphere.
ILO 2.1: Explain the composition of the Earth's atmosphere in terms of gases.
ILO 2.2: Illustrate the vertical structure of the atmosphere.
ILO 2.3: Compare and contrast the characteristics of different atmospheric layers.
CO3: Classify different types of air masses and explain their modifications.
ILO 3.1: Classify air masses based on their source regions and characteristics.
ILO 3.2: Describe the process of air mass modification.
ILO 3.3: Analyse the influence of air masses on weather patterns in different regions.
CO4: Identify and differentiate between various types of Earth movements.
ILO 4.1: Identify the different types of Earth movements, such as orogenic and epeirogenic.
ILO 4.2: Differentiate between volcanic and seismic activities.
ILO 4.3: Interpret maps and diagrams showing Earth's tectonic activities.
CO5: Explain the concept of the hydrological cycle and its significance.
ILO 5.1: Describe the stages of the hydrological cycle.
ILO 5.2: Discuss the importance of the hydrological cycle in shaping landscapes.
ILO 5.3: Evaluate human impacts on the hydrological cycle and associated ecosystems.
CO6: Analyse the causes and consequences of sea level changes.
ILO 6.1: Identify natural and anthropogenic causes of sea level changes.
ILO 6.2: Evaluate the impact of sea level changes on coastal regions and ecosystems.
ILO 6.3: Propose mitigation strategies to address the effects of sea level rise

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LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE : PHYSICAL GEOGRAPHY
COURSE CODE : GGR-GEC-3-301
NATURE OF THE COURSE : GENERIC ELECTIVE COURSE (GEC)
TOTAL CREDIT : 3 CREDITS
DISTRIBUTION OF MARKS : 60 (End Sem) + 40 (In-Sem)

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 **(**10 marks)	Introduction to Physical Geography	a. Physical Geography: Definition, Nature and Scope. b. Earth and its Components	5	1		6
2 **(**18marks)	Atmosphere	a. Atmosphere- Definition, composition, structure b. Temperature; Factors and Distribution Insolation, Heat Budget c. Air masses: source regions, classification and modifications d. Cyclone: Concept and types	12	1		13
3 **(**17 marks)	Lithosphere and Biosphere	a. Earth's Interior and Structure. b. Earth Movements: Orogenic and Epeirogenic c. Earthquakes and Volcanoes (Distribution, causes, effects). d. Soil and soil forming processes	12	1		13
4 **(**15 marks)	Hydrosphere	a. Concept of Hydrological Cycle b. Ocean water movement: Currents (types); El Nino and La Nina c. Sea level changes: causes and consequences.	12	1		13
		TOTAL	**41**	**4**		**45**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks

· **Two Internal Examination - 30 Marks**

· **Others (Any one) - 10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate
- o Home assignment

1. Barry, R.G. and Chorley, R.J. (1998). Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001). Physical Geography Made Simple Rupa and Co., New Delhi.
3. Bunnett, R.B. (2003). Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Pvt Ltd.
4. Garrison T (1998). Oceanography. Wordsworth Cp, Bedmont.
5. Lake, P. (1979). Physical Geography (English & Hindi Edition) Cambridge Univ. Press, Cambridge.
6. Monkhouse, FI (1979). Physical Geography, Methuen, London.
7. Singh, S. (2003). Physical Geography (English and Hindi Editions) Prayag Pustak Bhawan, Allahabad.
8. Singh, M.B. (2001) BhoutikBhoogol, Tara Book Agency, Varanasi.
9. Strahler, A.N. and Strahler A.M. (1992). Modern Physical Geography, John Wiley and Sons, New York

10. Wooldridge, S.W. and Morgan, R.S. (1959). The Physical Basis of Geography: An Outline of Geomorphology. Longman, London.

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE : FIELD STUDY ON HAZARD AND DISASTER

Course Description:

This course, Field Study on Hazards and Disaster, equips students with essential skills for conducting geographical field studies. It covers various methods of data collection, including primary and secondary techniques, and emphasizes the preparation and presentation of comprehensive field reports using digital media.

Prerequisites: None.

