



Anekant Education Society's

Tuljaram Chaturchand College, Baramati

(Autonomous)

Two Year Degree Program in Geography

(Faculty of Science & Technology)

CBCS Syllabus

M.A. /M.Sc. (Geography) Part-I Semester -I

For Department of Geography

Tuljaram Chaturchand College, Baramati

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

To be implemented from Academic Year 2023-2024

Title of the Programme: M.A. /M.Sc. (Geography)**Preamble**

AES's Tuljaram Chaturchand College has made the decision to change the syllabus of across various faculties from June, 2023 by incorporating the guidelines and provisions outlined in the National Education Policy (NEP), 2020. The NEP envisions making education more holistic and effective and to lay emphasis on the integration of general (academic) education, vocational education and experiential learning. The NEP introduces holistic and multidisciplinary education that would help to develop intellectual, scientific, social, physical, emotional, ethical and moral capacities of the students. The NEP 2020 envisages flexible curricular structures and learning based outcome approach for the development of the students. By establishing a nationally accepted and internationally comparable credit structure and courses framework, the NEP 2020 aims to promote educational excellence, facilitate seamless academic mobility, and enhance the global competitiveness of Indian students. It fosters a system where educational achievements can be recognized and valued not only within the country but also in the international arena, expanding opportunities and opening doors for students to pursue their aspirations on a global scale.

In response to the rapid advancements in science and technology and the evolving approaches in various domains of Geography and related subjects, the Board of Studies in Geography at Tuljaram Chaturchand College, Baramati - Pune, has developed the curriculum for the first semester of M.A./M.Sc. Part-I Geography, which goes beyond traditional academic boundaries. The syllabus is aligned with the NEP 2020 guidelines to ensure that students receive an education that prepares them for the challenges and opportunities of the 21st century. This syllabus has been designed under the framework of the Choice Based Credit System (CBCS), taking into consideration the guidelines set forth by the National Education Policy (NEP) 2020, LOCF (UGC), NCeRF, NHEQF, Prof. R.D. Kulkarni's Report, Government of Maharashtra's General Resolution dated 20th April and 16th May 2023, and the Circular issued by SPPU, Pune on 31st May 2023.

A Geography degree equips students with the knowledge and skills necessary for a diverse range of fulfilling career paths. Graduates in Geography find opportunities in various fields, including urban planning, GIS analysis, disaster preparedness, teaching, environmental science, remote sensing analysis, transportation planning, demography, hydrology, and many

other domains. Throughout their three-year degree program, students explore the spatial organization of both natural and human phenomena across different scales, from local to global. They learn to identify and analyze features on the Earth's surface, understand their spatial patterns, and compare similarities and differences between different places. The curriculum also delves into the intricate relationship between humans and the environment, examining how physical and cultural landscapes evolve over time. Students specializing in physical geography gain an understanding of the processes that shape Earth's climate, create landforms, and influence the distribution of plant and animal life. By acquiring these comprehensive skills and knowledge, graduates are well-prepared to embark on rewarding careers that contribute to a better understanding of our world and address the challenges of our ever-changing planet.

Overall, revising the Geography syllabus in accordance with the NEP 2020 ensures that students receive an education that is relevant, comprehensive, and prepares them to navigate the dynamic and interconnected world of today. It equips them with the knowledge, skills, and competencies needed to contribute meaningfully to society and pursue their academic and professional goals in a rapidly changing global landscape.

Programme Specific Outcomes (PSOs)

