



Tripura University

(A Central University)

Suryamaninagar

West Tripura

Syllabus for Four Years Under Graduate Programme Under Science Discipline

Subject: Geography (Interdisciplinary Course)

(NEP-2020)

Year - 2023



Tripura University
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Interdisciplinary Course Structure of Geography (UG Programme)
As per NEP-2020 under Tripura University

Year	Semester	Interdisciplinary Course	Theory
1 st (Certificate Course)	I	Course-1 GE-1ID	Contributions in Geography
2 nd (Diploma Course)	III	Course-2 GE-2 ID	Physical Geography
	IV	Course-3 GE-3 ID	Human Geography



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Semester-wise Marks Distribution for Geography (UG Programme) As Per NEP-2020 under Tripura University

Year	Semester	Theory		
		Internal Assessment	End Sem. Exam.	Total
1 st (Certificate)	I	40	60	100
2 nd (Diploma)	III	40	60	100
	IV	40	60	100
		Total Theory = 300		



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Semester-wise Credit Distribution for Geography (UG Programme) As per NEP-2020

Year	Semester	Course	Theory	Marks	Total Credit/Sem.
1	I	1	(Internal Assessment + End Sem. Exam)	100	3
2	III	2	(Internal Assessment + End Sem. Exam)	100	3
	IV	3	(Internal Assessment + End Sem. Exam)	100	3
TOTAL				300	9

1st Year (Certificate Course)
Semester-I
Contributions in Geography (Theoretical)

Paper- 1 ID

Full marks-100 (Credit – 3)
(Internal Assessment-40; End Sem. Exam. -60)

Unit-1: Introduction to Geography

Definition, Concepts and Evolution of the term Geography; Divisions and Branches of Geography; Nature and Scope of Geography; Inter-relations of Geography with other Physical and Social Sciences

Unit-2: Contributors to Geography

Classical Contribution to Geography (Greeks and Romans); Indian and Chinese Contribution to Geography; Medieval Contribution to Geography by Arabs; Age of Discovery, Voyages and Renaissance in Europe; Modern Contribution to Geography: European and American

Unit-3: Approaches in Geography

Approaches to the study of Geography --- Regional and Systematic; Man-Environment Relationship: Determinism and Possibilism; Recent Trends in Geography; Contemporary Indian Geography

Unit-4: Paradigm Shift and Trends in Geography

Perspectives in Geography (Positivism, Humanism); Quantitative Revolution; Recent Trends in Physical and Human Geography; Contemporary Trends in Indian and International Geography

1st Year (Certificate Course)
Semester-I

Selected References:

1. Adhikari, S. (2006): Fundamentals of Geographical Thought, Chaitanya Publishing House, Allahabad.
2. Adhikari, S. (2015): Fundamentals of Geographical Thought, Orient Blackswan Private Limited, New Delhi.
3. Dikshit, R. D. (2018): Geographical Thought: A Contextual History of Ideas, Prentice Hall, New Delhi.
4. Hartshorne, R. (2000): The Nature of Geography, Rawat Publication, New Delhi.
5. Hussain, M. (2014): Evolution of Geographical Thought, Rawat Publication, New Delhi.
6. Harm J.de Blij (2001): Geography: Realms, Regions, and concepts, John Wiley & Sons.
7. Mandal, R.B & Sinha, VNP. (2016): Recent Trends & Concepts in Geography, Concept Publishing Company Pvt. Ltd., New Delhi.

2nd Year (Diploma Course)
Semester-III
Physical Geography (Theoretical)

Paper- GE-2 ID

Full Marks-100 (Credit – 3)
(Internal Assessment-40; End Sem. Exam. -60)

Unit-1: Introduction to Physical Geography

Nature and Scope of Physical Geography; Different Branches of Physical Geography; Geological Time Scale; Origin of the Earth: Big Bang Theory; Origin of the Continents and Oceans; Continental Drift Theory and Plate Tectonic Theory.

Unit-2: Introduction to Lithology and Geomorphology

Internal Structure of the Earth; Types of Rocks: Characteristics and Classification; Folds and Faults; Definition and Classification of Weathering and Mass Movement; Processes and Landforms: Fluvial, Glacial, Arid and Coastal; Slope: Importance, Genetic Classification and Components; Fundamental Concepts in Geomorphology (Concept 1-6 of Thornbury).

Unit-3: Climatology and Oceanography

Climatology: Composition and Structure of the Atmosphere; Atmospheric Pressure Belts and General Wind System; Insolation and Heat Budget; Concept of Humidity, Evaporation and Condensation; Types of Cloud; Precipitation: Causes and Forms, Types of Rainfall.

Oceanography: Surface Configuration of Ocean Floor: Pacific Ocean, Atlantic Ocean and Indian Ocean; Temperature, Salinity and Density of Ocean Water; Oceanic Circulation System: Pacific, Atlantic and Indian Ocean; Coral Reefs and Atoll.

Unit-4: Soil and Biogeography

Soil Geography: Definition; Components of Soil; Factors of Soil formation; Processes in Soil formation; Soil Profile; Physical Properties (Texture, Structure and Moisture) and Chemical Properties (pH and Organic Matter) of Soil; Major Soil Types of the World: Zonal, Azonal and Intra-zonal Soil; Soil Erosion and Conservation.

Biogeography: Concept, Nature and Scope; Concept of Ecology and Basic Ecological Principles; Concept and Components of Ecosystem; Trophic Structure; Food Chain and Food Web; Concept of Biome, Major Biomes of the World: Forest, Grassland and Marine Biome; Biogeochemical Cycles: Hydrological Cycle, Nitrogen Cycle and Carbon Cycle.

2nd Year (Diploma Course)
Semester-III

Selected References:

1. Singh, S. (1997): Physical Geography, Prayag Pustak Bhawan, Allahabad
2. Lal, D.S. (1998): Climatology, Sharada Pustak Bhawan, Allahabad
3. Khullar, D.R. (2003): India – A Comprehensive Geography, Kalyani Publisher, Chennai.
4. Dayal, P. (2011): A text Book of Geomorphology, Rajesh Publication, New Delhi
5. Singh, S. (2009): Geomorphology, Prayag Pustak Bhawan, Allahabad.
6. Ahmed, E. (2001) Geomorphology, Kalyani Publishers, Kolkata.
7. Ahmed, E. (1989): Physical Geography, Kalyani Publishers, New Delhi.
8. Monkhouse, F.J. (1971): Principles of Physical Geography, University of London Press Ltd.
9. Morgan, R.S and Wooldridge, S.W. (1988): An Outline of Geomorphology, Orient Longman.
10. Thornbury, W.D. (1984): Principles of Geomorphology, 2nd Edition Wiley Eastern Ltd., New Delhi.
11. Alan H. Strahler, Arthur Strahler, Introducing Physical Geography, John Wiley and Sons, New York, 2005
12. Singh, S. (2001): Environmental Geography, Prayag Pustak Bhawan, Allahabad.
13. Sahai, V.N. (2011): Fundamentals of Soil, Kalyani Publishers, New Delhi.
14. Gautam, A. (2009): Environmental Geography, Sharda Pustak Bhawan, Allahabad.

