Syllabus for
Four Year Undergraduate Programme
(FYUGP), 2023

DEPARTMENT OF GEOGRAPHY
BHATTADEV UNIVERSITY, BAJALI

Year : 1st, 2nd, 3rd & 4th
Semester-I to Semester-VIII

Four Year Undergraduate Programme

(FYUGP), 2023

YEAR: 1st, 2nd, 3rd & 4th

SEMESTER: I – VIII

(Based on NEP 2020)

DEPARTMRNT OF GEOGRAPHY

BHATTADEV UNIVERSITY

BAJALI

Introduction

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the higher education system of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters. But due to the various diversities present in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. However, the academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. On the basis of the recommendation, apart from the flexibility and freedom in designing the examination, there is a need to devise a sensible system for awarding the grades based on the performance of students. The NEP 2020 based **Four-Year Undergraduate Programme (FYUGP)**, being adopted by Bhattadev University, is an 8-Semester (4-year) Programme of 160 credits with multiple exit and entry options at the successful completion of courses assigned at the end of each year.

• Students who opt to exit after completion of the first year and have secured 40 credits will be awarded a **Certificate** if, in addition, they complete one vocational course of 4 credits during the summer vacation of the first year.

• Students who opt to exit after completion of the second year and have secured 80 credits will be awarded the **Diploma** if, in addition, they complete one vocational course of 4 credits during the summer vacation of the second year.

• Students who opt to exit after completion of the third year and have secured 120 credits will be eligible for the **Bachelor Degree** in the major discipline without honours.

• Students after completion of the fourth year and have secured 160 credits will be eligible for the **Bachelor Degree with Honours** in the major discipline.

• Students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.

Outline of Courses:

The broad categories of courses and minimum credits required for the 4-year Honours Degrees as per the UGC document are as follows:

1. **Major (Core) course/paper :** 80 credits
2. **Minor course/paper :** 32 credits
3. **Interdisciplinary Course/Paper (IDC):** 9 credits
4. **Ability Enhancement Course/Paper (AEC)** : 8 credits
5. **Skill Enhancement Course/Paper (SEC):** 9 credits
6. **Value Added Course/Paper (VAC) :** 8 credits
7. **Summer Internship :** 2 credits
8. **Research Project/ Dissertation :** 12 credits (for Honours with Research Degree) The

following points may be noted:

• In lieu of the Research Project, a student may study 3 courses each of 4 credits (i.e. total 12 credits), leading to an Honours degree (without Research).

• For the 4-year **Honours Degrees the Major subject**/ discipline require 80 credits and the Minor subject/ discipline requires 32 credits.

• For a **Double Major**, the minimum credit requirements are 48 (3-year degree) and 60 (4- year Honours degree) respectively in a subject/ discipline other than the original Major.

In the UGC framework, papers in Major and Minor disciplines are categorized into levels of 100, 200, 300 and 400. Therefore, a course (paper) offered by a Department, say with 4 credits and of level 200, may be taken both as a Major (Core) course by one student and as a Minor course by another student having a different Major discipline, possibly in different semesters.

Definitions of Keywords:

In FYUGP the terminologies those are relevant to the B.A./B.Sc. curricula have been briefly described below.

Academic Year: Two consecutive (one odd + one even) semesters constitute one academic year.

Semester: Each semester will consist of 15 weeks of regular academic work. The odd semester may be scheduled from July to December and even semester from January to June under normal circumstance.

Programme: An educational programme leading to award of a Certificate, Diploma or Degree (B.Sc., B.A., etc.)

Discipline: This means a particular subject.

Course: Each programme is equipped with a number course of various disciplines/subjects. The course of a particular discipline/subject refers to the content of the papers the students have to study in that discipline/subject required in obtaining a degree. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures /tutorials/laboratory work/ field work/outreach activities/project work /seminars /assignments / presentations etc. or a combination of any of these.

Honours: A particular discipline/subject that a student opts as major subject. (e.g. honours in Geography)

Core Course (CC): A discipline/subject specific compulsory basic course.

Skill Enhancement Course (SEC): A course designed by a department for enhancement of skill of the students in a particular discipline/subject.

Minor Course (M): A course in a discipline/subject corresponding to a subject other than the major subject.

Value Added Course (VAC): Value-based education to include managment of biological resources and biodiversity for the development of humanistic, ethical, sustainable development and living, constitutional, and universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values, and life skills.

Ability Enhancement Compulsory Course (AECC): These are compulsory courses. For Science and Arts programme there will be two of them. AECC-1 is Communicative English & AECC-2 is Environmental Science.

Vocational Course (VOC): A vocational course is focused on practical work, preparing students for a particular trade or skilled profession. These courses are best for students who have a good idea of their career path and want to gain the knowledge to get there.

Levels of Courses:

100 - 199 : Foundation or introductory courses.

200 - 299 : Intermediate level courses.

300 - 399 : Higher level courses.

400 - 499 : Advanced courses.

Credit: A unit by which the course work is measured. It determines the number of hours of instructions required per week. **Theory/Tutorial classes:** 1 credit = 1 hour / week and **Practical classes:** 1 credit = 2 hours / week

Credit Point: It is the product of grade point and number of credits for a course.

Letter Grade: It is an index of the performance of students in a said course.

Grade Point: It is a numerical weight allotted to each letter grade on a certain point scale. The following table explains the above two points

Letter Grade	Grade Point	Performance	Letter Grade	Grade Point	Performance
O	10	Outstanding	5	C+	Average
A+	9	Excellent	4	C	Pass
A	8	Very Good	0	F	Fail
B+	7	Good	0	I	Absent/Incomplete
B	6	Above Average			

Semester Grade Point Average (SGPA): It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places. If C_i = credit point in the i^{th} course/paper and G_i = grade point obtained by a student in the i^{th} course/paper then the grade point average in the i^{th} Semeter ie SGPA is given by $S_i = \Sigma C_i G_i / \Sigma C_i$

Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places. If S_i = Semester Grade point average in the i^{th} Semeter, S = total number of semesters in the program, then the cumulative grade point average i.e. CGPA scored by the student is given by $C = \Sigma S_i / S$

Grade Sheet/Report: Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

Programme Objectives:

1. To develop conscience towards social responsibility, human values and sustainable development through curriculum delivery and extra-curricular activities
2. To develop scientific temperament with strong fundamental knowledge of the subject
3. To develop analytical thinking and problem-solving skills needed for various entrance and competitive examinations and Post Graduate Studies
4. To train students in laboratory skills and handling equipment along with soft skills needed for placement

Programme Outcome:

1. The students will graduate with holistic development.
2 The students will be qualified to continue higher studies in their subject.
3. The students will be eligible to appear for various competitive examinations and pursue higher education.
4. The students will be able to apply for the jobs with a minimum requirement of B.A./B.Sc. Program.

Programme Specific Objectives:

The B.A./B.Sc. in Geography Program will enable the students;

1. To develop basic understanding of Fundamentals of Geography as a discipline.
2. To bring the scientific temperament by experiencing the nature and natural phenomena on day to day basis and also increase student competency.
3. To encourage students about applicability of knowledge and interdisciplinary approach in day todays life and thereby increasing the employability.

Programme Specific Outcomes:

1. **Knowledge:** Learners are encouraged to apply the knowledge of social science and science fundamentals to various solutions of complex problems. As such, knowledge of the subject is the sole objective of any student learner. A student is exposed to a wide range of topics in various subjects and is given intensive training in each of the courses that have laboratory related work.
2. **Problem Analyses:** Well equipped with an understanding of the analytical methods involved, they are in a position to interpret and analyze results so obtained from experiments and draw suitable conclusions against their supported data acquired.
3. **Designing Solutions:** Having acquired knowledge of subjects, students are trained to think out of the box, design and conduct an experiment or a series of experiments that demonstrate their understanding of the methods and processes involved.
4. **Communication Development:** The medium of instruction being English, proficiency in the subject through English is one of the primary objectives of the degree program. In order to improve the writing and oral skills of learners, the program caters to ensuring that learners become effective, clear communicators in written and oral work and are capable of explaining complex issues in accessible terms.
5. **Employability:** With our learners long-term professional pursuits being quite varied, many are drawn to careers that require scientific skills or technical expertise or strong quantitative reasoning abilities. Keeping this in mind, the institution apprises students of various employment opportunities that are available in areas

of their choice through the Placement Cell.

6. **Soft-Skill Development:** Apart from the attainment of knowledge and hands-on skills in practical applicability of the subject, learners need to be equipped with soft-skills and values which will help them function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary groups.

7. **Science and Society:** As an outcome of the course the learners are encouraged to apply logical reasoning based on the knowledge, skills, designing solutions to assess societal, health, safety issues and the responsibilities that go along with the scientific practice.

List of Courses

CC: Core Courses/Papers (For Degree with Geography (Major), 3 Years UG Programme

1. **GGY 1104C:** Fundamentals of Physical Geography (Course level:100-199)
2. **GGY 2104C:** Fundamentals of Human Geography (Course level:100-199)
3. **GGY 3104C:** Climatology (Course level:200-299)
4. **GGY 3204C:** Geomorphology (Course level:200-299)
5. **GGY 4104C:** Economic Geography (Course level:200-299)
6. **GGY 4204C:** Population and Settlement Geography (Course level:200-299)
7. **GGY 4304C:** Social and Cultural Geography (Course level:200-299)
8. **GGY 5104C:** Geography of India (Course level:300-399)
9. **GGY 5204C:** Geography of North-East India (Course level:300-399)
10. **GGY 5304C:** Classical Geography of India(Course level:300-399)
11. **GGY 5404C:** Fundamentals of Geographic Research (Course level:300-399)
12. **GGY 6104C:** Fundamentals of Remote Sensing (Course level:300-399)
13. **GGY 6204C:** Fundamentals of GIS and GPS (Course level:300-399)
14. **GGY 6304C:** Advanced Statistical Techniques in Geography (Course level:300-399)
15. **GGY 6404C:** Field Survey and Project Work (Course level:300-399)
16. **GGY 7104C**: Introduction to Geographic Thought(Course level:400-499)*
17. **GGY 7204C:** Environment and Climate Change (Course level:400-499)*
18. **GGY 7304C:** Fundamentals of Geospatial Techniques (Course level:400-499)*
19. **GGY 7404C:** Hydrology and Oceanography (Course level:400-499)*
20. **GGY 8104C:** Research Project (Course level:400-499)*

* To be prepared later on

Minor (M) Courses/Papers (For students from other discipline)

1. **GGY 1104M:** Fundamentals of Physical Geography (Course Level: 100-199)
2. **GGY 2104M:** Fundamentals of Human Geography (Course Level: 100-199)
3. **GGY 3104M:** Climatology (For Single Major, Course Level: 200-299)
4. **GGY 3204M:** Biogeography (Additional Course to be chosen for Double Major along with GGY 3104M, Course Level: 200-299)
5. **GGY 4104M:** Economic Geography (For Single Major, Course Level: 200-299)
6. **GGY 4204M:** Social and Cultural Geography (Additional Course to be chosen for Double Major, Course Level: 200-299)
7. **GGY 4304M:** Political Geography (Additional Course to be chosen for Double Major, Course Level: 200-299)
8. **GGY 5104M:** Geography of India (For Single Major, Course Level: 300-399)
9. **GGY 5204M:** Geography of North-East India (Additional Course to be chosen for Double Major, Course Level: 300-399)
10. **GGY 5304M:** Agricultural Geography (Additional Course to be chosen for Double Major, Course Level: 300-399)
11. **GGY 6104M:** Fundamentals of Remote Sensing (For Single Major, Course Level: 300-399)
12. **GGY 6204M:** Environment and Development (Additional Course to be chosen for Double Major, Course Level: 300-399)
13. **GGY 6304M:** Fundamentals of Field Survey and Project Work (Additional Course to be chosen for Double Major, Course Level: 300-399)

SEC: Skill Enhancement Courses/Papers

1. **GGY 1103SE:** Disaster Management
2. **GGY 2103SE:** Cartographic Techniques in Geography
3. **GGY 3103SE:** Quantitative Methods in Geography

IDC: Interdisciplinary Courses/Papers (Offered to the students of other discipline)

1. **GGY 1103ID:** Environmental Geography
2. **GGY 2103ID:** Geography of Assam
3. **GGY 3103ID:** Geography of Tourism

Course Structure for B.A./B.Sc. Geography (H) under FYUGP

Semester	CC 1	CC 2	AEC	SEC	IDC	VAC	Internship
Sem 1	Fundamentals of Physical Geography	To be chosen from other department like Economics, History, TTM, Statistics or MCJ⋆	A common course of Cr-2	Disaster Management	To be chosen from other department	A common course of Cr-2	N/A
Sem 2	Fundamentals of Human Geography	To be chosen from other department like Economics, History, TTM, Statistics or MCJ⋆	A common course of Cr-2	Cartographic Techniques in Geography	To be chosen from other department	A common course of Cr-2	N/A

To EXIT with a Certificate after one year, a mandatory VOC of credit 4 has to be chosen or proceed to the 2nd year.

Semester	Major/CC	Minor	AEC	SEC	IDC	VAC	Internship
Sem 3	Climatology Geomorphology	Course from Economics, History, TTM, Statistics or MCJ⋆	A common course of Cr-2	Quantitative Methods in Geography	To be chosen from other department	A common course of Cr-2	N/A
Sem 4	Economic Geography Population and Settlement Geography Social and Cultural Geography	Course from Economics, History, TTM, Statistics or MCJ⋆	A common course of Cr-2	N/A	N/A	N/A	Has to be engaged in an summer internship of Cr-2

To EXIT with a Diploma after one year, a mandatory VOC of credit 4 has to be chosen or proceed to the 3rd year.

Semester	Major/CC	Minor	AEC	SEC	IDC	VAC	Internship
Sem 5	Geography of India Geography of North East India Classical Geography of India Fundamentals of Geographic Research	Course from Economics, History, TTM, Statistics or MCJ⋆	N/A	N/A	N/A	N/A	N/A
Sem 6	Fundamentals of Remote Sensing Fundamentals of GIS and GPS Advanced Statistical Techniques in Geography Field Survey and Project Work	Course from Economics, History, TTM, Statistics or MCJ⋆	N/A	N/A	N/A	N/A	N/A

EXIT Option with a Bachelor degree after three years or Proceed to the 4th year.

Semester	Major/CC	Minor	AEC	SEC	IDC	VAC	Internship
Sem 7	*Introduction to Geographic Thought *Environment and Climate Change *Fundamentals of Geospatial Techniques *Hydrology and Oceanography	Course from Economics, History, TTM, Statistics or MCJ**	N/A	N/A	N/A	N/A	N/A
Sem 8	*Research Project	Course from Economics, History, TTM, Statistics or MCJ**	N/A	N/A	N/A	N/A	N/A

Completion of Bachelor degree with Honours/ with Honours with Research

*To be prepared later on.