- PSO1. Problem Analysis:** Demonstrate the ability to analyze physical and cultural problems in both rural and urban environments and propose effective solutions.
- PSO2. Socio-economic Survey Project:** Possess the skills necessary to conduct socio-economic survey projects, enabling them to assess the development status of specific social groups or sections of society.
- PSO3. Individual and Teamwork:** Effectively collaborate as individuals and as members or leaders in diverse teams and multidisciplinary settings.
- PSO4. Application of Modern Instruments:** Apply various modern instruments for data collection and field surveys.
- PSO5. GIS and Geographical Map Making:** Learn to utilize GIS and modern techniques for creating geographically-based maps.
- PSO6. Critical Thinking:** Demonstrate the ability to understand and address critical issues in physical and cultural environments.
- PSO7. Development of Observation Skills:** Through field experiences, students will develop strong observational skills and the ability to identify socio-environmental problems in localities.
- PSO8. Human perception and behaviour:** Learning human perception and behaviour to acquire the geographical knowledge over time, is essential to improve decision making process.
- PSO9. Effective Citizenship:** Exhibit empathetic social concern, an equity-centered approach to national development, and actively engage in civic life through volunteering.
- PSO10. Management Skills:** Understand and apply management principles to their work, functioning effectively as individuals and as members or leaders in diverse, multidisciplinary teams.
- PSO.11 Ethics:** Recognize different value systems, including their own, understand the moral dimensions of their decisions, and take responsibility for their actions.
- PSO12. Environmental Ethics and Sustainability:** Comprehend the societal and environmental impact of their knowledge and exhibit an understanding of the need for sustainable development.
- PSO13. Identification of critical problems and issues:** Detection and identification of the critical problems and spatial issues are essential for sustainable development.

Anekant Education Society's
Tuljaram Chaturchand College, Baramati
(Autonomous)

Board of Studies (BOS) in Geography

From 2022-23 to 2024-25

Sr. No.	Name	Designation
1.	Dr. Arun S. Magar	Chairman
2.	Dr. Asaram S. Jadhav	Member
3.	Mr. Vinayak D. Chavan	Member
4.	Mr. Sachin C. Memane	Member
5.	Ms. Akshita S. Raje	Member
6.	Dr. Santosh Lagad	Vice-Chancellor Nominee
7.	Dr. Pravin Kokane	Expert from other University
8.	Dr. T. P. Shinde	Expert from other University
9.	Dr. Babaji Maskare	Industry Expert
10.	Mr. Ganesh Ghanawat	Meritorious Alumni
11.	Ms. Aisha Tamboli	Student Representative
12.	Mr. Sagar Lokhande	Student Representative

Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati
(Autonomous)

Credit Distribution Structure for (M. A./M.Sc. Geography) Part-I (2023 Pattern)

Year	Level	Sem.	Major		Research Methodology (RM)	OJT/FP	RP	Cum. Cr.
			Mandatory	Electives				
I	6.0	Sem-I	GEO-501-MJM: Principles of Geomorphology (Credit 04)	GEO-511-MJE(A): Fluvial Geomorphology (Credit 04) OR GEO-511-MJE(B): Geography of Rural Settlement (Credit 04)	GEO-521-RM: Research Methodology in Geography (Credit 04)	--	--	20
			GEO-502-MJM: Principles of Population Geography (Credit 04)					
			GEO-503-MJM: Practical in Geomorphology (Credit 02)					
			GEO-504-MJM: Practical in Population Geography (Credit 02)					
		Sem- II	GEO-551-MJM: Principles of Climatology (Credit 04)	GEO-561-MJE (A): Coastal Geomorphology Credit 04 OR GEO-561-MJE (B): Components of Population Geography (Credit 04)	--	GEO-581-OJT/FP Credit 04	--	20
			GEO-552-MJM: Principles of Economic Geography (Credit 04)					
			GEO-553-MJM: Practical in Climatology (Credit 02)					
			GEO-554-MJM: Practical in Economic Geography (Credit 02)					
Cum. Cr.			24	8	4	4	--	40

1 Credit = 15 Hrs.

Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati
(Autonomous)

Course Structure for (M. A./M.Sc. Geography) Part-I (2023 Pattern)

Sem	Course Type	Course Code	Course Title	Theory/ Practical	No. of Credits
I	Major (Mandatory)	GEO-501-MJM	Principles of Geomorphology	Theory	04
	Major (Mandatory)	GEO-502-MJM	Principles of Population Geography	Theory	04
	Major (Mandatory)	GEO-503-MJM	Practical in Geomorphology	Practical	02
	Major (Mandatory)	GEO-504-MJM	Practical in Population Geography	Practical	02
	Major (Elective)	GEO-511-MJE (A)	Fluvial Geomorphology	Theory	04
		GEO-511-MJE (B)	Geography of Rural Settlement		
	Research Methodology (RM)	GEO-521-RM	Research Methodology in Geography	Theory	04
Total Credits Semester I					20
II	Major (Mandatory)	GEO-551-MJM	Principles of Climatology	Theory	04
	Major (Mandatory)	GEO-552-MJM	Principles of Economic Geography	Theory	04
	Major (Mandatory)	GEO-553-MJM	Practical in Climatology	Practical	02
	Major (Mandatory)	GEO-554-MJM	Practical in Economic Geography	Practical	02
	Major (Elective)	GEO-561-MJE (A)	Coastal Geomorphology	Theory	04
		GEO-561-MJE (B)	Components of Population Geography		
	On Job Training (OJT)/Field Project (FP)	GEO-581-OJT/FP	On Job Training/Field Project relevant to the major course.	Training/ Project	04
Total Credits Semester-II					20
Cumulative Credits Semester I and II					40