2nd Year (Diploma Course)
Semester-IV

Human Geography (Theoretical)

Paper-GE-3 ID

Full Marks-100 (Credit – 3)

(Internal Assessment-40; End Sem. Exam.-60)

Unit-1: Introduction to Human Geography and Population Geography

Human Geography: Concept, Nature and Scope; Fundamentals and Branches of Human Geography; Development of Human Geography; Inter-relations of Human Geography with other Social Sciences.

Population Geography: Distribution and Density of World Population; Age-Sex Composition of Population; Concept of Fertility, Mortality, Migration: Immigration and Emigration.

Unit-2: Social and Cultural Geography

Social Geography: Meaning, Nature and Scope; Social Groups; Social Processes; Social Wellbeing; Social Differentiation; Tribes and Castes; Distribution of Religion in India; Distribution of Language in India; Social Problems in India

Cultural Geography: Concept, Nature and Scope; Racial Division and World Distribution; Linguistic Distribution in the World; Cultural Diffusion and its Processes; Cultural Hearth and Cultural Realm.

Unit-3: Settlement Geography

Rural Settlement: Types and Patterns; Urban Settlement: Classification of Towns based on their Size and Functions; Census Categories of Urban units in India; Concept of City Region; Problems of Towns and Cities in India; Trends of Indian Urbanization.

Unit-4: Contemporary Issues

Ageing of Population; Decline in Sex-Ratio; Rural Development Programmes --- SJSY, MGNREGA, JANDHAN YOJANA and Rural Connectivity; Problems of Housing, Slums, Civic Amenities (Water and Transport); Case Study of Delhi, Mumbai, Kolkata, Chennai and Chandigarh with reference to Land Use and Urban Issues.

2nd Year (Diploma Course)

Semester - IV

Selected References:

1. Chandna, R. C. (2000): Geography of Population: Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
2. Clark, J. I. (1973): Population Geography, Pergamon Press, Oxford.
3. Hassan, M. I. (2005): Population Geography, Rawat Publication, New Delhi.
4. Mandal, R. B. (2008): Urban Geography: A Textbook, Concept Publishing Company, New Delhi.
5. Mitra, A. (1978): India's Population, Vol. I and II, Abhinav Publisher, Nagpur.
6. Ramachandran, R. (1989): Urbanisation and Urban Systems of India, Oxford University Press, U.K.
7. Siddhartha, K. (2016): Cities, Urbanisation and Urban Systems (Settlement Systems), Kitab Mahal Publishers and Distributors, New Delhi.
8. Zelinsky, W. (1966): A Prologue to Population Geography, Prentice Hall, N. J.
9. Broek Jan, O. M. and Jan Otto, Marius (1978): Geography of Mankind, McGraw Hill Companies.
10. Jordan Terry, G. and Lester, Rowntree (1990): The Human Mosaic: Thematic Introduction to Cultural Geography, Longman.



Tripura University

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Suryamaninagar

West Tripura

Syllabus for

Four Years Under Graduate Programme

Under Science Discipline

Subject: Geography (Major Course)

(NEP-2020)

Year - 2023



Tripura University
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Course Structure of Geography (UG Programme)
As per NEP-2020 under Tripura University

Year	Semester	Major Discipline Specific Course (Core)	Theory	Practical
1st (Certificate Course)	I	Course-1 GE-101C	Fundamentals of Geography and major Contributions	---
		Course-2 GE-102C	Origin of the Earth	Scale, Introduction to Maps, Principle of topo. sheet numbering
	II	Course-3 GE-103C	Geography of Asia and India	---
		Course-4 GE-104C	Geomorphology	Cartograms (Using MS Excel), Topographical map interpretation (Plateau region)
2nd (Diploma Course)	III	Course-5 GE-201C	Population and Settlement Geography	---
		Course-6 GE-202C	Climatology	Climatological instrument reading, Analysis and Interpretation of Weather map
	IV	Course-7 GE-203C	Geography of North East India and Tripura	---
		Course-8 GE-204C	Soil Geography	Soil testing kit, Topographical map interpretation (Plain region)
3rd (Degree Course)	V	Course-9 GE-301C	Economic Geography	---
		Course-10 GE-302C	Oceanography	Projection
		Course-11 GE-303C	Environmental Geography	---
		Course-12 GE-304C	Agricultural Geography	Agriculture based Practical, Instrument Survey
	VI	Course-13 GE-305C	Social and Cultural Geography	---
		Course-14 GE-306C	Tectonic Geography	Identification of Rocks and Minerals,

				Interpretation of Geological Map
		Course-15 GE-307C	Statistics	---
		Course-16 GE-308C	Political Geography	Field Survey
4th (Degree with Honours and Research)	VII	Course-17 GE-401C	Research Methodology	---
		Course-18 GE-402C	Natural Resource Management	---
		Course-19 GE-403C	Geography of Tourism	---
		Course-20 GE-404C	Remote Sensing	Remote Sensing Practical
	VIII	Course-21 GE-405C	Advanced Geomorphology	---
		Course-22 GE-406C	Hazards and Disaster Management	---
		Course-23 GE-407C	Urban Geography	---
		Course-24 GE-408C	GIS	GIS Practical



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Semester-wise Marks Distribution for Geography (UG Programme) As Per NEP-2020 under Tripura University

Year	Semester	Theory			Practical		
		Internal Assessment	End Sem. Exam.	Total	Internal Assessment	End Sem. Exam	Total
1st (Certificate)	I	40	60	100	---	---	---
		24	36	60	16	24	40
	II	40	60	100	---	---	---
		24	36	60	16	24	40
2nd (Diploma)	III	40	60	100	---	---	--
		24	36	60	16	24	40
	IV	40	60	100	---	---	---
		24	36	60	16	24	40
3rd (Degree)	V	40	60	100	---	---	--
		24	36	60	16	24	40
		40	60	100	---	---	--
		24	36	60	16	24	40
	VI	40	60	100	---	---	----
		24	36	60	16	24	40
		40	60	100	----	---	---
		24	36	60	16	24	40
4th (Degree with Honours)	VII	40	60	100	---	---	---
		40	60	100			
		40	60	100			
		24	36	60			
	VIII	40	60	100	---	---	---
		40	60	100			
		40	60	100			
		24	36	60			
		Total Theory = 2000			Total Practical = 400		
		Grand Total (Theory + Practical) = 2000 + 400= 2400					



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Semester-wise Credit Distribution for Geography (UG Programme) As per NEP-2020

Year	Semester	Paper	Theory/Practical	Marks	Credits	Total Credit/Sem.
1	I	GE-101C	Theory	100	4	8
		GE-102C	Theory	60	2	
			Practical	40	2	
	II	GE-103C	Theory	100	4	8
		GE-104C	Theory	60	2	
			Practical	40	2	
2	III	GE-201C	Theory	100	4	8
		GE-202C	Theory	60	2	
			Practical	40	2	
	IV	GE-203C	Theory	100	4	8
		GE-204C	Theory	60	2	
			Practical	40	2	
3	V	GE-301C	Theory	100	4	16
		GE-302C	Theory	60	2	
			Practical	40	2	
		GE-303C	Theory	100	4	
		GE-304C	Theory	60	2	
	Practical		40	2		
	VI	GE-305C	Theory	100	4	16
		GE-306C	Theory	60	2	
			Practical	40	2	
		GE-307C	Theory	100	4	
GE-308C		Theory	60	2		
	Practical	40	2			
4	VII	GE-401C	Theory	100	4	16
		GE-402C	Theory	100	4	
		GE-403C	Theory	100	4	
		GE-404C	Theory	60	2	
			Practical	40	2	
	VIII	GE-405C	Theory	100	4	16
		GE-406C	Theory	100	4	
		GE-407C	Theory	100	4	
		GE-408C	Theory	60	2	
			Practical	40	2	
TOTAL				2400	96	

