Darrang College (Autonomous), Tezpur-784001

Syllabus for FYUGP

Subject: GEOGRAPHY

Course Type: MINOR

Approved by:
Board of Studies meeting held on 24-12-2025
&
Academic Council vide Resolution no. 2, dated- 29-12-2025

Darrang College (Autonomous)

Four -year Undergraduate Programme (FYUGP) Syllabus

Detail syllabus of 1st semester (Minor)

Title of the course	**Physical Geography**
Course code	**GGY-MN-01014**
Total Credit (theory)	**04 (3-1-0)**
Contact hours	**60** (1 Credit=15 hours)
Distribution of Marks	(A) **End semester** = **60** (B) **Internal**=**40** (Sessional, Assignment, Class Test, Seminar, Group Discussion, Attendance)
Course outcomes	1 Understand the evolution, concept, scope, and branches of Physical Geography and its interdisciplinary nature. 2. Appreciate the scope and significance of Geomorphology, and comprehend fundamental Concepts such as catastrophism and uniformitarianism. 3. Grasp the meaning, scope, and critical elements of Climatology such as insolation, heat budget, and the relationship between temperature, pressure, and precipitation. 4. Understand the fundaments of Oceanography, including the origins of ocean basins and Currents and the relationship between temperature and salinity. 5. Comprehend the essence, scope, and key concepts of Biogeography such as the biosphere, ecology, ecosystems, and biodiversity.

Unit	**Content**	**Lecture**	**Tutorial**	**Practical**	**Total Hours**
Unit 1: Physical Geography	Meaning, scope, branches of physical geography, physical geography and its interdisciplinary nature.	04	01	NIL	05
Unit 2: Geomorphology	Meaning, scope and nature of geomorphology, internal structure of the earth and its composition. Geomorphic Processes: endogenetic-folds, faults & joints, earthquakes and volcanism; exogenetic-Denudation, weathering, mass wasting, erosion, transportation, deposition. Davisian concept of landform development.	16	02	NIL	18
Unit 3: Climatology	Meaning & scope of Climatology, weather & climate, structure & composition of atmosphere. Insolation:	16	02	NIL	18

	factors affecting insolation, distribution, heat budget. Atmospheric pressure: pressure belts, general circulation of air, winds, cyclones & anti-cyclones. Humidity: types, condensation, forms of precipitation, stability & instability of atmosphere.				
Unit 4: Oceanography and Biogeography	Meaning & scope of oceanography, ocean bottom configuration (Pacific, Atlantic, Indian), ocean currents, temperature & salinity. Meaning & scope of biogeography, fundamental concepts: biosphere, ecology, ecosystems, biodiversity, biogeographic regions. Soil: types & soil forming processes.	08 08	02 01	NIL	10 09
Total unit 04		**52**	**08**	**NIL**	**60**

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. Waugh, D. (2000). Geography: An integrated approach. Nelson Thornes.
4. Kale, V.S. and Gupta, A. (2001) Introduction to Geomorphology. Orient Longman, NewDelhi.
5. Selby, M.J. (2005) Earth's Changing Surface: An Introduction to Geomorphology. ClarendonPress
6. Thornbury, W. (1968). Principles of Geomorphology.- John Wiley and Sons, 394 p. NewYork.
7. Siddhartha, K. (2018): Oceanography, A brief Introduction, Kitab Mahal
8. Howard, J. Critchfield: General Climatology, 2008, Pearson
9. Lal, D.S.(2022) Climatology, Sarda Pustak Bhaban
10. C.Barry Cox, Peter D. Moore, (2000), Biogeography, John Wiley and Sons Ltd

Detail syllabus of 2nd semester (Minor)

Title of the course	**Human Geography**
Course code	**GGY-MN-02014**
Total Credit (theory)	**04 (3-1-0)**
Contact hours	**60** (1 Credit=15 hours)
Distribution of Marks	(A) **End semester** = **60**

	(B) **Internal=40** (Sessional, Assignment, Class Test, Seminar, Group Discussion, Attendance)
Course outcomes	1. Understand human geography's scope, its relationship with other sciences and development trend. 2. Explain the concept of man-environment relationship, and interpret different principles and schools of thought. 3. Evaluate and contrast different schools of human geography, focusing on Human Ecology, Landscape and Locational Analysis. 4. Assess the impact of environment on man and his activities on environment in various global contexts, with emphasis on Urbanization, Salinization and Desertification in global contexts. 5. Analyze the concept of ethnicity and race and identify global patterns of racial composition, investigating urban and rural socio-economic practices.