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Major Mandatory (Theory)
Course Code	: GEO-501-MJM
Course Title	: Principles of Geomorphology
No. of Credits	: 04
No. of Teaching Hours	: 60

Course Objectives:

1. To describe the concept of a drainage basin and stream network.
2. To understand the basic laws and models of the fluvial processes.
3. To discuss characteristics of drainage basin hydrology.
4. To apply quantitative methods to measure and assess fluvial processes and landforms.
5. To analyze the role of fluvial processes in shaping landscapes.
6. To explain the factors influencing the formation and evolution of river channels.
7. To identify the flow types and to measure the velocity of the river flow.

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Accurately describe the concept of a drainage basin and stream network, including their components and interconnectedness.
- CO2.** Demonstrate a comprehensive understanding of the basic laws and models of fluvial processes, enabling them to explain and apply them to real-world scenarios.
- CO3.** Discuss the characteristics of drainage basin hydrology, including aspects such as precipitation, runoff, and stream flow patterns.
- CO4.** Apply quantitative methods to measure and assess fluvial processes and landforms, allowing them to collect and analyze data related to river systems effectively.
- CO5.** Analyze the role of fluvial processes in shaping landscapes, including erosion,

deposition, and landform evolution.

CO6. Explain in detail the factors influencing the formation and evolution of river channels, such as sediment transport, channel morphology, and boundary conditions.

CO7. Identify different flow types within a river system and measure the velocity of the river flow, utilizing appropriate measurement techniques and tools.

Topics and Learning Points

UNIT 1: Introduction to Geomorphology	Teaching Hours
1.1 Definition nature and scope of Geomorphology	12
1.2 Basic concepts in Geomorphology	
1.3 Hierarchy of spatial and temporal scales	
1.4 Branches of Geomorphology	
1.5 Geological scale	
UNIT 2: Geomorphology and Tectonics	12
2.1 Internal structure of the Earth	
2.2 Seismic waves and types	
2.3 Theory of Plate Tectonics	
2.4 Folds, faults and landforms	
UNIT 3: Weathering and Mass movement	12
3.1 Definition and basic concepts	
3.2 Weathering: types and related landforms	
3.3 Mass movement: types and related landforms	
3.4 Importance of weathering and mass movements	
UNIT 4: Fluvial and Coastal Processes	12
4.1 Definition and basic concepts	
4.2 Process of erosion, transportation and deposition	
4.3 Fluvial landforms	
4.4 Coastal landforms	
4.5 Role of fluvial and coastal processes in the development	

UNIT 5: Aeolian and Glacial Processes**12**

- 5.1 Definition and basic concepts
- 5.2 Process of erosion, transportation and deposition
- 5.3 Aeolian landforms
- 5.4 Glacial landforms
- 5.5 Importance of aeolian and glacial landforms

References:

1. Bloom, A.L. (2012): *Geomorphology- A Systematic Analysis of Late Cenozoic Landforms*, Prentice-Hall of India, New Delhi
2. Chorley, R.J., Schumm, S. A. and Sugden, D. E. (1984): *Geomorphology*, Methuen, London.
3. Gregory, K.J. and Goudie, A.S. (2014): *The SAGE Handbook of Geomorphology*, SAGE, London.
4. Holmes, (1944): *Principles of Physical Geology*, Thomas Nelson and Sons Ltd, London.
5. Huggett, R.J. (2008): *Fundamentals of Geomorphology*, Routledge, London and New York.
6. Goudie A.S. (2004): *Encyclopedia of Geomorphology*, Routledge, London and New York.
7. Kale, V.S. and Gupta, A. (2010): *Introduction to Geomorphology*, Universities Press, Hyderabad
8. Migon, P. (2010): *Geomorphological Landscapes of the World*, Springer, London/New York.
9. Ollier, C.D. (1981): *Tectonics and Landforms*, Longman, London.
10. Singh, S. (2011): *Geomorphology*, PrayagPustakBhawan, Allahabad.
11. Siddhartha, K. (2001): *The Earth's dynamic surface*, Kishore, Delhi.
12. Spark, B.W. (1972): *Geomorphology*, Longman, New York.
13. Steers, A. (1958): *The Unstable Earth*, Methuen, London.
14. Strahler, A.H. and Strahler, A.N. (1992): *Modern Physical Geography*, John Wiley, New York.