Course Objectives:

1. Enhance understanding of field study concepts, data types, and their significance in geographical research.
2. Develop proficiency in techniques for collecting primary data, preparing questionnaires, and processing and analysing data systematically. · Foster the ability to construct field reports, incorporating quantitative techniques, diagrams, maps, and photographs for effective communication. Cultivate practical skills in conducting field studies, collecting data, and preparing comprehensive reports.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs): students will be able to:

CO1: Demonstrate field study concepts and data types through analysis and interpretation.
ILO 1.1: Identify different types of geographical data.
ILO 1.2: Explain the significance of field study in geographical research.
ILO 1.3: Classify techniques for collecting primary and secondary data.
CO2: Illustrate data collection techniques and processes through practical application.
ILO 2.1: Apply appropriate techniques for primary data collection.
ILO 2.2: Analyse data tabulation, processing, and analysis methods.
ILO 2.3: Interpret the preparation of questionnaires and schedules for field research.
CO3: Apply theoretical knowledge to design comprehensive field reports.
ILO 3.1: Design field study reports with clear aims, objectives, and methodology.
ILO 3.2: Utilize tables, charts, diagrams, maps, and photographs effectively in field reports.
ILO 3.3: Implement digital media for enhanced presentation and dissemination of findings.
CO4: Analyse the components and structure of field reports.
ILO 4.1: Evaluate the structure of field study reports for coherence and clarity.
ILO 4.2: Critically assess the use of visual aids in data representation.
ILO 4.3: Compare and contrast different methods of field data interpretation.
CO5: Create filed report by synthesizing theoretical knowledge and practical skills.
ILO 5.1: Synthesize theoretical concepts with practical fieldwork experience.
ILO 5.2: Develop innovative approaches to data collection and analysis.
ILO 5.3: Integrate various media formats for impactful report presentation.
CO6: Evaluate the effectiveness of field study methodologies and reporting techniques for geographical research.
ILO 6.1: Critique the strengths and limitations of different data collection methods.
ILO 6.2: Assess the reliability and validity of field study findings.
ILO 6.3: Propose improvements to enhance the quality and rigor of field research practices.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 3RD SEMESTER

TITLE OF THE COURSE	**: FIELD STUDY ON HAZARD AND DISASTER**
COURSE CODE	**: GGR-SEC-3-301**
NATURE OF THE COURSE	**: SKILL ENHANCEMENT COURSES (SEC)**
TOTAL CREDITS	**: 3 CREDITS (1+2=3)**
DISTRIBUTION OF MARKS	**: 60 (End Sem) (20T+40P) + 40 (In Sem)**

UNITS	NAME	CONTENTS	L	T	P	Total Hours
1 (10 Marks)	Introduction	a. Field study and its importance in disaster management b. Types of data relating to disaster and hazard	5	1	-	6
2 (17 Marks)	Techniques of data collection	a. Techniques of disaster related data collection: Primary and Secondary. b. Preparation of questionnaire and schedule c. Data tabulation, processing and analysis	10	2	-	12
3 (18 Marks)	Designing the field report	a. Designing the field study report: Aims and objectives, methodology and interpretation. b. Use of Tables, Charts, Diagrams, Maps and Photographs in the report	10	2	-	12
(15 Marks)	Practical	a. Field study and data collection b. Preparation and presentation of field report. c. Use of digital media		2	43	45
		TOTAL	**25**	**7**	**43**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks

· **Two Internal Examination - 20 Marks**

· **Others (Any one) - 10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate
- o Home assignment

· **Practical** : **10 Marks**

Suggested Readings :

1. Archeer, J.E. and Dalton, T.H. (1968). Fieldwork in Geography, London.
2. Jones, P.A. (1968). Fieldwork in Geography, London.
3. Gloodard, R.H., (1982). Field Techniques and Research Methods in Geography, Dubuque.
4. Wheeleso, K.S. and Harding, M., (1965). Geographical Fieldwork, London.

SEMESTER IV

BA/B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE: HUMAN, POPULATION AND SETTLEMENT GEOGRAPHY

Course Description:

This course explores the interplay between human activities and geographical phenomena, focusing on population dynamics, settlement patterns, and their implications on societal development. Through theoretical frameworks and practical applications, students examine the spatial distribution of human populations, factors influencing settlement patterns, and contemporary issues in human geography.

Prerequisites: None

Course Objectives:

1. To elucidate the interdisciplinary nature of Geography, integrating social and natural sciences.
2. To introduce fundamental concepts and themes in Human Geography and underscore their contemporary significance.
3. To analyse population dynamics including size, composition, growth, and distribution, alongside pertinent issues.
4. To classify settlements, elucidating their evolution, characteristics, and functional aspects.
5. To foster a deeper understanding and appreciation of geographical methodology and philosophical underpinnings.
6. To develop a passion for further exploration and study in Geography through engaging pedagogy and practical applications.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO1: Explain andevaluate the significance of Human Geography in societal development and identify its interdisciplinary connections.
ILO 1.1: Analyse the contributions of Human Geography to addressing contemporary societal challenges.
ILO 1.2: Assess the impact of human activities on geographical landscapes and ecosystems.
ILO 1.3: Formulate interdisciplinary approaches to complex geographical issues.
CO2: Apply theoretical frameworks to analyse population dynamics and understand their implications on regional development.
ILO 2.1: Interpret demographic data to discern trends in population growth and distribution.
ILO 1.2: Evaluate the impact of socio-economic factors on population dynamics.
ILO 1.3: Propose strategies for sustainable population management at local and global scales.
CO3: Classify settlements based on their characteristics and assess their socio-economic significance.
ILO 3.1: Analyse the factors influencing the location and morphology of rural and urban settlements.
ILO 3.2: Compare and contrast settlement patterns across different geographical regions.
ILO 3.3: Evaluatethe role of settlements in fostering economic development and social cohesion.
CO4: Utilize geographical techniques to analyse population data and settlement patterns.
IL0 4.1: Apply mapping techniques to represent population distribution and density.
ILO 4.2: Interpret demographic indicators to assess regional development disparities.
ILO 4.3: Employ spatial analysis tools to identify patterns and trends in settlement geography.
CO5: Critically examine contemporary issues in population dynamics and settlement patterns.
ILO 5.1: Assess the social, economic, and environmental implications of aging populations and declining sex ratios.
ILO 5.2: Evaluate the effectiveness of policies aimed at addressing urbanization challenges.
ILO 5.3: Propose innovative solutions to mitigate the impacts of HIV/AIDS on vulnerable populations.
CO6: Demonstrate proficiency in geographical research methods and techniques through practical applications.
ILO 6.1: Design and conduct spatial analyses to investigate population dynamics and settlement patterns.
ILO 6.2: Present research findings effectively using appropriate visual aids and data visualization techniques.
ILO 6.3: Collaborate with peers to solve real-world geographical problems and communicate findings to diverse audiences

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE : HUMAN, POPULATION AND SETTLEMENT GEOGRAPHY
COURSE CODE : GGR-MAJ-4-401
NATURE OF THE COURSE : MAJOR
TOTAL CREDITS : 4 CREDITS (3+1=4)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In-Sem.)

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Human Geography	a. Definition, Nature and Scope of Human Geography b. Man-environment relationship : Determinism, Possibilism and neo-determinism	14	2		16
2 (15 Marks)	Human Lifestyle & Races	a. Human life styles in different geographical conditions (mountainous, riverine plain , coastal and desert regions,); b. Racial Classification and major racial groups in the world distribution in the world; c. Concept of Human Welfare, Human Development and Human Development Index (HDI)	14	2		16
3 (15 Marks)	Settlement Geography	a. Settlement: Concept & Classification (rural and urban). b. Rural Settlement: Evolution, site and situational factors, patterns and types. c. Urban settlement: growth, functional classification of towns (based on population and function); d. **Perspective on Urban settlement in ancient India** e. Hierarchy of settlement, concept of Primate City & Urban Fringe, Christaller's Central Place Theory	12	1		13
4 (15 Marks)	Practical	a. Map showing rural and urban composition of population in Assam/ NE India / India b. Spatial variation in urbanization level in Assam / NE India c. Nearest neighbor analysis settlement distribution d. Rank-size relationship of urban centres e. Distribution of urban centres in Assam/ NE India using sphere		10	20	30
		TOTAL	**40**	**15**	**20**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: **40 Marks**

Two Internal Examination - **20 Marks**

· **Others (Any one) -** **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical** **10 Marks**

Suggested Readings:

1. Singh, L. R.: Fundamentals of Human Geography. Sharda Pustak Bhawan, Allahabad
2. Hussain, M.: Human Geography. Rawat Publication, Jaipur
3. Singh, Y. I.: Human Geography, Global Net Publication, New Delhi
4. Maurya, S.D.: Human Geography, Pravalika Publications, Allahabad
5. Chandna, R.C.: Population Geography, Kalyani Publisher, New Delhi
6. Clarke, J. I.: Population Geography, Pergamon Press, Oxford
7. Johnstone, R.J.: Dictionary of Human Geography, Basil Blackwell, Oxford
8. Hassan, M. I.: Population Geography, Rawat Publications, Jaipur
9. Daniel, P.A.& Hopkinson, M, F.: The Geography of Settlement, Oliver &Boyd,
10. London.IKS REF: Kaushik S.D. & Rawat D.S : GEOGRAPHICAL THOUGHT & METHODOLOGY, RASTOGI PUBLICATIONS

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE : POLITICAL GEOGRAPHY

Course Description:

This course delves into the dynamic interplay between geography and politics, exploring the origins of nations, states, and geopolitical theories. Through an interdisciplinary lens, students examine the spatial dimensions of political phenomena such as boundaries, voting patterns, and resource disputes.