Unit	**Content**	**Lecture**	**Tuitorial**	**Practical**	**Total Hours**
Unit 1	Defining the field of human geography and its development: Meaning and changing nature of human geography and its relation with other social sciences.	10	01	NIL	11
Unit 2	Man-environment relationship discourse in human geography: Determinism, Possibilism, Neo-determinism and Cultural determinism.	15	02	NIL	17
Unit 3	Man and environment relationship: Changing man-environment relationship through ages; role of technology in man's adaptation to environment, impact of man on environment: urbanization, salinization and desertification in global contexts	15	02	NIL	17
Unit 4	Man and culture: Concept of ethnicity and race; Characteristics of major racial groups; Global patterns of the racial composition of the population. Rural and urban environments and associated socio-economic practices.	13	02	NIL	15
Total unit 04		**53**	**07**	NIL	**60**

Reading list:

1. Johnston, R. et. Al. (2008). The Dictionary of Human Geography, Blackwell Publication.

2. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, NewYork.

3. Hussain, Majid (2012). Human Geography. Rawat Publications, Jaipur.

4. Gregory, D. 1978. Ideology, Science and Human Geography, London, Hutchinson.

5. James, M.R. and Bacon, R.S. 1990. The Cultural Landscape: An Introduction to Human Geography, Prentice Hall.

6. Leong, G.C. and Morgan, G.C. 1992. Human and Economic Geography, Oxford University Press.

7. Fellmann, J.D., Getis, A. and Getis, J. 1999. Human Geography: Landscapes of Human Activities, WCB McGraw-Hill.

8. Jones, E. 1972. Human Geography, Chatto and Windus, London.

9. Broek, J.O.M. and Webb, J.W., 1969. A Geography of Mankind, Taylor and Francis.

Detail syllabus of III semester (Minor)

Title of the Course	**Geography as a Spatial Science**
Course Code	**GGY-MN-03014**
Total Credit (theory+practical)	**4 (3-1-0)**
Contact hours	**60**
Distribution of Marks	**60+40 (Theory + Internal Assessment)**
Course outcomes	1. Understand and explain the multidisciplinary nature of geography and its evolution 2. Grasp the concept of space, place, region and learn about spatial processes & patterns 3. Analyze different geographical approaches including systematic, regional, ideographic, and nomothetic approaches. 4. Apprehend spatial analysis in Geography through concepts of location and area patterns 5. Recognize various scientific approaches

	in Geography, including inductive, deductive methods and different modes of explanations

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit I	Defining the field of Geography: Place of geography in relation to natural and social sciences; the changing definitions of geography and its multi- disciplinary nature.	5	1	--	6
Unit II	Geography as a spatial science and spatial concepts in geography: Concept of space, place, territory, and region; Geographic space (Absolute Space and Relative Space); Spatial Processes and Patterns (only basic concept) – Spatial distribution, Spatial concentration, Spatial organization, Spatial relationship.	15	5	-	20
Unit III	Basic Approaches in Geography: Systematic and Regional; Ideographic and Nomothetic; Pure and Applied.	8	2	-	10
Unit IV	Spatial Analysis in Geography: Concept of location; Concept of point, line, and area patterns. Qualitative and Quantitative measures of Point, Line and Polygon.	7	2	-	9
Unit V	Scientific Approaches in Geography: Inductive and Deductive methods; Harvey's modes of explanations in Geography (only basic concept): Cognitive, Morphometric, Cause and effect, Temporal, Functional and System analysis.	10	15	-	15

	Theories, laws and Model, Hypothesis in Geographical studies.				
Total		45	15		60