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Major Mandatory
Course Code	: GEO-502-MJM
Course Title	: Principles of Population Geography
No. of Credits	: 04
No. of Teaching Hours	: 60

Course Objectives:

1. This paper intends to acquaint the students with various dimensions of Population Geography, and its challenges.
2. To acquaint the students with the utility and application of Population Geography in different regions and environment.
3. To make the students aware of the need and importance of population and polices.
4. To aware knowledge about distribution of population in different region.
5. To give information about growth and population density of different region of the world.
6. This course gives an idea to collect the population data.
7. To notify the students about different structures and characteristics of population.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Aware about basic principles and concepts in population geography.

CO2. Knows the various theories in population geography

CO3. Understood the dynamics of population and its role in population policies

CO4. Realize the world-wide distribution of population.

CO5. Understand about population structure and characteristics of different countries, they can also predict future population scenario of the country.

CO6. Understand population growth of different countries, they can also predict future population setting of the country.

CO7. Apply knowledge of population geography in development planning.

Topics and Learning Points

UNIT 1: Introduction to Population Geography	Teaching Hours
1.1 Meaning and definition of Population and Population Geography	12
1.2 Nature and Scope	
1.3 Sources of Population Data	
1.4 Application of Population Geography	
UNIT 2: Population Distribution	12
2.1 Population distribution of World and India	
2.2 Factors affecting distribution of population	
2.3 Density: definition and types	
2.4 Factors affecting density of population	
2.5 Population density in India	
UNIT 3: Population Growth and trend	12
3.1 Concept of population growth	
3.2 Component of population growth (Fertility, Mortality, Migration and Nuptiality)	
3.3 Malthus Theory	
3.4 Demographic Transition theory	
3.5 Population growth and trend in India	
UNIT 4: Population Structure and Characteristics	12
4.1 Age and sex structure	
4.2 Concept of aging of populations	
4.3 Dependency ratio	
4.4 Sex Ratio: definition and affecting factors of sex ratio	
4.5 Sex ration in India	
4.6 Population Composition: religious, linguistics, ethnic, marital and educational	

4.7 Literacy: definition and measures of literacy

4.8 Literacy in India

UNIT 5: Population Development and Population Policies

12

5.1 Human Development Index (HDI)

5.2 Gender Development Index (GDI)

5.3 Relation between population and development

5.4 Population policy of India

5.5 Policy of China, Germany

References:

1. Bhende, A. and Kanitkar, T. (2011): Principles of Population Studies, Himalaya Publishing House, Bombay.
2. Beaujeu, G. J. (1966): Geography of Population, Longman Group Ltd.
3. Chandna, R.C. (Rep.2010): Geography of Population, Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
4. Clark, J. I. (1973): Population Geography, Pergamon Press Ltd., Oxford.
5. Clark, J.I. (1984): Geography and Population: Approaches and Applications, Pergamon Press Ltd., Oxford.
6. Musmade Arjun, Sonawane Amit and Jyotiram More, (2015) Population & Settlement Geography (Marathi) -Diamond Publication Pune.

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Major Mandatory
Course Code	: GEO-503-MJM
Course Title	: Practical in Geomorphology
No. of Credits	: 02
No. of Teaching Hours	: 60

Course Objectives:

1. To prepare geomorphological map from the toposheet.
2. To acquaint with the geomorphological symbols.
3. To interpret the geomorphological forms and processes.
4. To survey and plot the cross-section of a river.
5. To analyze the size and shape of the coarse sediments.
6. To study the grain size distribution of sandy sediments.
7. To interpret sediment data in terms of palaeo-hydrological conditions.