** For Geography students from Science Stream only.

Detail Framework of the Four Year Undergraduate Programme (FYUGP) of Department of Geography

YEAR	SEM	COURSE / PAPER		IDC Paper (3 Credit)	SEC Paper (3 Credit)
		Core (4 Credit)	**Minor** (4 Credit)		
		100 Marks	**100 Marks**	**100 Marks**	**100 Marks**
1st	I	Fundamentals of Physical Geography (GGY 1104C)	Fundamentals of Physical Geography (GGY 1104M)	Environmental Geography (GGY 1103ID)	Disaster Management (GGY 1103SE)
	II	Fundamentals of Human Geography (GGY 2104C)	Fundamentals of Human Geography (GGY 2104M)	Geography of Assam (GGY 2103ID)	Cartographic Techniques in Geography (GGY 2103SE)

YEAR	SEM	COURSE / PAPER		IDC Paper (3 Credit)	SEC Paper (3 Credit)
		Core (4 Credit)	**Minor (4 Credit)**		
		100 Marks	**100 Marks**	**100 Marks**	**100 Marks**
2nd	III	Climatology (GGY 3104C)	Climatology (3) (GGY 3104M)	Geography of Tourism (GGY 3103ID)	Quantitative Methods in Geography (GGY 3103SE)
		Geomorphology (GGY 3204C)	Biogeography (3.a) (GGY 3204M)		
			* (3.a will be for Double Major)		
	IV	Economic Geography (GGY 4104C)	Economic Geography (4) (GGY 4104M)		-
		Population and Settlement Geography (GGY 4204C)	Social and Cultural Geography (4.a) (GGY 4304M)		
			Political Geography (4.b) (GGY 4204M)		
		Social and Cultural Geography (GGY 4304C)	* (4.a & 4.b will be for Double Major)		

YEAR	SEM	COURSE / PAPER		IDC Paper	SEC Paper
		Core (4 Credit)	**Minor (4 Credit)**		
		100 Marks	**100 Marks**		
3rd	V	Geography of India (GGY 5104C)	Geography of India (5) (GGY 5104M)	-	-
		Geography of North -East India (GGY 5204C)	Geography of North- East (5.a) (GGY 5204M)		
		Classical Geography of India (GGY 5304C)	Agricultural Geography (5.b) (GGY 5304M)		
		Fundamentals of Geographic Research (GGY 5404C)	*(5.a & 5.b will be for Double Major)		
	VI	Fundamentals of Remote Sensing (GGY 6104C)	Fundamentals of Remote Sensing (6) (GGY 6104M)		-
		Fundamentals of GIS & GPS (GGY 6204C)	Environment and Development (6.a) (GGY 6304M)		
		Advanced Statistical Techniques in Geography (GGY 6304C)	Fundamentals of Field Survey & Project Work (6.b) (GGY 6204M)		
		Field Survey & Project Work (GGY 6404C)	*(6.a & 6.b will be for Double Major)		

<table>
<tr><th rowspan="3">YEAR</th><th rowspan="3">SEM</th><th colspan="2">COURSE / PAPER</th><th rowspan="2">IDC Paper</th><th rowspan="2">SEC Paper</th></tr>
<tr><th>Core (4 Credit)</th><th>Minor (4 Credit)</th></tr>
<tr><th>100 Marks</th><th>100 Marks</th><th></th><th></th></tr>
<tr><td rowspan="2">4th</td><td rowspan="6">VII</td><td rowspan="6">*Introduction to Geographic Thought (GGY 7104C)
* Environment and Climate Change (GGY 7024C)
*Hydrology and Oceanography (GGY 7304C)
*Advanced Statistical Methods (GGY 7404-C)</td><td>*Environment and Climate Change (7) (GGY 7104M)</td><td rowspan="6">-</td><td rowspan="6">-</td></tr>
<tr><td>*Hydrology and Oceanography (7.a) (GGY 7404M)
*Regional Development and Planning (7.b) (GGY 7304M)
*Fundamentals of Geospatial Techniques (7.c) (GGY 7204M)
* (7.a, 7.b and 7.c will be for Double Major)</td></tr>
<tr><td>VIII</td><td>*Research Based Dissertation / Project Work (GGY 8104C)
Or
Additional 3 Core Papers</td><td>*Research Methodology (8) (GGY 8104M)
(Minor 8 will be for Double Major)</td><td colspan="2">* To be prepared later on</td></tr>
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Signature

Head of the Department

FIRST YEAR

SEMESTER – I

(CORE COURSE-GEOGRAPHY)

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - I
Course Name: Fundamentals of Physical Geography
Paper Code: GGY 1104C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- Explain the basic concepts and principles of physical geography.
- Identify the major processes that shape the Earth's physical environment.
- Analyze the basic concepts of four spheres of the earth

Learning Outcome

- To introduce students to the principles of physical geography and the applications of geological time scale in physical geography.
- To enable students to develop a deep understanding of the processes that drives physical geography.
- To enable students to apply the principles of physical geography to practical real- world situations.

Theory Part

Section I: Introduction to Physical Geography

1. Meaning of Physical Geography, Branches of Physical geography, Trends of Physical Geography, Geological time scale. **(Classes 6)**

Section II: Lithosphere

2. Interior structure and composition of the earth, Distribution of continents and ocean basins, Forces acting on the earth's crust- endogenetic and exogenetic, folds and faults, Types and world distribution of volcanoes, concept of plate tectonics, Meaning and types of weathering. **(Classes15)**

Section III: Hydrosphere

3. Relief zones of ocean basins, Horizontal distribution of temperature in ocean water, Oceanic salinity and its distribution, Bottom Reliefs of Indian, Atlantic and Pacific Ocean. **(Classes 12)**

Section IV: Atmosphere

4. Composition and structure of atmosphere, Mechanism of solar radiation, Distribution of temperature- horizontal and vertical, Air pressure and world pressure belts, Cyclones and Anticyclones. **(Classes 12)**

Practical Part

1. Flow chart showing the branches of Geography. **(1 Exercise / 2 Classes)**
2. Drawing of geological time scale and their interpretation. **(1Exercise / 2 Classes)**
3. Diagrammatic representation of different zones of the earth. **(1Exercise / 2 Classes)**
4. Schematic diagram of major and minor crustal plates and world distribution of volcanoes**.** **(2 Exercises /4 Classes)**
5. Drawing and interpretation of bottom reliefs of Indian, Atlantic and Pacific Ocean. **(3 Exercises / 6 Classes)**
6. Stratification of the atmosphere and their characteristics, World distribution of temperature and pressure in July and January and their interpretation. **(5 Exercises/10 Classes)**
7. Global pressure belts and wind circulation (Permanent winds).
8. Monsoon wind pattern over Indian sub-continent during July and January.**(2 Exercises / 4 Classes)**

Reading List

1. Strahler, A., and Strahler, A. (2007). Physical geography. John Wiley & Sons.
2. Bloom, A. L., and Bloom, A. L. (1998). Geomorphology: a systematic analysis of late Cenozoic landforms (No. 551.41 B5.). Upper Saddle River: Prentice Hall.
3. Kale, V.S. and Gupta, A. (2001) Introduction to Geomorphology. Orient Longman, NewDelhi.
4. Selby, M.J. (2005) Earth's Changing Surface: An Introduction to Geomorphology. ClarendonPress
5. Thornbury, W. (1968). Principles of Geomorphology. John Wiley and Sons, 394NewYork.
6. Siddhartha, K. (2018): Oceanography, A brief Introduction, KitabMahal
7. Siddhartha, K. (2018): Atmosphere, Weather and Climate, Kisalaya Publications
8. Howard, J. Critchfield: General Climatology, 2008, Pearson
9. Lal, D.S.(2022) Climatology, SardaPustakBhaban
10. C.Barry Cox, Peter D. Moore, (2000), Biogeography, John Wiley and Sons Ltd.
11. Raj, Manideep(2017): Soil and Biogeography, Kalyani Publishers
12. Singh, Savindra (1996): Physical Geography, PrayagPustakBhawan, Allahabad-211002
13. Bryant R.H.(1996): Physical Geography- Made Simple, Rupa and Co.
14. Gupta, A.D. and Kapoor, A.N. (1989)Principles of Physical Geography, S. Chand & Company Ltd, Ram Nagar, New Delhi-55

FIRST YEAR

SEMESTER – II

(CORE COURSE-GEOGRAPHY)

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Core / Minor Course
Semester - II
Course Name: Fundamentals of Human Geography
Paper Code: GGY 2104C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce human geography and how humankind transforms and gets transformed by geographic space.
- To develop new insights among students on the relevance of human-environmental relationships and how a spatial perspective shapes these relationships.

Learning Outcome

- Students will be useful in developing ideas on human-environment issues.
- Students will be benefitted in preparing for UGC NET/SLET exams and other competitive exams.

Theory Part

Section I

1. Introduction: Defining Human Geography, its Nature and Fields, relationship of Human Geography with Physical Geography and Social Sciences, contemporary relevance of Human Geography. **(10 Classes)**
2. Approaches in Human Geography: Determinism, Possibilism, Human Ecology and Positivism. **(8 Classes)**

Section II

3. Major Races: Types, their characteristics and distribution in the world. **(6 Classes)**
4. Population: Population Growth, Distribution and Density and their factors, Population Composition (age, sex, occupation and literacy), Demographic Transition Theory. **(8 Classes)**

Section III

5. Settlements: Types, Patterns: Rural settlement patterns, Characteristics and Morphology of Settlements: Rural and Urban (based on theories). **(6 Classes)**

Section IV

6. Human response to environment: Equatorial, Hot desert, Coastal region and mountainous regions. **(7 Classes)**

Practical Part

1. Trend of population growth of Assam, NE India, India and World by line and bar graph. **(6 Exercises/ 12 Classes)**
2. Mapping and interpretation of population density: Assam, NE India, India. **(3 Exercises/ 6 Classes)**
3. Representation of location of the million cities of India and port cities of the world. **(2 Exercises/ 4 Classes)**
4. Major population migration of the world and India showing direction by flow cartograms. **(2 Exercises/ 4 Classes)**
5. Mapping and interpretation of world natural regions: Equatorial rainforest region, Hot Desert regions. **(2 Exercises/ 4 Classes)**

Reading List:

1. Chandna, R. C. (2010) Population Geography, Kalyani Publisher.
2. Daniel, P. A. and Hopkinson, M. F. (1989) The Geography of Settlement, Oliver & Boyd, London.
3. Hassan, M. I. (2005) Population Geography, Rawat Publications, Jaipur.
4. Huntington, E., (1951) Principles of Human Geography, John Wiley & Sons, Inc, New York.
5. Hussain, Majid (1994) Human Geography, Rawat Publications, New Delhi
6. Hussain, Majid (2014) Evolution of Geographical Thought, Rawat Publications, Jaipur.
7. Johnston R; Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
8. Mishra R. P. and Ramesh A., (1989) Fundamentals of Cartography, Concept, New Delhi.
9. Singh R. L. and Singh P. B., (1999) Elements of Practical Geography, Kalyani Publishers.

SECOND YEAR

SEMESTER – III

(CORE COURSE-GEOGRAPHY)

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Core / Minor Course
Semester - III
Course Name: Climatology
Paper Code: GGY 3104C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce students to the rationale underlying climatological studies in geography.
- To develop new insights among students on the relevance of climatic variables to climate change.
- To give practical knowledge about some of the tools and techniques of geography dealing with the analysis of climatic data.

Learning Outcome

- Students will have the opportunity to develop ideas on climate-related aspects of geographical analyses.
- Students will be provided with theoretical insights and perspectives if they wish to pursue a research programme in the future.
- Students will benefit from preparing for the UGC NET-JRF/SET exam and other competitive exams, including civil services.
- Students will learn some of the application aspects of climatic data.

Theory Part

Section I

1. Nature and Scope of Climatology and its Relationship with Meteorology, Structure and Composition of Atmosphere - Altitudinal, latitudinal and seasonal variation **(12 Classes)**

Section II

2. Insolation and temperature - Factors and distribution, heat budget, temperature inversion, Atmospheric Pressure and Winds - Planetary winds, forces affecting winds, general circulation, jet streams **(12 Classes)**

Section III

3. Atmospheric Moisture - Evaporation, humidity, condensation, fog and clouds, precipitation types, stability and instability **(11 Classes)**

Section IV

4. Monsoon - Origin, mechanism and characteristics; Global Warming: Causes, Consequences and Measures of Control **(10 Classes)**

Practical Part

1. Construction of a schematic diagram of the vertical layers of the earth's atmosphere. **(1 Exercise/2 Classes)**
2. Drawing of a Climograph, Hythergraph, and Ergograph and their interpretation. (**6 Exercises/12 Classes)**
3. Study and prediction of weather conditions depicted by Indian weather maps showing four seasons. (**4 Exercises/8 Classes)**
4. Preparation of a rainfall distribution and variability map and interpretation thereof (**2 Exercises/4 Classes)**
5. Drawing of development and direction of monsoon climate **(2 Exercises/4 Classes)**

Reading List:

1. Barry, R. G., and Carleton, A. M. (2001): Synoptic and Dynamic Climatology, Routledge, UK.
2. Barry, R. G., and Corley, R. J. (1998): Atmosphere, Weather, and Climate, Routledge, New York.
3. Critchfield, H. J. (1987): General Climatology, Prentice-Hall of India, New Delhi.
4. Gupta, L. S. (2000): Jalvayu Vigyan, Hindi Madhyam Karyanvay Nidishalya, Delhi Vishwa Vidhyalaya, Delhi.
5. Lal, D. S. (2006): Jalvayu Vigyan, Prayag Pustak Bhavan, Allahabad.
6. Lutgens, F. K., Tarbuck, E. J., and Tasa, D. (2009): The Atmosphere: An Introduction to Meteorology, Prentice-Hall, Englewood Cliffs, New Jersey.
7. Mishra, R. P., and Ramesh A. (1989): Fundamentals of Cartography, Concept, New Delhi.
8. Monkhouse, F. J., and Wilkinson, H. R. (1971): Maps and Diagrams, Methuen and Co., London (3rd Edition, Revised).
9. Oliver, J. E., and Hidore, J. J. (2002): Climatology: An Atmospheric Science, Pearson Education, New Delhi.
10. Sharma, J. P. (2010): Prayogic Bhugol, Rastogi Publishers, Meerut
11. Singh, S. (2009): Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad.
12. Singh, R. L., and Singh, R. P. B. (1999): Elements of Practical Geography, Kalyani Publishers
13. Trewartha, G. T., and Horne, L. H. (1980): An Introduction to Climate, McGraw-Hill

Vatal, M. (1986): Bhautik Bhugol, Central Book Depot, Allahabad.

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - III
Course Name: Geomorphology
Paper Code: GGY 3204C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To provide a general idea about the topographic and surficial characteristics of the earth's surface to the students.
- To make the students aware about the dynamic geomorphic processes responsible for development of landforms of varied types and nature.
- To give scientific knowledge on landform development based on geomorphic concepts, principles and theories.
- To apply various cartographic techniques associated with understanding of geomorphic knowledge through construction of different types of map, profiles and identification of rocks.

Learning Outcome

- Students will learn that the earth is unstable and it is undergoing constant changes due to dynamic earth's processes.
- Students will come to know about the meaning and scope of geomorphology.
- After gaining knowledge based on the contents embodied in this paper, the students will be able to realize the importance of geomorphological knowledge as applied in various developmental activities executed on the land and over the earth's surface.

Theory Part

Section I

1. Geomorphology: Nature, Scope and Application; Earth: Interior Structure and Isostasy. **(10 Classes)**

Section II

2. Earth Movements: Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes; Geomorphic Processes: Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck). **(18 Classes)**

Section III

3. Evolution of Landforms (Erosional and Depositional): Fluvial, Karst, Aeolian. **(12 Classes)**

Section IV

4. Evolution of Landforms (Erosional and Depositional): Glacial and Coastal. **(5 Classes)**

Practical Part

1. Drawing and Interpretation of major Crustal Plates of the Earth. **(3 Exercises/ 6 Classes)**
2. World's major Earthquake and Volcanic Zones and their interpretation. **(4 Exercises/ 8 Classes)**
3. Drawing of Profiles: Serial, Superimposed, Composite and Projected. **(3 Exercises/ 6 Classes)**
4. Construction of Cross and Long Profiles and their Interpretation. **(3 Exercises/ 6 Classes)**
5. Slope mapping by Wentworth's method. **(2 Exercises/ 4 Classes)**

Reading List:

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.

1. Kale V. S. and Gupta A., 2001: Introduction to Geomorphology, Orient Longman, Hyderabad.

2. Knighton A. D., 1984: Fluvial Forms and Processes, Edward Arnold Publishers, London.

3. Richards K. S., 1982: Rivers: Form and Processes in Alluvial Channels, Methuen, London.

4. 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 Punlications, Meerut.

