M.A/M.Sc. Geography

(W.E.F. Academic Session 2024-2025 onwards)

Syllabus

(As per NEP 2020)

Pandit Deendayal Upadhyaya Shekhawati University

Sikar (Rajasthan) 332024

E-mail: reg.shekhauni@gmail.com

Website: www.shekhauni.ac.in

Curriculum Structure									
Session 2024-2025 onwards									
Name of the Program: MA / MSc Geography									
Year: First							Semester: I (Pawas)		
Pawas Semester I	Course Code	Course Title	Contact Hrs per Week			Credits	Weightage (%)		
			L	T	P		CW$	MTE	ETE
	Discipline Specific Core (DSC):								
	24MGS9101T	Geographical Thoughts	4	0	0	4	10	20	70
	24MGS9102T	Geomorphology	4	0	0	4	10	20	70
	24MGS9103T	Climatology & Oceanography	4	0	0	4	10	20	70
	24MGS9101P	Representation of Physical and Cultural Landscape and Climatic Data	4	0	0	4	--	--	100
	Discipline Specific Elective(DSE): (Select any one)								
	24MGS9104T	Environmental Geography	4	0	0	4	10	20	70
	24MGS9105T	Biogeography	4	0	0	4	10	20	70
	Value Added Course(VAC):								
	---	---	--	--	--	2	--	--	--
	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):								
	---	---	--	--	--	--	--	--	--
		Total				22			

Summary: I Semester (Pawas)		Credits
S.N.	Particulars	
1.	Discipline Specific Core(DSC):	16
2.	Discipline Specific Elective (DSE):	04
3.	Value Added Course (VAC):	02
4.	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):	00
	Total	22
$CW (Class work): It would include attendance, class test/quiz test/assignments, ppt, play, learn by fun activities etc.		

Note: VAC to be selected from the list of VAC courses for PG, given on University website.

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Curriculum Structure									
Session 2024-2025 onwards									
Name of the Program: MA / MSc Geography									
Year: First							**Semester: II (Vasant)**		
	Course Code	**Course Title**	**Contact Hrs per Week**			**Credits**	**Weightage (%)**		
			L	T	P		CW$	MTE	ETE
Vasant Semester II	**Discipline Specific Core (DSC):**								
	24MGS9201T	Research Methodology	4	0	0	4	10	20	70
	24MGS9202T	Human Geography	4	0	0	4	10	20	70
	24MGS9203T	Population Geography	4	0	0	4	10	20	70
	24MGS9201P	Practical	4	0	0	4	--	--	100
	Discipline Specific Elective(DSE): (Select any One)								
	24MGS9204T	Urban Geography	4	0	0	4	10	20	70
	24MGS9205T	Social & Cultural Geography	4	0	0	4	10	20	70
	Value Added Course(VAC):								
	---	---	--	--	--	2	--	--	--
	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):								
	---	---	--	--	--	--	--	--	--
		Total				22			

Summary: II Semester (Vasant)		Credits
S.N.	**Particulars**	
1.	Discipline Specific Core(DSC):	16
2.	Discipline Specific Elective (DSE):	04
3.	Value Added Course (VAC):	02
4.	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):	00
	Total	22
$CW (Class work): It would include attendance, class test/quiz test/assignments, ppt, play, learn by fun activities etc.		

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Curriculum Structure										
For Session 2024-2025 onwards										
Name of the Program: Master of Geography										
Year: Second							Semester: III (Pawas)			
Pawas Semester III	Course Code	Course Title	Contact Hrs per Week			Credits	Weightage (%)			
			L	T	P		CW$	MTE	ETE	
	Discipline Specific Core (DSC):									
	24MGS9301T	Advanced Geography of India	4	0	0	4	10	20	70	
	24MGS9301P	Practical (Field Surveying and Camp Work)	0	0	8	4	--	--	100	
	Discipline Specific Elective (DSE): (Select any Four)									
	24MGS9302T	Principles and Theories of Economic Geography	4	0	0	4	10	20	70	
	24MGS9303T	Agricultural Geography	4	0	0	4	10	20	70	
	24MGS9304T	Industrial Geography	4	0	0	4	10	20	70	
	24MGS9305T	Settlement Geography	4	0	0	4	10	20	70	
	24MGS9306T	Regional Planning and Development	4	0	0	4	10	20	70	
	24MGS9307T	Statistical Methods in Geography	4	0	0	4	10	20	70	
	Value Added Course(VAC):									
	---	---	--	--	--	2	--	--	--	
	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):									
	---	---	--	--	--	--	--	--	--	
		Total				**26**				

Summary: III Semester (Pawas)		Credits
S.N.	**Particulars**	
1.	Discipline Specific Core(DSC):	**08**
2.	Discipline Specific Elective (DSE):	**16**
3.	Value Added Course (VAC):	**02**
4.	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):	**00**
	Total	**26**
$CW (Class work): It would include attendance, class test/quiz test/assignments, ppt, play, learn by fun activities etc.		