1st Year (Certificate Course)
Semester-I
Fundamentals of Geography and Major Contributions
(Theoretical)

Paper-GE-101C

Full Marks-100 (Credit – 4)
(Internal Assessment-40; End Sem. Exam.-60)

Unit-1: Introduction to Geography

Definition, Concept and Evolution of the word 'Geography', Nature and Scope of Geography; Divisions and Branches of Geography; Inter-relation of Geography with other Physical and Social Sciences; Introduction to Physical Geography (Nature & Scope); Introduction to Human Geography (Nature & Scope); Major Geographic Traditions (Earth Science, Man-Environment relationship, Area studies and Spatial Analysis).

Unit-2: Contributors to Geography

Classical Contribution to Geography (Greeks and Romans); Indian and Chinese Contribution to Geography; Medieval Contribution to Geography by Arabs; Age of Discovery, Voyages and Renaissance in Europe; Modern Contribution to Geography: European and American.

Unit-3: Approaches, Dichotomy and Dualism in Geography

Approaches to the study of Geography --- Regional and Systematic; Man-Environment Relationship: Determinism and Possibilism; Dichotomy and Dualism: Physical vs. Human, Qualitative vs. Quantitative, System Approach vs. System Analysis.

Unit-4: Paradigm Shift and Trends in Geography

Perspectives in Geography (Positivism, Humanism); Quantitative Revolution; Applied Geography and Geoinformatics; Recent Trends in Physical and Human Geography; Contemporary Trends in Indian and International Geography

1st Year (Certificate Course)
Semester-I

Selected References:

1. Adhikari, S. (2006): Fundamentals of Geographical Thought, Chaitanya Publishing House, Allahabad.
2. Adhikari, S. (2015): Fundamentals of Geographical Thought, Orient Blackswan Private Limited, New Delhi.
3. Dikshit, R. D. (2018): Geographical Thought: A Contextual History of Ideas, Prentice Hall, New Delhi.
4. Hartshorne, R. (2000): The Nature of Geography, Rawat Publication, New Delhi.
5. Hussain, M. (2014): Evolution of Geographical Thought, Rawat Publication, New Delhi.
6. Harm J.de Blij (2001): Geography: Realms, Regions, and concepts, John Wiley & Sons.
7. Mandal, R.B & Sinha, VNP. (2016): Recent Trends & Concepts in Geography, Concept Publishing Company Pvt. Ltd., New Delhi, India.

**1st Year (Certificate Course)
Semester-I**

**Origin of the Earth
(Theoretical)**

Paper-GE-102C

Full Marks-60 (Credit – 2)

(Internal Assessment-24; End Sem. Exam.-36)

Unit-1: Concept, Hypotheses and Theories related to origin of the earth

Basic Concept of Solar System and its Structure; Monistic Concept: Gaseous Hypothesis of Kant, The Nebular Hypothesis of Laplace; Dualistic Concept: Hoyle's Supernova Hypothesis; Otto Schmidt's Interstellar Hypothesis; Big Bang Theory; Relevance of Rotation, Revolution and Inclination of the Earth.

Unit-2: Age of Earth, Origin and Evolution of Continents and Oceans

Age of the Earth on the basis of radioactive elements; Geological History of the Earth; Interior Structure of the Earth; Origin of the Continents and Oceans: Tetrahedral Hypothesis; Continental Drift Theory of Alfred Wegener.

1st Year (Certificate Course)
Semester-I

Selected References:

1. Gupte, D. (2022): The Evolution of Earth, Notion Press, Chennai.
2. Monkhouse, F.J (1971): Principles of Physical Geography, University of London Ltd.
3. Singh, S. (1997): Physical Geography, Prayag Pustak Bhawan, Allahabad
4. Strahler A. N. and Strahler A.M. (1992): Modern Physical Geography, John Wiley and Sons, New York.

1st Year (Certificate Course)
Semester-I
(Practical)

Paper- GE-102C

Full Marks-40 (Credit – 2)

(Internal Assessment-16; End Sem. Exam. -24)

Sl. No.	Practical	Marks
1.	Scale	08
2.	Introduction to Maps	04
3.	Topographical Map introduction, Principle of Topo. sheet numbering	07
5.	Laboratory Notebook and Viva-voce	03+02
TOTAL		24

PRACTICAL: GE-102C

1. Scale: Meaning, Definition and Use; R.F. of Scale
Graphical representation of Linear, Comparative, Vernier and Diagonal Scale
2. Introduction to maps: Definition, Elements, Types and Classification, Principle of map design, Uses and Significance (from small to large scale), Map and Globe --- Similarities and Dissimilarities
3. Introduction to Topographical map, Principle of Topographical Sheet numbering
4. Laboratory Notebook and Viva-voce

1st Year (Certificate Course)
Semester-I

Selected References:

1. Mitra, K., Ghosh K. and Das M. (2006): B.A. General Practical Geography, Kalyani Publishers, Kolkata.
2. Monkhouse, F.J. (1971): Maps and Diagrams, Methuen, London.
3. Sarkar, A. (2015) Practical Geography: A systematic approach, Orient Black Swan Private Ltd., New Delhi.
4. Saha, P. & Basu, P. (2015): Advanced Practical Geography – A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
5. Singh, R. L., Singh, Rana P. B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
6. Singh, R. and Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.
7. Saikia, R. and Thakuria, G. (2015): Practical Geography, EBH Publishers (India), Guwahati.

**1st Year (Certificate Course)
Semester-II**

**Geography of Asia and India
(Theoretical)**

Paper-GE-103C

Full Marks-100 (Credit – 4)

(Internal Assessment-40; End Sem. Exam.-60)

Unit-1: India -- Location & Physical

Regional Setting and Regional Divisions; Physical Divisions and Drainage; Climate and Natural Vegetation; Soil types and Agricultural Regions

Unit-2: India -- Population and Resources

Population composition (Races, Ethnic and Tribes); Population Density, Distribution and Growth; Resources, Minerals and Industries; Transport, Communication and Trade; Economy, Urbanization, Population Problems

Unit-3: Asia -- Regional Setting and Physical

Asia in the context of the World (Location and Regional Setting); Physical and Regional Divisions; Major River Systems; Climate; Soil and Natural Vegetation

Unit-4: Asia -- Agriculture, Population and Resources

Agriculture (Conditions of growth, Production and Distribution of Rice, Wheat, Jute and Tea); Distribution and Density of Population; Urbanization; Industrial Regions, Mineral Resources (Iron Ore, Coal, Petroleum in Middle-east); Regional Cooperation and Issues of South Asia and South-east Asian Countries