11. Tikkaa, R N (1989): Bhautik Bhugol ka Swaroop, Kedarnath Ram Nath, Meerut.

12. Singh, S (2009): Bhautik Bhugol ka Swaroop, Prayag Pustak,Allaha.

SECOND YEAR

SEMESTER – IV

(CORE COURSE-GEOGRAPHY)

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - IV
Course Name: Economic Geography
Paper Code: GGY 4104C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce the principles of economic geography among the students .
- To develop concepts of economy and geography and associated problems among the students.

Learning Outcome

- The paper will be useful for students in developing ideas on how geographical aspects organise economic space and will offer perspectives to students if they wish to pursue a research programme.
- The paper will help the students preparing for NET/SLET and other competitive exams.

Theory Part

Section I

1. Introduction: Defining the field of Economic Geography and its signification; Concept and classification of economic activity; Approaches in Economic Geography **(4 Classes)**
2. Primary Activities: Subsistence and Commercial agriculture, forestry, fishing and mining. **(7 Classes)**

Section II

3. Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks. **(8 classes)**

Section III

4. Tertiary Activities: Transport and Trade: Transport Modes, Accessibility of Transport and Coordination of Transport. Trade : Import-Export Trades, Volume of Trade, Direction of Trade, Trade as source of income **(12 classes)**

Section IV

5. Tourism industry as source of Income. Tourism industry in North East India with special reference to Assam. **(4 Classes)**
6. Factors Affecting location of Economic Activity with special reference to Agriculture (Von Thunen theory), Industry (Weber's theory). Agricultural regions of India: Tea, wheat and Jute. **(10 Classes)**

Practical Part

1. Trend of rice, jute and sugarcane production in the world/India/Assam since 1975 using moving average and least squares methods. **(6 Exercises/ 12 Classes)**

2. Trend of production of wheat, rice, maize and barley in the world/USA since 1975 using Band-graph. **(3 Exercises/ 6 Classes)**

3. Trend of balance of trade relations (export and import value) of India with USA, China and Japan in respect of major commodities since 2000 using Bar-graph. **(2 Exercises/ 4 Classes)**

4. Regional variation in fertilizer consumption and land-use pattern in different states of North-East India using Bar-graphs and Pie diagram. **(2 Exercises/ 4 Classes)**

5. Mapping of National parks, wildlife sanctuaries, Tourist spots in North East India with special reference to Assam. **(2 Exercises/4 Classes)**

Reading List:

1. Alexander J. W., 1963: *Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.

2. Coe N. M., Kelly P. F. and Yeung H. W., 2007: *Economic Geography: A Contemporary Introduction*, Wiley-Blackwell.

3. Hodder B. W. and Lee Roger, 1974: *Economic Geography*, Taylor and Francis.

4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.

5. Wheeler J. O., 1998: *Economic Geography*, Wiley..

6. Durand L., 1961: *Economic Geography*, Crowell.

7. Bagchi-Sen S. and Smith H. L., 2006: *Economic Geography: Past, Present and Future*, Taylor and Francis.

8. Willington D. E., 2008: *Economic Geography*, Husband Press.

9. Clark, Gordon L.; Feldman, M.P. and Gertler, M.S., eds. 2000: The *Oxford*

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - IV
Course Name: Population and Settlement Geography
Paper Code: GGY 4204C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- It covers or a range of topics including sources of population data, salient characteristics of population, population composition; determinants and implications of population dynamics in spatio - temporal perspectives; theories of population growth; key population issues of India and World and population policies with special reference to India.
- It furnish greater understanding of historical evolution of settlements and its classifications; structure, morphology and hierarchy of settlement; models and theories explaining city structure and morphology of rural and urban centres.

Learning Outcome

- Upon successful completion, students will have the knowledge and skills to explain demographic changes in the world and their major determinants and implications; able to apply and evaluate demographic concepts and population theories to understand contemporary socio-economic issues and current affairs; and assess the relationship between population change and policy.
- It enables students to understand the key issues of population and settlement that is crucial for sustainable development as well as urban and city planning.
- It foster the students to develop research questions and make a critical assessment on existing populations problems based on both primary and secondary data.

Theory Part

Section I

1.Definition, nature, scope and significance of Population Geography and its relation with demography; Sources of data with special reference to India (Census, Vital Statistics and NSS); Patterns and determinants of population distribution, density and growth: World and India; Theories of population growth-Malthusian and Marxian theory **(15 Classes)**

Section II

2. Population Dynamics: Fertility, mortality and migration – measures, determinants and implications; Population composition and characteristics - age-sex composition, literacy composition, rural and urban composition; Contemporary issues – over population, ageing of population, declining Sex Ratio; Population policies of India **(13 Classes)**

Section III

3. Definition, nature and scope of Settlement Geography; Site, situation and evolution of settlement; Rural - urban dichotomy of settlement: nature, characteristics, types, patterns and morphology in Indian context; Functional classification of towns, salient features of Indian urbanization.

(12 Classes)

Section IV

4. Rural-urban linkages; Urban land use; Classical models on urban morphology: Concentric Zone Theory and Sector Theory; Theories on Regional Settlement Hierarchy: Rank Size Rule and Central Place Theory. **(15 Classes)**

Practical Part

1. Representing trend of population growth and growth rates in India and N.E. India with the help of line graph since 1901 using census data **(2 Exercises/ 4 Classes)**

2. Preparation of population distribution map using simple and multiple dot method; Thematic maps showing population density and literacy patterns using choropleth method in Assam/ North East India/ India. **(4 Exercises / 8 Classes)**

3. Mapping of volume and direction of population migration in Assam/ North East India/ India with the help of flow cartograms. **(2 Exercises / 4 Classes)**

4. Construction of Age – Sex Pyramid for developed and less developed countries; Rural urban composition of population in India using pie diagram/ multiple bar diagram. **(4 Exercises / 8 Classes)**

5. Computing and mapping levels of socio-economic development in Assam/ India using ranking method; Mapping of location quotients to analyse occupational data or industrial workforce in metropolitan cities of India. **(3 Exercises / 6 Classes)**

Reading List:

1. Ardagh M., 2005: *Textbook Of Population Geography*, Random
2. Beaujeu-Garnier, J., 1966: *Geography of Population,* (Translated by Beaver, S.H.) Longmans, London.
3. Bhende A. and Kanitkar T., 2000: *Principles of Population Studies,* Himalaya Publishing House.
4. Bose, A., *India's Urbanization 1947-2000,* Tata McGraw Hill, New Delhi.
5. Census of India Series-I*;* 2001: *India Provisional Population Totals,* Published by Registrar General & Census Commissioner, India.
6. Chandna, R. C., 2000: *Geography of Population: Concepts, Determinants and Patterns,* Kalyani Publishers, New Delhi.
7. Clark, J., 1965: *Population Geography,* Permagon Press, New York.
8. Carter H., 1972: *The Study of Urban Geography,* Edward Arnold, London.
9. Chisholm, M., 1970: *Rural Settlement and Land Use,* Hutchinson, London.
10. Clout, R. D., 1970: *Rural Geography,* Pergamon Press, London.
11. Gary, L. Peters, Robert P. L., 2005: *Population Geography: Problems, Concepts and Prospects,* Kendall Hunt Pub Co., London.
12. Ghosh, S., 1998: *Introduction to Settlement Geography,* Orient Longman, Calcutta, Jones, H. R., 2000: *Population Geography,* 3rd ed. Paul Chapman, London.
13. Hassan M. I., 2021: *Population Geography: A Systematic Exposition*, Taylor & Francis
14. Johnson, J. H., 1967: *Urban Geography: An Introductory Analysis,* Pergamon Press, London.
15. Maurya S. D., 2015: *Settlement Geography*, Sharda Pustak Bhawan, Allahabad
16. Mohammad, Izhar H., 2005: *Population Geography,* Eastern Book Corporation,
17. Maurya S. D., 2014: *Population Geography*, Pravalika Publications.
18. Michael H., 2005: *Urban Settlement and Land Use,* Hodder Murray.
19. Newbold K. B., 2009: *Population Geography: Tools and Issues,* Rowman and Littlefield Publishers.
20. Peters, G. L. and Larkim, R. P., 1979: *Population Geography: Problems,* Concepts and Prospects Kendele-Hunt Iowa.
21. Premy, M. K., 2006: *Population in India in the New Millenium: Census of India 2001,* Naitonal Book Trust, New Delhi.
22. Singh Y. I., 2021: *Population and Settlement Geography*, Global Net Publication

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - IV
Course Name: Social and Cultural Geography
Paper Code: GGY 4304C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce students to the rationale underlying sociological and cultural studies in geography.
- To develop new insights among students on the relevance of social and cultural variables to society.
- To give practical knowledge about some of the tools and techniques of geography dealing with the analysis of socio-cultural data.

Learning Outcome

- Students will have the opportunity to develop ideas on social and climate related aspects of geographical analysis.
- Students will be provided with theoretical insights and perspectives if they wish to pursue a research programme in the future.
- Students will benefit from preparing for the UGC NET-JRF/SET exam and other competitive exams, including civil services.
- Students will learn some of the application aspects of socio-climatic data.

Theory Part

Section I

1. Social Geography: Defining the field of social geography; growth and development; concept of social space, social group and social interaction. **(5 Classes)**

Section II

2. Social Categories: Caste, Class, Religion, Ethnicity and Gender and their spatial distribution; Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime. **(16 Classes)**

Section III

3. Defining the field of Cultural Geography; Nature and Scope; its trend of development and significance. **(6 Classes)**

Section IV

4. Themes and concepts in Cultural Geography: cultural hearth, cultural area, cultural region, cultural landscape, cultural history, cultural ecology, cultural diffusion and cultural integration. **(18 Classes)**

Practical Part

1. Showing state-wise religious composition of India and Assam by multiple bar diagram. **(2 Exercises/ 4 Classes)**
2. Map of India showing distribution of different ethnic population in different parts of the country. **(3 Exercises/ 6 Classes)**
3. Map of India, N-E India and Assam showing Scheduled Caste and Scheduled Tribe population **(4 Exercises/ 8 Classes)**
4. Showing state-wise sex-ratio of India and Assam by choropleth mapping technique. **(2 Exercises/ 4 Classes)**
5. Map of India, N-E India and Assam showing slum population **(3 Exercises/ 6 Classes)**
6. Map of the World showing various cultural regions **(1Exercise/ 2 Classes)**

Reading List:

Ahmed A., 1999: *Social Geography*, Rawat Publications.

Casino V. J. D., Jr., 2009) *Social Geography: A Critical Introduction*, Wiley Blackwell. Cater J. and Jones T., 2000: *Social Geography: An Introduction to Contemporary Issues*, Hodder Arnold.

Panelli R., 2004: *Social Geographies: From Difference to Action*, Sage.

Rachel P., Burke M., Fuller D., Gough J., Macfarlane R. and Mowl G., 2001: *Introducing Social Geographies*, Oxford University Press.

Smith D. M., 1977: *Human geography: A Welfare Approach*, Edward Arnold, London. Smith D. M., 1994: *Geography and Social Justice*, Blackwell, Oxford.

Smith S. J., Pain R., Marston S. A., Jones J. P., 2009: *The SAGE Handbook of Social Geographies*, Sage Publications.

Sopher, David (1980): *An Exploration of India*, Cornell University Press, Ithasa Valentine G., 2001: *Social Geographies: Space and Society*, Prentice Hall.

Sen Jyotirmoy (2016): A Textbook of Social and Cultural Geography, Kayani Publishers.
Crans, Mike,1998 : Cultural Geography, Routledge, London.
Dancan, J. and Ley, D. (eds) , 1992 : Place/Culture/Representation, Routledge, London.
Gritzer, Charion,
F.,1984 : 'The Scope of Cultural Geography', Journal of Geography, Volume 65, pp.4-11.
Jackson, Richard.H.and Hudman, Lloyel. E.,1990 : Cultural Geography ,West Publishing Company, New York.
Johnston, R.J., Gregory, Derek and Smith, David M. (eds),1994 : The Dictionary of Human Geography, Blackwell, Oxford.
Jordan, T.G. and Rowntree, L. : The Human Mosaic: A Thematic Interpretation in Cultural Geography.
Noble, A.G. and Dutt, A.K. (eds),1982 : India: Cultural Pattern and Processes , West View Press / Boulder, Colorado.
Sauer, Carl.O., 1963: Land and Life, University of California Press, Berkley.
Thomas, W.L. (ed.), 1959: Man's Role in Changing the Face of the Earth, University of Chicago Press, Chicago.
Zelinsky, W., 1973: The Cultural Geography of America, Princeton University Press, Princeton, N.J

THIRD YEAR

SEMESTER – V

(CORE COURSE-GEOGRAPHY)

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - V
Course Name: Geography of India
Paper Code: GGY 5104C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- This is a core paper which intends to introduce students to India as a geographical entity.
- It seeks to develop new insights among students on significant geographical dimensions of the country.
- It seeks to make the students a good understanding on regional diversity of India with respect to its land, people and economy.

Learning Outcome

- The paper will be useful for students in developing understanding on Indian geography and its various dimensions.
- It will also be useful for students preparing for UGC NET/SLET examinations along with civil services and other competitive examinations.

Theory Part

Section I

1. India's location and its significance; administrative divisions. Physical setting: Physiographic divisions and their characteristics; Climate and its seasonal and regional characteristics; drainage; vegetation; soil types and its distribution. **(12 Classes)**

Section II

2. Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic and religious composition; literacy pattern. **(10 Classes)**

Section III

3. Agriculture: Characteristics and problems of Indian agriculture; Regional distribution and production patterns of rice, wheat and millet.

(12 Classes)

Section IV

4. Industry: Industrial regions and their salient characteristics; Distribution and production patterns of iron and steel, cotton textile and fertilizers; Role of transport system in industrial development.

(11 Classes)

Practical Part

1. Drawing and interpretation of physiographic divisions, soil, vegetation and climatic map of Assam. (**4 Exercises/ 8 Classes**)
2. Drawing and interpretation of major tributaries of the Ganga and the Brahmaputra river system. (**2 Exercises/ 4 Classes**)
3. Trend of population growth and growth rates in India since 1901 using Census data **(1 Exercise/ 2 Classes)**
4. Choropleth mapping to show spatial variation population distribution in India, literacy pattern, urbanisation level. **(3 Exercises/ 6 Classes)**
5. Spatial variation in the patterns of religious composition of population in India and Social composition of population (SC, ST and General) in India using pie-graph. **(2 Exercises/ 4 Classes)**
6. Trend of food grains production (rice, wheat, maize, barley, jowar and bajra) in India since 1950-51 using band-graph. **(2 Exercises/ 4 Classes)**
7. Map showing distribution of iron and steel industries India (**1 Exercise/ 2 Classes**)

Reading List:

1. Deshpande C. D., 1992: India: A Regional Interpretation, ICSSR, New Delhi.
2. Johnson, B. L. C., ed. 2001. Geographical Dictionary of India. Vision Books, New Delhi.
3. Mandal R. B. (ed.), 1990: Patterns of Regional Geography – An Intenational Perspective. Vol. 3 –Indian Perspective.
4. Sdyasuk Galina and P Sengupta (1967): Economic Regionalisation of India, Census of India
5. Sharma, T. C. 2003: India - Economic and Commercial Geography. Vikas Publ., New Delhi.
6. Singh R. L., 1971: India: A Regional Geography, National Geographical Society of India.
7. Singh, Jagdish 2003: India - A Comprehensive & Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
8. Spate O. H. K. and Learmonth A. T. A., 1967: India and Pakistan: A General and Regional Geography, Methuen.
9. Tirtha, Ranjit 2002: Geography of India, Rawat Publs., Jaipur & New Delhi.
10. Pathak, C. R. 2003: Spatial Structure and Processes of Development in India. Regional Science Assoc., Kolkata.
11. Tiwari, R.C. (2007) Geography of India. Prayag Pustak Bhawan, Allahabad
12. Sharma, T.C. (2013) Economic Geography of India. Rawat Publication, Jaipur
13. Khullar, D. R. (2023) : India a Comprehensive Geography. Kalyani publishers
14. Hussain, M (2022): Geography of India, Mc Graw Hill, Noida.