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Curriculum Structure										
For Session 2024-2025 onwards										
Name of the Program: Master of Geography										
Year: Second							Semester: IV (Vasant)			
Vasant Semester IV	Course Code	Course Title	Contact Hrs per Week			Credits	Weightage (%)		
			L	T	P		CW$	MTE	ETE
	Discipline Specific Core (DSC):								
	24MGS9401P	Practical Geography	0	0	8	4	--	--	100
	Discipline Specific Elective(DSE): Select any Two								
	24MGS9401T	Political Geography	4	0	0	4	10	20	70
	24MGS9402T	Geography of Rajasthan	4	0	0	4	10	20	70
	24MGS9403T	Geography of Water Resource	4	0	0	4	10	20	70
	24MGS9404T	Basics of Remote Sensing	4	0	0	4	10	20	70
	Value Added Course(VAC):								
	---	---	--	--	--	--	--	--	--
	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C): (Select Any One)								
	24MGS9401S	Seminar	--	--	--	8	--	--	100
	24MGS9401I	Internship	--	--	--	8	--	--	100
	24MGS9401V	Project	--	--	--	8	--	--	100
		Total				**20**			

Summary: IV Semester (Vasant)		Credits
S.N.	**Particulars**	
1.	Discipline Specific Core(DSC):	**04**
2.	Discipline Specific Elective (DSE):	**08**
3.	Value Added Course (VAC):	**00**
4.	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):	**08**
	Total	**20**
$CW (Class work): It would include attendance, class test/quiz test/assignments, ppt, play, learn by fun activities etc.		

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Semester – I

Learning Objectives

- To make aware about the historical development of geographical thought and contribution of scholars in ancient, medieval and classical modern periods.
- To develop understanding of contributions of modern schools such as German, French, British and American schools and changing Man-Environment relationship, Dualisms in geography and changing paradigms in Geography.

LearningOutcomes

- Knowledge and understanding about ancient geographical development by Greek, Roman and Indian scholars and geographical development in Arab world.
- Learning about development of Geographical knowledge in modern schools and contributions by eminents geographers.
- Development of knowledge and understanding of changing Man-Environment relationship with changing paradigms in Geography.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Geographical Thoughts**	**Course Code: 24MGS9101T**
Total Lecture hour 60		
		Hours
Unit I	Definition, Scope and Nature of Geography. Contribution of Greeks and Romans. Development of Geography in Ancient Indian Period.	15
Unit II	Contribution of Arab Scholars; Ai-Biruni, Ai- Masudi, Ibn Battuta &IbnKhaldun. Dark Age in Europe, Impact of Renaissance on Development of Geography. Classical Modern Period; Contribution of BernhardusVarenius, Immanuel Kant, A. Humbolt and C. Ritter.	15
Unit III	German School; Contribution of F. Richthofen, F. Ratzel, A. Hettner and Otto Schluter. French School; Contributions of La Blache and Jean Brunhes. British School; Contribution of H. Mackinder, P. Geddes, A. J. Herbertson, R. Chorley and P. Hagget. American School; Contribution of W. M. Davis, E. Huntington, E. C. Semple, Griffith Taylor, Carl 0. Sauer, R. Hartshorne and D. W. Harvey.	15
Unit IV	Dualisms in Geography: Systematic vs. Regional, Qualitative vs. Quantitative Geography. Changing Paradigms of Man-Environment Relationship; Environmental Determinism, Possibilism and Neo-determinism. Recent Developments; Quantitative Revolution and Positivism, Behaviouralism, Humanistic Geography, Welfare and Radical Geography, Feminism, Structuralism and Postmodernism.	15

Reference Books:

1. Dikshit R. D.(2000): Geographical Thought, A Contextual History of Ideas, Prentice Hall of India Pvt. Ltd.
2. Martin G. J. (2005): All Possible Worlds, Oxford University Press Inc.
3. Kausik S. D. and Rawat D. S. (2017): GEOGRAPHICAL THOUGHT and METHODOLOGY, Rastogi Publication, Merrut.
4. Husain, Majid(2014): Evolution of Geographical Thought, Rawat Publications, Jaipur
5. Adhikari S.(2015): Fundamental of Geographical Thought, Orient Blackswan Pvt. Ltd., New Delhi.
6. कौशिकएस. डी.औररावतडी. एस. (2015): भौगोलिकविचारधाराएंएंवविधितंत्र, रस्तोगीपब्लिकेशन, मेरठ।
7. हुसैनमाजिद(2006): भौगोलिकचिंतनकाइतिहास, रावतप्रकाशन, जयपुर।
8. अग्रवालएल. सी.: भौगोलिकविचारधाराएं, राजस्थानहिन्दीग्रंथअकादमी, जयपुर।
9. जैनएस. एम. : भौगोलिकचिंतनएंवविधितंत्र, साहित्यभवनप्रकाशन, आगरा।

10	दीक्षितआर. डी. (2010) : भौगोलिकचिंतनकाविकास, प्रिन्टसहालइंडियालिमिटेड।

Learning Objectives

- To impart learning about various concepts and processes of landform formation. It is important to learn that how knowledge of geomorphological concepts, processes and theories are used for overall human welfare.

LearningOutcomes

- Develop understanding of processes of formation of relief features, which are shaping the earth surface.
- Develop deep insight in landform dynamics and occurances of geomorphological hazards so that the prediction mechanism can be made more sophisticated for minimizing the human discomfort.
- Develop knowledge and skills to carry out geomorphological mapping, field investigations and developing research aptitude in the field of Geomorphology.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	Geomorphology	Course Code: 24MGS9102T
Total Lecture hour 60		
Unit I	Definition, Nature andScope of Geomorphology. Development ofGeomorphology as a separate branch of Physical Geography. Geological Time Scale. Interior of the Earth. lsostasy: Concept and Theories. Origin of continents and Oceans, Theories of Mountain Building: Kober, Holmes, Continental Drift, Sea Floor Spreading and Plate-Tectonics.	Hours 15
Unit II	Endo-genetic and Exo-genetic Forces. Earthquake and Vulcanicity, Denudation Processes: Concept of Weathering and Erosion. Cycle of Erosion; Views of Davis, Penck and King. Development of Slopes: Concepts of Davis, Penck, King, Wood Strahler and Savigear. Earth Movements. Diastrophism.	15
Unit III	Erosional and Depositional Works of Various Natural Agents and Resultant Landforms; River, Wind, Sea-waves, Underground Water, Glacier and Peri-glacier.	15
Unit IV	Applied Geomorphology; Applicationof Geomorphological Studies to understand Human Activities and use of Geomorphological Knowledge for Human Welfare. GeomorphicHazards; Causes, Consequences and Mitigation Strategies with special reference to Earthquake, Volcano, Land slide and Avalanche. Environmental Geomorphology.	15

Reference Books:

1	Dayal,P.(1996):ATextBook ofGeomorphology,Shukla Book Depot,Patna.
2	GautamA.(2015) : Geomorphology, SahityaBhawan Publication, Allahabad.
3	Rizvi S. M.(2015) : Geomorphology and Hydrogeology, CBS Publishers & Distributors.
4	Thornbury W. D. (2004): Principles of Geomorphology, CBS Publisher and Distributer, Delhi.
5	Strahler, A.N. and Strahler, A.H.(1989): Elements of Physical Geography. John Wiley & Sons, New York.
6	Singh Savindra (20190: GEOMORPHOLOGY, Pravalika Publication, Allahabad.
7	Huggett R. J. (2011): Fundamental of Geomorpholoy, Routledge.
8	Khullar, D.R. (2018): Physical Geography, Kalayani Publishers, New Delhi.
9	Hussain, M. (2021): Fundamentals of Physical Geography, Rawat Publication, Jaipur.
10	सिंह सविन्द्र (2021)% भूआकृति विज्ञान, प्रवालिका प्रकाशन, इलाहाबाद।
11	शर्माजे. पी.(2016): भूआकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।
12	प्रसादगायत्री (2024): भू-आकृति विज्ञान, शारदा पुस्तक भवन, प्रयागराज।

13	गुप्ताएस. एल.(2008): भूआकृति विज्ञान,हिन्दी माध्यम कार्यान्वय निदेशालय, दिल्ली विश्वविद्यालय।
14	दयालपी.(2014):भू-आकृति विज्ञान, राजेश प्रकाशन, नई दिल्ली।
15	खुल्लरडी. आर.(2022): भौतिक भूगोल, कल्याणी प्रकाशन, नई दिल्ली।
16	सिंहसविन्द्र(2018):भौतिक भूगोल का स्वरूप, प्रवालिका प्रकाशन, इलाहाबाद।

Learning Objectives

- To develop basic understanding about atmosphere structure and ocean characteristics.
- To give a comprehensive & integrated knowledge of various circulation patterns in atmosphere and oceans.