Reading List

1. Abler, R.., Adams, J. and Gould, P.P., 1971: Spatial Organization: The Geographers' Viewof the World, Prentice-Hall, Englewood Cliff.
2. Ackerman, E.A., et al, 1965: The Science of Geography, Washington D.C., National Academyof Science/ National Research Council Pub. No. 1277.
3. Adhikari, Sudeepta, 2015: Fundamentals of Geographical Thought, Orient Blackswan Pvt.Ltd., New Delhi.
4. Chorley, Richard, J. and Haggett, Peter (eds), 1967: Models in Geography, Methuen, London.
5. Chorley, Richard, J., 1973: Directions in Geography, Methuen, London.
6. Dikshit, R.D., 1994: The Art and Science of Geography, Prentice Hall of India, New Delhi.
7. Haggett, P., 2001: Geography: A Global Synthesis, Pearson Education, Essex, UK.
8. Hartshorne, R.,1939:The Nature of Geography, Association of American Geographers, Lan-caster, Penn.
9. Hartshorne, R.,1959: Perspective on the Nature of Geography, Rand Mckully, Chicago.
10. Harvey, D., 1969: Explanation in Geography, St. Martin's Press, New York, 1969.
11. Johnston, R.J. et al.(eds), 1986: The Dictionary of Human Geography, Oxford, Basil Black- well.

Detail syllabus of IV semester (Minor)

Title of the Course	**Economic and Resource Geography**
Course Code	**GGY-MN-04014**
Total Credit (theory+practical)	**4 (2-1-1)**
Contact hours	**75**

Distribution of Marks	**45+25+30 (Theory + Practical+ Internal Assessment)**
Course outcomes	1. Understand the scope and approaches of economic geography and resource. 2. Recognize and classify various economic activities and analyze the role of production systems. 3. Examine and compare the agricultural sector and models of agricultural location worldwide. 4. Appraise industrial location factors using Weber's theory and understand the distribution and production of various industries globally 5. Evaluate the role of different modes of transport, in resource mobilization and economic development

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit I	Meaning, scope and approaches of economic geography and concept of resources: meaning and types	3	-	-	3
Unit II	Economic activity: meaning and classification; Production system; Role of land, labour and capital	4	2	-	6
Unit III	Agriculture sector: 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.	6	3	-	9
Unit IV	Manufacturing sector: Factors influencing industrial location; Weber's theory of industrial location; Classification of industry; Factors, distribution and production of iron and steel, cotton textile and IT Industries of the world .Special	7	4	-	11

	economic zones and technology parks				
Unit V	Transport system: Modes of transport, factors influencing transport development and role of trans- port in resource mobilization and economic development.	5	3	-	8
Unit VI	Trade: Factors influencing trade in different countries of the world; Trade relations of India with USA, Russia and Japan.	5	3	-	8
Total		30	15	-	45

Practical

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit 1	1. Trend of rice, wheat and iron & steel production in the world/USA/India using moving average and least squares methods. (4assignments)	-	-	3 3	6 6
	2. Trend of production of wheat, rice, maize and barley in the world/USA using Band-graph.(2assignments)			3	6
	3. Trend of balance of trade relations (export and import value) of India with USA, China			3	6

	and Japan in respect of major commodities using Bar-graph. (2 assignments) 4. Regional variation in fertilizer consumption and agricultural productivity in rice, wheat and barley in selected countries of the world using Bar-graph. (1assignment) 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.(2 assignments)			3	6
Total		-	-	15	30

Reading List

1. Hartshorn, T.A. and Alexander J. W., 2004: Economic Geography, Prentice-Hall Inc., NewDelhi
2. Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A ContemporaryIntroduction, 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
4. Integration ofRegions and Nations, Princeton University Press. 5. Wheeler J. O., 1998: Economic Geography, Wiley..
5. Bagchi-Sen S. and Smith H. L., 2006: Economic Geography: Past, Present and Future, Taylorand Francis.
6. Willington D. E., 2008: Economic Geography, Husband Press.
7. Clark, Gordon L.; Feldman, M.P. and Gertler, M.S., eds. 2000: The Oxford 9. Saxena, H.M., 2013: Economic Geography, Rawat Publications, Jaipur.

Detail syllabus of V semester (Minor)

Title of the Course	**Geography of India**
Course Code	**GGY-MN-05014**
Total Credit (theory+practical)	**4 (2-1-1)**
Contact hours	**75**
Distribution of Marks	**45+25+30 (Theory + Practical + Internal Assessment)**
Course outcomes	1. Understand and evaluate the significance of India's geographical location and administrative divisions. 2. Analyze and interpret the physical features of India, including climate, vegetation, soil types and distribution. 3. Investigate and evaluate India's population trends, linguistic and religious composition, and spatial variations. 4. Evaluate and predict trends in India's agricultural and industrial sectors with a focus on resource distribution and production. 5. Evaluate India's socio-economic development trends, health status, education status, and trade relations.