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - IV
Course Name: Geography of North-East India
Paper Code: GGY 5204C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To intend to introduce students to geography and environment interface.
- To develop new insights among students on the relevance of North East India from a spatial perspective.

Learning Outcome

- The paper will be useful for students in developing ideas on North East India that geographers usually address.
- The paper will be useful for students preparing for UGC NET/ SLET exams and other competitive exams including the civil services.

Theory Part

Section I

1. Historical and Regional development of North East India: Location, Situation, Population and Regional significance; Physical Feature: Physiography, Geology, Hydrology, Soil and Climate.

(16 Classes)

Section II

2. Mineral Resources: Coal, Petroleum, Limestone, Iron Ore and others; Potential for hydropower development, Industry: Nature of industrial development and types. **(16 Classes)**

Section III

3. Natural hazards, environmental problems and geopolitical problems: Types and mitigation strategies.

(8 Classes)

Section IV

4. Agricultural practices, transport network and accessibility **(5 Classes)**

Practical Part

1. Drawing and interpretation of geological map of India and North East India. **(2 Exercises/ 4 Classes)**

2. Mapping of physiographic divisions Assam, North East India and India **(3 Exercises/ 6 Classes)**

3. Thematic maps on major mineral resources and population characteristics of North East India. **(3 Exercises/ 6 Classes)**

4. Mapping of soil zones of Assam and North East India. **(2 Exercises/ 4 Classes)**

5. Mapping of seismic and flood prone areas of Assam, North East India and India. **(5 Exercises/ 10 Classes)**

Reading List

1. Abbi B. L., *North East Region : Problems and Prospects of Development* (Ed.), CRRID, Chandigarh, 1984.
2. Bhattacharyya, N. N. , *"The Contemporary Geopolitical Problems of North East India",* North-Eastern Geographer, Vol. XXIII. No.1-2, 1991, Pp.1-5.
3. Bhattacharyya, N. N., *"Planning Regions for balanced of Development in North East India" in "Regional Development in north East India"(*Ed) Deb B.J., Reliance Publishing House, New Delhi, 1995.
4. Bhattacharyya, N. N., *" Status of and Constraints to Industrial Development in north East india, in social constrains to industrial development in North East India,* (Ed) Datta Ray and Baishya, Concept publishing Company, New Delhi, 1998.
5. Dutta A. K. , *The Brahmaputra* , national Book Trust, India, 2001.
6. Dutta S.K., *"Palaeogeography of Assam Plateau",* in 21st International Geographical Congess -1968, Dept of Geography, Gauhati University.
7. Taher, M., and Ahmed., P., *Geography of North East India*, Mani Manik Prakash, Guwahati, 2002.
8. Unpublished Ph. D. Thesis- Hazarika, J., *Geopolitics of North East India,* Gauhati University
9. Sarmah Dr. J. N., 1993, *Assomor Nod Nodi* (The Rivers of Assam), Assam sahitya Sabha, Jorhat.
10. Taher M., 1988, *The population Base of Assam,* North eastern Geographer, Vol-19, No. 1-2.

Course Framework for FYUGP in Geography, 2023

Syllabus of Core

Semester - V

Course Name: Classical Geography of India

Paper Code: GGY 5304C

Total Marks: 100

(Theory: 45, Practical: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Practical: 15)

Course Objectives

- Creating awareness amongst the youths about the geography and rich culture of the country;
- Understanding the scientific value of the traditional knowledge of India.
- Promoting the youths to do research in the various fields of Indian knowledge system;
- Converting the Indian wisdom into the applied aspect of the modern scientific paradigm;
- Adding career, professional and business opportunities to the youths.

Learning Outcomes

- The students will be able to understand the relevance and significance of Indian knowledge system.
- This course will enhance the knowledge base of students regarding ancient Indian geographical concepts and they can correlate it with the present day geography of the country.

Section I: Introduction to Indian Knowledge System (IKS)

1. Definition, Concept and Scope of IKS; IKS based approaches on Knowledge Paradigms; IKS in ancient India and in modern India. **(8 Classes)**

Section II: Contribution of Indians in Geography, Astronomy and Mathematics

2. Contribution of ancient Indian geographers in the evolution of geographical thoughts: Varahamihir, Brahmagupta, Aryabhatta, Bhaskarcharya, Utpala; Indian Civilizations: Indus Valley Civilization: Harappa and Mohenjo-Daro; Contribution of Indian scholars in astronomy and mathematics in ancient period. **(15 Classes)**

Section III: Geographical Concepts of Ancient India

3. The universe and its origin; Concept of Dwipas and their relevance in present day context; Mountains and rivers of ancient Indian manuscripts and its existence in present day world; Sun, Earth, Moon, and Eclipses, Earth is Spherical and Rotation of Earth. **(14 Classes)**

Section IV: Geography of N.E. India

4. Geography of Assam during Medieval Period, Peopling of ancient Assam, Ancient Kamrupa in different periods. **(8 Classes)**

Practical Part

1. Prepare a flowchart depicting the Indian knowledge system (IKS) based approaches to knowledge paradigms **(1 Exercise/ 2 Classes)**
2. Prepare a map of India, N-E India and Assam showing the locations of major ancient marvels **(3 Exercises/6 Classes)**
3. Ancient Indian Geographers and their contribution **(1 Exercise/ 2 Classes)**
4. House types of Harappa and Mohenjo Daro of Indus Valley civilization **(1 Exercise/ 2Classes)**
5. Enlisted the contributions of Brahmagupta and Bhaskaracharya in geography **(1 Exercise/ 2 Classes)**
6. Prepare map of the empire of Maurya Dynasty and Dwipas (continents) **(2 Exercises/4 Classes)**
7. Map showing the ancient mountains and rivers of Indian sub-continent and the princely states during British rule **(2 Exercises/ 4 Classes)**
8. Prepare a geopolitical map of Assam depicting the geopolitical situation during the medieval period **(1 Exercise/ 2 Classes)**
9. Map of travel route of Ahom King Su Ka Pha from South East Asia to Assam in a map **(1 Exercise/2 Classes)**
10. Map showing the changing geopolitical conditions of Kamrupa from the ancient period to the present day **(1 Exercise/2 Classes)**
11. Map showing the empire of Ahom Kingdom and Koch Kingdom **(1 Exercise/ 2 Classes)**

Reading List

1. Pride of India- A Glimpse of India's Scientific Heritage edited by Pradeep Kohle et al. Samskrit Bharati (2006).
2. Vedic Physics by Keshav Dev Verma, Motilal Banarsidass Publishers (2012).
3. India's Glorious Scientific Tradition by Suresh Soni, Ocean Books Pvt. Ltd. (2010).
4. The ancient Geography of India (2009) by Alexender Cunninghan, London Trubner and Company.
5. Neog, M (2021): Prachya-Sasanavali, Publication Board Assam, 2021
6. Allen, B.C. (1905): Kamrup, Assam District Gazetteers, Vol-IV
7. Gogoi, N. (2016): Historical Geography of Medieval Assam, EBH Publishers (India), Ghy-1
8. Hunter, W.W.(1982): A Statistical Account of Assam, Vol-1, Foreword by M.Horam , B.R. Publishing Corporation, Delhi-52
9. Saikia, N (2023): Asamiya Manuhar Itihas, Katha Publications, Guwahati-1

NEP 2020 Four-Year Undergraduate Programme (FYUGP)

Syllabus for Core Course

Semester - V

Course Name: Fundamentals of Geographic Research

Paper Code: GGY 5404C

Total Marks: 100

(Theory: 45, Practical: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Practical: 15)

Course Objective

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

Learning Outcome

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

Theory Part

Section I: Introduction to Research

1. Meaning and significance of research; types of research; Basics of research methodology; Review of literature and its need; Ethics of research. **(8 Classes)**

Section II: Research Design

2. Geographic Research: Meaning and Characteristics; Formulation of research problem, Research Design: Statement of the problem, Review of research works, Objectives, Research questions, Hypotheses, Database and methodology, Significance, Organization of the Work and Referencing. **(18 Classes)**

Section III: Methods of Data Collection and Processing

3. Data Collection: Types and Sources of Data; Methods of primary data collection (both qualitative and quantitative, and physical and human geographic data); Concept of sample survey; Pilot survey. **(12 Classes)**

Section IV: Data Analysis and Representation

4. Data processing (Manual and computerized), Data analysis: Qualitative data analysis; Quantitative data analysis; Data representation (Manual and computerized). **(7 Classes)**

Practical Part

1. Preparation of Questionnaire(s), Preparation of flow chart showing the different steps- from data collection to data analysis. (**2 Exercises/ 4 Classes)**
2. Flow chart showing the different types of Research and Processes of Research **(2 Exercises/4 Classes)**
3. Prepare a list of referencing having at least 30 books using your seminar library. **(1 Exercise/2 Classes)**
4. Processing, analysis and representation of data- manual and computer applications, Analysis of Descriptive Statistics- Mean, Median, Mode, Mean Deviation and Standard Deviation, Measures of relationships- Simple Correlation by Karl Pearson's and Spearman's method, and Simple Regression Analysis. **(10 Exercises/20 Classes)**

Reading List:

1. Creswell J., 1994: Research Design: Qualitative and Quantitative Approaches Sage Publications.
2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
4. Kothari, C. R., 1993: Research Methodology: Methods and Techniques, 2nd ed., Wiley Eastern Ltd., New Delhi.
5. Kumar, R (2022):Research Methodology- A Step-by-Step Guide for Beginners, Sage Publications India Pvt. Ltd., New Delhi.
5. Misra, H.N. and Singh, V.P., 1998: Research Methodology in Geography, Concept Publishing Company, New Delhi.
6. Misra, R.P. (2002) Research Methodology, Concept Publications, New Delhi.
7. Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences, eds. By F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
8. Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001).
9. Stoddard R. H., 1982: Field Techniques and Research Methods in Geography, Kendall/Hunt.

THIRD YEAR

SEMESTER – VI

(CORE COURSE-GEOGRAPHY)

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course

Semester - VI

Course Name: Fundamentals of Remote Sensing

Paper Code: GGY 6104C

Total Marks: 100

(Theory: 45, Practical: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce the students of geography to the fundamental techniques of remote sensing.
- To develop new insights among the students about the relevance of remote sensing techniques in spatial analysis.
- To develop skills among the students concerning remote sensing techniques as inputs to GIS in spatial analysis.

Learning Outcome

- The students will be able to develop ideas on remote sensing techniques and their importance in geographical analysis.
- The students will be able to categorically identify the aerial photographs and satellite images.
- The students will be able to technically differentiate the mechanisms of aerial and satellite remote sensing.
- The technical skills of the students will be enhanced for the interpretation and analysis of aerial photographs and satellite images.
- The students will be able to perform better in UGC/CSIR-NET and/or SET exams, including civil services and other competitive exams.

Theory Part

Section I

1. Remote Sensing: Concept, History of Development and Principles of Remote Sensing System, Energy sources, EMR and its interactions with atmosphere and ground objects.

(11 Classes)

Section II

2. Types of Remote Sensing: Aerial Remote Sensing and Satellite Remote Sensing, Fundamentals of Photogrammetry **(11 Classes)**

Section III

3. Remote Sensing Data Products, Sources and Characteristics, Elements of Image Interpretation (Visual and Digital). Digital Image Processing **(11 Classes)**

Section IV

4. Satellite Remote Sensing: Platforms, Sensors, Application of Remote Sensing technique in geographical studies with reference to Geomorphology, Forest resource and Disaster management.

(12 Classes)

Practical Part

1. Determination of Scale, Relief Displacement and Height of objects in aerial photograph.

(3 Exercises/ 6 Classes)

2. Measurement of ground areas from aerial photograph and satellite imagery.

(3 Exercises/ 6 Classes)

3. Visual interpretation of Aerial Photographs and Satellite Imageries.

(3Exercises/ 6 Classes)

4. Preparation and Interpretation of Landuse/Land Cover map from aerial photographs and satellite imageries. **(3 Exercises/ 6 Classes)**

5. Preparation of Hydro-geomorphological map from the satellite imagery.

(3 Exercises/ 6 Classes)

Reading List:

1. Adams, John B. And Gillespie, Alan R. *Remote Sensing of Landscapes with Spectral Images: A Physical Modelling Approach*, Cambridge University Press, Cambridge, UK.
2. Bhatta, B. (2008) *Remote Sensing and GIS*, Oxford University Press, New Delhi.
3. Bhatta, B. (2010) *Analysis of Urban Growth and Sprawl from Remote Sensing*, Springer, Berlin Heidelberg.
4. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
5. Giri, Chandra P. (2012) *Remote Sensing of Land Use and Land Cover: Principles and Applications*, CRC Press, Taylor & Francis Group, NW, USA.
6. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
7. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
8. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
9. Liu, Jian Guo and Mason, Philippa J. (2009) *Essential Image Processing and GIS for Remote Sensing*, Wiley-Blackwell, Oxford, UK.
10. Mather, Paul and Koch, Magaly. (2011) *Computer Processing of Remotely-Sensed Images: An Introduction*, Wiley-Blackwell, Oxford, UK
11. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
12. Nayak, S. and Zlatanova, S. (Eds.) (2008) *Remote Sensing and GIS Technologies for Monitoring and Prediction of Disasters*, Springer, Verlag Berlin Heidelberg.
13. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
14. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
15. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw-Hill.

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course

Semester - VI

Course Name: Fundamentals of GIS and GPS

Paper Code: GGY 6204C

Total Marks: 100

(Theory: 45, Practical: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- This paper is a core paper that intends to introduce students to the interface of GIS and GPS.
- It seeks to develop new insights among students on the relevance of geospatial studies within the field of geography.

Learning Outcome

- The paper remains useful for students to develop skills in spatial data analysis if they wish to pursue research.
- The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams, including the civil service.

Theory Part

Section I

1. Geographical Information System (GIS): Definition, Components, functions and development **(12 Classes)**

Section II

2. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure, Database Management System (DBMS) **(12 Classes)**

Section III

3. Open source GIS, Data Layer Extraction and Spatial Analysis, Application of GIS in geographical studies **(10 Classes)**

Section IV

4. Global Positioning System (GPS) – Concept, Principles, Segments and Uses, Application of GPS in geographical studies. **(11 Classes)**

Practical Part

1.GIS Data Analysis: Input; Geo-Referencing; Editing, Output and Query; Overlays.
4 Exercises/ 8 Classes)

2. Mapping of various geographic features (point, line, area/polygon) from toposheet or image.
(4 Exercises/ 8 Classes)

3. Application of GIS**:** Land Use Mapping; Urban Sprawl Analysis; Forests Monitoring.
(4 Exercises/ 8 Classes)

4. Surveying and mapping of an area/plot of land with physical/cultural features using GPS and field records. **(3 Exercises/ 6 Classes)**

Reading List:

1. Burrough, P.A., and McDonnell, R.A. (2000) Principles of Geographical Information System-Spatial Information System and Geo-Statistics. Oxford University Press

2. Heywoods, I., Cornelius, S and Carver, S. (2006) An Introduction to Geographical Information System. Prentice Hall.

3. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.

4. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.

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

6. Singh, R.B. and Murai, S. (1998) Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.

7. Bhatta, B. (2010) Analysis of Urban Growth and Sprawl from Remote Sensing, Springer, Berlin Heidelberg.

8. De Mex, M.,(1999) Fundamentals of Geographic Information System, New York, Wiley

9. Introduction to GIS, Pearson Education, Delhi

10. Lo.C.P., Albert, K. Young, W., (2000) Concepts and Techniques of Geographic Information System, Printice Hall of India

11. Chakraborty, D. and Sahoo, R.N., Fundamentals of Geographic Information System, Viva Books, New Delhi.

12. Reddy, M.A. Text Book of Remote Sensing and Geographical Information Systems, BS Publications.

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - VI
Course Name: Advanced Statistical Techniques in Geography
Paper Code: GGY 6304C
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course objectives

- This skill enhancement course on Advanced Spatial Statistical Techniques basically deals with understanding the application of different statistical measures for analyzing data relating to various geographical phenomena. Besides, this course provides basic knowledge about handling various geographical data (spatial and non-spatial) for understanding spatial and temporal patterns by applying different statistical measures like variability/disparity index, correlation and regression analysis, etc.