1st Year (Certificate Course)
Semester-II

Selected References:

1. Choudhury, N.: Geography of Asia, No.601 (Theory), Distance Education. (Weblink:[https://www.distanceeducationju.in/pdf/Geo%20601%20\(1\)-compressed%20\(1\).pdf](https://www.distanceeducationju.in/pdf/Geo%20601%20(1)-compressed%20(1).pdf))
2. Husain, M. (2017): Geography of India, McGraw Hill Education, New Delhi.
3. IGNOU, BPSE-144 (2019): Introduction to South Asia, Chakradhar Publication.
4. Khullar, D. R. (2018): India: A Comprehensive Geography, Kalyani Publishers, New Delhi.
5. Nag, P. and Gupta, S.S. (1992): Geography of India. Concept Publishing. Company, New Delhi.
6. Sharma, T.C. (2003): India: Economic and Commercial Geography, Vikas Publication, New Delhi.
7. Singh, J. (2003): India: A Comprehensive and Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
8. Tiwari, R.C. (2007): Geography of India, Prayag Pustak Bhawan, Allahabad
9. Tirtha, R. (2001): Geography of Asia, Rawat Publications, Jaipur.

1st Year (Certificate Course)
Semester-II
Geomorphology
(Theoretical)

Paper-GE-104C

Full Marks-60 (Credit – 2)

(Internal Assessment-24; End Sem. Exam. -36)

Unit-1: Fundamentals of Geomorphology

Nature and Scope of Geomorphology; Fundamental Concepts of W. D. Thornbury; Types of Rocks and associated landforms; Development of Drainage System on Uniclinal and Folded Structure; Mountain Building Theory (Kober and Holmes); Recent Trends in Geomorphology.

Unit-2: Processes and Forms in Geomorphology

Geomorphic agents, their processes and resultant landforms: Fluvial, Glacier, Wind, Groundwater and Sea waves; Weathering and Mass wasting (Meaning and Concept, Classification, Controlling factors, Geomorphic importance); Drainage Systems, Drainage Patterns (Definition, Classification); Slopes: Importance of Slope, Elements of Slope and Theories of Slope Evolution (W. M. Davis and W. Penck); Cycle of Erosion: Contribution of Davis; Interruption in Cycle of Erosion.

1st Year (Certificate Course)
Semester-II

Selected References:

1. Ahmed, E. (2001) Geomorphology, Kalyani Publishers, Kolkata.
2. Ahmed, E. (1989): Physical Geography, Kalyani Publishers, New Delhi.
3. Bloom, A. L. (1998): Geomorphology, Prentice-Hall India, New Delhi.
4. Chorley, R. J., Schumm, S. A. and Sugden D.E. (1984): Geomorphology, Methuen and Company Ltd., London.
5. Dayal, P. (2011): A text Book of Geomorphology, Rajesh Publication, New Delhi
6. Kale, V.S. & Gupta, A. (2001): Introduction to Geomorphology, Orient Longman.
7. Kale, V. & Gupta, A. (2004): Elements of Geomorphology, Oxford University Press, Kolkata.
8. Monkhouse, F.J. (1971): Principles of Physical Geography, University of London Press Ltd.
9. Morgan, R.S and Wooldridge, S.W. (1988): An Outline of Geomorphology, Orient Longman.
10. Singh, S. (1997): Physical Geography, Prayag Pustak Bhawan, Allahabad.
11. Singh, S. (2009): Geomorphology, Prayag Pustak Bhawan, Allahabad.
12. Strahler, A. (2016): Introducing Physical Geography, Wiley, New York.
13. Sparks, B.W. (1969): Geomorphology. Longman, London.
14. Stoddard, D. R. (1996): Process and Form in Geomorphology, Routledge, London.
15. Thornbury, W.D. (1984): Principles of Geomorphology, 2nd Edition Wiley Eastern Ltd., New Delhi.
16. Worcester, P.C. (1969): Text Book of Geomorphology, East West Press, New Delhi.

1st Year (Certificate Course)
Semester-II
(Practical)

Paper-GE-104C

Full Marks-40 (Credit – 2)
(Internal Assessment-16; End Sem. Exam. -24)

Sl. No.	Practical	Marks
1.	Cartograms (Using MS Excel)	09
2.	Topographical map interpretation (Plateau Region)	10
3.	Laboratory Notebook and Viva–voce	03+02
TOTAL		24

PRACTICAL: GE-104C

1. Cartograms (using MS Excel)
2. Topographical map interpretation (Plateau Region)
3. Laboratory Notebook and Viva–voce

1st Year (Certificate Course)
Semester-II

Selected References:

1. Saha, P. & Basu, P. (2015): Advanced Practical Geography – A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
2. Singh, R. L. & Singh, Rana P. B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
3. Sarkar, A. (2015): Practical Geography: A Systematic approach, Orient Black Swan Private Ltd., New Delhi.
4. Singh, R. & Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.

2nd Year (Diploma Course)
Semester-III
Population and Settlement Geography (Theoretical)

Paper-GE-201C

Full Marks-100 (Credit-4)

Unit-1: Population- Concept and Theory

(Internal Assessment-40; End Sem.Exam.-60)

Concept and Scope of Population Geography; Population Geography in India; Malthusian Theory of Population growth; Demographic Transition Theory; Cornucopian Theory of Population; Zero Population growth.

Unit-2: Population Dynamics

Distribution and Density of Population; Population Composition: Age, Sex, Literacy and Occupation; Fertility and Mortality of Population; Factors affecting Population change; Migration: Immigration and Emigration; Pattern of Migration

Unit-3: Settlement- Rural and Urban

Rural Settlement: Evolution and Growth related Concept of Blovet, Roy Burman & Ramachandran and Srivastava; Types and Patterns of Rural Settlement.

Urban Settlement: Social and Cultural factors behind the Urban growth; Classification of Towns based on their Size and Functions; Census Categories of Urban units in India.

Unit-4: Settlement- Models and Theories

Classical Models of Urban Morphology: Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory; Hierarchy of Urban Centres: Central Place Theory; August Losch's theory of Market Centres; Concept of City Region; Problems of Towns and Cities in India.

2nd Year (Diploma Course)
Semester-III

Selected References:

1. Bhende, Asha . A. and Kanitkar, T (1997): Principles of population studies, Hindustan Publishing House, Mumbai.
2. Chandna, R.C. (2013): Geography of Population, Kalyani publishers, New Delhi.
3. Ghosh, S. (1998): Introduction to settlement Geography, Orient Longman Ltd, Kolkata.
4. Mitra, A. (2004): India's Population, Abhinav Publisher, Nagpur.
5. Shrivastava, O.S. (1996): Demography and Population studies studies, Vikash Publishing House Ltd, Bhopal.
6. Yadav, J.P. (2004): Population Geography, Anmol Publication Pvt Ltd., New Delhi.