Prerequisites: Completion of previous coursework in geography or related fields.

Course Objectives:

1. To conceptualize the learner in the field of political geography, including the origin of nations, states, and gerrymandering.
2. To understand international boundaries, frontiers, and their geopolitical significance.
3. To analyse geopolitical theories such as those proposed by Mahan, Mackinder, and Spykman and their relevance in contemporary global affairs.
4. To explore electoral geography and factors influencing voting behaviour.

5. To examine resource disputes, particularly water-sharing conflicts in South Asia.
6. To engage in practical exercises to apply theoretical concepts, including mapping territorial reorganization and analysing shape indices.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO 1: Understand the foundational concepts and scope of Political Geography.
ILO 1.1: Define the key concepts and scope of Political Geography.
ILO 1.2: Describe various approaches to studying Political Geography.
ILO 1.3: Analyse the nature and significance of Political Geography in contemporary geopolitical contexts.
CO 2: Analyse geopolitical theories and their historical evolution**.**
ILO 2.1: Explain the concept and evolution of Geopolitics.
ILO 2.2: Summarize the geostrategic theories of Mahan, Mackinder, and Spykman.
ILO 2.3: Compare the applications and implications of these theories in moderngeopolitical scenarios.
CO 3: Examine the elements and geographical attributes of states and nation-states**.**
ILO 3.1: Identify the key elements of a state and its geographical attributes (size, shape, location).
ILO 3.2: Analyse factors contributing to nation-building and the formation of nation-states.
ILO 3.3: Assess the implications of these attributes on the political stability and identity of states.
CO 4: Evaluate the concepts of frontiers, boundaries, and their functions in the context of Political Geography.
ILO 4.1: Define the concepts of frontiers and boundaries.
ILO 4.2: Classify different types of boundaries and their functions.
ILO 4.3: Evaluate how boundaries influence political relationships and conflicts.
CO 5: Apply practical knowledge through map analysis and shape index calculations related to political reorganization and territorial disputes.
ILO 5.1: Create and interpret maps showing the reorganization of North East India.
ILO 5.2: Use the Chorley and Haggett method to calculate and analyse shape indices.
ILO 5.3: Map and interpret the territories of major Autonomous Councils in Assam and their political significance.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE	**:**	**POLITICAL GEOGRAPHY**
COURSE CODE	**:**	**GGR-MAJ-4-402**
NATURE OF THE COURSE	**:**	**MAJOR**
TOTAL CREDITS	**:**	**4 CREDITS (3+1=4)**
DISTRIBUTION OF MARKS	**:**	**60 (End-Sem.) (45T+15P) + 40 (In-Sem.)**

UNIT	NAME	CONTENTS	L	T	P	Total Hours

1 (15 Marks)	Conceptual Basis of Political Geography	a. Definition, Nature, Scope and approaches to Political Geography. b. State: Concept, elements; Geographical attributes of state: size, shape, location. c. Nation: Concept, nation building factors, nation state. d. Frontier: Concept and types; Boundary: Concept, functions, types, classification. e. **Perspectives on politico-administrative organization in ancient India.**	12	2	-	14
2 (15 Marks)	Geopolitical Theories	a. Geopolitics: Concept and its evolution. b. Geostrategic Theories of Mahan, Mackinder and Spykman.	12	2	-	14
3 (15 Marks)	Electoral Studies in Geography and Resource Disputes	a. Electoral Geography: Concept and its importance in geography. b. Factors influencing voting behaviour c. Gerrymandering d. Water Sharing Disputes: International (India, Pakistan and Bangladesh)	15	2	-	17
4 (15 Marks)	Practical	a. Map of reorganization of North East India (1951, 1971, 1991) b. Shape Index by Chorley and Haggett method: India (Pre-Independent and Post- Independent), Chile and France. c. Map showing the territory of the major Autonomous Councils of Assam. d. Mapping of voting results: India (Loksabha) and Assam (Bidhan Sabha)		4	26	30
		TOTAL	39	10	26	75

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: **40 Marks**

· **Two Internal Examination -** **20 Marks**

· **Others (Any one) -** **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical -** **10 Marks**

Suggested Reading:

1. Adhikari, Sudipta: Political Geography, Rawat Publication, New Delhi.
2. Adhikari, Sudipta: Political Geography of India, Sarda Pushtak Bhawan,
3. Cox, K.,2002: Political Geography, Wiley Blackwell
4. Dikshit, R.D. (1999): Political Geography, A Contemporary Perspectives, Tata McGrow, Hill, New Delhi.
5. Hazarika, Joysankar, (1996) Geopolitics of North East India- A Strategical Study. Gyan Publishing House, New Delhi.
6. Muir, R. (1976): Modern Political Geography, MacMillan, London.
7. Taylor, Peter (1985): Political Geography.
8. IKS REF: Kaushik S.D. & Rawat D.S : GEOGRAPHICAL THOUGHT & METHODOLOGY, RASTOGI PUBLICATIONS

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE : STATISTICAL METHODS IN GEOGRAPHY

Course Description:

This course introduces students to the fundamental principles of statistical methods as applied in geography. It covers the significance and limitations of statistical methods in geography, various data collection techniques, measures of central tendency and dispersion, correlation and regression analysis, and practical applications of statistical techniques in geographical data analysis.

Prerequisites: None

Course Objectives:

1. Understand the importance of data in Geography.
2. Learn methods and techniques of data collection, tabulation, interpretation, and analysis.
3. Apply basic statistical measures to geographical data.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO1: Recall and comprehend the significance of statistical methods in Geography.
ILO 1.1: Describe the importance of statistical methods in geographic research.
ILO 1.2: Explain the limitations of statistical techniques in geographical analysis.
ILO 1.3: Identify different types and sources of geographical data.
CO2: Demonstrate understanding of various statistical measures and their applications in geographical data analysis.
ILO 2.1: Summarize the methods and techniques of data collection in Geography.
ILO 2.2: Explain the concept of scale of measurement and its implications in data analysis.
ILO 2.3: Interpret measures of central tendency and dispersion in the context of geographical data.
CO3: Apply statistical methods to analyse geographical data and draw meaningful conclusions.
ILO 3.1: Apply sampling techniques to collect representative geographical data.
ILO 3.2: Utilize correlation and regression analysis to explore relationships between geographical variables.
ILO 3.3: Apply graphical representation techniques to present geographical data effectively.
CO4: Analyse geographical data using statistical tools to identify patterns and trends.
ILO 4.1: Analyse frequency distributions and histograms to understand data distribution.
ILO 4.2: Evaluate the relationship between variables using correlation coefficients.
ILO 4.3: Interpret residual maps to assess the goodness of fit in regression analysis. **CO5:** Integrate statistical methods with geographic principles to solve real-world problems.
ILO 5.1: Design effective sampling strategies for specific geographic research objectives.
ILO 5.2: Synthesize findings from correlation and regression analyses to make informed geographic decisions.
ILO 5.3: Develop variability maps to visualize spatial patterns in geographical data.
CO6: Evaluate the appropriateness and effectiveness of statistical methods in addressing geographic research questions.
ILO 6.1: Critique the strengths and weaknesses of different data collection techniques in Geography.
ILO 6.2: Evaluate the reliability of correlation and regression analyses in different geographic contexts.
ILO 6.3: Assess the utility of statistical measures in supporting evidence-based decisionmaking in Geography

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE	**: STATISTICAL METHODS IN GEOGRAPHY**
COURSE CODE	**: GGR-MAJ-4-403**
NATURE OF THE COURSE	**:MAJOR**
TOTAL CREDITS	**:4 CREDITS (3+1)**
DISTRIBUTION OF MARKS	**:60 (End-Sem.) (45T+15P) + 40 (In-Sem.)**

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Introduction to Statistical Methods	a. Statistical methods in Geography- significance and limitations. b. Geographical Data: Nature, types and sources. c. Scale of measurement- Nominal, Ordinal, Interval and Ratio.	10	3	-	13
2 (15 Marks)	Measures of Central Tendency and Dispersion	a. Central tendency: Mean, median (partitioned values) and mode and their usefulness in geographical analysis. b. Dispersion: Range, quartile deviation, mean deviation, standard deviation and coefficient of variation- their application in geographical data analysis. c. Introduction to skewness and kurtosis	13	3	-	16
3 (15 Marks)	Data collection techniques and analysis	a. Sampling and its types: Purposive, random, systematic and stratified. b. Correlation: Meaning, coefficient of correlation (Spearman's rank correlation,Pearson's product moment correlation. c. Regression analysis: Simple linear regression and Residuals from regression.	13	3	-	16
4 (15 Marks)	Practical on statistical methods	a. Tabulation/Grouping of data for preparing frequency distribution table, preparation ofHistogram, Frequency Polygon and Frequency Curve. b. Computation of mean, median and mode (grouped and ungrouped data) and their graphical representation. c. Preparation of scatter diagram and fitting the line of linear regression of Y on X for a set of bi-variate data; residual map. d. Variability map using co-efficient of variation.		2	28	30
		TOTAL	**36**	**11**	**28**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: 40 Marks

