

Raha College

**CORE SYLLABUS
Subject: GEOGRAPHY**

Semester	Course Type	Paper Code	Paper Name	Full Marks (Theory +practical)	Methodology
1 st	Honours Core	GGY-HC-1016	GEOMORPHOLOGY	100	Lecture, notes Power point
		GGY-HC-1026	CARTOGRAPHIC TECHNIQUES		
2 nd	Honours Core	GGY-HC-2016	HUMAN GEOGRAPHY	100	Lecture, notes Power point
		GGY-HC-2026	CLIMATOLOGY AND BIOGEOGRAPHY		
3 rd	Honours Core	GGY-HC-3016	ECONOMIC GEOGRAPHY	100	Lecture, notes Power point
		GGY-HC-3026	GEOGRAPHY OF INDIA WITH SPECIAL REFERENCE TO N.E INDIA		
		GGY-HC-3036	QUANTITATIVE METHODS		
4 th	Honours Core	GGY-HC-4016	ENVIRONMENTAL GEOGRAPHY AND DISASTER MANGEMENT	100	Lecture, notes Power point
		GGY-HC-4026	POPULATION AND SETTLEMENT GEOGRAPHY		
		GGY-HC-4036	REMOTE SENSING, GIS, GPS		
5 th	Honours Core	GGY-HC-5016	SOCIAL AND POLITICAL GEOGRAPHY	100	Lecture, notes Power point
		GGY-HC-5026	FIELD TECHNIQUES IN GEOGRAPHY		
		GGY-HC-5046	REGIONAL DEVELOPMENT AND PLANNING		

		GGY-HC-5066	AGRICULTURAL GEOGRAPHY		
6 th	Honours Core	GGY-HC-6016	GEOGRAPHICAL THOUGHT	100	Lecture, notes Power point
		GGY-HC-6026	RESEARCH METHODIN GEOGRAPHY AND PROJECT WORK		
		GGY-HC-6036	GEOGRAPHY OF HEALTH		
		GGY-HC-6056	GEOGRAPHY OF TOURISM		

CBCS-based U.G. Course in Geography
Course Name: Geomorphology (Core Course)
Paper Code: GGY - HC – 1016
Total Credit: 6 (4+2)
Total Marks: 100

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

Course objectives

- To provide a general idea about the topographic and surficial characteristics of the earth's Surface to the students.
- To make the students aware of the dynamic geomorphic processes responsible for the Development of landforms of varied types and nature.
- To apply scientific knowledge on landform development based on geomorphic concepts, Principles and theories.

Course outcomes

- The students will learn that the earth is unstable and it is undergoing constant changes due to
 - Dynamic earth's processes.
 - The students will come to know about the meaning and scope of geomorphology as a major Branch of Physical Geography.
 - 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 in different areas.

Part I: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

Sl. No.	Topic	No of Classes
1	Geomorphology: Nature, Scope and Significance	4classes
2	Structure and characteristics of the earth's crust and interior	4classes
3	Forces of landform development: Endogenetic forces (folding, Faulting earthquakes and volcanoes) and exogenetic forces (Weathering, erosion and mass-wasting).	10classes
4	Earth Movements: Continental Drift Theory, Isostasy, Mountain Building: views of Holmes and Kober, Plate tectonics.	10classes
5	Concept of Cycle of Erosion: Davis and Penck, Landform Development under Fluvial, Aeolian and Glacial conditions	12classes

Part II: Practical
Credit: 2 (20 Marks)
(20 classes of 2 hour duration each)
Unit I: Practical Works (16 Marks)
(Two questions of 8 marks each)

Unit I: Practical Works (16 Marks)

1. Study of Topographical Maps: Topographical map content and Numbering system, the general interpretation of top sheets in respect of physical Characteristics.
2. Profile drawing (serial, superimposed, projected and composite)
3. Preparation of Slope Map / Relative Relief Map: Wentworth's method and Smith's method.
4. Delineation of drainage basin and drainage network, construction of cross and Long profiles, stream ordering by Horton and Strahler's method
5. Interpretation of Geological map and Construction of cross –section (Two Geological maps including one with interruptions) showing different sedimentary beds.

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

- 6 Evaluation of Practical Note-Book
- 7 Viva-voce

Reading List:

1. Bridges E. M., 1990: World Geomorphology, Cambridge University Press, Cambridge.
2. Kale V. S. and Gupta A., 2001: Introduction to Geomorphology, Orient Longman, Hyderabad.
3. Knighton A. D., 1984: Fluvial Forms and Processes, Edward Arnold Publishers, London.
4. Richards K. S., 1982: Rivers: Form and Processes in Alluvial Channels, Methuen, London.
5. Selby, M.J., (2005), Earth's Changing Surface, Indian Edition, OUP
6. Skinner, Brian J. and Stephen C. Porter (2000), The Dynamic Earth: An Introduction to Physical
7. Geology, 4th Edition, John Wiley and Sons.
8. Strahler, A. N. and Strahler, A. H., 2008: Modern Physical Geography, John Wiley & Sons, New
9. York.
10. Thornbury W. D., 1968: Principles of Geomorphology, Wiley.
Steers, J.A., 1988: The Unstable Earth, Kalyani Publishers, New Delhi.
11. Monkhouse, F.J. and Wilkinson, H.R., 1989: Maps and Diagrams, B.I. Publications Ltd., Mumbai.
12. Singh R. L. and Singh R. P. B., 1999: Elements of Practical Geography, Kalyani Publishers.
13. Singh, L.R., 2013: Fundamentals of Practical Geography, ShardaPustakBhawan, Allahabad
14. Sarkar, A., 2015: Practical Geography: A Systematic Approach. Orient Black Swan Private Ltd.,
15. Misra, R. P. and Ramesh, A., 1989: Fundamentals of Cartography, Concept Publishing Company,

**CBCS-based U.G. Course in Geography,
Course Name: Cartographic Techniques (Core Course)
Paper Code: GGY-HC-1026
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)**

Course objectives

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.

Course outcomes

- Understanding the importance of various cartographic techniques in geographical study
- General understanding of map type, map scale and map content.
- An acquaintance of different cartographic techniques for representation of various facets of Physical and human geographic data of any area.