2nd Year (Diploma Course)
Semester-III

Climatology
(Theoretical)

Paper-GE-202C

Full Marks-60(Credit-2)

(Internal Assessment-24; End Sem.Exam.-36)

Unit-1: Atmospheric Temperature, Pressure and Wind System

Composition and Structure of the Atmosphere; Atmospheric Temperature: Insolation and Heat Budget, Horizontal and Vertical Distribution of Temperature, Heating and Cooling of the Atmosphere; Range of Temperature: Diurnal, Seasonal and Annual; Inversion of Temperature: Types and Significance.

Atmospheric Pressure: Vertical and Horizontal Distribution, Shifting of Pressure Belts, Pressure Gradient. Wind: Definition, Types, Wind Direction and related Laws; Factors affecting Wind Motion, Planetary, Periodic and Local Winds. Jet stream: Meaning, Significance, Properties, Types, Index Cycle of Jet Streams; Monsoon: Origin, Concept, Mechanism and relation with Jet Stream.

Unit-2: World Climatic Classification and Atmospheric Disturbances

Atmospheric Moisture: Humidity, Evaporation, Condensation, Fog, Cloud and Precipitation; Forms of Precipitation; Processes and Types of Rainfall; World Climatic Classification after Koppen and Thornthwaite.

Atmospheric Disturbances: Cyclone--Definition, Types, Characteristics; Anticyclone--Definition, Types, Characteristics; Thunderstorm--Definition, types, Characteristics, Conditions for Thunderstorm Development.

2nd Year (Diploma Course)
Semester-III

Selected References:

1. Barry and Chorley (1998) : Atmosphere, Weather and Climate, ELBS
2. Menon , P.A. (1989) : Our weather, NBT, India.
3. Critchfield, H.J. (1990) : General Climatology, Printice Hall of India Pvt LTD, N.D.
4. Lal, D.S. (Latest edition): Climatology, Sharada Pustak Bhawan, Allahabad.
5. Singh, S. Physical Geography, Prayag Pustak Bhawan, Allahabad.

2nd Year (Diploma Course)
Semester-III
(Practical)

Paper-GE-202C

Full Marks-40 (Credit-2)

(Internal Assessment-16; End Sem.Exam.-24)

Sl. No.	Practical	Marks
1.	Climatological instrument reading	4
2.	Drawing and Interpretation of Temperature– Rainfall Graph	4
3.	Climograph (After G. Taylor) and Hythergraph	4
4.	Analysis and Interpretation of Weather map	7
5.	Laboratory Notebook and Viva–voce	03+02
TOTAL		24

PRACTICAL: GE-202C

1. Climatological instrument reading :
Fortin's Barometer
Six's Maximum and Minimum Thermometer
Dry and Wet Bulb Thermometer
2. Drawing and Interpretation of Temperature-Rainfall Graph
3. Climograph (After G. Taylor) and Hythergraph.
4. Analysis and Interpretation of Indian Weather Map
Summer case
Winter case
5. Laboratory Notebook and Viva–voce

2nd Year (Diploma Course)
Semester-III

Selected References:

1. Mitra, K., Ghosh, K. and Das M. (2006): B.A. General Practical Geography, Kalyani Publishers, Kolkata.
2. Monkhouse, F.J. (1971): Maps and Diagrams, Methuen, London.
3. Sarkar, A. (2015): Practical Geography: A systematic approach, Orient Black Swan Private Ltd., New Delhi.
4. Saha, P. & Basu, P. (2015): Advanced Practical Geography– A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
5. Singh, R.L., Singh, Rana P.B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
6. Singh, R. and Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.
7. Saikia, R. and Thakuria, G. (2015): Practical Geography, EBH Publishers (India), Guwahati.

2nd Year (Diploma Course)
Semester-IV

Geography of North-East India and Tripura
(Theoretical)

Paper-GE-203C

Full Marks-100(Credit– 4)

(Internal Assessment-40; End Sem.Exam.-60)

Unit-1: North-East India- Physical

Physiography and Drainage; Climate; Soil; Natural Vegetation; Forest Resources; Utilization, Distribution and Conservation of Forests; Natural Hazards

Unit-2: North-East India -Economic

Agriculture: Characteristics, Problems and Mitigation; Agricultural Resources: Food Crops, Plantation Crops (With Special Reference to Tea and Rubber), Horticulture; Mineral and Power Resources: Utilization and Distribution; Major Industries; Human Resource: Population growth Distribution and Density, Composition, Population explosion and its impact on Socio–Economic Environment; Transport and Communication

Unit-3: Tripura-Physical

Physiography and Drainage; Climate; Soil; Natural Vegetation; Forest Resources; Natural Hazards: Earthquake, Flood, River Bank Erosion, Landslide and Cyclone

Unit-4: Tripura -Economic

Agriculture: Characteristics and Problems: Food Crops, Plantation Crops, Horticultural Crops; Mineral and Power Resources; Human Resource: Population growth, Distribution and Density of Population; Sex Ratio; Transport and Communication; Tourism Industry

2nd Year (Diploma Course)
Semester-IV

Selected References:

1. Khullar, D. R. (2018): India: A Comprehensive Geography, Kalyani Publication, New Delhi.
2. Husain, M. (2017): Geography of India, McGraw Hill Education, New Delhi.
3. Bhattacharya, N. (2009): North-east India: A Systematic Geography, New Delhi.
4. Taher, M. and Ahmed, P. (2002): Geography of North-east India, Sage Publications, New Delhi.
5. Bhowmik, I and Chakraborti, D. (2011): Resources and Economy of Tripura, Eastern Book House Publishers (India), Guwahati.
6. Disaster Management (Soft Skill Course) Study Material prepared by BUGS of Geography, TU, 2017.

2nd Year (Diploma Course)
Semester-IV

**Soil and
Biogeography
(Theoretical)**

Full Marks-60 (Credit– 2)

Paper-GE-204C

(Internal Assessment-24; End Sem. Exam. - 36)

Unit-1: Soil Geography

Definition and Components of Soil; Factors of Soil Formation; Processes in Soil formation; Soil Profile, Profile Development of Podzol, Chernozem and Laterite Soil; Physical Properties (Texture, Structure and Moisture) and Chemical Properties (pH and Organic Matter) of Soil; Major Soil Types of the World: Zonal, Azonal and Intra-zonal Soil; Soil Erosion and Conservation.

Unit-2: Biogeography

Concept, Nature and Scope of Biogeography; Concept of Ecology and Basic Ecological Principles; World Distribution of Plants and Animals; Concept and Components of Ecosystem; Trophic Structure; Food Chain and Food Web; Concept of Biome and Major Biomes of the World: Forest, Grassland and Marine Biome; Biogeochemical Cycles: Hydrological Cycle, Nitrogen Cycle and Carbon Cycle.