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Apply appropriate symbols and techniques to represent landforms and features on a geomorphological map.
- CO2.** Understand the significance and meaning of different symbols in representing landforms, geological structures, and other relevant features.
- CO3.** Explain the processes responsible for the formation and evolution of these landforms.
- CO4.** Conduct a survey of a river's cross-section using appropriate surveying techniques and equipment.
- CO5.** Apply appropriate methods to measure and analyze the size and shape of coarse

sediments, such as pebbles or cobbles.

CO6. Collect representative samples of sandy sediments from field or laboratory sources.

CO7. Infer past hydrological conditions, such as flow velocity, energy, and depositional environments, based on sediment characteristics.

Topics and Learning Points

UNIT 1: Geomorphological Mapping	Teaching Hours
1.1 Symbols of geomorphological mapping	20
1.2 Preparation of geomorphological map from the toposheet	
1.3 Preparation of geomorphological map in the field	
1.4 Interpretation of map in terms of forms and processes	
UNIT 2: Field Survey	20
2.1 Surveying and plotting of stream channel cross-section/beach profile	
2.2 Quadrat or Traverse survey of sediment size on river bed/beach	
2.3 Analysis of shape and size of coarse sediments (Zingg's classification)	
2.4 Preparation of river/beach channel maps using GPS	
UNIT 3: Soil/Sediment Analysis	20
3.1 Analysis of sandy and clayey sample	
3.2 Plotting of data on probability graph paper	
3.3 Estimation of grain size parameters	
3.4 Interpretation of results	

References:

1. Aackombe, R. V. and Gardiner, V. (1983): Geomorphological Field Manual
2. Chorley, R. J., Schumm, S. A. and Sugden, D.E. (1984) :
Geomorphology, Methuen, London
3. Goudie, A. (1990): Geomorphological Techniques, Unwin Hyman, London
4. Hart, M. G. (1986): Geomorphology, Pune and Applied George Allen
and Unwin
5. Kale, V. S. and Gupta, A. (2001): Introduction to Geomorphology,
Orient Longman, Calcutta
6. King, C.A.M. (1966): Techniques in Geomorphology

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Major Mandatory
Course Code	: GEO-504-MJM
Course Title	: Practical in Population Geography
No. of Credits	: 02
No. of Teaching Hours	: 60

Course Objectives:

1. To enable the students to use various techniques of calculating rates.
2. To acquaint the students with Population Models.
3. To familiar the students' different theories related to population.
4. To make awareness about dependency ratio and growth of population.
5. To intimate gender scenario of different countries.
6. To make knowledge about future population and age structure of different countries.
7. To acquaint the students with the projection, HDI and GDI

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Understand calculation techniques of growth rates.
- CO2.** Calculate projection and apply to various state of India.
- CO3.** Study in HDI and GDI give knowledge of society.
- CO4.** Apply various theories in population geography to their society.
- CO5.** Understood the dynamics of population and its role in population policies
- CO6.** Understand about population structure and characteristics of different countries, they can also predict future population scenario of the country.
- CO7.** Understand population growth of different countries, they can also predict future population setting of the country.

Topics and Learning Points

UNIT 1: Population growth rates and Projection	Teaching Hours
1.1 Population growth rate	20
1.2 Decadal growth rate	
1.3 Population projection using linear equation regression	
1.4 Age-sex pyramid	
1.5 Dependency ratio	
UNIT 2: Demographic Indices / Measures	20
2.1 Fertility	
2.2 Mortality	
2.3 Migration	
2.4 Nuptiality	
UNIT 3: Index and Survey	20
3.1 Human development index	
3.2 Gender development index	
3.3 Demographic transition applied to state wise for India	
3.4 Methods to collect population data	

Reference Books:

1. Carter, H. (1977): The study of Urban Geography, Edward Arnold, London.
2. Hans, R. (1978): Fundamentals of Demography, Surjeet, Delhi.
3. Hudson F.S. (1976): Geography of Settlements, Estover, Macdonald& Evans, England.
4. Liendsor, J.M. (1997): Techniques in Human Geography, Routledge.
5. Lloyd, P. and Dicken, B. (1972): Location in Space - A theoretical approach to economic geography, Harper and Row, New York.
6. Michael, E. and Hurse, E.(1974): Transportation Geography, McGraw-Hill, New York.
7. Pollard, A.H. and FarhatYusu, (1974): Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Major Elective
Course Code	: GEO-511-MJE (A)
Course Title	: Fluvial Geomorphology
No. of Credits	: 04
No. of Teaching Hours	: 60