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit I	India’s location, areal extent and their significance; geopolitical and strategic importance, administrative divisions.	3	1	-	4
Unit II	Physical setting: Physiographic divisions and their characteristics; River and water	5	3	-	8

	bodies, Climate and its seasonal and regional characteristics; soil types and their distribution; vegetation and its distribution)				
Unit III	Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic and religious composition. Urbanization in India.	6	3	-	9
Unit IV	Trend of Socio-economic development: literacy and education; health status and health care facilities; transport and communication systems; trade relations (export and import; development policies)	4	2	-	6
Unit V	Agricultural and Industrial sector: Regional distribution and production patterns of rice, wheat, and millet. Distribution and production patterns of iron and steel, cotton textiles and fertilizers; overall Industrial development scenario in the country: distribution and production scenerio of coal, petroleum, gas, hydro-power, potentiality of solar, wind, and nuclear power generation. Agriculture Regions, Industrial Regions of India.	12	6	-	18
Total		30	15	-	45

Practical

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
	1. Trend of population growth and growth rates in India since 1901 using Census data (Source:	-	-	1	2

Unit 1	censusindia.gov.in). (2 assignments) 2. Choropleth mapping to show spatial variation in decennial population growth rate and literacy rate in India. (2 assignments) 3. Spatial variation in the patterns of the religious composition of the population in India and Social composition of the population (SC, ST, and General) using pie-graph. (2 assignments) 4. Trend of food grains production (Rice, Wheat, Maize, Barley, Jowar, and Bajra) in India since 1950-51 using band-graph. (1 assignment) 5. Mapping of the population distribution of India and analysis of its relationship with relief (1 assignment) 6. Flow pattern of selected commodities in India using standard carto-statistical techniques. (1 assignment) 7. Age- Sex Pyramids. (2 assignments)			1 2 1 1 2 2	2 4 2 2 4 4
Unit 2: Field Report	Preparation of field report based on a field study of observational knowledge about the geographical perspective of any part of the country or from the parts of NE India under the guidance of teacher(s).			5	10
Total		-	-	15	30

Reading List

1. Deshpande C. D., 1992: India: A Regional Interpretation, ICSSR, NewDelhi.

2. Johnson,B.L.C.,ed.2001.GeographicalDictionaryofIndia.VisionBooks,NewDelhi.

3. Mandal R. B. (ed.), 1990: Patterns of Regional Geography – An International 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 RegionalGeography, 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. RegionalScience 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

Detail syllabus of VI semester (Minor)

Title of the Course	**Population and Settlement Geography**
Course Code	GGY-MJ-06014
Total Credit (theory+practical)	**4 (2-1-1)**
Contact hours	**75**
Distribution of Marks	**45+25+30 (Theory + Practical+ Internal Assessment)**
Course outcomes	1. Understand and explain the field of population geography, its correlation with demography, and the components of population growth 2. Recognize global patterns of population distribution, density, and the factors influencing them 3. Analyze various theories of population growth, and assess their relevance in current global contexts

	4. Interpret and explain the field of settlement geography, understand settlement hierarchy and apply it to rural and urban settlements 5. Demonstrate practical knowledge of population trends and spatial patterns through graphical representation and map reading skills.

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit 1: Population Geography	Defining the field of population geography and Population data: Meaning, emergence as a systematic branch of geography and significance; its relation with demography; Sources of population data and perspectives on Census of India publications	3 3 8	11	-	33
	Distribution and density of population: Factors influencing population distribution and density; global pattern of population distribution.	3			
	Population Growth: Trend of global population growth; components of population growth– fertility, mortality and migration; push and pull factors of migration; spatial variations in population growth in the world.	1			
	Theories of population growth: Malthusian Theory and Demographic Transition Theory.	4			

	Population: Resource relationship. Population composition and associated characteristic patterns in global contexts: age-sex composition; rural-urban Composition; population ageing. Urbanization: Process of urbanization.				
Unit 2: Settlement Geography	Defining the field of settlement of geography: Meaning and scope. Rural and urban settlements: Factors influencing distribution pattern of settlements; Types of rural settlements; Morphology and Characteristics of rural and urban settlements. Concept of settlement hierarchy and urban fringe; Christaller's Central Place Theory. Rank size rate	1 3 4	4	-	12
Total		30	15	-	45