Course outcomes

- It provides general understanding of geographical data and application of various statistical measures for their meaningful analysis.
- Acquiring basic knowledge about probability and normal distributions and their applications for sample data collection and analysis.
- Understanding the patterns and processes associated with various geographical phenomena through application of different statistical techniques.

Theory Part

1. Statistics and Geography: Role of statistics in geographical studies; Nature of geographical data and selection of statistical techniques for spatial analysis (Basic understanding) **(3 Classes)**

2. Application of the measures of central tendency (mean, median, mode and weighted mean) and dispersion (standard deviation, coefficient of variation, coefficient of skewness and standard distance) in geographical data analysis and spatial distribution pattern analysis. **(12 Classes)**

3. Application of probability distributions (Normal, Poisson and Binomial) in understanding various geographical phenomena; Characteristics/Properties of normal distribution. **(6 Classes)**

4. Meaning and importance of sampling in geographical studies; Types of sampling (probability and non-probability sampling) and their relative merits and demerits; Concept of large and small samples. **(8 Classes)**

5. Correlation and regression analysis in geography: Rank correlation and product-moment correlation coefficient; Linear regression and regression residuals; Concept of multiple correlation and regression. **(8 Classes)**

6. Introduction to the concept and application of Location Quotient; Disparity or Differential index; Nearest Neighbour Analysis; Data standardization through ranking method for computation of composite score. **(8 Classes)**

Practical Part

1. Setting of hypothetical data of a geographical phenomenon for normal, positively skewed and negatively skewed distributions, calculation of mean, median, mode and coefficient of skewness, and representation of the positions of mean, median and mode in the respective frequency distribution curves. **(7 Exercises/14 Classes)**

2. Determination of the spatial mean center(s) of population/urban population in Assam/N.E. India.

(2 Exercises/ 4 Classes)

4. Computation of correlation coefficient (both rank and product-moment), fitting of regression line of Y on X and preparation of regression residual map for a set of meaningful bi-variate geographical data of Assam/N.E. India/India. **(4 Exercises/ 8 Classes)**

5. Analysis of appropriate geographical data for computation/representation of LQ and composite scores of socio-economic development (ranking technique). **(2 Exercises/ 4 Classes)**

Reading List:

1. Bart James E and Gerld M. Barber, 1996: Elementary Statistics for Geographers, The Guieford Press, London.

2. Eldon, D., 1983: Statistics in Geography: A Practical Approach, Blackwell, London.

3. Cressie, N.A.C., 1991: Statistics for Spatial Analysis, Wiley, New York.

4. Gregory, S., 1978: Statistical Methods and the Geographer (4th Edition), Longman, London.

5. Haining, R.P., 1990: Spatial Data Analysis in the Social and Environmental Science, Cambridge University Press, Cambridge.

6. Mc Grew, Jr. And Cahrles, B. M., 1993: An Introduction to Statistical Problem Solving in Geography, W.C. Brocan Publishers, New Jersey.

7. Mathews, J.A., 1987: Quantitative and Statistical Approaches to Geography: A Practical Manual Pergamon, Oxford.

8. S.K., 1998: Statistics for Geoscientists: Techniques and Applications, Concept Publishing Company, New Delhi.

9. Wei, W.S.,1990: Time Series Analysis: Variate and Multivariate Methods , Addison Wesley Publishing.

10. Yeates, Mauris, 1974: An Introduction to Quantitative Analysis in Human Geography, McGrawhill, New York.

11. Mahmood, A., 2002: Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.

12. Sarkar, A., 2013: Quantitative Geography: Techniques and Presentations, Orient Black Swan, New Delhi.

Course Framework for FYUGP in Geography, 2023

Syllabus of Core Course
Semester - VI
Course Name: Field Survey and Project Work
Paper Code: GGY 6404C
Total Marks: 100
(Theory: 45, Project Report: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Project: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Project: 15)

Course Objective

- This paper is a core paper that intends to introduce students to philosophical andmethodological issues in the development of the discipline of geography.
- To assess the nature and trend of ancient, modern and post-modern trends in the field ofgeography

Learning Outcome

- The paper will be useful for students in understanding perspectives on the developmentand contemporary trends in geography and its systematic study.
- The paper will be useful for students preparing for UGC NET/SLET exams and othercompetitive exams including the civil services.

Theory Part

Section I

1. Field Work in Geographical Studies: Role, Value, and Ethics of Field Work; Field Techniques: Merits, Demerits, and Selection of the Appropriate Technique; Observation (Participatory or Non-Participatory) **(14 Classes)**

Section II

2. Data collection, processing, and analysis methods and chapter plan Questionnaires (open, closed, structured, or non-Structured); interviews with a special focus on Focused Group discussions **(14 Classes)**

Section III

3. Designing the Field Report: Statement of the Problem, Significance of the Problem of the Study, Aims and Objectives, Methodology, Analysis, Interpretation, and Writing the Report **(14 Classes)**

Section IV

4. Principles of GPS Survey **(3 Classes)**

Project Report

1. Each student will prepare an individual report based on primary and secondary data collection during field work.
2. The word count of the report should be about 8000 to 12,000 excluding figures, tables, photographs, maps, references and appendices.
3. One copy of the report on A4 size paper should be submitted in soft binding.

Reading List

Creswell J., 1999: Research Design: Qualitative and Quantitative Approaches, Sage Publications

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

Evens M., 1988: "Participant Observation: The Researcher as Research Tool," in

Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity

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

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

Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Report: A Basic Guide for Students of the Social and Behavioural Sciences, end. By F.

Pryczak and R. Bruce Pryczak, Publishing: Los Angeles Special Issue on "Doing Fieldwork in the Geographic Review 91:1–2 (2001)

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

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

SYLLABUS

FOR

MINOR COURSE-GEOGRAPHY

(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - I
Course Name: Fundamentals of Physical Geography
Paper Code: GGY 1104M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- Explain the basic concepts and principles of physical geography.
- Identify the major processes that shape the Earth's physical environment.
- Analyze the basic concepts of four spheres of the earth

Learning Outcome

- To introduce students to the principles of physical geography and the applications of geological time scale in physical geography.
- To enable students to develop a deep understanding of the processes that drives physical geography.
- To enable students to apply the principles of physical geography to practical real- world situations.

Theory Part

Section I: Introduction to Physical Geography

1. Meaning of Physical Geography, Branches of Physical geography, Trends of Physical Geography, Geological time scale. **(Classes 6)**

Section II: Lithosphere

2. Interior structure and composition of the earth, Distribution of continents and ocean basins, Forces acting on the earth's crust- endogenetic and exogenetic, folds and faults, Types and world distribution of volcanoes, concept of plate tectonics, Meaning and types of weathering. **(Classes15)**

Section III: Hydrosphere

3. Relief zones of ocean basins, Horizontal distribution of temperature in ocean water, Oceanic salinity and its distribution, Bottom Reliefs of Indian, Atlantic and Pacific Ocean. **(Classes 12)**

Section IV: Atmosphere

4. Composition and structure of atmosphere, Mechanism of solar radiation, Distribution of temperature- horizontal and vertical, Air pressure and world pressure belts, Cyclones and Anticyclones. **(Classes 12)**

Practical Part

1. Flow chart showing the branches of Geography. **(1Exercise / 2 Classes)**
2. Drawing of geological time scale and their interpretation. **(1Exercise / 2 Classes)**
3. Diagrammatic representation of different zones of the earth. **(1Exercise / 2 Classes)**
4. Schematic diagram of major and minor crustal plates and world distribution of volcanoes**.** **(2Exercises / 4 Classes)**
5. Drawing and interpretation of bottom reliefs of Indian, Atlantic and Pacific Ocean. **(2Exercises / 6 Classes)**
6. Stratification of the atmosphere and their characteristics, World distribution of temperature and pressure in July and January and their interpretation. Global pressure belts and wind circulation (Permanent winds). **(5 Exercises / 10 Classes)**
7. Monsoon wind pattern over Indian sub-continent during July and January. **(2 Exercises / 4 Classes)**

Reading List

1. Strahler, A., and Strahler, A. (2007). Physical geography. John Wiley & Sons.
2. Bloom, A. L., and Bloom, A. L. (1998). Geomorphology: a systematic analysis of late Cenozoic landforms (No. 551.41 B5.). Upper Saddle River: Prentice Hall.
3. Kale, V.S. and Gupta, A. (2001) Introduction to Geomorphology. Orient Longman, NewDelhi.
4. Selby, M.J. (2005) Earth's Changing Surface: An Introduction to Geomorphology. ClarendonPress
5. Thornbury, W. (1968). Principles of Geomorphology. John Wiley and Sons, 394NewYork.
6. Siddhartha, K. (2018): Oceanography, A brief Introduction, KitabMahal
7. Siddhartha, K. (2018): Atmosphere, Weather and Climate, Kisalaya Publications
8. Howard, J. Critchfield: General Climatology, 2008, Pearson
9. Lal, D.S.(2022) Climatology, SardaPustakBhaban
10. C.Barry Cox, Peter D. Moore, (2000), Biogeography, John Wiley and Sons Ltd.
11. Raj, Manideep(2017): Soil and Biogeography, Kalyani Publishers
12. Singh, Savindra (1996): Physical Geography, PrayagPustakBhawan, Allahabad-211002
13. Bryant R.H.(1996): Physical Geography- Made Simple, Rupa and Co.
14. Gupta, A.D. and Kapoor, A.N. (1989)Principles of Physical Geography, S. Chand & Company Ltd, Ram Nagar, New Delhi-55

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - II
Course Name: Fundamentals of Human Geography
Paper Code: GGY 2104M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce human geography and how humankind transforms and gets transformed by geographic space.
- To develop new insights among students on the relevance of human-environmental relationships and how a spatial perspective shapes these relationships.

Learning Outcome

- Students will be useful in developing ideas on human-environment issues.
- Students will be benefitted in preparing for UGC NET/SLET exams and other competitive exams.

Theory Part

Section I

1. Introduction: Defining Human Geography, its Nature and Fields, relationship of Human Geography with Physical Geography and Social Sciences, contemporary relevance of Human Geography. **(10 Classes)**
2. Approaches in Human Geography: Determinism, Possibilism, Human Ecology and Positivism. **(8 Classes)**

Section II

3. Major Races: Types, their characteristics and distribution in the world. **(6 Classes)**
4. Population: Population Growth, Distribution and Density and their factors, Population Composition (age, sex, occupation and literacy), Demographic Transition Theory. **(8 Classes)**

Section III

5. Settlements: Types, Patterns: Rural settlement patterns, Characteristics and Morphology of Settlements: Rural and Urban (based on theories). **(6 Classes)**

Section IV

6. Human response to environment: Equatorial, Hot desert, Coastal region and mountainous regions. **(7 Classes)**

Practical Part

1. Trend of population growth of Assam, NE India, India and World by line and bar graph. **(6 Exercises/12 Classes)**
2. Mapping and interpretation of population density: Assam, NE India, India. **(3 Exercises/ 6 Classes)**
3. Representation of location of the million cities of India and port cities of the world. **(2 Exercises/ 4 Classes)**
4. Major population migration of the world and India showing direction by flow cartograms. **(2 Exercises/ 4 Classes)**
5. Mapping and interpretation of world natural regions: Equatorial rainforest region, Hot Desert regions. **(2 Exercises/ 4 Classes)**

Reading List:

1. Chandna, R. C. (2010) Population Geography, Kalyani Publisher.
2. Daniel, P. A. and Hopkinson, M. F. (1989) The Geography of Settlement, Oliver & Boyd, London.
3. Hassan, M. I. (2005) Population Geography, Rawat Publications, Jaipur.
4. Huntington, E., (1951) Principles of Human Geography, John Wiley & Sons, Inc, New York.
5. Hussain, Majid (1994) Human Geography, Rawat Publications, New Delhi
6. Hussain, Majid (2014) Evolution of Geographical Thought, Rawat Publications, Jaipur.
7. Johnston R; Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
8. Mishra R. P. and Ramesh A., (1989) Fundamentals of Cartography, Concept, New Delhi.
9. Singh R. L. and Singh P. B., (1999) Elements of Practical Geography, Kalyani Publishers.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - III
Course Name: Climatology
Paper Code: GGY 3104M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce students to the rationale underlying climatological studies in geography.
- To develop new insights among students on the relevance of climatic variables to climate change.
- To give practical knowledge about some of the tools and techniques of geography dealing with the analysis of climatic data.

Learning Outcome

- Students will have the opportunity to develop ideas on climate-related aspects of geographical analyses.
- Students will be provided with theoretical insights and perspectives if they wish to pursue a research programme in the future.
- Students will benefit from preparing for the UGC NET-JRF/SET exam and other competitive exams, including civil services.
- Students will learn some of the application aspects of climatic data.

Theory Part

Section I

1. Nature and Scope of Climatology and its Relationship with Meteorology, Structure and Composition of Atmosphere - Altitudinal, latitudinal and seasonal variation **(12 Classes)**

Section II

2. Insolation and temperature - Factors and distribution, heat budget, temperature inversion, Atmospheric Pressure and Winds - Planetary winds, forces affecting winds, general circulation, jet streams **(12 Classes)**

Section III

3. Atmospheric Moisture - Evaporation, humidity, condensation, fog and clouds, precipitation types, stability and instability **(11 Classes)**

Section IV

4. Monsoon - Origin, mechanism and characteristics; Global Warming: Causes, Consequences and Measures of Control **(10 Classes)**

Practical Part

1. Construction of a schematic diagram of the vertical layers of the earth's atmosphere. **(1 Exercise/ 2 Classes)**
2. Drawing of a Climograph, Hythergraph, and Ergograph and their interpretation. **(6 Exercises/ 12 Classes)**
3. Study and prediction of weather conditions depicted by Indian weather maps showing four seasons. (**4 Exercises/ 8 Classes)**
4. Preparation of a rainfall distribution and variability map and interpretation thereof. **(2 Exercises/ 4 Classes)**
5. Drawing of development and direction of monsoon climate **(2 Exercises/ 4 Classes)**

Reading List:

1. Barry, R. G., and Carleton, A. M. (2001): Synoptic and Dynamic Climatology, Routledge, UK.
2. Barry, R. G., and Corley, R. J. (1998): Atmosphere, Weather, and Climate, Routledge, New York.
3. Critchfield, H. J. (1987): General Climatology, Prentice-Hall of India, New Delhi.
4. Gupta, L. S. (2000): Jalvayu Vigyan, Hindi Madhyam Karyanvay Nidishalya, Delhi Vishwa Vidhyalaya, Delhi.
5. Lal, D. S. (2006): Jalvayu Vigyan, Prayag Pustak Bhavan, Allahabad.
6. Lutgens, F. K., Tarbuck, E. J., and Tasa, D. (2009): The Atmosphere: An Introduction to Meteorology, Prentice-Hall, Englewood Cliffs, New Jersey.
7. Mishra, R. P., and Ramesh A. (1989): Fundamentals of Cartography, Concept, New Delhi.
8. Monkhouse, F. J., and Wilkinson, H. R. (1971): Maps and Diagrams, Methuen and Co., London (3rd Edition, Revised).
9. Oliver, J. E., and Hidore, J. J. (2002): Climatology: An Atmospheric Science, Pearson Education, New Delhi.
10. Sharma, J. P. (2010): Prayogic Bhugol, Rastogi Publishers, Meerut
11. Singh, S. (2009): Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad.
12. Singh, R. L., and Singh, R. P. B. (1999): Elements of Practical Geography, Kalyani Publishers
13. Trewartha, G. T., and Horne, L. H. (1980): An Introduction to Climate, McGraw-Hill

Vatal, M. (1986): Bhautik Bhugol, Central Book Depot, Allahabad.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - III
Course Name: Biogeography
Paper Code: GGY 3204M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- This paper is a core/major paper that intends to introduce students to the rationale underlying biogeographical studies in geography.
- This paper intends to develop an understanding in the physical and human factors responsible for the distribution, conservation, and restriction of living organisms on the earth surface.