Course Objectives:

1. To describe the concept of a drainage basin and stream network.
2. To understand the basic laws and models of the fluvial processes.
3. To discuss characteristics of drainage basin hydrology.
4. To apply quantitative methods to measure and assess fluvial processes and landforms.
5. To analyze the role of fluvial processes in shaping landscapes.
6. To explain the factors influencing the formation and evolution of river channels.
7. To identify the flow types and to measure the velocity of the river flow.

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Accurately describe the concept of a drainage basin and stream network, including their components and interconnectedness.
- CO2.** Demonstrate a comprehensive understanding of the basic laws and models of fluvial processes, enabling them to explain and apply them to real-world scenarios.
- CO3.** Discuss the characteristics of drainage basin hydrology, including aspects such as precipitation, runoff, and stream flow patterns.
- CO4.** Apply quantitative methods to measure and assess fluvial processes and

landforms, allowing them to collect and analyze data related to river systems effectively.

CO5. Analyze the role of fluvial processes in shaping landscapes, including erosion, deposition, and landform evolution.

CO6. Explain in detail the factors influencing the formation and evolution of river channels, such as sediment transport, channel morphology, and boundary conditions.

CO7. Identify different flow types within a river system and measure the velocity of the river flow, utilizing appropriate measurement techniques and tools.

Topics and Learning Points

UNIT 1: Introduction to Fluvial Geomorphology	Teaching Hours
1.1 Definition and scope	12
1.2 Drainage basin and stream network	
1.3 Horton's laws of drainage composition	
1.4 Laws of Allometric Growth	
1.5 Phases of drainage network development- Glock's model	
UNIT 2: Drainage Basin Hydrology	12
2.1 Runoff generation and types	
2.2 Gully and channel formation	
2.3 Chanel initiation	
2.4 Discharge and magnitude/frequency of flows in river system	
UNIT 3: Open Channel Hydraulics	12
3.1 Types of flows	
3.2 Flow behaviour- sub-critical, critical and supercritical flow	
3.3 Flow velocity variations and measurement methods	
3.4 Shear stress and stream power	
UNIT 4: Channel Morphology	12
4.1 River categories- alluvial, bedrock and mix alluvial-bedrock	
4.2 Cross-section morphology and reach morphology	
4.3 Controls of channel morphology	

4.4 Channel bed configuration

4.5 Channel patterns or plan forms

UNIT 5: Fluvial Erosion, Transportation and Deposition

12

5.1 Erosion processes and associated landforms

5.2 Transportation processes and types

5.3 Depositional processes and associated landforms

5.4 Importance of fluvial landforms

References:

1. Charlton, R. (2008): Fundamentals of fluvial Geomorphology, Routledge, New York.
2. Fryirs, K.A. and Brierley, G.J. (2013): Geomorphic Analysis of River Systems: An approach to reading the landscape, Wiley-Blackwell.
3. Garde, R.J. (2006): River Morphology, New age international limited publishers New Delhi.
4. Kale, V.S. and Gupta, A. (2001): Introduction to Geomorphology, Orient Longman, Kolkata.
5. Knighton, D. (1998): Fluvial forms and processes, Arnold, an imprint of Hodder Education, and Hachette UK Company, London.
6. Education, and Hachette UK Company, London.
7. Kondolf, M.G. and Piegay, H. (2016): Tools in Fluvial Geomorphology, Wiley-Blackwell.
8. Leopold, L.B., Wolman, M.G. and Miller, P. (1954): Fluvial processes in Geomorphology, Freeman and Co. San Francisco.
9. Maithi, R. (2016): Modern approaches to Fluvial Geomorphology, Primus Books.
10. Mangelsdorf, J., Scheurmann, K. and Weib, F.H. (1989): River Morphology, Springer-Verlag.
11. Morisawa, M. (1985): Rivers: Forms and Processes, Longman, UK.
12. Richards, K. (1982): River: Forms and processes in alluvial channels. Methuen and Co. London.
13. Robert, A. (2003): River Processes: An Introduction to Fluvial Dynamics. Hodder Education, and Hachette UK Company, London.