Part I: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

- | | |
|---|------------|
| 1 Cartography – Meaning, Development (Traditional and Modern Cartography) and Importance of Cartography in Geography. | 8 classes |
| 2 Shape and size of the earth, coordinate system (latitude and longitude) | 8 classes |
| 3 Maps: Types, scale and content, representation of point, line and area in maps | 8 classes |
| 4 Map Projections: Concept of Map Projection, Classification of Map Projections; Choice of map projection. | 10 classes |
| 5 Thematic mapping: Concept and types | 6 classes |

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

1. Construction of graphical scale (linear, diagonal and comparative);
Conversion of map scale
 2. Construction of graticules of Zenithal Polar Gnomonic and Stereographic, Simple Conical with one standard parallel, Bonne's conical, Gall's Stereographic Cylindrical along with their properties, Uses and limitations.
 3. Preparation of thematic maps (choropleth, isopleth and pie diagram) for
Representing various physical geographic data.
- 6 Evaluation of Practical Note-Book (2 Marks)
- 7 Viva-voce (2 Marks)

Reading List:

1. Anson R. and Ormelling F. J., 1994: International Cartographic Association: Basic Cartographic Vol., Pergaman Press.
- 2 Gupta K.K. and Tyagi, V.C., 1992: Working with Map, Survey of India, DST, New Delhi
- 3 Misra R.P. and Ramesh, A., 1989: Fundamentals of Cartography, Concept, New Delhi.
- 4 Monkhouse F.J. and Wilkinson H.R., 1973: Maps and Diagrams, Methuen, London.
- 5 Rhind D. W. and Taylor D. R. F., (eds.), 1989: Cartography: Past, Present and Future, Elsevier, International Cartographic Association.
- 6 Robinson A.H., 2009: Elements of Cartography, John Wiley and Sons, New York.

CBCS-based U.G. Course in Geography, 2019
Syllabus of Generic Elective Papers
Course Name: Physical Geography
Paper Code: GGY-HG-1036
Total Credit: 6 (4+2)
Total Marks: 100

Course objectives

1. To provide a general idea about the topographic and surficial characteristics of the earth's surface to the students.
2. To make the students aware of the dynamic geomorphic processes responsible for the Development of landforms of varied types and nature.
3. To impart applied scientific knowledge on landform development based on geomorphic concepts, principles and theories.

Course outcomes

- The students will learn that the earth is unstable and it is undergoing constant changes due to Dynamic earth's processes.
- The students will come to know about the meaning and scope of geomorphology, which a major branch of Physical Geography.
- 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.

Part I: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

Topic	
1. Physical Geography – Definition and Scope, Components of Earth System.	4classes
2. Atmosphere – Composition and the vertical structure, Heat Balance, Global Circulation Pattern, Monsoon, Koppen's Climatic Classification.	10 Classes
3. Lithosphere – Internal Structure of Earth based on Seismic Evidence	8 Classes
4. Endogenetic and Exogenetic processes, Works of River, Fluvial Cycle of Erosion – Davis	8 Classes
5. Hydrosphere: hydrological cycle, ocean bottom relief features, oceanic deposits, tides and currents.	10 Classes

Part II: Practical

Credit: 2 (20 Marks)

(20 classes of 2 hour duration each)

- | Topic | |
|---|--|
| 1. Relief representation from the topographical sheet (v-shaped valley, U-shaped valley, conical hill, cliff, uniform slope). | |
| 2. Profile Drawing (Serial and superimposed). | |
| 3. . Rainfall-Temperature Graph, Climograph and Hythergraph. | |
| 4. Hypsometric and bathymetric curve. | |

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

6 Evaluation of Practical Note-Book

(2 Marks)

7 Viva-voce

(2 Marks)

Reading List:

- 1 Conserva H. T., 2004: Illustrated Dictionary of Physical Geography, Author House, USA.
- 2 Gabler R. E., Petersen J. F. and Trapasso, L. M., 2007: Essentials of Physical Geography (8th Edition), Thompson, Brooks/Cole, USA.
- 3 Garrett N., 2000: Advanced Geography, Oxford University Press.
- 4 Goudie, A., 1984: The Nature of the Environment: An Advanced Physical Geography, Basil Blackwell Publishers, Oxford.
- 5 Hamblin, W. K., 1995: Earth's Dynamic System, Prentice-Hall, N.J.
- 6 Husain M., 2002: Fundamentals of Physical Geography, Rawat Publications, Jaipur.
- 7 Monkhouse, F. J. 2009: Principles of Physical Geography, Platinum Publishers, Kolkata.
- 8 Strahler A. N. and Strahler A. H., 2008: Modern Physical Geography, John Wiley & Sons, New York.

Core Course

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

Syllabus of Honours Core Course

Course Name: Human Geography

Paper Code: GGY-HC-2016

Total Credit: 6 (4+2)

Total Marks: 100

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

Course objectives

- This paper is a core paper that intends to introduce students to human geography and how humankind transforms and gets transformed by geographic space.
- It seeks to develop new insights among students on the relevance of human environmental relationships and how spatial perspectives shape these relationships.

Course outcomes

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

Part I: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

1. Defining the field of human geography: Meaning and Scope; Nature of human geography and its relation with other social sciences.

(5classes)

2. Schools of human geography: Human Ecology, Landscape and Locational.

(5classes)

3. Paradigms of man-environment relationship study: Determinism, Possibilism, Neodeterminism, and Cultural Determinism.

(8classes)

4. Man and environment relationship: Impact of environment on man in different geographical conditions; Impact of man and its activities on environment in different parts of the world; Impact of Population growth on development and environmental degradations; House types in different environmental conditions.

(8classes)

5. Man and culture: Ethnicity and Race; Global patterns of racial composition of population and associated characteristics of major racial groups; Global patterns of religious and linguistic composition of population; Tribal people of India and their socio-economic characteristics. (7classes)

6. Human Settlements: Rural and urban settlements - Origin, growth and morphological characteristics; Types/Patterns of rural settlements; Burgess and Hoyt theories of internal structure of town; patterns of urbanization: Global and Indian scenario. (7classes)

Part II: Practical

Credit: 2 (20 Marks)

(20 classes of 2 hour duration each)

Unit 1: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. TraditionalhousetypesofselectedethnicgroupsofN.E.IndiaandIndia
2. Trend of population growth in the world in relation to five most populous countries of the world using line graph.
3. Religious and Linguistic composition of population in the world and five most populous countries of the world using pie-graph.
4. Spatial patterns of scheduled tribes population and urban population in India at state level through choropleth map (based on percentage and LQ).
5. Drawing of major rural settlement types/patterns; Morphological diagram of a village and a town (preferably based on student's own village and town); Drawing of internal model structure of towns according to Burgess and Hoyt.
6. Mappingofdistributionofmajorracialandlinguisticgroupsofpopulationintheworld.