· **Two Internal Examination - 20 Marks**

· **Others (Any one) - 10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical - 10 Marks**

Suggested Readings:

1. Mahmood A.,1999, Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
2. Berry B.J.L. and Marble D.F. (eds): Spatial Analysis-A Reader in Geography.
3. Hammond P. and McCullagh P.S., 1978: Quantitative Techniques in Geography: An Introduction, Oxford University Press.
4. Sarkar, A., (2013) Quantitative Geography. Techniques and Presentations. Orient Black Swan Private Ltd., New Delhi.
5. Elhance, D.N., 1972: Fundamentals of Statistics, Kitab Mahal, Allahabad.
6. King L, S., 1969: Statistical Analysis in Geography, Prentice Hall.
7. Yeates M.,1974: An Introduction to Quantitative Analysis in Human Geography, McGraw Hills, New York.
8. Gregory, S., 1963: Statistical Methods and Geographers, Longman, London.

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE : BIOGEOGRAPHY AND OCEANOGRAPHY

Course Description:

This course delves into the interdisciplinary study of Biogeography and Oceanography, exploring the distribution patterns of plants and animals in relation to environmental factors, and the dynamic nature of oceanic systems. Through theoretical learning and practical applications, students gain insights into the intricate connections between ecosystems, climate, soil, oceanography, and human activities.

Prerequisites: None

Course Objectives:

1. To introduce and enhance the learner's understanding of Biogeography and Oceanography and their fundamental concepts.
2. To acquaint undergraduate students with the principles, theories, and applications of Biogeography and Oceanography.
3. To equip students with the knowledge and skills to understand the interactions between life distribution and human activities.
4. To enable students to comprehend the ocean's dynamics and coastal environments.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):

Students will be able to:

CO1: State the principles and significance of Biogeography and Oceanography.

ILO 1.1: Identify different biogeographic regions and explain their characteristics.
ILO 1.2: Describe the significance of oceanography in understanding Earth's processes.
ILO 1.3: Explain the relationship between climate, soil, and the distribution of plants and animals.
CO2: Analyse the distribution patterns of plants, animals, and soil types.
ILO 2.1: Analyse world distribution patterns of plants and animals in relation to climate and human activities.
ILO 2.2: Classify and explain the distribution of major soil types, particularly in India and Assam.
ILO 2.3: Interpret the significance of soil erosion and conservation measures.
CO3: Evaluate the ocean floor configurations and oceanographic phenomena.
ILO 3.1: Describe the configuration of the ocean floor and its significance.
ILO 3.2: Analyse the salinity, temperature, and currents of different ocean basins.
ILO 3.3: Evaluate theories explaining the origin of coral reefs and atolls.
CO4: Apply mapping techniques in Biogeography and Oceanography.
ILO 4.1: Map phytogeographic and zoogeographic regions of the world.
ILO 4.2: Create maps depicting protected areas in Assam/North East India/India.**ILO 4.3:** Construct hypsometric and bathymetric curves for specific regions.
CO5: Synthesize knowledge of interactions between life distribution and human activities.
ILO 5.1: Analyse the impact of human activities on the distribution of plants and animals.
ILO 5.2: Evaluate the role of conservation efforts in preserving biodiversity.
ILO 5.3: Assess the implications of human-induced changes on coastal and marine environments.
CO6: Demonstrate practical skills in Biogeography and Oceanography.
ILO 6.1: Conduct fieldwork to observe and document biogeographic and oceanographic features.
ILO 6.2: Apply practical techniques in soil analysis and mapping of marine resources.
ILO 6.3: Utilize GIS tools and software for spatial analysis and mapping exercises.

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE : BIOGEOGRAPHY AND OCEANOGRAPHY
COURSE CODE : GGR-MAJ-4-404
NATURE OF THE COURSE : MAJOR
TOTAL CREDITS : 4 CREDITS (3+1=4)
DISTRIBUTION OF MARKS : 60 (End-Sem.) (45T+15P) + 40 (In-Sem.)