Learning Outcome

- The paper will be useful for students in developing ideas on biogeography related aspects ofgeographical analyses.
- The paper will provide theoretical insights and perspectives to students if they wishto pursue a research programme in future.
- Students will develop a basic understanding of the introductory concepts inbiogeography.
- The paper is very useful for students preparing for UGC NET-JRF/SLET/SET exam and other competitive exams including civil services.

Theory Part

Section I

1. Meaning, scope and significance of Biogeography. **(5 Classes)**
2. Ecology and Ecosystem – Concept, structure and functions of ecology and ecosystem **(6 Classes)**

Section II

3. Global distribution of major plants and animals **(5 Classes)**
4. Biomes and biodiversity types, threats, hotspots of the world and conservation **(10 Classes)**

Section III

5. Soil as a component of environment, soil forming processes and factors, soil composition and pollution **(7 Classes)**
6. Soil types of India and their distribution **(5 Classes)**

Section IV

7. Management of environment **(3 Classes)**
8. Environmental impact assessment **(4 Classes)**

Practical Part

1. Mapping and interpretation of National Parks, Biosphere reserve and Wildlife Sanctuary of Assam/N.E. India/India. **(6 Exercises/ 12 Classes)**

2. Mapping and interpretation of phytogeographic and zoogeographic regions of the world. **(2 Exercises/ 4 Classes)**
3. Mapping and interpretation of Biodiversity hotspots of Indian and the world. **(4 Exercises/ 8 Classes)**
4. Mapping and interpretation of Soil types of Assam/N.E. India/India. **(3 Exercises/ 6 Classes)**

Reading List:

1. Ahluwalia, V. K. (2015). *Environmental Pollution, and Health*. The Energy and Resources Institute (TERI).

2. Barrow, C. J. (1999). Environmental Management: Principles and practice. Routledge.

3. Cox, C.B., Moore, P.D. and Ladle, R., 2016. Biogeography: an ecological and evolutionary approach. John Wiley & Sons.

4. Manideep Raj . Soil and Biogeography, Kalyani Publishers.

5. Miller, G. T., & Spoolman, S. (2015) Environmental Science. Cengage Learning.

6. Richard A. Marcantonio, Marc Lame (2022). Environmental Management: Concepts and Practical Skills. Cambridge University Press.

7. Singh, R.B. (Eds.) (2009) Biogeography and Biodiversity. Rawat Publication, Jaipur

8. Tiefenbacher, J (ed.) (2022), Environmental Management - Pollution, Habitat, Ecology, and Sustainability, Intech Open, London. 10.5772/

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - IV
Course Name: Economic Geography
Paper Code: GGY 4104M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce the principles of economic geography among the students .
- To develop concepts of economy and geography and associated problems among the students.

Learning Outcome

- The paper will be useful for students in developing ideas on how geographical aspects organise economic space and will offer perspectives to students if they wish to pursue a research programme.
- The paper will help the students preparing for NET/SLET and other competitive exams.

Theory Part

Section I

1. Introduction: Defining the field of Economic Geography and its signification; Concept and classification of economic activity; Approaches in Economic Geography **(4 Classes)**
2. Primary Activities: Subsistence and Commercial agriculture, forestry, fishing and mining. **(7 Classes)**

Section II

3. Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks. **(8 classes)**

Section III

4. Tertiary Activities: Transport and Trade: Transport Modes, Accessibility of Transport and Coordination of Transport. Trade : Import-Export Trades, Volume of Trade, Direction of Trade, Trade as source of income **(12 classes)**

Section IV

5. Tourism industry as source of Income. Tourism industry in North East India with special reference to Assam. **(4 Classes)**
6. Factors Affecting location of Economic Activity with special reference to Agriculture (Von Thunen theory), Industry (Weber's theory). Agricultural regions of India: Tea, wheat and Jute. **(10 Classes)**

Practical Part

1. Trend of rice, jute and sugarcane production in the world/India/Assam since 1975 using moving average and least squares methods. **(6 Exercises/ 12 Classes)**

2. Trend of production of wheat, rice, maize and barley in the world/USA since 1975 using Band-graph. **(3 Exercises/ 6 Classes)**

3. Trend of balance of trade relations (export and import value) of India with USA, China and Japan in respect of major commodities since 2000 using Bar-graph. **(2 Exercises/ 4 Classes)**

4. Regional variation in fertilizer consumption and land-use pattern in different states of North-East India using Bar-graphs and Pie diagram. **(2 Exercises/ 4 Classes)**

5. Mapping of National parks, wildlife sanctuaries, Tourist spots in North East India with special reference to Assam. **(2 Exercises/ 4 Classes)**

Reading List:

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

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course

Semester - IV

Course Name: Social and Cultural Geography

Paper Code: GGY 4204M

Total Marks: 100

(Theory: 45, Practical: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce students to the rationale underlying sociological and cultural studies in geography.
- To develop new insights among students on the relevance of social and cultural variables to society.
- To give practical knowledge about some of the tools and techniques of geography dealing with the analysis of socio-cultural data.

Learning Outcome

- Students will have the opportunity to develop ideas on social and climate related aspects of geographical analysis.
- Students will be provided with theoretical insights and perspectives if they wish to pursue a research programme in the future.
- Students will benefit from preparing for the UGC NET-JRF/SET exam and other competitive exams, including civil services.
- Students will learn some of the application aspects of socio-climatic data.

Theory Part

Section I

1. Social Geography: Defining the field of social geography; growth and development; concept of social space, social group and social interaction. **(5 Classes)**

Section II

2. Social Categories: Caste, Class, Religion, Ethnicity and Gender and their spatial distribution; Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime. **(16 Classes)**

Section III

3. Defining the field of Cultural Geography; Nature and Scope; its trend of development and significance. **(6 Classes)**

Section IV

4. Themes and concepts in Cultural Geography: cultural hearth, cultural area, cultural region, cultural landscape, cultural history, cultural ecology, cultural diffusion and cultural integration. **(18 Classes)**

Practical Part

1. Showing state-wise religious composition of India and Assam by multiple bar diagram. **(2Exercises/ 4 Classes)**
2. Map of India showing distribution of different ethnic population in different parts of the country. **(3 Exercises/ 6 Classes)**
3. Map of India, N-E India and Assam showing Scheduled Caste and Scheduled Tribe population **(4Exercises/ 8 Classes)**
4. Showing state-wise sex-ratio of India and Assam by choropleth mapping technique. **(2Exercises/ 4 Classes)**
5. Map of India, N-E India and Assam showing slum population. **(3 Exercises/ 6 Classes)**
6. Map of the World showing various cultural regions **(1 Exercise/ 2 Classes)**

Reading List:

Ahmed A., 1999: *Social Geography*, Rawat Publications.

Casino V. J. D., Jr., 2009) *Social Geography: A Critical Introduction*, Wiley Blackwell. Cater J. and Jones T., 2000: *Social Geography: An Introduction to Contemporary Issues*, Hodder Arnold.

Panelli R., 2004: *Social Geographies: From Difference to Action*, Sage.

Rachel P., Burke M., Fuller D., Gough J., Macfarlane R. and Mowl G., 2001: *Introducing Social Geographies*, Oxford University Press.

Smith D. M., 1977: *Human geography: A Welfare Approach*, Edward Arnold, London. Smith D. M., 1994: *Geography and Social Justice*, Blackwell, Oxford.

Smith S. J., Pain R., Marston S. A., Jones J. P., 2009: *The SAGE Handbook of Social Geographies*, Sage Publications.

Sopher, David (1980): *An Exploration of India*, Cornell University Press, Ithasa Valentine G., 2001: *Social Geographies: Space and Society*, Prentice Hall.

Sen Jyotirmoy (2016): A Textbook of Social and Cultural Geography, Kayani Publishers.
Crans, Mike,1998 : Cultural Geography, Routledge, London.
Dancan, J. and Ley, D. (eds) , 1992 : Place/Culture/Representation, Routledge, London.
Gritzer, Charion,
F.,1984 : 'The Scope of Cultural Geography', Journal of Geography, Volume 65, pp.4-11.
Jackson, Richard.H.and Hudman, Lloyel. E.,1990 : Cultural Geography ,West Publishing Company, New York.
Johnston, R.J., Gregory, Derek and Smith, David M. (eds),1994 : The Dictionary of Human Geography, Blackwell, Oxford.
Jordan, T.G. and Rowntree, L. : The Human Mosaic: A Thematic Interpretation in Cultural Geography.
Noble, A.G. and Dutt, A.K. (eds),1982 : India: Cultural Pattern and Processes , West View Press / Boulder, Colorado.
Sauer, Carl.O., 1963: Land and Life, University of California Press, Berkley.
Thomas, W.L. (ed.), 1959: Man's Role in Changing the Face of the Earth, University of Chicago Press, Chicago.
Zelinsky, W., 1973: The Cultural Geography of America, Princeton University Press, Princeton, N.J

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - IV
Course Name: Political Geography
Paper Code: GGY 4304M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- This course seeks to introduce students to the geographical aspects behind political phenomena.
- It seeks to develop new insights among students on the relevance of political geographical studies in a changing global scenario.

Learning Outcome

- The paper remains useful for students in developing ideas on geopolitics and allied phenomena and will aid students that may pursue a research programme.
- The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.

Theory Part

Section I

1. Political Geography - definition, nature and scope; State, Nation and Nation State - concept, attributes and types; Frontiers and boundaries - characteristics, function, classification; International conflicts in the context of frontiers and boundaries. **(15 Classes)**

Section II

2. Buffer zones; Core and Periphery; Geopolitics; Geopolitical theories - Heartland and Rimland; Political Geography of resource conflicts - water sharing disputes, disputes and conflicts related to forest rights and minerals **(13 Classes)**

Section III

3. Electoral Geography - meaning, nature and scope; Geographic influences on voting pattern; Geography of representation; Gerrymandering; **(12 Classes)**

Section IV

4. Politics of displacement: Issues of relief, compensation and rehabilitation with reference to Dams and Special Economic Zones. **(5 Classes)**

Practical Part

1. Mapping of international land borders of North East India/ India with neighboring countries with special reference to conflicted international boundaries. **(2 Exercises/ 4 Classes)**
2. Shape Index analysis and mapping by Haggett and Horton method. **(3 Exercises/ 6 Classes)**
3. Identification and mapping of 'Heartland' in reference to Mackinder's Heartland Theory and 'Rimland' in reference to Rimland Theory of Spykman. **(2 Exercises/ 4 Classes)**
4. Mapping of territorial disputed areas specially water sharing disputes/ conflicts related to forest rights and minerals in India. **(3 Exercises/ 6 Classes)**
5. Representation of State - wise breakup of displacement and rehabilitation with reference to Dams and SEZs in India with the help of composite bar diagram. **(2 Exercises/ 4 Classes)**
6. Drawing of an ideal voting booth and interpretation of the duties of Polling Officers; mapping of voting behavior in Assam/ India with the help of proportional circles. **(3 Exercises/ 6 Classes)**

Reading List:

2. Agnew J., 2002: *Making Political Geography,* Arnold.
3. Agnew J., Mitchell K. and Toal G., 2003: *A Companion to Political Geography*, Blackwell.
4. Adhikari S., 2017: *Political Geography*, Rawat Books
5. Adhikari S., 2017: *Political Geography of India: A Contemporary Perspective*, sharda pustak bhawan
6. Cox K. R., Low M. and Robinson J., 2008: *The Sage Handbook of Political Geography*, Sage Publications.
7. Cox K., 2002: *Political Geography: Territory, State and Society*, Wiley-Blackwell
8. Dikshit R. D., 2020: *Political Geography: Politics of Place and Spatiality of Politics*, Macmillan Education
9. Dikshit R. D. (Ed.), 1995: *Geography of Elections: The Indian Context*, Rawat Publications
10. Dwivedi R. L. & Mishra N., 2019: Fundamentals of Political Geography, Surjeet Publications
11. Gallaher C., et al, 2009: *Key Concepts in Political Geography*, Sage Publications.
12. Glassner M., 1993: *Political Geography*, Wiley.
13. Hodder Dick, Sarah J., Llyod and Keith S., Mc Lachlan. 1998: *Land Locked States of Africa and Asia* (vo.2), Frank Cass.
14. Harvey D., 2001: *Spaces of Global Capitalism: A Theory of Uneven Geographical Development,* Verso.
15. Jalan S., 2015: *Electoral Geography*, Rawat Pubns
16. Mishra N. R., 2012: *Displacement and Rehabilitation Solutions for the Future*, Gyan Publishing House
17. Jones M., 2004: *An Introduction to Political Geography: Space, Place and Politics*, Routledg.
18. Mathur H. M. and M. M. Cernea (eds.), 2011: *Development, Displacement and Resettlement – Focus on Asian Experience,* Vikas, Delhi.
19. Painter J. and Jeffrey A., 2009: *Political Geography*, Sage Publications.
20. Sharma D. D., Thakur B. R., Sharma B. L. (Ed), 2014: *Managing Our Resources: Perspectives and Planning*, Bharti Publications: New Delhi.
21. Taylor P. J. & Johnston R., 2016: *Geography of Elections*, Routledge Library Editions.
22. Taylor P. and Flint C., 2000: *Political Geography,* Pearson Education.
23. Verma M. K., 2004: *Development, Displacement and Resettlement*, Rawat Publications, Delhi

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course

Semester - V

Course Name: Geography of India

Paper Code: GGY 5104M

Total Marks: 100

(Theory: 45, Practical: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- This is a core paper which intends to introduce students to India as a geographical entity.
- It seeks to develop new insights among students on significant geographical dimensions of the country.
- It seeks to make the students a good understanding on regional diversity of India with respect to its land, people and economy.

Learning Outcome

- The paper will be useful for students in developing understanding on Indian geography and its various dimensions.
- It will also be useful for students preparing for UGC NET/SLET examinations along with civil services and other competitive examinations.

Theory Part

Section-I

1. India's location and its significance; administrative divisions. Physical setting: Physiographic divisions and their characteristics; Climate and its seasonal and regional characteristics; drainage; vegetation; soil types and its distribution. **(12 Classes)**

Section-II

2. Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic and religious composition; literacy pattern. **(10 Classes)**

Section-III

3. Agriculture: Characteristics and problems of Indian agriculture; Regional distribution and production patterns of rice, wheat and millet.

(12 Classes)

Section-IV

4. Industry: Industrial regions and their salient characteristics; Distribution and production patterns of iron and steel, cotton textile and fertilizers; Role of transport system in industrial development.