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

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

CBCS-based U.G. Course in Geography, 2019
Syllabus of Core Course
Course Name: Climatology and Biogeography
Paper Code: GGY-HC-2026
Total Credit: 6 (4+2)
Total Marks: 100

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

Course objectives:

- This paper is a core paper that intends to introduce students to the rationale underlying climatological studies in geography
- It seeks to develop new insights among students on the relevance of climatic variable stagnating on climate change.
- This paper intend to develop an understanding in the physical and human factors responsible for the distribution, conservation, and restriction of living organisms on the earth-surface.

Course outcomes:

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

Part 1: Theory
Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

Group A: Climatology (35 Marks)	(24 Classes)
1. Meaning of climatology and its significance in geographical studies.	(2 classes)
2. Atmospheric Composition and Structure; and their variation with altitude, latitude and season. (3 classes)	
3. Insolation and Temperature; Factors and Distribution and Heat Budget.	(3 Classes)
4. Atmospheric Pressure and Wind system; Planetary Winds, Forces affecting Winds, General Circulation, Jet Streams (5 Classes)	
5. Atmospheric Moisture – Evaporation, Humidity, Condensation, Fog, Precipitation Types, Stability and Instability.	(5 Classes)
6. Climatic classification of Koppen and Trewartha; Monsoon - Origin and Mechanism.	(4 Classes)
7. Cyclones and anticyclones; Tropical Cyclones, Extra-Tropical Cyclone.	(2 Classes)

Group B: Biogeography (25 marks)**(16 classes)**

1. Meaning, Scope and Significance of biogeography (2 Classes)
2. Ecology and Ecosystem, Structure and functioning of ecosystem (4 Classes)
3. Global distribution of major plants and animals. (4 Classes)
4. Biomes and Biodiversity hotspots of the world. (2 Classes)
5. Soil as a component of environment , soil formation process and factors , soil composition and horizon, Soil types and their distribution in India (4 Classes)

Part II: Practical**Credit: 2 (20 Marks)****(20 classes of 2 hour duration each)****Unit 1: Practical Works (16 Marks)**

(Two questions of 8 marks each, taking one from Climatology and one from Biogeography)

Climatology

1. Interpretation of Indian Weather map for Monsoon and non–monsoon seasons/months based on various weather symbols depicted on maps.
2. Preparation of weather reports of Indian subcontinent by analyzing the weather satellite images of at least three consecutive days (e.g. INSAT 3D, NOAA satellite).
https://mausam.imd.gov.in/imd_latest/contents/satellite.php#.
3. Preparation of rainfall-temperature graphs; hythergraph, climograph and ergograph taking data from India/N.E.India/Assam
4. Calculation of average annual rainfall and variability of annual rainfall and preparation of rainfall distribution and variability maps (using isopleths).

Biogeography

5. Mapping of protected areas (National park, biosphere reserve and wildlife sanctuary) of Assam/ N.E.India/India.
6. Mapping of phyto-geographic and zoogeographic regions of the world.
7. Mapping of Biodiversity hotspots of the world.
8. Mapping of Soil types of Assam/N.E. India and Soil horizons.

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

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

Core Course
CBCS-based U.G. Course in Geography, 2019
Syllabus of Core Course
Course Name: Economic Geography
Paper Code: GGY-HC-3016
Total Credit: 6 (4+2)
Total Marks: 100

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

Course Objectives:

- This is a core paper that intends to introduce students to the principles of economic geography and associated patterns and processes of major economic activities in the world.

- It seeks to develop new insights among students on the relevance of economy geography and associated problems in contemporary times.

Course Outcomes:

- 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 be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.

Part 1: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

1. Meaning, scope and approaches of Economic Geography. (3classes)
2. Economic activity: meaning and classification; Production system: Role of land, labour and capital. (3classes)
3. Agriculture: Factors influencing agriculture; types of agriculture; Von Thunen's model of agricultural location; Factors influencing cultivation of wheat, rice, coffee and tea, and their distribution and production in different parts of the world. (10classes)
4. Manufacturing: Factors influencing industrial location; Classification of industry; Weber's theory of industrial location; Factors, distribution and production of iron and steel, cotton textile and IT industries in the world; Special economic zones and technology parks. (10classes)
5. Transport system: Modes of transport, factors influencing transport development and role of transport in resource mobilization and economic development. (7classes)
6. Trade: Factors influencing trade in different countries of the world; Trade relations of India with the countries like USA, Russia and Japan. (7classes)

Part II: Practical

Credit: 2 (20 Marks)

(20 classes of 2 hour duration each)

Unit 1: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Trend of rice, wheat and iron & steel production in the world/USA/India since 1960 using moving average and least squares methods.
2. Trend of production of wheat, rice, maize and barley in the world/USA since 1960 using Band-graph.

3. Trend of balance of trade relations (export and import value) of India with USA, China and Japan in respect of major commodities since 1990 using Bar-graph.
4. Regional variation in fertilizer consumption and agricultural productivity in rice, wheat and barley in selected countries of the world using Bar-graph.
5. Inter-state/Inter-nation volume of movement of selected commodities and Inter-city movement of traffic/bus in N.E. India through flow cartogram.

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

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

CBCS-based U.G. Course in Geography, 2019
Syllabus of Core Course
Course Name: Geography of India with Special Reference to N.E. India
Paper Code: GGY-HC-3026
Total Credit: 6 (4+2)
Total Marks: 100

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

Course objectives:

- 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

A field study is incorporated to make the students understand regional diversity of India with respect to its land, people and economy

Course outcomes:

The paper will be useful for students in developing understanding on Indian geography and its various dimensions.

- It will also be useful for students preparing for various competitive examinations including civil services.

Part 1: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

1. India's location and its significance; administrative divisions. **(2classes)**
2. Physical setting: Physiographic divisions and their characteristics; Climate and its seasonal and regional characteristics; vegetation; soil types and its distribution. **(8classes)**
3. Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic and religious composition. **(6classes)**
4. Agriculture: Regional distribution and production patterns of rice, wheat and millet. **(4classes)**
5. Industry: Distribution and production patterns of iron and steel, cotton textile and fertilizers; Role of transport system in industrial development. **(6classes)**
6. North-East India: Land of seven sisters and its locational significance; physiographic framework; forest cover; agricultural practices including shifting cultivation; industrial development scenario; population growth, distribution and ethnic composition. **(14 classes)**

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

Unit1: Practical Works (10 marks)

(2 Questions of 5 marks each)

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

Unit2: Field Report (6 Marks)

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

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

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

CBCS-based U.G. Course in Geography, 2019
Syllabus of Core Course
Course Name: Quantitative Methods in Geography
Paper Code: GGY-HC-3036
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course Objectives:

The paper Quantitative Methods in Geography throws light on the importance of data in geography. It deals with the methods and techniques of data collection, data tabulation, data interpretation and analysis through the application of some basic statistical measures. This paper provides an understanding of the pure and applied nature of geography along with the key elements in the discipline.