Practical

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
	Trend of population growth in Assam/N.E. India through line graph; Calculation and graphical			3	6

Unit 1	representation of trend of decadal growth rates of population in Assam/N.E. India/India. (2 Exercises)			1	2
	Choropleth map to show spatial pattern of decadal variation in population growth in Assam/N.E. India/India. (1 Exercise)			1	2
	Choropleth map showing spatial pattern of population density in Assam/India. (1 Exercise)			1	2
	Map showing spatial variation in social/religious/rural-urban composition of population in Assam/N.E. India using pie-graph. (1 Exercise)			1	4
	Choropleth map showing spatial pattern of level of urbanization in Assam/N.E. India. (1 Exercise)			2	4
	Flow cartogram showing direction and volume of migration into Assam/N.E. India from different parts of India. (1 Exercise)			4	8
	Map showing distribution of towns				

	and their varied population size with spheres in Assam/N.E.India. (1 Exercise) Nearest Neighbor analysis.				
Total		-	-	15	30

Reading List

1. Barrett H. R., 1995: Population Geography, Oliver and Boyd.
2. Bhende A. and Kanitkar T., 2000: Principles of Population Studies, Himalaya Publishing House.
3. Chandna R. C. and Sidhu M. S., 1980: An Introduction to Population Geography, Kalyani Publishers.
4. Chandna R. C., 2014, Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers.
5. Clarke J. I., 1965: Population Geography, Pergamon Press, Oxford.
6. Jones, H. R., 2000: Population Geography, 3rd ed. Paul Chapman, London.
7. Lutz W., Warren C. S. and Scherbov S., 2004: The End of the World Population Growth inthe 21st Century, Earthscan.
8. Newbold, K. B., 2009: Population Geography: Tools and Issues, Rowman and LittlefieldPublishers.
9. Pacione, M., 1986: Population Geography: Progress and Prospect, Taylor and Francis.
10. Wilson, M. G. A., 1968: Population Geography, Nelson.
11. Panda, B. P. (1988): Janasankya Bhugol, M P Hindi Granth Academy,Bhopal.
12. Maurya, S. D. (2009) Jansankya Bhugol, ShardaPustakBhawan, Allahabad.
13. Chandna, R. C. (2006), Jansankhya Bhugol, Kalyani Publishers, Delhi.
14. Roy, D. (2015), Population Geography, Books and Allied (P) Ltd., Kolkata.
15. Ahmad, A., Noin, D. and Sharma, H.N. (eds), 1997, Demographic Transition: The ThirdWorld Scenario, Rawat Publications, Jaipur and New Delhi, 1997.
16. Money, D.C., 1972: Patterns of Settlement, Evan Brothers, London.
17. Peters, G.L. and Larkin, R.P., 1979: Population Geography: Problems, Concepts and- Prospects, Kendall/ Hunt Iowa.
18. Singh, R.L. and Singh, K.N., (eds), 1975: Readings in Rural Settlement Geography, BHU,Varanasi.
19. Singh, R.Y., 1994: Geography of Settlements, Rawat Publications, Jaipur and New Delhi.
20. Maurya, S. D., 2014: Settlement Geography, Sharda Pustak Bhawan, Allahabad.

Detail syllabus of VII semester

Title of the Course	**Geographical Thought**
Course Code	GGY-MN-07014

Total Credit (theory+practical)	**4 (2-1-1)**
Contact hours	**75**
Distribution of Marks	**45+25+30 (Theory + Practical+ Internal Assessment)**
Course outcomes	1. Comprehend the historical evolution of geographical thought and identify key contributing figures and cultures. 2. Discuss the socio-political contexts affecting geographical theories and understand the effect of technology on geographical research. 3. Understand the application of an interdisciplinary approach to geography and the changing nuances of space and place. 4. Evaluate the shifts in geographical approaches and impact of methodologies on research. 5. Analyze the implications of climate change and future urban geography in geographical thought.