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (20 Marks)	Biogeography	a. Definition, scope and significance b. World distribution of plants and its relation to climate, soil and human activities c. World distribution of animal and its relationto climate, vegetation and human activities d. Soil- soil forming processes, classificationand distribution of soil, soil horizon andprofile, soil erosion and conservation; importance of soil e. Major soil types of India and Assam.	20	2		22

2 (25 marks)	Oceanography	a. Oceanography: Meaning and significance. **Perspectives of oceans in the Puranas** b. Configuration of ocean floor- continental shelf, continental slope, deep sea plain; Bottom configurations of the Atlantic, Pacific and Indian oceans. c. Salinity and temperature of ocean water. d. Ocean currents of the Atlantic, Pacific and Indian oceans. e. Marine deposits: Theories of origin of Coral reefs and Atolls- subsidence, non-subsidence and glacial control theories. f. Importance of ocean as store house of resources.	20	3		23
3 (15 marks)	Practical	a. Mapping of Phytogeographic and Zoogeographic regions of the world. b. Mapping of protected areas (National Park, and wildlife sanctuary) ofAssam/ North East India/ India. c. Drawing of Hypsometric and Bathymetriccurve. d. Mapping of ocean currents of Atlantic, Pacific and Indian Ocean		2	28	30
		TOTAL	**40**	**7**	**28**	**75**

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT:

· **Two Internal Examination - 20 Marks**

· **Others (Any one) - 10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical 10 Marks**

Suggested Readings:

1. Singh. S.: Geomorphology
2. Gataum. A.: Geomorphology
3. Ahmed. E., 1985: Geomorphology, Kalyani Publisher, New Delhi
4. Steers. J. A.: Unstable Earth
5. Bhattacharyya. N. N.: Biogeography
6. Mahanta. A. P.: Biogeography
7. Mahanta. A. P.: Snatakar Jibo Bhugul
8. Lal. D. S.: Oceanography and climatology

9. Chorley, Water, Earth and Man, Methum and Co. London.
10. Leopold. L. B., Wolman. M.G., Miller. J.P., 1964: fluvial processes in
11. geomorphology, Freeman, Sanfransisco.
12. Penck. W., 1924: Morphological Analysis of Landforms, Mc Millan, London. 12. Hussain H(ed), 1994: Bio-geography (Part I&II), Anmol Publications, New Delhi
13. Robinson, H.,1982: Bio-geography, ELBS, Mc Donald& Evans. London.
14. Simmons.I.G.,1974: Bio-geography: Natural and Cultural, London.
15. Tiby, 1982: Bio-geography. Longman.
16. King. CAM (1972): Oceanography of Geographers. E. Arnold, London
17. Sharma. R. C. et al. (1970): Oceanography for Geographers, Chetnya Publ.
18. House, Allahabad.
19. IKS REF: Sandahl, Stella**:**The seven oceans in the *Purāṇas* and elsewhere, *Acta Orientalia 2012: 73, 151–172.*

B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE : GEOGRAPHY OF RESOURCES AND ECONOMIC DEVELOPMENT

Course Description:
This course delves into the geographical aspects of resources and their role in economic development. It explores the classification, distribution, and utilization patterns of natural resources worldwide, emphasizing sustainable development practices.

Prerequisites: None
Course Objectives:

1. Develop an understanding of resources, their utilization patterns, classification, and distribution on Earth.
2. Examine the relationship between resource availability and economic development
3. Explore the significance of resource management for sustainable development.

Course Outcomes (COs) and Intended Learning Outcomes (ILOs):
Students will be able to:
CO1: Define the Concept of Resources and Their Relationship with Economic Development
ILO 1.1: Explain the concept of resources in geographical and economic contexts.

ILO 1.2: Analyse the relationship between resource base and economic development.
ILO 1.3: Categorize and describe various types of resources and their characteristics**.**
CO2: Evaluate the Distribution and Utilization of Natural Resources in the World
ILO 2.1: Identify the global distribution of key natural resources like soil, water, forests, and minerals.
ILO 2.2: Assess how these resources contribute to economic development in different regions.
ILO 2.3: Discuss the concept of development and the rational use of natural resources, including Environmental Impact Assessment (EIA).
CO3: Analyse Patterns of Economic Development and Resource Use
ILO 3.1: Compare the development patterns of developed and developing countries.
ILO 3.2: Evaluate the world energy crisis, its causes, and potential mitigation and management strategies**.**
ILO 3.3: Explore the role of technology in the efficient utilization and management of resources.
CO4: Apply Practical Skills in Assessing Resource and Economic Development
ILO 4.1: Use simple/mean ranking methods to determine levels of development in regions such as India/North-East India/Assam.
ILO 4.2: Create maps showing spatial variations in forest cover categories using appropriate cartographic techniques.
ILO 4.3: Develop thematic maps for regions like Assam/North-East India to illustrate aspects such as wildlife sanctuaries, national parks, and resource distribution.
CO5: Understand and Apply Theories and Models Related to Resource Functionality
ILO 5.1: Explain the functional theory of resources in the context of economic geography. **ILO 5.2:**Analyse case studies or scenarios where the functional theory of resources is applied.
ILO 5.3: Evaluate the implications of the functional theory on resource management practices.
CO6: Develop Strategies for the Conservation and Rational Use of Resources
ILO 6.1: Appraise different methods for conserving natural resources.
ILO 6.2: Discuss the principles of rational resource use and how they can be implemented effectively.
ILO 6.3: Propose strategies for the sustainable management of resources, considering economic and environmental factors**.**