Course Outcomes:

- Through understanding of the statistical methods and techniques used in geographical studies;
- Understanding of tabulation, analysis and interpretation of geographical data.

Part 1: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

1. Quantification and its significance in geographical study; advantages and limitations of quantitative methods in geography. (4classes)
2. Geographical Data: Nature, types and sources; scale of measurement (nominal, ordinal, interval and ratio). (4classes)
3. Measures of central tendency (mean, median and mode) and dispersion (range, quartile deviation, mean deviation, standard deviation and coefficient of variation) and their applications in geographical data analysis. (8classes)
4. Sampling techniques: meaning of sampling and its need; types of sampling (simple random and stratified random). (6classes)
5. Time series analysis and its applications in geographical studies; Basic techniques of timeseriesdataanalysis(semi-average,movingaverageandleastsquares). (6classes)
6. Correlation and Regression Analysis: Meaning of correlation; Bi-variate coefficient of correlation (Spearman's rank correlation and Pearson's product-moment correlation); linear regression analysis; and their applications in geographical data analysis. (12 classes)

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

Unit 1: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Tabulation/Grouping of geographical data for making frequency distribution table; Preparation of Histogram, Frequency Polygon and Frequency Curve.
2. Computation of mean, median and mode for ungrouped and grouped geographical data; Determination of median and mode using graphical methods; Determination of the locationofspatialmeancentreofsettlements(usingcentrographicmeasure).
3. Computation of the values of standard deviation and coefficient of variation of ungrouped and grouped data relating to some geographical phenomena (rainfall, landholding, income, production, etc) for comparison of distribution patterns.
4. Analysis of time series data of some geographical phenomena (rainfall, production, export value, import value, etc) using moving average and least squares methods.
5. Computation of coefficient of correlation between two logically associated geographical phenomena using Spearman's rank correlation and Pearson's product-moment correlation formulae; Preparation of scatter diagram and fitting the line of linear regression of Y on X foranysetofbi-variatedatarelatingtomeaningfulgeographicalphenomena.

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

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

CBCS-based U.G. Course in Geography, 2019
Syllabus of Core Course
Name: Environmental Geography and Disaster Management
Paper Code: GGY-HC-4016
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives

- This is a core paper which intends to introduce students to geography and environment interface.
- It seeks to develop new insights among students on the relevance of environmental studies from a spatial perspective.

Course outcomes

- This paper will be useful for students in developing ideas on environmental issues including disasters that geographers usually address.
- This paper will be useful for students preparing for different competitive exams including the civil services.

Part I: Theory

Credit: 4 (60 Marks)

(40 Classes of 1 hour each)

1. Environmental Geography: Nature, Scope and Significance (4 Classes)
2. Human-Environment Relationships – Historical progression, Adaptation in different Biomes. (6 Classes)
3. Major Global Environmental Problems: Pollution, Deforestation, Desertification, Global Warming, and Bio-Depletion. (10 Classes)
4. Meaning of Hazard, Disaster, Risk and Vulnerability; Types of hazard/disaster (Natural and Manmade). (4 Classes)
5. Disaster Management Cycle and Phases: Prevention, Preparedness, Response, Rehabilitation, Reconstruction and Mitigation, (4 Classes)
6. Major Hazards and Disasters, and their Management: Flood, Earthquake, Wildfire, and Chemical and Nuclear explosions. (6 Classes)
7. National Environmental Policy and National Disaster Management Plan: Environmental Protection Act 1986 and Disaster Management Act 2005. (6 Classes)

Part II: Practical

Credit: 2 (20 Marks)

(20 classes of two hour duration each)

Unit I: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Exploring satellite imageries and toposheets to observe bank line change of Brahmaputra river from any selected stretch in three different time periods and preparation of map therefrom (Goalpara, Palashbari, Nimatighat, etc.) Satellite images can be downloaded from <https://earthexplorer.usgs.gov/> Survey of India toposheets can be downloaded freely from <https://soinakshe.uk.gov.in/mtr/>
2. Mapping of major wetlands in a district and computation of shape and size (area) based distribution.
3. Preparation of a map of a nearby wetland and identify the changes in dimension, water level and encroachment it faced during the last one decade. Present your data in tabular form along with the map (field-based).

4. Preparation of a long-term precipitation time series curve for any selected station of N.E. India using moving average method by downloading the annual rainfall data for any district/station of Assam for at least 30 years from the portal https://www.indiawaterportal.org/met_data/. Students can also explore the web portal <https://mausam.imd.gov.in/> to get an idea of different types of weather data in India and their historical and present distribution.

5. Drawing of a diagram of disaster management cycle with reference to some disasters (flood and earthquake) in North-East India and to indicate the activities associated with each step.

6. Drawing of a map of Assam showing the major fault lines thereon. Also to plot at least 50 epicentres in last few years and to explain the areas of their concentration by taking the help of Bhookamp app.

7. Preparation of a disaster vulnerability map of Assam/ N.E. India based on data of natural disasters (Flood/earthquake/landslide/bank erosion) with respect to their occurrence and frequency in different areas.

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

1. Evaluation of Practical Note-Book (2 Marks)

2. Viva-voce (2 Marks)

CBCS-based U.G. Course in Geography, 2019 Syllabus of Core Course

Name: Population and Settlement Geography

Paper Code: GGY-HC-4026

Total Credit: 6 (4+2)

Total Marks: 100

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

Course objectives

- This paper is a core paper that intends to introduce students to the basic concepts of population and settlement geography and how the differential characteristics of population and settlement influence the overall development process of an area.
- It seeks to develop understanding among students about the significance of population geography and settlement geography and their inter-relationship.

Course outcomes

- The paper will be useful for students in developing ideas about spatio-temporal changes in the characteristics of population and settlement and the factors associated with them.
- The paper will be useful for students preparing for various competitive exams including the civil services.