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit 1: Geographical Thought	Classical Philosophies: Ancient, Medieval. Age of Exploration and Discoveries and European renaissance on the emergence of modern Geography. Modern Period: Contribution of German (A. Von Humboldt, K Ritter, Ratzel), French: (Vidal De La Blache), British and American Geographers. Debates: Environmental Determinism, Possibilism, Systematic and Regional, Ideographic and Nomothetic. Paradigm Concept and paradigm shift in Geography	10	5	-	15
Unit 2: Evolution of	Environmental Determinism, Possibilism, Human Ecology,	5	3	-	8

Geographic Thought	Chorology, Landscape & Locational Analysis, Areal differentiation. Quantitative revolution, spatial analysis, Humanistic approach, behaviouralism, marxism				
Unit 3: Post Modern Geography	Socio- Spatial Dialectic in Geography, Post modernism Gender Geography Medical Geography	3	1	-	4
Unit4: Methodological Development	Qualitative and Quantitative methods in Geography Deductive and Inductive approach. Scientific law, theories, model, hypothesis, possibility. Mathematical modelling: Gravity model, spatial interaction model, spatial; diffusion. Geographic Information system (GIS) and spatial data analysis. Remote sensing and GPS data Collection.	12	6	-	18
Total		30	15	-	45

Practical

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit 1	1. Mapping of routes of exploration and discoveries (Marco Polo, Christopher Columbus, Vasco-da Gama, and James Cook) (1 Exercise) 2. Intensity of spatial interaction of Guwahati city with neighboring urban centers. (1 Exercise) 3. Mapping of population potential	-	-	2 3 2	4 6 4

	surfaces in Assam using the Gravity Model. (1 Exercise) 4. Demarcation of urban influence zone by using Reilly's breaking point formula. (1 Exercise) 5. Population Density gradient analysis of Guwahati or any other city. (1 Exercise) 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. (1 Exercise) 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. (1 Exercise) 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. (1 Exercise)			1 2 2 1 2	2 4 4 2 4
Total		-	-	15	30

Reading List

1. Arentsen M., Stam R. and Thuijis R., 2000: Post-modern Approaches to Space, ebook. 2. Bhat, L.S. (2009) Geography in India (Selected Themes). Pearson
2. Bonnett A., 2008: What is Geography? Sage.
3. Dikshit R. D., 1997: Geographical Thought: A Contextual History of Ideas, Prentice– Hall India.
4. Hartshone R., 1959: Perspectives of Nature of Geography, Rand MacNally and Co.
5. Holt-Jensen A., 2011: Geography: History and Its Concepts: A Students Guide, SAGE.
6. Hussain, M., 1989: Evolution of Geographic Thought, Rawat Publications, Jaipur.
7. Johnston R. J., (Ed.): Dictionary of Human Geography, Routledge.
8. Johnston R. J., 1997: Geography and Geographers, Anglo-American Human Geography since 1945, Arnold, London.
9. Kapur A., 2001: Indian Geography Voice of Concern, Concept Publications.
10. Martin Geoffrey J., 2005: All Possible Worlds: A History of Geographical Ideas, Oxford.
11. Soja, Edward 1989. Post-modern Geographies, Verso, London. Reprinted 1997: Rawat Publ., Jaipur and New Delhi

Detail syllabus of VIII semester (Minor)

Title of the Course	**Health Geography**
Course Code	GGY-MN-08014
Total Credit (theory+practical)	**4 (2-1-1)**
Contact hours	**75**
Distribution of Marks	**45+25+30 (Theory + Practical+ Internal Assessment)**
Course outcomes	1. Understand the scope, significance, and approaches of health geography 2. Analyze the impact of environmental influences on health using case studies 3. Understand the classification of diseases, their modes of transmission, and distribution 4. Evaluate health policies, and their spatial implications, and address future challenges 5. Interpret patterns of disease spread using geographic methods and GIS applications in disease surveillance.