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Major Elective
Course Code	: GEO-511-MJE (B)
Course Title	: Geography of Rural Settlement
No. of Credits	: 04
No. of Teaching Hours	: 60

Course Objectives:

1. This paper intends to acquaint the students with various dimensions of rural settlement Geography, and its challenges.
2. To acquaint the students with the function of rural settlement Geography in different regions and environment.
3. To make the students aware of the need and importance of rural areas and their work.
4. This paper intends to acquaint the students with various theories related to rural settlement geography.
5. To acquaint the students with various factors affecting on settlement site and situations
6. To aware knowledge about rural settlement types and pattern in different region with effect of physiography of that region.
7. To give information about rural economic activities.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Aware about evolution of settlements.

CO2. Understand factors affecting on nucleation, dispersion and growth of rural

settlements.

CO3. Understand demographic structure of rural areas.

CO4. Recognize types of houses and pattern of rural settlements in rural regions of India.

CO5. Familiar with different theories of rural settlements and their land use pattern.

CO6. Classify rural areas regarding its functions.

CO7. Apply this knowledge to their society and predict future scenario and make development plan for growing rural settlement.

Topics and Learning Points

UNIT 1: Human Settlement	Teaching Hours
1.1 Classification: urban and rural	12
1.2 Rural-urban dichotomy	
1.3 Site and situation aspect in settlement	
1.4 Definition, classification of villages	
1.5 Patterns of rural settlement	
UNIT 2: Growth and Distribution	12
2.1 Site, situation, location of rural settlement	
2.2 Various factors affecting on settlement site and situations	
2.3 Types: compact, semi-compact, hamleted and dispersed, Factors affecting dispersion and nucleation	
2.4 Factors affecting growth of settlements	
UNIT 3: Theories of Rural Land Use	12
3.1 Intensity of land use	
3.2 Labor cost	
3.3 Marketing of product	
3.4 Von Thunen Theory	
3.5 Ricardo Theory	
UNIT 4: Rural Economic Activities	12
4.1 Functional analysis of service village and trading Centre	

- 4.2 Centrality and hierarchy of rural service centers
- 4.3 Central Place Theory
- 4.4 Age-Sex, Education, Occupation, Caste
- 4.5 Migration: causes & consequence of migration in rural areas
- 4.6 Seasonal migration

UNIT 5: Morphogenesis of Rural Settlements and Transformation**12**

- 5.1 Morphogenesis: i) Social ii) Cultural
- 5.2 Economic organization within villages
- 5.3 Functional growth
- 5.4 Socio-economic transformation in rural areas
- 5.5 Physical, social, cultural and economic factors affecting on house built
- 5.6 Size, functional use and architectural style

Reference Books:

1. Alam, S.M. et.al. (1982): Settlement System of India, Oxford and IBH Publication Co., New Delhi.
2. Chisholm M. (1967): Rural Settlement and Land use. John Wiley, New York.
3. Clout, H.D. (1977): Rural Geography, Pergamon, Oxford.
4. Doniel, P. and Hopkinson, M. (1986): The Geography of settlement Oliver &Byod, Edinburgh.
5. Grover, N. (1985): Rural Settlement: A Cultural Geographical Analysis. Inter India Publication, Delhi.
6. Hudson, F.S. (1976): A Geography of Settlements, Macdonald and Evans, New York.
7. Ramchandran, H. (1985): Village clusters and Rural Development. Concept Publication, New Delhi.
8. Rao R. N. (1986): Strategy for Integrated Rural Development. B.R. Publication, Delhi.
9. Sen, L.K. (1972): Readings in Micro-level Planning and Rural Growth Centers, National Institute of Community Development, Hyderabad.
10. Srinivas M.N. (1968): Village India, Asia Publication House, Bombay.
11. Wanmati S. (1983): Service Centers in Rural India, B.R. Publication Corporation, Delhi.