Part I: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

Unit I: Population Geography (40 Marks)

26 Classes

1. Defining the field of population geography: nature and scope; Its relation with demography. (3 Classes)
2. Sources, characteristics and problems of population data; Perspectives on Census of India publications – Primary Census Abstract, District Census Hand-Book, Sample Registration System, etc. (4 Classes)
3. Distribution and density of population: Factors influencing population distribution and density; global pattern of population distribution; population density regions in the world. (4 Classes)
4. Population Growth: Trend of global population growth; components of population growth– fertility, mortality and migration; factors influencing fertility and mortality; push and pull factors of migration; spatial variations in population growth in the world. (8 Classes)
5. Theories of population growth: Malthusian Theory and Demographic Transition Theory. (3 Classes)
6. Population composition and associated characteristic patterns in global contexts: Age-Sex Composition; Rural-Urban Composition; Contemporary population issues – population ageing, declining sex ratio, pandemics. (4 Classes)

Unit II: Settlement Geography (20 Marks)

1. Defining the field of settlement of geography: Nature and scope. (2 Classes)
2. Rural and urban settlements: Factors influencing distribution pattern of settlements; Types of rural settlements; Characteristics of rural and urban settlements. (4 Classes)
3. Morphology of rural and urban settlements; Burgess theory of internal structure of a town. (4 Classes)
4. Concept of settlement hierarchy, primate city and urban fringe; Christaller's Central Place Theory. (4 Classes)

Part II: Practical

Credit: 2 (20 Marks)
(20 classes of 2 hour duration each)

Unit I: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Trend of population growth in Assam/N.E. India/India through line graph; Calculation and graphical representation of trend of decadal and annual growth rates of population in Assam/N.E. India/India.
2. Choropleth map to show spatial pattern of decadal variation in population growth in Assam/N.E. India/India.
3. Choropleth map showing spatial pattern of population density in Assam/India.
4. Calculation of distribution pattern of settlements in an area using Nearest Neighbour Analysis.
5. Map showing spatial variation in social/religious/rural-urban composition of population in Assam/N.E. India using pie-graph.
6. Choropleth map showing spatial pattern of level of urbanization in Assam/N.E. India.
7. Map showing distribution of towns and their varied population size with spheres in Assam/N.E. India.
8. Flow cartogram showing direction and volume of migration into Assam/N.E. India from different parts of India.

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

1. Evaluation of Practical Note-Book (2 Marks)

2. Viva-voce (2 Marks)

CBCS-based U.G. Course in Geography, 2019
Syllabus of Honours Core Course
Course Name: Remote Sensing, GIS and GPS
Paper Code: GGY-HC-4036
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60; Practical: 20; Internal Assessment: 20)

Course objectives

- This paper is a core paper that intends to introduce students to the interface of Remote Sensing and GIS
- It seeks to develop new insights among students on the relevance of geospatial studies within the field of geography. Course outcomes
- The paper remains useful for students in developing skills in spatial data analysis if they wish to pursue a research programme.
- The paper will be useful for students preparing for different competitive exams including the civil services.

Part I: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

Unit 1: Remote Sensing (30 Marks)

1. Remote Sensing: Definition and History of Development. (3 classes)
2. Principles of Remote Sensing System: Energy sources, EMR and its interaction with Atmosphere and Earth Features; Platform, Sensor and Resolutions; Aerial and Satellite Remote Sensing; Fundamentals of Photogrammetry. (8 classes)
3. Remote Sensing data products, sources and characteristics; Elements of Image Interpretation (Visual & Digital); Digital Image Processing: Image Enhancement and Classification (Supervised and Un-supervised). (6classes)
4. Application of Remote Sensing: Land, Vegetation and Water (3 classes)

Unit 2: GIS (20 Marks)

1. Geographical Information System (GIS): Definition, Development, Components, and Functions; Open source GIS. (4 classes)
2. GIS Data Types & Structures: Spatial and Non-Spatial Data; Raster and Vector Data Structure, Database Management System (DBMS). (4 classes)
3. Data Layer Extraction and Spatial Analysis: Buffer, proximity and overlay analysis. (3 Classes)
4. Application of GIS in geographical studies (Land Suitability analysis, Network analysis, Flood damage estimation) (3 classes)

Unit 3: GPS (10 Marks)

1. Global Positioning System (GPS): Types, basic principles and functions; Different Navigational Systems. (3 classes)
2. Application of GPS in surveying and mapping. (3 classes)

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

Unit I: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Visual Interpretation of Aerial photograph and Satellite Imagery and preparation of thematic maps based on appropriate classification scheme.

2. Analysis of aerial photographs and satellite image: Determination of photo scale and object height from aerial photo (Using Stereoscope); Digital classification of satellite image: supervised and unsupervised.

3. Geo-referencing and Data layer creation: Map scanning, geometric correction, digitization of different layers using point, line and polygon, attribute data input and their thematic representation, Buffer creation, Overlay analysis.

4. GPS data collection, plotting and mapping of various features within college campus. N.B.: Basic Remote Sensing and GIS Software's for practical works: Arc GIS/Erdas Professional /Q-GIS/SAGA GIS.

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

3. Evaluation of Practical Note-Book (2 Marks)

4. Viva-voce (2 Marks)

CBCS-based U.G. Course in Geography, 2019
Syllabus of Honours Core Course
Course Name: Social and Political Geography
Paper Code: GGY-HC-5016
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives:

To appreciate the social and political dimensions of geographic phenomena

- Understand how geography influences political issues and their spatial dimensions
- Course outcome: This course will help equip the students to comprehend various social and political aspects
- of phenomena and their interface within the realm of geography. The paper will be very useful for students preparing for various competitive
- examinations including civil services.

Part 1: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

Unit 1: Social Geography (30 Marks) 20 Classes

1. Social Geography: Meaning and scope; its approaches of study; and contemporary trend of its development. (4 Classes)

2. Concept and types of social space and social groups. (4 Classes)

3. Social Well-being: Concept and Component: Housing, Health and Education; Concept of Human development and its measurements. (4 Classes)
4. Contribution of race, religion, language and ethnicity in promoting diversity in India. (4 Classes)
5. Social Geographies of inclusion and exclusion: Caste system, slums, gated communities, communal conflicts and crime; Gender identity. (4 Classes)

Unit 2: Political Geography (30 Marks) 20 Classes

1. Political Geography: Nature, scope and recent trends; Approaches to its study. (4 Classes)
2. Concept of state, nation, and nation-state; Attributes of State. (3 Classes)
3. Concept of frontiers and boundaries; boundary problems with reference to India and North East India; Concept of buffer zones. (5 Classes)
4. Concept of Geopolitics, Heartland and Rimland; Mackinder's Heartland Theory. (4 Classes)
5. Concept of colonialism, neo colonialism and lebensraum. (4 Classes)

Part II: Practical

Credit: 2 (20 Marks)

(20 classes of 2 hour duration each)

Unit 1: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Mapping the spatial patterns of human development in India and Assam using HDI.
2. Construction of Ternary Diagram representing social composition of population in India/North East India.
3. Level of Social well-being with the help of composite Z-score in India /North-East India.
4. Sex disparity in literacy in India/North-East India using Sopher's Disparity Index.
5. Computation of Shape Index for selected states of India and countries.
6. Construction of a map of India/North-East India highlighting the major inter-state boundary conflict zones.
7. Reorganization of the states of North-East India during Pre and Post Independence periods (up to the present).