(11 Classes)

Practical Part

1. Drawing and interpretation of physiographic divisions, soil, vegetation and climatic map of Assam. (**4 Exercises/ 8 Classes**)
2. Drawing and interpretation of major tributaries of the Ganga and the Brahmaputra river system. (**2 Exercises/ 4 Classes**)
3. Trend of population growth and growth rates in India since 1901 using Census data **(1 Exercise/ 2 Classes)**
4. Choropleth mapping to show spatial variation population distribution in India, literacy pattern, urbanisation level. **(3 Exercises/ 6 Classes)**
5. Spatial variation in the patterns of religious composition of population in India and Social composition of population (SC, ST and General) in India using pie-graph. **(2 Exercises/ 4 Classes)**
6. Trend of food grains production (rice, wheat, maize, barley, jowar and bajra) in India since 1950-51 using band-graph. **(2 Exercises/ 4 Classes)**
7. Map showing distribution of iron and steel industries India (**1 Exercise/ 2 Classes**)

Reading List:

1. Deshpande C. D., 1992: India: A Regional Interpretation, ICSSR, New Delhi.
2. Johnson, B. L. C., ed. 2001. Geographical Dictionary of India. Vision Books, New Delhi.
3. Mandal R. B. (ed.), 1990: Patterns of Regional Geography – An Intenational Perspective. Vol. 3 –Indian Perspective.
4. Sdyasuk Galina and P Sengupta (1967): Economic Regionalisation of India, Census of India
5. Sharma, T. C. 2003: India - Economic and Commercial Geography. Vikas Publ., New Delhi.
6. Singh R. L., 1971: India: A Regional Geography, National Geographical Society of India.
7. Singh, Jagdish 2003: India - A Comprehensive & Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
8. Spate O. H. K. and Learmonth A. T. A., 1967: India and Pakistan: A General and Regional Geography, Methuen.
9. Tirtha, Ranjit 2002: Geography of India, Rawat Publs., Jaipur & New Delhi.
10. Pathak, C. R. 2003: Spatial Structure and Processes of Development in India. Regional Science Assoc., Kolkata.
11. Tiwari, R.C. (2007) Geography of India. Prayag Pustak Bhawan, Allahabad
12. Sharma, T.C. (2013) Economic Geography of India. Rawat Publication, Jaipur
13. Khullar, D. R. (2023) : India a Comprehensive Geography. Kalyani publishers
14. Hussain, M (2022): Geography of India, Mc Graw Hill, Noida.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - IV
Course Name: Geography of North-East India
Paper Code: GGY 5204M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To intend to introduce students to geography and environment interface.
- To develop new insights among students on the relevance of North East India from a spatial perspective.

Learning Outcome

- The paper will be useful for students in developing ideas on North East India that geographers usually address.
- The paper will be useful for students preparing for UGC NET/ SLET exams and other competitive exams including the civil services.

Theory Part

Section-I

1. Historical and Regional development of North East India: Location, Situation, Population and Regional significance; Physical Feature: Physiography, Geology, Hydrology, Soil and Climate.

(16 Classes)

Section-II

2. Mineral Resources: Coal, Petroleum, Limestone, Iron Ore and others; Potential for hydropower development, Industry: Nature of industrial development and types. **(16 Classes)**

Section-III

3. Natural hazards, environmental problems and geopolitical problems: Types and mitigation strategies.

(8 Classes)

Section-IV

4. Agricultural practices, transport network and accessibility **(5 Classes)**

Practical Part

1. Drawing and interpretation of geological map of India and North East India. **(2 Exercises/ 4 Classes)**

2. Mapping of physiographic divisions Assam, North East India and India **(3 Exercises/ 6 Classes)**

3. Thematic maps on major mineral resources and population characteristics of North East India. **(3 Exercises/ 6 Classes)**

4. Mapping of soil zones of Assam and North East India. **(2 Exercises/ 4 Classes)**

5. Mapping of seismic and flood prone areas of Assam, North East India and India. **(5 Exercises/ 10 Classes)**

Reading List

1. Abbi B. L., *North East Region : Problems and Prospects of Development* (Ed.), CRRID, Chandigarh, 1984.
2. Bhattacharyya, N. N. *, "The Contemporary Geopolitical Problems of North East India",* North-Eastern Geographer, Vol. XXIII. No.1-2, 1991, Pp.1-5.
3. Bhattacharyya, N. N., *"Planning Regions for balanced of Development in North East India" in "Regional Development in north East India"(*Ed) Deb B.J., Reliance Publishing House, New Delhi, 1995.
4. Bhattacharyya, N. N., *" Status of and Constraints to Industrial Development in north East india, in social constrains to industrial development in North East India,* (Ed) Datta Ray and Baishya, Concept publishing Company, New Delhi, 1998.
5. Dutta A. K. , *The Brahmaputra* , national Book Trust, India, 2001.
6. Dutta S.K., *"Palaeogeography of Assam Plateau",* in 21st International Geographical Congess -1968, Dept of Geography, Gauhati University.
7. Taher, M., and Ahmed., P., *Geography of North East India*, Mani Manik Prakash, Guwahati, 2002.
8. Unpublished Ph. D. Thesis- Hazarika, J., *Geopolitics of North East India*, Gauhati University
9. Sarmah Dr. J. N., 1993, *Assomor Nod Nodi* (The Rivers of Assam), Assam sahitya Sabha, Jorhat.
10. Taher M., 1988, *The population Base of Assam,* North eastern Geographer, Vol-19, No. 1-2.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - V
Course Name: Agricultural Geography
Paper Code: GGY 5304M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- This paper introduces students to the field of agricultural geography and its
- It seeks to develop new insights among students on the relevance of agriculture and allied activities in shaping the economy and geography of an area, region, country, or the globe.

Learning Outcome

- The paper will be useful for students in developing ideas on how geographical factors affect agricultural activities and how geographers seek to address issues of agricultural development and agricultural
- It will build skills for students seeking to enrol in a research programme and/or provide openings for them with agricultural or rural planning agencies.

Theory Part

Section-I

1. Nature and Scope of Agricultural Geography, Origin and Dispersal of Agriculture; Major Agricultural Hearths, Domestication of Animals, Determinants of agriculture: Physical, Technological and Institutional **(12 classes)**

Section-II

2. Land Use and Land Capability Classifications, Agricultural Regions of India: Agro-climatic, Agro-ecological & Crop CombinationRegions. **(12 classes)**

Section-III

3. Agricultural Systems of the World (Whittlesey's classification) and Agricultural Land use model. (Von Thunen, modification and relevance). **(11 Classes)**

Section-IV

4. Agricultural Revolutions in India: Green, White, Blue, and Pink, Globalization and Changing Pattern of Agriculture **(10 Classes)**

Practical Part

1. Analysis of landholding and income pattern of N.E. India and Assam **(2 Exercises/ 4 Classes)**
2. Choropleth mapping of cropping intensity of N.E. India **(2 Exercises/ 4 Classes)**
3. Spatial analysis of crop concentration in N.E. India and Assam **(2 Exercises/ 4 Classes)**
4. Measurement of agricultural efficiency (by Bhatia) **(2 Exercises/ 4 Classes)**
5. Measurement of crop concentration index by Jasbir Singh; measurement of crop diversification by ICAR. **(2 Exercises/ 4 Classes)**
6. Trend analysis of major agricultural produces. **(3 Exercises/ 6 Classes)**
7. Crop combination, analysis and mapping. **(2 Exercises/ 4 Classes)**

Reading List

1. Alexander, J.W., 1963: Economic Geography, Prentice Hall, Englewood Cliffs, N. J. Anderson, J.R., 1970: A Geography of Agriculture, Iowa: WMC Brown Co.
2. Clark, Colin and Haswell, Margaret, 1964: The Economy of Subsistence Agriculture, St. Martin's, London.
3. Chorley, R. J. and Haggett, P., 1971: Socio-Economic Models in Geography, Methuen and Co.Ltd., London.
4. Das, M. M., 1984: Peasant Agriculture in Assam: A Structural Analysis, Inter-India Publications, New Delhi.
5. Dunn, E. S., 1954: The Location of Agricultural Production, University of Florida Press, Gainsville.
6. Gregor, Howard, F., 1970: Geography of Agriculture: Themes in Research, Prentice Hall, Englewood Cliffs, N. J.
7. Grigg, D.B., 1978: Agricultural Systems of the World: An Evolutionary Approach, Cambridge University Press, Cambridge.
8. Hussain, M., 2001: Systematic Agricultural Geography, Rawat Publication, Jaipur and New Delhi. Mohammad, N. (ed), 1992: New Dimensions in Agricultural Geography (in 8 Volumes), Concept Publishing Company, New Delhi.
9. Morgan, W.B. and Munton, R.J.C., 1971: Agricultural Geography, Methuen, London.
10. Sauer, Carl O., 1952: Agricultural Origin and Dispersals, American Geographical Society (Bowman Memorial Lecture), New York.
11. Singh, J., 1974: Agricultural Atlas of India: A Geographical Analysis, Vishal Publishers, Kurukhsetra. Singh, J., 1976: Agricultural Geography, Tata McGraw Hill Pub. Co., New Delhi.
12. Sukla, S. P. and Agarwal, A.K.: Agriculture in North East India. Symons, L., 1967: Agricultural Geography, G. Bells and Sons, London.
13. Tarrant, John, R., 1974: Agricultural Geography, David and Charles, Newton.
14. Wheeler, K.B., Ladley, A.M. and Leong, F.G., 1970: Studies in Agricultural Geography, Bland Educational, London.
15. Ilbery, 1991: Agricultural Geography: Social and Economic Analysis, International Book House, Delhi. Tiwari, 1991: Agricultural Geography, International Book House, Delhi.
16. Whittlesey, D., 1936: Major Agricultural Regions of the World, Annals of the Association of American Geographers.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - VI
Course Name: Fundamentals of Remote Sensing
Paper Code: GGY 6104M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objective

- To introduce the students of geography to the fundamental techniques of remote sensing.
- To develop new insights among the students about the relevance of remote sensing techniques in spatial analysis.
- To develop skills among the students concerning remote sensing techniques as inputs to GIS in spatial analysis.

Learning Outcome

- The students will be able to develop ideas on remote sensing techniques and their importance in geographical analysis.
- The students will be able to categorically identify the aerial photographs and satellite images.
- The students will be able to technically differentiate the mechanisms of aerial and satellite remote sensing.
- The technical skills of the students will be enhanced for the interpretation and analysis of aerial photographs and satellite images.
- The students will be able to perform better in UGC/CSIR-NET and/or SET exams, including civil services and other competitive exams.

Theory Part

Section-I

1. Remote Sensing: Concept, History of Development and Principles of Remote Sensing System, Energy sources, EMR and its interactions with atmosphere and ground objects.

(11 Classes)

Section-II

2. Types of Remote Sensing: Aerial Remote Sensing and Satellite Remote Sensing, Fundamentals of Photogrammetry **(11 Classes)**

Section-III

3. Remote Sensing Data Products, Sources and Characteristics, Elements of Image Interpretation (Visual and Digital). Digital Image Processing **(11 Classes)**

Section-IV

4. Satellite Remote Sensing: Platforms, Sensors, Application of Remote Sensing technique in geographical studies with reference to Geomorphology, Forest resource and Disaster management.

(12Classes)

Practical Part

1. Determination of Scale, Relief Displacement and Height of objects in aerial photograph. **(3 Exercises/ 6 Classes)**
2. Measurement of ground areas from aerial photograph and satellite imagery. **(3 Exercises/ 6 Classes)**
3. Visual interpretation of Aerial Photographs and Satellite Imageries. **(3 Exercises/ 6 Classes)**
4. Preparation and Interpretation of Landuse/Land Cover map from aerial photographs and satellite imageries. **(3 Exercises/ 6 Classes)**
5. Preparation of Hydro-geomorphological map from the satellite imagery. **(3 Exercises/ 6 Classes)**

Reading List:

5. Adams, John B. And Gillespie, Alan R. *Remote Sensing of Landscapes with Spectral Images: A Physical Modelling Approach*, Cambridge University Press, Cambridge, UK.
6. Bhatta, B. (2008) *Remote Sensing and GIS*, Oxford University Press, New Delhi.
7. Bhatta, B. (2010) *Analysis of Urban Growth and Sprawl from Remote Sensing*, Springer, Berlin Heidelberg.
4. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
5. Giri, Chandra P. (2012) *Remote Sensing of Land Use and Land Cover: Principles and Applications*, CRC Press, Taylor & Francis Group, NW, USA.
6. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
7. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
8. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
9. Liu, Jian Guo and Mason, Philippa J. (2009) *Essential Image Processing and GIS for Remote Sensing*, Wiley-Blackwell, Oxford, UK.
10. Mather, Paul and Koch, Magaly. (2011) *Computer Processing of Remotely-Sensed Images: An Introduction*, Wiley-Blackwell, Oxford, UK
11. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
12. Nayak, S. and Zlatanova, S. (Eds.) (2008) *Remote Sensing and GIS Technologies for Monitoring and Prediction of Disasters*, Springer, Verlag Berlin Heidelberg.
13. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
14. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
15. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw-Hill.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course
Semester - VI
Course Name: Environment and Development
Paper Code: GGY 6204M
Total Marks: 100
(Theory: 45, Practical: 30 and Internal Assessment: 25)
Total Credits: 4 (Theory: 03, Practical: 01)

Total Lectures: 60
(Theory & Tutorial: 45 and Practical: 15)

Course Objectives

- This paper is a minor paper that intends to introduce students to environment, climate change interface and sustainable development.

Learning Outcomes

- The paper will be useful for students in developing ideas on environmental and climate change issues that geographers usually address.

Theory Part

Section-I

1. Environment – Concept and components, Man-Environmental Relationship **(7 Classes)**

Section-II

2. Major Global Environmental Problems - Pollution, Deforestation, Desertification, Global Warming **(12 Classes)**

Section-III

3. Climate Change and Vulnerability – Understanding climate change and vulnerability, causes and types **(14 Classes)**

Section-IV

4. Sustainable development and New Environmental Policy, Adaptation and Mitigation - Global initiatives with particular reference to India. **(12 Classes)**

Practical Part

1. Mapping of major National Parks of India, North East India and Assam

(3Exercises/ 6 Classes)

2. Mapping of deforested regions of World, India and Assam. **(3 Exercises/ 6 Classes)**
3. Identification of biodiversity hot spots of India and NE India and their mapping and interpretation.

(3 Exercises/ 6 Classes)

4. Identification of major industrially polluted regions of the India and Assam and their mapping.

(3 Exercises/ 6 Classes)

5. Preparation of Flow Chart showing major environmental policies/programmes and their interpretation. **(1 Exercise/ 2 Classes)**
6. Diagrammatic representation of Pond Ecosystem and interpretation.

(2 Exercises/ 4 Classes)

Reading List:

1. Chandna R. C., 2002: *Environmental Geography*, Kalyani, Ludhiana.
2. Cunninghum W. P. and Cunninghum M. A., 2004: *Principals of EnvironmentalScience: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
3. Goudie A., 2001: *The Nature of the Environment*, Blackwell, Oxford.
4. IPCC. (2007) Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.
5. IPCC (2014) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
6. Miller G. T., 2004: *Environmental Science: Working with the Earth*, Thomson BrooksCole, Singapore.
7. MoEF, 2006: *National Environmental Policy-2006*, Ministry of Environment and Forests, Government of India.
8. OECD. (2008) Climate Change Mitigation: What Do we Do? Organisation and Economic Cooperation and Development.
9. Singh S., 1997: *Environmental Geography*, Prayag Pustak Bhawan. Allahabad.
10. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer
11. UNEP. (2007) Global Environment Outlook: GEO4: Environment for Development, United Nations Environment Programme.

Course Framework for FYUGP in Geography, 2023

Syllabus of Minor Course

Semester - VI

Course Name: Fundamentals of Field Survey and Project Work

Paper Code: GGY 6304M

Total Marks: 100

(Theory: 45, Project Report: 30 and Internal Assessment: 25)

Total Credits: 4 (Theory: 03, Project: 01)

Total Lectures: 60

(Theory & Tutorial: 45 and Project Report: 15)

Course Objective

- This paper is a minor paper that intends to introduce students to philosophical and methodological issues in the development of the discipline of geography.
- Through this paper emphasis has been given on designing and preparation of field study report using the modern technology like GIS, GPS etc.
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Learning Outcome

- The paper will be useful for students in understanding perspectives on the development and contemporary trends in geography and its systematic study.
- The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.