Learning Outcomes

- Knowledge and understanding of composition, structure and circulation of the atmosphere.
- Develop insights on contemporary climatic issues and challenges.
- Develop understanding about ocean characteristics, hydrological processes, dynamics of ocean water circulation and oceanic resources.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Climatology & Oceanography**	**Course Code: 24MGS9103T**
Total Lecture hour 60		
Unit I	Nature and Scope of Climatology. Composition and Structure of the Atmosphere. Insolation and Heat Budget of the Earth. WorldDistribution of Temperature. Atmospheric Pressure and Pressure Belts. Types of Winds; Planetary, Periodic and Local Winds. Jet Streams.	**Hours** 15
Unit II	Atmospheric Humidity; Types and Significance. Process of Cloud Formation and Types of Clouds. Forms of Precipitation.Types of Rainfall andWorld Distribution. Mechanism of Monsoon. El Nino, La Nina and Southern Oscillation. Air masses and fronts.Tropical and Temperate Cyclones. Atmospheric Stability and Unstability.	15
Unit III	Classification of World Climates; Work of Koppen and Thornthwaite. Major Climates of the World: Characteristics of Equatorial, Tropical, Monsoon, Savanna, Hot Desert, Mediterranean and Mountain type of Climate.Contemporary Issues; Climate Change, Global Warming, Ozone Deplition, Acid Rain, Urban Heat Island.	15
Unit IV	Nature and Scope of Oceanography. Ocean Bottom Relief; Pacific, Indian and Atlantic Oceans. Ocean Temperature,Salinity and Density: Factors Affecting and Distribution Patterns. Ocean Salinity; Sources, Composition and Distribution. Coral Reefs: Types, Distribution and Theories of Darwin, Daly, Murray and Devis. Tides: Types and Theories of Origin of Tides: Newton, Whewell and Harris. Ocean Currents; Indian, Atlantic and Pacific Ocean Currents. Marine Resources andBlue Economy. Sea Level Changes.	15

Reference Books:

1	सिंहसविद्र (2016): जलवायु विज्ञान, प्रवालिका प्रकाशन, इलाहाबाद।
2	सिंहसविद्र (2018):समुद्र विज्ञान, प्रवालिका प्रकाशन, इलाहाबाद।
3	सिंहसविद्र (2020):जलवायु एवं समुद्र विज्ञान, प्रवालिका प्रकाशन, इलाहाबाद।
4	लालडी. एस. (2022): जलवायु विज्ञान, शारदा पुस्तक भवन, प्रयागराज।

5	लालडी. एस. (2012): जलवायु विज्ञान एंव समुद्र विज्ञान, शारदा पुस्तक भवन, प्रयागराज।
6	गुप्ताएस. एल.(2008): जलवायु विज्ञान, हिन्दी माध्यम कार्यान्वय निदेशालय, दिल्ली विश्वविद्यालय।
7	खुल्लरडी. आर. (2022): भौतिक भूगोल, कल्याणी प्रकाशन, नई दिल्ली।
8	सिंहसविद्र (2018): भौतिक भूगोल का स्वरूप, प्रवालिका प्रकाशन, इलाहाबाद।
9	Khullar, D.R. (2018): Physical Geography, Kalayani Publishers, New Delhi.
10	Strahler, A.N. and Strahler, A.H. (1989): Elements of Physical Geography. John Wiley & Sons, New York.
11	Hussain, M. (2021): Fundamentals of Physical Geography, Rawat Publication, Jaipur.
12	Critchfield H.J. (2009): General Climatology, Prentice Hall, Landon.
13	Sharma R.C. and Vatal M. (2018): Oceanography for Geographers, Surjeet Publications, New Delhi.
14	Lal D. S. (2022): CLIMATOLOGY, ShardaPustakBhawan, Prayagraj.
15	Singh Savindra (2020): CLIMATOLOGY, Pravalika Publication, Allahabad.

Learning Objectives

- To equip students with history of cartography and recent developments in this field. This paper includes the conceptualization of various basic aspects and representation of relief features and climatic datawith the help of various diagrammatic and graphical methods of data representation.