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

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

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

Syllabus of Honours Core Course

Course Name: Field Techniques in Geography

Paper Code: GGY-HC-5026

Total Credit: 6 (4+2)

Total Marks 100

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

Course objectives:

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

Course outcomes:

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

Part I: Theory**Credit: 4 (60 Marks)****(40 Classes of 1 hour each)**

1. Geography and Field Studies: Geography as a field science; Need of field work in geography; Nature of field studies in physical geography and human geography. (4 classes)
2. Concept of Case Study and Its identification in the varying geographical contexts (Physical/Human/Rural/Urban/Environmental). (4 classes)
3. Tools and Techniques in Field Studies: Nature of data and their collection techniques relating to various geographical phenomena (Physical and Human); Structure of field survey questionnaire; Collection of Physical geographic data: Observations and photography, field interview, questionnaire survey, Equipment/Measurement-based survey, etc; Collection of Human geographic data: Questionnaire survey, Participant observation, PRA, Focus group interview/discussion, etc. (14 classes)
4. Surveying: Concept of ground surveying and mapping; Conduct of traverse surveying with Prismatic Compass; Profile levelling and contouring with Dumpy Level; Point distribution survey with GPS; Field mapping of Village, River bank, Wetland, Landslides, Market, etc through Transect, Quadrant and sketch map. (14 classes)
5. Preparation of Field Study Report and its broad design: Basis of selection of the theme of field study; Objectives, Methods of data collection, Location/Situation of the study area, Data Analysis and mapping, Interpretation/Findings. (4 classes)

Part II: Field Book**Credit: 2 (20 Marks)****(20 classes of two hour duration each)****Unit I: Field Book Preparation and Evaluation (15 Marks)**

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

Contents of Field Book:

1. Field observations of a near-by area and preparation of a brief report (within 4-5 pages) about the prevailing physical and human landscape of the area along with its spot photograph.
2. Preparation of two field survey questionnaire/schedule (within 2 pages each) for collection of data relating to two different broad phenomena/problems (one on physical phenomenon and another on human phenomenon), and processing, tabulation and graphical representation of the same.
3. Closed traverse surveying within College campus with Prismatic Compass and plotting of some details within the polygon, and preparation of a plan with appropriate scale and error correction, if any.
4. Longitudinal profile levelling and contouring in College campus and any nearby area with Dumpy Level, and plotting of collected data in the forms of longitudinal profile and contour map.
5. Collection of point data from an area with handheld GPS and preparation of a GPS data table and distribution map with down-loaded data.
6. Preparation of field map of a village, urban locality/market, river bank/wetland and its adjoining area or their any section through Transect, Quadrant and sketch map along with a spot photograph of the same.

Unit II: Viva-voce (5 Marks)

CBCS-based U.G. Course in Geography, 2019
Syllabus of Discipline Specific Elective Course
Course Name: Regional Development and Planning
Paper Code: GGY-HE-5046
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course objectives:

This paper intends to introduce students to the rationale underlying the relevance of balanced regional development and spatial inequalities from geographical perspective.

It seeks to develop new insights among students on the issue of development and associated regional disparities in development.

Course outcomes:

The paper will be useful for students in developing ideas on disparities within and between countries and their fallout.

The paper will help provide theoretical insights and perspectives to students, if they wish to pursue a higher studies or research in future.

The paper will be very useful for students preparing for various competitive examinations including civil services.

Part I: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

Unit I: Regional Planning (30 marks) (20 Classes)

1. Region: Concept, types and delineation techniques of a region. (4 Classes)
2. Regional planning: Evolution and types; Objectives and principles of Regional Planning. (5 Classes)
3. Regional Planning in India: Macro, meso and micro level planning; Local level planning and Panchayati Raj (GPDP); Participatory approach in planning; NITI Aayog. (6 Classes)
4. Planning regions of India with special reference to North-East India. (5 Classes)

Unit-II: Regional Development (30 marks) (20 Classes)

5. Concept of Development: Growth versus development; Concept of sustainable development and balanced development. (4 Classes)
6. Regional Development theories and models: Concept and basic ideas of Growth Pole Model of Perroux; Cumulative Causation Theory of Myrdal and Stages of Economic Growth model of Rostow. (6 Classes)
7. Human development: Meaning and concept of Human Development Index; Concept of Happiness Index. (4 Classes)
8. Disparity of Regional Development in India: Development indicators; Measuring level of development; Pattern of regional development in India with special reference to North-East India; Role of NEC and DoNER Ministry towards development of the NE Region. (6 Classes)

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

Unit I: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Delineation of agricultural productivity regions in Assam/NE India by using weighted index number and Bhatia's method.
2. Delineation of influence zones of selected urban centres of Assam/ NE India by using Reilly's Breaking Point formula.
3. Preparation of land use maps of any suitable area for two different points of time for identifying the changes in settlement, agriculture land, forest cover, water bodies, etc. during the period; and representation of data generated from there in a graph.
4. Preparation of a choropleth map to show regional disparity in development in India and N. E. India based on selected indicators using Ranking Method and Composite Z-Score method.
5. Preparation of flow cartogram to show volume of inter-state movement of different commodities in India/NE India.

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

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

CBCS-based U.G. Course in Geography, 2019
Syllabus of Discipline-Specific Elective Course
Course Name: Agricultural Geography
Paper Code: GGY-HE-5066
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course Objectives:

As a discipline-specific elective paper it intends to introduce the students to the basic concepts of agriculture and agricultural geography.

It seeks to develop understanding among students about the significance of Agricultural Geography.

To understand how different types of agriculture have developed in different areas and how they are similar to or different from one another.