**CBCS Syllabus as per NEP 2020 for M.A./M.Sc. I
(2023 Pattern)**

Name of the Programme	: M.A./M.Sc. Geography
Programme Code	: PAGEO
Class	: M.A./M.Sc. I
Semester	: I
Course Type	: Research Methodology
Course Code	: GEO-521-RM
Course Title	: Research methodology in Geography
No. of Credits	: 04
No. of Teaching Hours	: 60

Course Objectives:

1. To provide an introduction to research methods and the research process.
2. To learn the principles of research design, data collection, data analysis.
3. To provide students with the skills necessary to design and conduct research studies.
4. To understand the methods of data collection and data analysis.
5. To aware the students with the research ethics and plagiarism.
6. To introduce with the new trends and approaches in research methodology.
7. To develop the research aptitude among students.

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Understand the research process and different types of research designs
- CO2.** Identify research problems and formulate research questions
- CO3.** Choose appropriate research methods and data collection techniques
- CO4.** Analyze and interpret research data
- CO5.** Write research reports and communicate research findings effectively
- CO6.** Understand the new trends and approaches in research methodology.
- CO7.** Analyze and apply the research aptitude in their research work.

Topics and Learning Points

UNIT 1: Introduction to Research Methodology	Teaching Hours
1.1 Meaning and objectives of research	12
1.2 Characteristics of Research	
1.3 Types of Research	
1.4 Various steps in Research Process	
1.5 Research Methods versus Methodology	
UNIT 2: Research Problem and Research Design	12
2.1 Definition and identification of the Research Problem	
2.2 Technique involved in defining a problem	
2.3 Definition and purpose of Research Design	
2.4 Characteristics of Good Research Design	
UNIT 3: Sampling Design	12
3.1 Sampling Design – Definition of Population, Sample and Sampling Design	
3.2 Advantages and disadvantages of Sampling	
3.3 Characteristics of a good sample	
3.4 Types or method of sampling	
UNIT 4: Methods of data collection and data analysis	12
4.1 Primary data: Questionnaire, Interview and Observation /Field Work	
4.2 Sources of Secondary data	
4.3 Hypothesis- definition and types	
4.4 Measure for Central Tendency and Dispersion	
4.5 Correlation and Regression and Time series Analysis	
4.6 Parametric and non-parametric tests	
UNIT 5: Report writing and research ethics	12
5.1 Dissertation and thesis, research paper, review article, short communication, conference presentation, meeting report, etc.	
5.2 Structure and organization of research reports; literature review	
5.3 Research ethics and plagiarism	
5.4 Use of plagiarism detection software's	

5.5 Research opportunities and funding agencies

Reference Books:

1. Gaum, Carl G., Graves, Harold F., and Hoffman, Lyne, S.S., (1950): Report Writing, 3rd ed., New York: Prentice-Hall.
2. Kothari, C.R. (2004): Research Methodology: Methods and Techniques, New Age International (P) Ltd., New Delhi – 110002.
3. Kothari, C.R., (1984): Quantitative Techniques, 2nd ed., New Delhi: Vikas Publishing House Pvt. Ltd.
4. Mishra Shanti Bhushan and Shashi A. (2011): Handbook of Research Methodology, Educreation Publishing, New Delhi – 110075
5. Pandey, P. and Pandey, M.M. (2015): Research Methodology: Tools and Techniques, Bridge Center, Romania, European Union.
6. Tandon, B.C., (1979): Research Methodology in Social Sciences. Allahabad, Chaitanya Publishing House.
7. Ullman, Neil R. (1978): Elementary Statistics, New York: John Wiley & Sons, Inc.
8. Yamane, T., Statistics (1973): An Introductory Analysis, 3rd ed., New York: Harper and Row.

Examination Pattern / Evaluation Pattern

Teaching and Evaluation (for Major, Minor, AEC, VEC, IKS courses)

Course Credits	No. of Hours per Semester	No. of Hours per Week	Maximum Marks	CE	ESE
	Theory/Practical	Theory/Practical		40 %	60%
1	15 / 30	1 / 2	25	10	15
2	30 / 60	2 / 4	50	20	30
3	45 / 90	4 / 6	75	30	45
4	60 / 120	4 / 8	100	40	60

Teaching and Evaluation (for VSC, SEC & CC courses)

- Evaluation to be done by Internal & External Experts
- No descriptive end semester written examination
- Evaluation to be done at Department level preferably prior to commencement of Theory /Practical Examinations
- Evaluation to be done on the Skills gained by student