2nd Year (Diploma Course)
Semester-IV

Selected References:

1. Singh, S. (2001): Environmental Geography, Prayag Pustak Bhawan, Allahabad.
2. Sahai, V.N. (2011): Fundamentals of Soil, Kalyani Publishers, New Delhi.
3. Gautam, A. (2009): Environmental Geography, Sharda Pustak Bhawan, Allahabad.
4. Dash, M.C. (2001): Fundamental of Ecology, 2nd edition, Tata McGrawHill, New Delhi
5. Dey, N. K., and Ghosh. P. (1993): India- A Study in Soil Geography, Sribhumi Publishing Company.
6. Morgan, R.P.C. (1995): Soil Erosion and Conservation, 2nd edition, Longman.
7. Chapman J.L. and Reiz, M.J. (1993): Ecology- Principle and Applications, Cambridge University Press.
8. Daji, J.A., Kadam, J.R., and Patil, N.D. (1996): A Textbook of Soil Science, Media Promoters and Publishers.
9. Barry, C. (1977): Biogeography- An Ecological and Evolutionary Approach, Cox Blackwell, Oxford.
10. Hagget, R.J. (1988): Fundamentals of Biogeography, Routledge, London.
11. Hagget, R.J. (1995): Geocology: An Evolutionary Approach, Routledge, London.
12. Jorge V. Crisci, Liliana Katinas, and Paula Posadas (2003): Historical Biogeography: An Introduction, Harvard Univ. Press, Massachusetts.
13. Joy, T. (1993): Biogeography: A Study of Plants in the Ecosphere, Longman Sci & Tech., U.K.
14. MacDonald, G. (2001): Biogeography-Introduction to Space, Time, and Life, Wiley

2nd Year (Diploma Course)
Semester-IV
(Practical)

Paper-GE-204C

Full Marks-40 (Credit-2)

(Internal assessment-16; End Sem. Exam. -- 24)

Sl. No.	Practical	Marks
1.	Soil Testing with the help of Field Kit	5
2.	Topographical map interpretation (Plain Region)	10
3.	Trends in Population growth	04
4.	Laboratory Notebook and Viva-voce	03+02
TOTAL		24

PRACTICAL: GE-204C

1. Soil Testing with the help of Field Kit (pH, NPK and Organic matter)
2. Topographical Map Interpretation (Plain Region) with reference to Physical, Social, Cultural and Economic Aspects
3. Trends in Population Growth in Tripura, North-East India and India.
4. Laboratory Notebook and Viva-voce

Selected References:

1. Saha, P. & Basu, P. (2015): Advanced Practical Geography– A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
2. Singh, R.L. & Singh, Rana P.B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
3. Sarkar, A. (2015) Practical Geography: A Systematic approach, Orient Black Swan Private Ltd., New Delhi.
4. Singh, R. & Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.



Tripura University

(A Central University)

Suryamaninagar

West Tripura

Syllabus for Four Years Under Graduate Programme Under Science Discipline

Subject: Geography (Minor Course)

(NEP-2020)

Year - 2023



Tripura University
(A Central University)

Minor/ Elective Course Structure of Geography (UG Programme)
As per NEP-2020 under Tripura University

year	semester	Minor/ Elective Course	Theory	Practical
1 st (Certificate Course)	I	Course-1 GE-101M	Contributions in Geography	Scale, Introduction to Maps, Principle of topo. sheet numbering
	II	Course-2 GE-102M	Geography of India, North-east India and Tripura	Cartograms (using MS Excel), Topographical map interpretation (Plateau region)
2 nd (Diploma Course)	III	Course-3 GE-103M	Physical Geography	Identification of rocks and minerals, Climatological instruments reading, Analysis and Interpretation of Weather map
	IV	Course-4 GE-104M	Human Geography	Topographical map interpretation (Plain region), Trends in Population growth
3 rd (Degree Course)	V	Course-5 GE-201M	Environmental Geography	Instrument Survey
	VI	Course-6 GE-202M	Economic Geography	Projection
4 th (Degree with Honours and Research)	VII	Course-7 GE-301M	Hydrology	Hydrology related Practical
	VIII	Course-8 GE-302M	Industrial Geography	Quantitative Techniques



Tripura University
(A Central University)

Semester-wise Marks Distribution for Geography (UG Programme) As Per NEP-2020 under Tripura University

Year	Semester	Theory			Practical		
		Internal Assessment	End Sem. Exam.	Total	Internal Assessment	End Sem. Exam	Total
1 st (Certificate)	I	24	36	60	16	24	40
	II	24	36	60	16	24	40
2 nd (Diploma)	III	24	36	60	16	24	40
	IV	24	36	60	16	24	40
3 rd (Degree)	V	24	36	60	16	24	40
	VI	24	36	60	16	24	40
4 th (Degree with Honours)	VII	24	36	60	16	24	40
	VIII	24	36	60	16	24	40
		Total Theory = 480			Total Practical = 320		
		Grand Total (Theory + Practical) = 480 + 320= 800					



Tripura University
(A Central University)

Semester-wise Credit Distribution for Geography (UG Programme) As per NEP-2020

Year	Semester	Course	Theory/Practical	Marks	Credits	Total Credit/Sem.
1	I	GE-101M	Theory	60	3	4
			Practical	40	1	
	II	GE-102M	Theory	60	3	4
			Practical	40	1	
2	III	GE-103M	Theory	60	3	4
			Practical	40	1	
	IV	GE-104M	Theory	60	3	4
			Practical	40	1	
3	V	GE-201M	Theory	60	3	4
			Practical	40	1	
	VI	GE-202M	Theory	60	3	4
			Practical	40	1	
4	VII	GE-301M	Theory	60	3	4
			Practical	40	1	
	VIII	GE-302M	Theory	60	3	4
			Practical	40	1	
TOTAL				800	32	

**1st Year (Certificate Course)
Semester-I**

**Contributions in Geography
(Theoretical)**

Paper- GE-101M

Full Marks-60 (Credit – 3)

(Internal Assessment-24; End Sem. Exam.-36)

Unit-1: Introduction to Geography

Definition, Concept and Evolution of the word 'Geography'; Divisions and Branches of Geography; Nature and Scope of Geography; Inter-relations of Geography with other Physical and Social Sciences; Major Geographic Traditions (Earth Science, Man-Environment relationship, Area Studies and Spatial Analysis).

Unit-2: Contributors to Geography

Classical Contribution to Geography (Greeks and Romans); Indian and Chinese Contribution to Geography; Medieval Contribution to Geography by Arabs; Age of Discovery, Voyages and Renaissance in Europe; Modern Contribution to Geography: European and American.

Unit-3: Approaches, Dichotomy and Dualism in Geography

Approaches to the study of Geography -- Regional and Systematic; Man-Environment Relationship: Determinism and Possibilism; Dichotomy and Dualism: Physical vs. Human, Qualitative vs. Quantitative, System Approach vs. System Analysis); Recent trends in Geography; Contemporary Indian Geography.

Unit-4: Paradigm Shift and Trends in Geography

Perspectives in Geography (Positivism, Humanism); Quantitative Revolution; Recent Trends in Physical and Human Geography; Contemporary Trends in Indian and International Geography

1st Year (Certificate Course)
Semester-I

Selected References:

1. Adhikari, S. (2006): Fundamentals of Geographical Thought, Chaitanya Publishing House, Allahabad.
2. Adhikari, S. (2015): Fundamentals of Geographical Thought, Orient Blackswan Private Limited, New Delhi.
3. Dikshit, R. D. (2018): Geographical Thought: A Contextual History of Ideas, Prentice Hall, New Delhi.
4. Hartshorne, R. (2000): The Nature of Geography, Rawat Publication, New Delhi.
5. Hussain, M. (2014): Evolution of Geographical Thought, Rawat Publication, New Delhi.
6. Harm J.de Blij (2001): Geography: Realms, Regions, and Concepts, John Wiley & Sons.
7. Mandal, R.B and Sinha, VNP. (2016): Recent Trends and Concepts in Geography, Concept Publishing Company Pvt. Ltd., New Delhi, India.