LAKHIMPUR GIRLS' COLLEGE (AUTONOMOUS)
B.A./B.Sc. IN GEOGRAPHY PROGRAMME (FYUGP)
DETAILED SYLLABUS OF 4TH SEMESTER

TITLE OF THE COURSE :GEOGRAPHY OF RESOURCES AND ECONOMIC DEVELOPMENT
COURSE CODE :GGR-MIN-4-401
NATURE OF THE COURSE : MINOR
TOTAL CREDITS :4 CREDITS (3+1)
DISTRIBUTION OF MARKS :60 (End-Sem.) (45T+15P) + 40 (In-Sem.)

UNIT	NAME	CONTENTS	L	T	P	Total Hours
1 (15 Marks)	Resources and Economic Development	a. Concept of resource; Relationship between resource- base and Economic development. b. Classification and characteristics of resources. c. Functional theory of resource.	12	2	-	14

2 (15 Marks)	Natural Resources and Development	a. Distribution of land (soil), water, forests and minerals in the World and their contribution to economic development. b. Concept of Development; Rational use of resources . c. Conservation of Natural Resources	14	2	-	16
3 (15 Marks)	Pattern of Economic Development and Resource use	a. Patterns of development: Developed and developing countries b. World pattern of energy consumption, energy crisis, mitigation and management c. Use of technology in resource generation and utilization d. Perspectives on **Industry and trading in ancient India**	12	3	-	15
4 (15 Marks)	Practical on Resource and Economic Development	a. Determination of levels of development in India/North-East India/Assam based on few development indicators using simple/mean ranking method. b. Mapping of spatial variation of category- wise forest cover (very dense, moderate dense and open forest) in Assam/ North- East India using a suitable cartographic technique c. Preparation of thematic map of Assam/North East India of mineral and power resources d. Mapping of levels of energy consumption in India		2	28	30
		TOTAL	38	9	28	75

Where, L: Lectures T: Tutorials P: Practicals

MODES OF IN-SEMESTER ASSESSMENT: **40 Marks**

· **Two Internal Examination -** **20 Marks**

· **Others (Any one) -** **10 Marks**

- o Group Discussion
- o Seminar presentation on any of the relevant topics
- o Debate

· **Practical -** **10 Marks**

Suggested Reading:

1. Cutter S. N., Renwick H. L. and Renwick W., 1991: Exploitation, Conservation and Preservation: A Geographical Perspective on Natural Resources Use, John Wiley and Sons, New York.

2. Gadgil M. and Guha R., 2005: The Use and Abuse of Nature: Incorporating This Fissured Land: An Ecological History of India and Ecology and Equity, Oxford University Press. USA.
3. Holechek J. L. C., Richard A., Fisher J. T. and Valdez R., 2003: Natural Resources: Ecology, Economics and Policy, Prentice Hall, New Jersey.
4. Jones G. and Hollier G., 1997: Resources, Society and Environmental Management, Paul Chapman, London.
5. Klee G., 1991: Conservation of Natural Resources, Prentice Hall, Englewood.
6. Mather A. S. and Chapman K., 1995: Environmental Resources, John Wiley and Sons, New York.
7. Mitchell B., 1997: Resource and Environmental Management, Longman Harlow, England.
8. Owen S. and Owen P. L., 1991: Environment, Resources and Conservation, Cambridge University Press, New York.
9. Rees J., 1990: Natural Resources: Allocation, Economics and Policy, Routledge. London.
10. Gilg A. W., 1985: An Introduction to Rural Geography, Edwin Arnold, London.
11. Krishnamurthy, J. 2000: Rural Development - Problems and Prospects, Rawat Publish., Jaipur
12. Lee D. A. and Chaudhri D. P. (eds.), 1983: Rural Development and State, Methuen, London.
13. Misra R. P. and Sundaram, K. V. (eds.), 1979: Rural Area Development: Perspectives and Approaches, Sterling, New Delhi.
14. Ramachandran H. and Guimar.
15.
16. IKS REF: Kaushik S.D. & Rawat D.S : GEOGRAPHICAL THOUGHT & METHODOLOGY, RASTOGI PUBLICATIONS