Course Outcome:

This paper will be useful for students in developing ideas about agricultural practices and their distribution and characteristics.

This paper will also be useful to the students in understanding the world agricultural systems.

This paper will help develop understanding of location of agricultural activities and associated contemporary problems and challenges.

Part I: Theory
Credit: 4 (60 Marks)
(40 Classes of 1 hour each)

1. Agricultural Geography: Meaning and Scope, Significance; Its approaches of study. (3 classes)
2. Factors influencing agriculture: Physical, Socio-economic, Infra-structural and Institutional. (4 classes)
3. Agricultural Systems and Types: Global Agricultural Systems; Agricultural types: Intensive and Extensive, Subsistence and Commercial, Plantation Farming, Mixed Farming, Horticulture and Market Gardening. (8 classes)
4. Von Thunen's Model of Agricultural Location; Concept of Land Rent and Market forces. (4 classes)
5. Concept of cropping patterns: Crop Combination (Nelson's Method), Crop concentration, Intensity of cropping and Crop rotation. (5 classes)
6. Agricultural Modernization and Development: Concept of agricultural modernization; Inputs of agricultural modernization (mechanization, Irrigation, HYV seeds, fertilizers etc.); Concept of crop productivity and agricultural development. (8 classes)
7. Factors, distribution and production patterns of rice, wheat and sugarcane in the world. (4 classes)
8. India's agriculture: Major characteristics and problems; Green revolution; agroclimatic regions.

Part II: Practical
Credit: 2 (20 Marks)

20 classes of 2 hour duration each)

Unit I: Practical Works

(16 Marks)

(Two questions of 8 marks each)

1. Trend of production of major food grains (rice, wheat, maize etc.) in India/ selected States using moving average method.
2. Preparation of the crop- combination Map of Assam/ North East India based on Nelson's method.
3. Agricultural productivity pattern in Brahmaputra Valley/Assam/ N E India based on Kendall's Ranking Method.
4. Mapping of spatial pattern of Intensity of Cropping in Assam/ North East India Exercises)
5. Spatial variation in land use pattern in Brahmaputra valley/ North East India with Pie diagram.
6. Spatial pattern of crop concentration in North East India/ Assam using Location Quotient Method.
7. Spatial pattern of level of agricultural development in Assam/ N E India using Composite Z-Score.
8. Correlation and regression analysis between irrigation and cropping intensity in Assam/N.E. India.

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

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

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

Syllabus of Core Course

Course Name: Geographical Thought

Paper Code: GGY-HC-6016

Total Credit: 6 (4+2)

Total Marks: 100

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

Course objectives:

This course introduces the students to the theoretical development of geography over time.

This course presents contemporary and post-modern perspectives, along with the model that act as a guiding force of the discipline to understand various geographical phenomena in proper perspectives.

Course outcomes:

This course develops a comprehensive understanding of the discipline

This course helps the students to apply the historic and contemporary perspective to explain and approach the real world geographic problems.

Part 1: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

1. Early development of Geography: Ancient, dark age, medieval, and age of exploration and discoveries. (8 classes)
2. Foundation of modern geography: Contribution of the German, French, British and American geographers. (6 classes)
3. Evolution of geographical thought: Determinism, possibilism, neo-determinism, human ecology, cultural landscape and areal differentiation. (8 classes)
4. Recent trends in geography: Quantitative revolution and its impact, logical positivism, locational school of thought, behaviouralism, humanistic geography and post-modernism. (10 classes)
5. Geographical debates: Regional and systematic; ideographic and nomothetic. (4 classes)
6. Models in geography: Meaning, types and significance; basic concepts of Gravity Model, Spatial Diffusion Model and Distance Decay Model. (4 classes)

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

Unit 1: Practical Works (16 Marks)
(Two questions of 8 marks each)

1. Mapping of routes of exploration and discoveries (Marco Polo, Christopher Columbus, Vasco-da gama, and James Cook)
2. Intensity of spatial interaction of Guwahati city with neighbouring urban centres.
3. Mapping of population potential surfaces in Assam using the gravity model.
4. Demarcation of urban influence zone by using Reilly's breaking point formula.
5. Population Density gradient analysis of Guwahati or any other city.
6. Trend of development of paradigms in geography (from Environmental Determinism to Post Modernism) through time-scale graph indicating advocates, tentative time of emergence and overriding theme.
7. Preparation of a world map highlighting the major developments of geography (Greek, Arab, France, Germany, Russia, UK and USA) indicating the contribution, name of the contributor and year of contribution.
8. Greek and Arabian contributions to the development of Geography in different ages (Name of contributor and name of contribution at different points of time) through time-scale graph.

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

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

CBCS-based U.G. Course in Geography, 2019
Syllabus of Honours Core Course
Course Name: Research Methods in Geography and Project Work
Paper Code: GGY-HC-6026
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course Objectives:

The paper on Research Methods will enable the students:

- To understand how to approach a research problem and to formulate research objectives and research questions in proper perspective. In addition, knowledge of formulation of hypothesis and testing, framing of questionnaires, techniques of collection of both qualitative and quantitative data and their analysis.
- To develop understanding of the basics and utility of review of literature and preparation of research report. Course Outcomes:
- This course will help the students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed while doing quality research.

Part I: Theory
Credit: 4 (60 Marks)
(40 Classes of 1 hour each)

1. Meaning and significance of research; types of research; Basics of research methodology; Review of literature and its need; Ethics of research. (6 Classes)
2. Geographic Research: Meaning and Characteristics; Formulation of research problem. (4 Classes)
3. Research Design: Statement of the problem, Review of research works, Objectives, Research questions, Hypotheses, Database and methodology, Significance, Organization of the Work and Referencing. (10 Classes)
4. Data Collection: Types and Sources of Data; Methods of primary data collection (both qualitative and quantitative, and physical and human geographic data); Concept of sample survey; Pilot survey; Data processing (Manual and computerised). (10 Classes)
5. Statistical Analysis of Data: Qualitative data analysis; Quantitative data analysis; Data representation (Manual and computerised). (5 Classes)
6. Structure of a Research Report: Preliminaries; Text; Tables, Figures and Appendices; Citations, References and Bibliography; Research/Project Report Writing; Executive Summary. (5 Classes)

Part II: Project Report
Credit: 2 (20 Marks)
(21 classes of two hour duration each)
Project Report Preparation and Evaluation (20 Marks)

1. Each student will have to prepare a Project Report on a suitable geographical problem under the guidance of respective teacher following appropriate methodology, data base and literature review.