1st Year (Certificate Course)
Semester-I
(Practical)

Paper- GE-101M (Practical)

Full Marks-40 (Credit – 1)

(Internal Assessment-16; End Sem. Exam. -24)

Sl. No.	Practical	Marks
1.	Scale	10
2.	Introduction to Maps, Topographical Map introduction	06
4.	Laboratory Notebook and Viva–voce	5+3
TOTAL		24

PRACTICAL: GE-101M

1. Scale: Meaning, Definition and its Uses; Calculation of R.F.
Graphical representation of Linear, Vernier and Diagonal Scale.
2. Introduction to maps: Definition, Elements, Types, Principle of map Design, Uses and Significance (from small to large scale), Map and Globe -- Similarities and Dissimilarities
Principle of Topographical Sheet numbering
3. Laboratory Notebook and Viva–voce

1st Year (Certificate Course)
Semester-I

Selected References:

1. Mitra, K., Ghosh K. and Das M. (2006): B.A. General Practical Geography, Kalyani Publishers, Kolkata.
2. Monkhouse, F.J. (1971): Maps and Diagrams, Methuen, London.
3. Sarkar, A. (2015) Practical Geography: A systematic approach, Orient Black Swan Private Ltd., New Delhi.
4. Saha, P. & Basu, P. (2015): Advanced Practical Geography – A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
5. Singh, R. L. & Singh, Rana P. B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
6. Singh, R. & Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.
7. Saikia, R. & Thakuria, G. (2015): Practical Geography, EBH Publishers (India), Guwahati.

**1st Year (Certificate Course)
Semester-II**

**Geography of India, North-East India and Tripura
(Theoretical)**

Paper-GE-102M

**Full marks-60 (Credit – 3)
(Internal Assessment-24; End Sem. Exam.-36)**

Unit-1: India -- Location and Physical

Regional Setting and Regional Divisions; Physical Divisions and Drainage; Climate and Natural Vegetation; Soil types and Agricultural Regions

Unit-2: India – Population and Resources

Population Composition (Race, Ethnic and Tribe); Population Density, Distribution and Growth; Resources, Minerals (Coal, Iron Ore and Bauxite) and Industries (Iron and Steel and Aluminium); Transport, Communication and Trade; Economy, Urbanization, Population Problems

Unit-3: North-East India

Physical Divisions and Drainage; Climate and Natural Vegetation; Soils and Types of Agriculture Practices; Population Composition (Race, Ethnic and Tribe); Population Density, Distribution and Growth; Resources, Power and Minerals; Industries; Transport and Tourism

Unit-4: Tripura

General Geology and Physical Divisions; Physiography and Drainage; Climate and Natural Vegetation; Soils and Types of Agricultural Practices; Population Composition (Tribes and Communities); Resources, Minerals and Industries; Historical Sites and Tourism

1st Year (Certificate Course)
Semester-II

Selected References:

1. Bhowmik, I & Chakraborti, D. (ed.) (2011): Resources and Economy of Tripura, Eastern Book House Publishers (India), Guwahati.
2. Bhattacharya, N.N. (2005): North East India: A Systematic Geography, Rajesh Publications, New Delhi.
3. Husain, M. (2017): Geography of India, McGraw Hill Education, New Delhi.
4. Khullar, D. R. (2018): India: A Comprehensive Geography, Kalyani Publishers, New Delhi.
5. Majumder, T. & Dev Verma, J. (2018): Geography of Tripura. Naya Pustakmahal, Agartala, India
6. Nag, P. & Gupta, S.S. (1992): Geography of India, Concept Publishing Company, New Delhi.
7. Singh, J. (2003): India: A Comprehensive and Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
8. Tirtha, R. (2002): Geography of India, Rawat Publications, Jaipur.
9. Tiwari, R.C. (2007): Geography of India, Prayag Pustak Bhawan, Allahabad.
10. Taher, M. and Ahmed, P. (2014): Geography of North East India, Mani Manik Prakash, Guwahati.

1st Year (Certificate Course)
Semester-II
(Practical)

Paper- GE-102M (Practical)

Full marks-40 (Credit – 1)

(Internal Assessment-16; End Sem. Exam.-24)

Sl. No.	Practical	Marks
1.	Interpretation of Topographical Maps (Plateau region)	10
2.	Cartograms (Using MS Excel)	06
3.	Laboratory Notebook and Viva – voce	05+3
TOTAL		24

PRACTICAL: GE-102M

1. Interpretation of Topographical Map (Plateau region)
2. Cartograms (Using MS Excel)
3. Laboratory Notebook and Viva–voce

1st Year (Certificate Course)
Semester-II

Selected References:

1. Saha, P. & Basu, P. (2015): Advanced Practical Geography – A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
2. Singh, R. L. & Singh, Rana P. B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
3. Sarkar, A. (2015): Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi.
4. Singh, R. & Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.

2nd Year (Diploma Course)
Semester-III
Physical Geography (Theoretical)

Paper- GE-103 M

Full Marks-60 (Credit – 3)

(Internal Assessment-24; End Sem. Exam.-36)

Unit-1: Introduction to Physical Geography

Nature and Scope of Physical Geography; Different Branches of Physical Geography; Geological Time Scale; Origin of the Earth: Big Bang Theory; Origin of the Continents and Oceans, Continental Drift Theory and Plate Tectonic Theory

Unit-2: Introduction to Lithology and Geomorphology

Internal structure of the Earth; Types of Rocks: Characteristics and Classifications; Folds and Faults; Definition and Classification of Weathering and Mass movement; Processes and Landforms: Fluvial, Glacial, Arid and Coastal; Slope: Importance, Genetic Classification and Components of Slope; Fundamental Concepts in Geomorphology (Concept 1-6 of Thornbury).

Unit-3: Climatology and Oceanography

Climatology: Composition and Structure of the Atmosphere; Atmospheric Pressure Belts and General Wind System; Insolation and Heat Budget; Concept of Humidity, Evaporation and Condensation; Types of Cloud; Precipitation: Causes and Forms, Types of Rainfall.

Oceanography: Surface Configuration of Ocean Floor: Pacific Ocean, Atlantic Ocean and Indian Ocean; Temperature, Salinity and Density of Ocean Water; Oceanic Circulation System: Pacific Ocean, Atlantic Ocean and Indian Ocean; Coral Reefs and Atoll.

Unit-4: Soil and Biogeography

Soil Geography: Definition; Components of Soil; Factors of Soil Formation; Processes in Soil formation; Soil Profile; Physical Properties (Texture, Structure and Moisture) and Chemical Properties (pH and Organic Matter) of Soil; Major Soil types of the World: Zonal, Azonal and Intra-zonal Soils; Soil Erosion and Conservation.