Theory Part

Section I

1. Field Work in Geographical Studies: Role, Value, and Ethics of Field Work Field Techniques: Merits, Demerits, and Selection of the Appropriate Technique; Observation (Participant or Non-Participant) **(14 Classes)**

Section II

2. Data collection, processing, and analysis methods and chapter plan Questionnaires (open, closed, structured, or non-Structured); interviews with a special focus on Focused Group discussions

(13 Classes)

Section III

3. Designing the Field Report: Statement of the Problem, Significance of the Problem of the Study, Aims and Objectives, Methodology, Analysis, Interpretation, and Writing the Report **(14 Classes)**

Section IV

4. Principles of GPS Survey **(4 Classes)**

Project Report

1. Each student will prepare an individual report based on primary and secondary data collection during field work.
2. The word count of the report should be about 8000 to 12,000 excluding figures, tables, photographs, maps, references and appendices.
3. One copy of the report on A4 size paper should be submitted in soft binding.

Reading List:

Creswell J., 1999: Research Design: Qualitative and Quantitative Approaches, Sage Publications

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

Evens M., 1988: "Participant Observation: The Researcher as Research Tool," in

Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity

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

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

Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Report: A Basic Guide for Students of the Social and Behavioural Sciences, end. By F.

Pryczak and R. Bruce Pryczak, Publishing: Los Angeles Special Issue on "Doing Fieldwork in the Geographic Review 91:1–2 (2001)

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

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

INTER
DISCIPLANERY
COURSE (IDC)

GEOGRAPHY
(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Inter Disciplinary Course (IDC)
Semester - I
Course Name: Environmental Geography
Paper Code: GGY 1103ID
Total Marks: 50
(Theory: 50 Marks)
Total Credits: 3

Total Lectures: 50
(Theory & Tutorial)

Course Objective

- To intend to introduce students to geography and environment interface.
- To develop new insights among students on the relevance of environmental studies and issues from a spatial perspective.

Learning Outcome

- The paper will be useful for students in developing ideas on environmental issues that geographers usually address.
- The paper will be useful for students preparing for UGC NET/ SLET exams and other competitive exams including the civil services

Theory Part

Section I

1. Environmental Geography - Meaning, scope and significance; Human-Environment relationships- historical progression (pre-historical, historical and modern); Adaptation in different Biomes - equatorial, hills and mountain and desert. (**Classes 20**)

Section II

2. Eco-system: concept, types, components, structure and functions; Ecology - concept and principles; Major global environmental problems: pollution, deforestation, desertification, greenhouse effect, global warming, bio-depletion. (**Classes 20**)

Section III

3. Environmental Management; Environmental Programmes and Policies - Global, National and North East India **(Classes 10)**

Reading List:

1. Chandna R. C., 2002: Environmental Geography, Kalyani, Ludhiana.
2. Cunninghum W. P. and Cunninghum M. A., 2004: Principals of EnvironmentalScience: Inquiry and Applications, Tata Macgraw Hill, New Delhi.
3. Goudie A., 2001: The Nature of the Environment, Blackwell, Oxford.
4. Singh, R.B. (Eds.) (2009) Biogeography and Biodiversity. Rawat Publication, Jaipur
5. Miller G. T., 2004: Environmental Science: Working with the Earth, Thomson BrooksCole, Singapore.
6. MoEF, 2006: National Environmental Policy-2006, Ministry of Environment and Forests, Government of India.
7. Singh, R.B. and Hietala, R. (Eds.) (2014) Livelihood security in Northwestern Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh, India. Advances in Geographical and Environmental Studies, Springer
8. Odum, E. P. et al, 2005: Fundamentals of Ecology, Ceneage Learning India. 9. Singh S., 1997: Environmental Geography, PrayagPustakBhawan. Allahabad.
10. UNEP, 2007: Global Environment Outlook: GEO4: Environment for Development, United Nations Environment Programme.
11. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer
12. Singh, R.B. (1998) Ecological Techniques and Approaches to Vulnerable Environment, New Delhi, Oxford & IBH Pub..
13. Alcántara-Ayala, I. (2002). Geomorphology, natural hazards, vulnerability and prevention of natural disasters in developing countries. Geomorphology, 47(2-4), 107-124

Course Framework for FYUGP in Geography, 2023

Syllabus of Inter Disciplinary Course (IDC)
Semester - II
Course Name: Geography of Assam
Paper Code: GGY 2103ID
Total Marks: 50
(Theory: 50 Marks)
Total Credits: 3

Total Lectures: 50
(Theory & Tutorial)

Course Objective

- To introduce the students with Assam as geographical entity.
- To develop new insights among students on the relevance of geographical studies and Assam's contemporary geographical issues.
- To apply some important practical assignments to enhance their knowledge.

Learning Outcome

- Students will develop perspectives on geography of Assam and its systematic study.
- Students will get benefit in preparing for UGC NET/SET exams and other competitive exams.
- Students will acquire knowledge practically on various aspects.

Theory Part

Section I

1. Locational significance **(3 Classes)**
2. Physical characteristics: Physiography, drainage, climate, soil and vegetation. **(12 Classes)**

Section II

3. Demographic characteristics: Population growth, density and distribution, age-sex composition, literacy and occupation. **(10 Classes)**
4. Economic basis: Mineral and power resources, agriculture and industries; Tourism and its potentiality in Assam. **(12 Classes)**

Section III

5. Transport - communication system and its impact on resource and regional development. **(8 Classes)**
6. Biodiversity and its conservation issues. **(5 Classes)**

Reading List:

1. Bhagabai, A.K., Bora, A.K. and Kar, B.K : Geography of Assam.

2. Taher and Ahmed: Geography of North-East India, Mani Manik Prakashan, Guwahati.

3. Bhattacharyya, N.N. : North East India, Rajesh Publication, New Delhi

4. Bora, A.K. and Das, K.: North East India: Physical Landscape and Environment, Eastern Book Publishers, Guwahati.

5. Taher, M., edited by Bhagabati A.K.: Understanding India's North East, Rashmi Prakash, Guwahati.

6. Kar, B.K. and Bora, A.K. edited Geographies of India's North East: Some Perspectives, NEIGS Publications, Guwahati.

7. Bora, A.K. and Nath, M. edited An Illustrated Geography of Assam, Eastern Book Publishers, Guwahati.

8. North Eastern Council : Various Publications in different year.

9. Bhattacharya, P. : Trend in Tourism Potentiality, Bani Mandir, Guwahati

10. Bhagabati, A.K. (ed) : Biodiversity of Assam, Eastern Book House, Guwahati

11. Srivastava, S.C., : Demographic Profile of N.E. India, Mittal Publications

Course Framework for FYUGP in Geography, 2023

Syllabus of Inter Disciplinary Course (IDC)
Semester - III
Course Name: Geography of Tourism
Paper Code: GGY 3103 ID
Total Marks: 50
(Theory: 50 Marks)
Total Credits: 3

Total Lectures: 50
(Theory & Tutorial)

Course Objective

- This paper introduces students to the field of tourism from the lens of a geographer and its specificities
- It seeks to develop new insights among students on how tourism and allied activities are shaped by geography of an area, region or country and also how such activities are responsible in shaping economic, social and environmental context from globe to local levels.

Learning Outcome

- The paper will be useful for students in developing ideas on how geographic factors tangent on tourism activities and how geographers seek to address issues of development and carrying capacities of varied environments.
- It will also build skills among students seeking to enroll in a research programme and/ or provide openings for them to work with tourism/ eco-tourism planning agencies.

Theory Part

Section I

1. Field of Geography of Tourism and its nature and scope; Inter - Relationships of Tourism, Recreation and Leisure; Geographical Parameters of Tourism; Type of Tourism: Nature Tourism, Cultural Tourism and Pilgrimage

(15 Classes)

Section II

2. Recent Trends of Tourism: International and Regional; Domestic (India); Eco- Tourism, Sustainable Tourism, Incentives and Exhibitions (**15 Classes**)

Section III

3. Impact of Tourism: Economy; Environment; Society with special reference to Assam and North East India; Tourism in India: Tourism Infrastructure; Case Studies Himalaya, Desert, North East India with special reference to Assam. (**20 Classes**)

Reading List:

1. Bhattacharya, P., 2011: *Tourism in Assam: Trend and Potentialities*, Bani Mandia, Guwahati
2. Baghla S., 2020: *Geography In Tourism Infrastructure*, Random
3. Dhar, P. N., 2006: *International Tourism: Emerging Challenges and Future Prospects*, Kanishka, New Delhi
4. Hall, M. And Stephen, P., 2006: *Geography of Tourism and Recreation - Environment, Place and Space*, Routledge, London.
5. Kamra, K. K. And Chand, M., 2007: *Basics of Tourism: Theory, Operation and Practise*, Kanishka Publishers, Pune
6. Page, S. J., 2011: *Tourism Management: An Introduction*, Butterworth- Heinemann - USA. Chapter 2.
7. Deepa G., 2015: *Geography of Tourism*, Mohit Publications
8. Singh S., 2018: *Tourism Geography*, Random
9. Swain S. K., 2011: *Tourism: Principles And Practices*, Oxford University Press
10. Sharma J.P., 2022: *Tourism Geography and Ecology*, Laxmi Publications Pvt.
11. Smith J. D., Warburton F., 2012: *Travel and Tourism*, Cambridge University Press

SKILL
ENHANCEMENT
COURSE (SEC)

GEOGRAPHY
(NEP-2020)

Course Framework for FYUGP in Geography, 2023

Syllabus of Skilled Enhancement Course (SEC)

Semester - I

Course Name: Disaster Management

Paper Code: GGY 1103SE

Total Marks: 50

Total Credits: 3

Total Lectures: 50

Course Objective

- To intend to introduce students to geography and environment interface.
- To develop new insights among students on the relevance of Disaster management from a spatial perspective.

Learning Outcome

- The paper will be useful for students in developing ideas on Disaster management that geographers usually address.
- The paper will be useful for students preparing for UGC NET/ SLET exams and other competitive exams including the civil services.

Theory Part

Section I

1. Hazard and Disasters: Concept, Definition, and types, Disasters in India: (a) Flood: Causes, Impact and Distribution, Landslide: Causes, Impact and Distribution, Drought: Causes, Impact and Distribution. **(18 Classes)**

Section II

2. Disasters in India: (b) Earthquake and Tsunami: Causes, Impact and Distribution; Cyclone: Causes, Impact and Distribution; Manmade disasters: Causes and Impact. **(16 Classes)**

Section III

3. Response and Mitigation to Disasters: Mitigation and Preparedness, NDMA and NIDM; Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts During and Post Disasters. **(16 Classes)**

Reading List:

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, NewUnited 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).

Course Framework for FYUGP in Geography, 2023

Syllabus of Skilled Enhancement Course (SEC)

Semester - II

Course Name: Cartographic Techniques in Geography

Paper Code: GGY 2103SE

Total Marks: 50

Total Credits: 3

Total Lectures: 50

Course Objective

- This course on Cartographic Techniques provides a general understanding of the field of cartography including its modern developments and importance in geographic study.
- It more particularly focuses on various types of map scale and their construction; principles of map projection and construction of selected few; and preparation of thematic maps through the representation of various geographical data using different cartographic techniques.
- This course provides a general understanding of the field of survey including its modern tools and importance in geographic study. It more particularly focuses on various types of survey instruments; principles of different types of surveying, methods of carrying out survey for preparation of plan in different environment and representation of various objects in the plan.

Learning Outcome

- Understanding the importance of various cartographic techniques in geographical stud
- General understanding of map type, map scale and map content.
- Understanding of survey works with the instruments.
- An acquaintance of different cartographic techniques for representation of various facetsof physical and human geographic data of any area.

Theory Part

Section I

1. Cartography - Meaning, Traditional and Modern Cartography and importance of Cartography in Geography; Maps - Types, scale and content, characteristics of map, representation of point, line and area in maps; Scale and symbol - Meaning and types.

(18 Classes)

Section II

2. Base Map – Meaning, types, characteristics and problems of preparation; Map design and layout principles and problems; thematic mapping - Concept, types, importance and principles

(15 Classes)

Section III

3. Map Projections - Concept, classification and problems; and choice of map projection

(7 Classes)

Section IV

4. Surveying – Meaning, types, importance, principles and techniques of surveying; Prismatic Compass, Dumpy Level and Theodolite survey and their utilities **(10 Classes)**

Reading List:

1. Anson R. and Ormelling F. J., 1994: International Cartographic Association: BasicCartographic Vol. Pregmen Press.
2. Dent, B. D., 1999: Cartography: Thematic Map Design, (Vol. 1), McGraw Hill.
3. Gupta K.K. and Tyagi, V. C., 1992: Working with Map, Survey of India, DST, New Delhi.
4. Karnetkar T.P. and Kulkarni S.V. : Surveying and Levelling, Pune Vidyarthi Griha Prakashan.
5. Mishra R.P. and Ramesh, A., 1989: Fundamentals of Cartography, Concept, New Delhi.
6. Monkhouse F. J. and Wilkinson H. R., 1973: Maps and Diagrams, Methuen, London.
7. Rhind D. W. and Taylor D. R. F., (eds.), 1989: Cartography: Past, Present and Future, Elsevier, International Cartographic Association.
8. Robinson A. H., 2009: Elements of Cartography, John Wiley and Sons, New York.
9. Sharma J. P., 2010: Prayogic Bhugol, Rastogi Publishers, Meerut.
10. Singh R. L. and Singh R. P. B., 1999: Elements of Practical Geography, Kalyani Publishers.
11. Singh, G. : Map Work and Practical Geography, Vikash Publishing House.
12. Sarkar, A. (2015) Practical geography: A Systematic approach. Orient Black Swan Private Ltd., New Delhi.
13. Singh R L & Rana P B Singh(1991) Prayogtmak Bhugol ke Mool Tatva, Kalyani Publishers, New Delhi.
14. Sharma, J P (2010) Prayogtmak Bhugol ki Rooprekha, Rastogi Publications, Meerut.
15. Singh, R L & Dutta, P K (2012) Prayogatmak Bhugol, Central Book Depot, Allahabad.
16. Steers, J. A., 1965: An Introduction to the Study of Map Projections, University of London.

Course Framework for FYUGP in Geography, 2023

Skill Development Courses (SEC)

Semester - III

Course Name: Quantitative Methods in Geography

Paper Code: GGY 3103SE

Total Marks: 50

Total Credits: 3

Total Lectures: 50

Course Objective

7. To introduce students to the rationale underlying quantitative methods in geography.
8. To give practical knowledge about some of the tools and techniques of geography dealing with the analysis of geographic data.

Learning Outcome

- Students will have the opportunity to develop ideas on geographical analyses.
- Students will be provided with theoretical insights and perspectives if they wish to pursue a research programme in the future.
- Students will benefit from preparing for the UGC NET-JRF/SET exam and other competitive exams, including civil services.
- Students will learn some of the application aspects of geographical data.

Theory Part

Section I

1. Quantification and its significance in geographical study; advantages and limitations of quantitative methods in geography, geographical data: Nature, types and sources **(12 Classes)**

Section II

2. Scales of Measurement: Nominal, Ordinal, Interval, and Ratio Scales, Measures of central tendency (mean, median and mode) and dispersion (range, quartile deviation, mean deviation, S.D. and C.V.) and their applications **(14 Classes)**

Section III

3. S**a**mpling: Simple Random, Stratified and Systematic Random Sampling, Time series analysis and its applications **(12 Classes)**

Section IV

4. Correlation: Simple, Partial and Multiple Correlations; Pearson's Product Moment, Spearman's rank, Test of significance of coefficients of correlation **(12 Classes)**

Reading List:

1. Singh, R.L. (1993): *Elements of Practical Geography*, Kalyani, Delhi
2. Alvi, Zamir (1995): *Statistical Geography, Methods and Applications,* Concept, New Delhi.
3. Ebdon, David (1977): *Statistics in Geography: A practical Approach*, Basil Blackwell, Oxford
4. Gregory, S. (1978): *Statistical Methods and the Geographer*, Longman, London,
5. Hammond R and P.S. McCullagh (1974): *Quantitative Techniques in Geography: An Introduction*, Clarendon Press, Oxford
6. Rogerson, P.A. (): *Statistical Methods for Geography*, Sage, London
7. Silk, John (1979): *Statistical Concepts in Geography*, George Allen & Unwin, London.