2. Length of the Report: 30-40 printed A4 size pages (font size 12 in Times New Roman with 1.5 spacing) including text, tables, figures, references, etc.

3. The project report in binding form (Kutchra or Spiral binding) duly signed by the guide concerned has to be submitted to the department at least 3 days before the scheduled date of examination.

4. The marks distribution of the Project Report in the final semester examination is as follows:

(i) Total marks: 20

(ii) Evaluation of Content: 15 (average between external examiner and internal teacher guide)

(iii) Viva-voce: 5 (exclusively by the external examiner)

CBCS-based UG Course in Geography, 2019

Syllabus of Discipline Specific Elective

Course Name: Geography of Health

Paper Code: GGY-HE-6036

Total Credit: 6 (4+2)

Total Marks: 100

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

Course objectives:

This course basically deals with understanding the concept of health and geography of health as a field of study. It throws light on the factors determining human health and occurrence of various types of diseases in relation to ecology. It also provides information about human health in relation to global climate change in general and disease pattern in relation to varying environmental contexts in India in particular.

Course outcomes:

- Understanding of the concept of human health and healthcare from the perspective of geography.
- Acquiring knowledge about factors influencing human health and occurrence of diseases in varying ecological settings.
- Providing useful information about the impact of global climate change on human health and occurrence of various diseases in different ecological settings in India.

Part I: Theory

Credit: 4 (60 Marks)

(40 classes of 1 hour duration each)

1. Geography of Health: Definition and significance; approaches of study: ecological, social and spatial; dualism between medical geography and geography of health. (6 classes)

2. Disease ecology: ecology and human health; geographical factors affecting human health; factors influencing disease transmission (pathological, physical, environmental, social, cultural and economic); Diffusion of diseases and their causes in varied biotic, physical and cultural environments. (8 classes)

3. Classification of diseases: genetic, zoonotic, communicable, non-communicable, occupational, deficiency diseases and malnutrition. (4 classes)

4. Disease occurrence: emergence, re-emergence and persistence; modes of transmission of major diseases (Malaria, Japanese encephalitis, tuberculosis, hepatitis, AIDS and COVID-19) and their broad global distribution. (8 classes)

5. Healthcare systems: Meaning and components; Universal government-funded health system; Role of WHO and UNICEF in global health care; SDG3 for good health and Well-being; Healthcare services in India: family welfare, immunization, National Health Mission and its programmes, health for all programmes, challenges to health care system during pandemic situation like COVID-19. (8 classes)

6. Environment, human habit and health: Basic concept and ideas relating to food habit and health, occupation and health, environmental degradation and health, lifestyle and human health.

Part II: Practical

Credit: 2 (20 Marks)

(20 classes of 2 hour duration each)

Unit I: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Mapping of health status indicators (hospital beds, primary health centres, doctors, para-medics, etc.) in Assam/N.E. India using Z-score method. (1 Exercise)

2. Trend of infant mortality and maternal mortality rates in India in relation to selected developed and developing countries using line graph. (3 Exercises)

3. Choropleth mapping of infant mortality in India at state level. (1 Exercise)

4. Correlation analysis between any physical determinants (monthly rainfall/monthly average temperature) and epidemiological incidence of a disease (monthly malaria cases) in any district of Assam. (1 Exercise)

5. Map showing spatial variation of disease incidence rate in India/N.E. India at state level. (1 Exercise)

6. Mapping of seasonal variation in the occurrence of Covid-19 cases in Assam at district level using pie graph. (1 Exercise)

7. Preparation of questionnaire for healthcare and health status survey. (1 Exercise)

8. Computation of distribution pattern of hospitals, health centres, etc. using nearest neighbour analysis. (1 Exercise)

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

1. Evaluation of Practical Note-Book (2 Marks)

2. Viva-voce (2 Marks)

CBCS-based U.G. Course in Geography, 2019
Discipline Specific Elective Paper
Course Name: Geography of Tourism
Paper Code: GGY–HE-6056
Total Credit: 6 (4+2)
Total Marks: 100
(Theory: 60, Practical: 20 and Internal Assessment: 20)

Course Objectives:

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

Course Outcomes:

The paper will be useful for students in developing ideas on how geographical 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 for students seeking to enroll in a research programme and/or provide openings for them to work with tourism/eco-tourism planning agencies.

Part I: Theory
Credit: 4 (60 Marks)
(40 classes of 1 hour duration each)

1. Geography of Tourism: Nature and scope; Concepts and Issues of tourism; Recreation and leisure inter-relations; Robinson's geographical parameters of tourism. (4 classes)
2. Factors and types of tourism: Nature tourism, Cultural tourism, Medical tourism, Agritourism, Adventure tourism, Pilgrimage, etc. (6 classes)
3. Recent trends in tourism: International and Domestic (India); Eco-Tourism; Sustainable tourism; Meetings, Incentives, Conventions and Exhibitions (MICE) (12 classes)
4. Impact of tourism on economy, environment and society. (6 classes)
5. Tourism development in India: Tourism infrastructures; Case studies of tourism development in Himalaya, Desert, Coastal Areas and North-East India with special reference to Assam; National Tourism Policies and prospects. (12 classes)

Part II: Practical

Credit: 2 (20 Marks)
(20 classes of 2 hour duration each)

Unit 1: Practical Works (16 Marks)

(Two questions of 8 marks each)

1. Trend of growth of tourist arrivals in the World/India/Assam since 1960 using Moving average method and least squares method.
2. Trend of tourist arrivals in the north-eastern states of India and a few top-ranking tourist arriving states of India since 1980 using Band-graph.
3. Line Graph showing pattern of tourist arrival (Domestic and International) in relation to rainfall and temperature in a year for selected tourist spots of North-East India / Assam.
4. Spatial Patterns of Seasonal variation (Spring, Summer, Autumn and Winter) in tourist arrival in capital cities of North-East Indian states using Pie diagram and Bar Diagram.
5. Preparation of a transport connectivity (road, railway and air) map of Assam/North-East India for major tourist destinations.
6. Preparation of a tourist map of North-East India showing locations of important national parks and wildlife sanctuaries from tourism potential perspectives (indicating the major highlights of the respective destinations including distance from Guwahati city within box) (2 assignments)
7. Preparation of a tourist guide map of North-East India showing location of major tourist destinations and road connectivity routes from Guwahati city. (1 assignment)
8. Mapping of trekking route in a hilly area suitable for adventure tourism using GPS (Field based). (1 assignment)

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

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