Biogeography: Concept, Nature and Scope; Concept of Ecology and Basic Ecological Principles; Concept and Components of Ecosystem; Trophic Structure; Food Chain and Food Web; Concept of Biome and Major Biomes of the World: Forest, Grassland and Marine Biomes; Biogeochemical Cycle: Hydrological Cycle, Nitrogen Cycle and Carbon Cycle.

2nd Year (Diploma Course)

Semester-III

Selected References:

1. Singh, S. (1997): Physical Geography, Prayag Pustak Bhawan, Allahabad
2. Lal, D.S (1998): Climatology, Sharada Pustak Bhawan, Allahabad
3. Khullar, D.R. (2003): India – A Comprehensive Geography, Kalyani Publisher Chennai.
4. Dayal, P. (2011): A text Book of Geomorphology, Rajesh Publication, New Delhi
5. Singh, S. (2009): Geomorphology, Prayag Pustak Bhawan, Allahabad.
6. Ahmed, E. (2001) Geomorphology, Kalyani Publishers, Kolkata.
7. Ahmed, E. (1989): Physical Geography, Kalyani Publishers, New Delhi.
8. Monkhouse, F.J. (1971): Principles of Physical Geography, University of London Press Ltd.
9. Morgan, R.S and Wooldridge, S.W. (1988): An Outline of Geomorphology, Orient Longman.
10. Thornbury, W.D. (1984): Principles of Geomorphology, 2nd Edition Wiley Eastern Ltd., New Delhi.
11. Alan H. Strahler, Arthur Strahler, Introducing Physical Geography, John Wiley and Sons, New York, 2005
12. Singh, S. (2001): Environmental Geography, Prayag Pustak Bhawan, Allahabad.
13. Sahai, V.N. (2011): Fundamentals of Soil, Kalyani Publishers, New Delhi.
14. Gautam, A. (2009): Environmental Geography, Sharda Pustak Bhawan, Allahabad.

2nd Year (Diploma Course)
Semester-III

(Practical)

Paper- GE-103M (Practical)

Full Marks-40 (Credit – 1)

(Internal assessment-16; End Sem. Exam. -24)

Sl. No.	Practical	Marks
1.	Identification of Rocks and Minerals	04
2.	Climatological Instrument reading	04
3.	Analysis and Interpretation of Weather Map	08
4.	Laboratory Notebook and Viva-voce	5+3
TOTAL		24

PRACTICAL: GE-103M

1. Identification of Rocks and Minerals
2. Climatological Instrument reading:

Fortin's Barometer
Six's Maximum and Minimum Thermometer
Dry and Wet Bulb Thermometer
3. Analysis and Interpretation of Indian Weather Map
Summer case
Winter case
4. Laboratory Notebook and Viva-voce

2nd Year (Diploma Course)
Semester-III

Selected References:

1. Mitra, K., Ghosh K. and Das M. (2006): B.A. General Practical Geography, Kalyani Publishers, Kolkata.
2. Monkhouse, F.J. (1971): Maps and Diagrams, Methuen, London.
3. Sarkar, A. (2015) Practical Geography: A systematic approach, Orient Black Swan Private Ltd., New Delhi.
4. Saha, P. & Basu, P. (2015): Advanced Practical Geography – A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
5. Singh, R. L. & Singh, Rana P. B. (2003): Elements of Practical Geography, Kalyani Publishers, New Delhi.
6. Singh, R. & Singh, K.: Map Work and Practical Geography, Central Book Depot, Allahabad.
7. Saikia, R. & Thakuria, G. (2015): Practical Geography, EBH Publishers (India), Guwahati.

2nd Year (Diploma Course)
Semester-IV
Human Geography (Theoretical)

Paper-GE-104M

Full Marks-60 (Credit – 3)

(Internal Assessment-24; End Sem. Exam.-36)

Unit-1: Introduction to Human Geography and Population Geography

Human Geography: Concept, Nature and Scope of Human Geography; Fundamentals and Branches of Human Geography; Development of Human Geography; Inter-relations of Human Geography with other Social Sciences.

Population Geography: Distribution and Density of World Population, Age-Sex Composition of Population, Concept of Fertility, Mortality; Migration: Immigration and Emigration.

Unit-2: Social and Cultural Geography

Social Geography: Meaning, Nature and Scope; Social Groups; Social Processes; Social Wellbeing; Social Differentiation: Tribes and Castes; Religion: Distribution in India; Language: Distribution in India; Social Problems in India.

Cultural Geography: Concept, Nature and Scope; Racial Division and Distribution; Linguistic Distribution of the World; Cultural Diffusion and its Processes; Cultural Hearth and Cultural Realm.

Unit-3: Settlement Geography

Rural Settlement: Types and Patterns; Urban Settlement: Classification of Towns based on their Size and Functions; Census Categories of Urban units in India; The Concept of City Region; Problems of Towns and Cities in India; Trends of Indian urbanization.

Unit-4: Contemporary Issues

Ageing of Population; Decline in Sex-ratio. Rural Development Programmes --- SJSY, MGNREGA, JANDHAN YOJANA and Rural Connectivity; Problems of Housing, Slums, Civic Amenities (Water and Transport); Case Study of Delhi, Mumbai, Kolkata, Chennai and Chandigarh with reference to Land Use and Urban Issues.

2nd Year (Diploma Course)
Semester-IV

Selected References:

1. Chandna, R. C. (2000): Geography of Population: Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
2. Clark, J. I. (1973): Population Geography, Pergamon Press, Oxford.
3. Hassan, M. I. (2005): Population Geography, Rawat Publication, New Delhi.
4. Mandal, R. B. (2008): Urban Geography: A Textbook, Concept Publishing Company, New Delhi.
5. Mitra, A. (1978): India's Population, Vol. I and II, Abhinav Publisher, Nagpur.
6. Ramachandran, R. (1989): Urbanisation and Urban Systems of India, Oxford University Press, U.K.
7. Siddhartha, K. (2016): Cities, Urbanisation and Urban Systems (Settlement Systems), Kitab Mahal Publishers and Distributors, New Delhi.
8. Zelinsky, W. (1966): A Prologue to Population Geography, Prentice Hall, N. J
9. Broek Jan, O. M. and Jan Otto, Marius (1978): Geography of Mankind, McGraw Hill Companies
10. Jordan Terry, G. and Lester, Rowntree (1990): The Human Mosaic: Thematic Introduction to Cultural Geography, Longman.

**2nd Year (Diploma Course)
Semester-IV**

(Practical)

Paper- GE-104M (Practical)

Full Marks-40 (Credit – 1)

(Internal Assessment-16; End Sem. Exam. -24)

Sl. No.	Practical	Marks
1.	Interpretation of Topographical Map (Plain region)	12
2.	Trends in Population Growth	04
3.	Laboratory Notebook and Viva–voce	05+3
TOTAL		24

PRACTICAL: GE-104M

1. Interpretation of Topographical Map (Plain region) with reference to Physical, Social, Cultural and Economic Aspects.
2. Trends in Population Growth in Tripura, North-East India and India.
3. Laboratory Notebook and Viva–voce

2nd Year (Diploma Course)
Semester-IV

Selected References:

1. Saha, P. & Basu, P. (2015): Advanced Practical Geography – A Laboratory Manual, Books and Allied (P) Ltd., Kolkata.
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