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit 1:	Introduction to Health Geography: Overview: Definitions, scope, and importance of health geography. Key Concepts: Health, wellness, illness, disease; geographic distribution. Approaches of study: ecological, social and spatial. Historical Development: Evolution of health geography as a discipline. Dualism between medical geography and geography of health.	6	3	-	9
Unit 2:	Environmental Health : Concepts of health, diseases & well being Environmental Influences: Impact of physical and built environments on health, environmental pollution & health hazards. Case Studies: Analysis of environmental health issues like air quality and water sanitation. Tools and Techniques: Introduction to methodologies for assessing environmental health risks.	6	3	-	9
Unit 3:	Diseases and its Transmission: Classification of diseases: genetic, zoonotic, communicable, non-communicable, occupational, deficiency diseases and malnutrition. Endemic epidemic & pandemic	6	3	-	9

	patterns. Modes of transmission of major diseases (Malaria, Japanese encephalitis, tuberculosis, hepatitis, AIDS and COVID-19) and their broad global distribution.				
Unit 4:	Disease Ecology and its mapping: Disease Distribution: Patterns and processes influencing disease spread. Factors influencing disease transmission (pathological, physical, environmental, social, cultural and economic) Epidemiological Applications: Using geographic methods to track and control outbreaks. Advanced GIS Applications: Utilizing GIS in disease surveillance and epidemiological research.	6	3	-	9
Unit 5:	Health Care system & Accessibility: Health 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. Policy Analysis: Spatial analysis of health policies and their implications. family welfare, immunization, National Health Mission and its programmes, urban-rural contrast in health infrastructure. Future Challenges: Discussion on emerging health issues like during COVID-19 and the role	6	3	-	9

	of health geography in addressing them.				
Total		30	15	-	45

Practical

Unit	Content	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours
Unit 1	1. Mapping of health status indicators (hospital beds, primary health centres, doctors, paramedics, etc.) in Assam/N.E. India using Z-score method. (1 Exercise)	-	-	2	4
	2. Trend of infant mortality and maternal mortality rates in India in relation to selected developed and developing counties using line graph. (3 Exercises)			3	6
	3. Choropleth mapping of infant mortality in India at state level. (1 Exercise)			2	4
	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)			3	6
	5. Map showing spatial variation of disease incidence rate in India/N.E. India at state level. (1 Exercise)			1	2
	6. Mapping of seasonal variation in the occurrence of Covid-19			1	2

	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)			2	4
Total		-	-	15	30

Reading List:

1. AkhtarRais (Ed.), 1990 : Environment and Health Themes in Medical Geography, AshishPublishing House, New Delhi.

2. Anthamatten P, (2011), Introduction to the Geography of Health, Rawat Publications, Jaipur

3. Avon Joan L. and Jonathan A Patzed.2001 : Ecosystem Changes and Public Health,Baltimin, John Hopling Unit Press(ed).

4. Banerji, D. (1986) :Social Sciences and Health Services in India, LokPrakashan,New Delhi.

5. Bradley,D.,1977: Water, Wastes and Health in Hot Climates, John Wiley Chichesten.

6. Brown, T., McLafferty, S., Moon, G. (2010): A Companion to Health and Medical Geography, Wiley Blackwell, UK

7. Christaler George and HristopolesDionissios, 1998: Spatio Temporal Environment HealthModelling , Boston Kluwer Academic Press.

8. Cliff, A.D. and Peter,H., 1988 : Atlas of Disease Distributions, Blackwell Publishers, Oxford.

9. Curtis, S.(2004):Health and Inequality: Geographical Perspectives, Sage Publications,London

10. Gatrell, A.,andLoytonen, 1998 : GIS and Health, Taylor and Francis Ltd, London.

11. Hardham T. and TannavM.,(eds): Urban Health in Developing Countries; Progress, Projects, Earthgoan, London.

12. Mishra, R.P.(1970): Medical Geography of India, National Book Trust ofIndia.

13. Mishra, R.P.(2002)), Geography of health : a treatise on geography of life and death in India, Concept Publishing Co., New Delhi

14. Murray C. and A. Lopez, 1996 : The Global Burden of Disease, Harvard University Press.

15. Moeller Dade wed., 1993: Environmental Health, Cambridge, Harward Univ. Press.

16. National Health Missionhttps://nhm.gov.in/

17. National Health Portal India https://www.nhp.gov.in/healthprogramme/nationalhealthprogrammes

18. Phillips, D. and Verhasselt, Y., 1994: Health and Development, Routledge, London.

19. Shaw, M., Dorling, D. and Mitchell, R, (2002) Health, Place and Society, Pearson, London
20. Tromp, S., 1980: Biometeorology: The Impact of Weather and Climate on Humans and their Environment, Heydon and Son.