LearningOutcomes

- Development of basic cartographic skills knowledge and history of development of cartography in India.Skillupgradation in cartographic techniques in the fields of representation of physical and cultural landscape.
- Knowledge gain in the fiels of weather map construction with scientific representation of various weather phenomena and interpretation of weather conditions based on weather maps.Students are equipped with techniques of construction of diagrams and graphs to represent climatic data.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Representation of Physical and Cultural Landscape and Climatic Data**	**Course Code: 24MGS9101P**
Unit I	History of Cartography. Cartographic development in India; Survey of India and NATMO. Concept of Ellipsoid, Datum and Projections. Scale and Scale Factor.Toposheets; Introduction and History. SOI andNakshe Web Portal. Extraction of Geographical Information fromToposheets;Physical and Cultural Aspects. New Map Policy, 2005. New Series Topographic Maps (Open Series Maps).	
Unit II	Maps; Definition, Types and Uses. Representation of Relief; Qualitative Methods (Hachure System, Hill Shading, Trachographic and Morphographic Methods) Quantitative Methods (Spot Height, Bench Mark, Trigonometric Stations, Form Lines and Contour Lines and Composite Methods. Principals of Contouring, Interpolation Method. Profiles: Definition and Types. Drawing Profiles; Serial, Superimposed, Projected and Composite. Vertical Exaggeration of Scale. Introduction of Methods of Slope Analysis; C.K.Wentworth's Method.	
Unit III	Weather Maps: Introduction, Importance and Uses. Isopleths on Weather Maps (Isotherms, Isobars, Isotachs, Isohyets etc.).Weather Symbols; Wind Velocity and Cloud Cover.Interpretation of Indian Weather Maps (January and July). Introduction of Indian Portals for Climatic Data: Climatic Data Service Portal (CDSP), Indian Metrological Department (IMD), Meteorological and Oceanographic Satellite Data Archival Centre (MOSDAC).	
Unit IV	Climatic Diagrams; Wind Rose, Rainfall Dispersion Diagram, Water Budget Diagram and Hypsometric	

	Colonization and Dispersal. Environment Habital and Plant-Animal Association. Biome Types.Biomes and Hotspots. Alpha and Beta Diversity. Biodiversity in India.	
Unit III	Plant-Geography; Definition, Nature and Scope. Elements of Plant Geography. Factors Influencing Existence and Distribution of Plants.Plant Classification. Plant and Soil Association. Plants and Climate Association.Forest Types. Distribution of Forest in the World. National Forest Policy in India. Laws of Forest Conservation in India.	15
Unit IV	Zoo-Geography; Introduction, Nature and Scope. Evolution of Animals: Evolutionary Principles. Animal Classification. Animal Characteristics. Environmental Adaptations. Camouflaging and Luminescence. Zoogeographical Regions of the world. Species Invasions and Biotic Homogenization. Environmental Control on Animals. Geological Time scale with reference to flora and fauna associated with specific periods. Paleobiogeography and Fossils.	15

Reference Books:

1	Singh Savindra (2020): BIOGEOGRAPHY, Pravalika Publication, Allahabad.
2	Agrawal L. C. (2018): BIOGEOGRAPHY, Rawat Publication, Jaipur.
3	Huggett R. J. (2005): Fundamentals of Biogeography, Routledge.
4	Lomolino M. V. (2016): Biogeography Biological Diversity across Space and Time, OUP USA.
5	Cox C. B. (2016): BIOGEOGRAPHY An Ecological and Evolutionary Approach, WILEY Blackwell.
6	Singh R. B. (2009): Biogeography and Biodiversity, Rawat Publication.
7	Bhattacharyya N. N. : BIOGEOGRAPHY, Rajesh Publication, New Delhi.
8	जोशीआर. (2014): जैव भूगोल एंव जैव विविधता, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
9	सिंहसविन्द्र (2020): जैव भूगोल, प्रवालिका प्रकाशन, प्रयागराज।
10	अग्रवालएल. सी. (2002): जैव भूगोल,रोहिणी प्रकाशन, जयपुर।

Semester - II

Learning Objectives

- To educate students about the basics of research methodology and develop skills in qualitative and quantitative data analysis and presentation.
- To develop compitanciesto choose methods appropriate to research aims and objectives and understand the limitations of particular research methods along with developing advanced critical thinking and writing skills.

Learning Outcomes

- Develop understanding about research meaning, design and research methodology.
- Strengthening the capabilities to understand various sampling techniques, data nature, selection of variables, data collection tools, appropriate research methods, critical analysis etc.
- Knowledge and understanding of quantitative, qualitative and mixed methods, selection of appropriate research methods.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Research Methodology**	**Course Code: 24MGS9201T**
Total Lecture hour 60		
Unit I	Meaning, Characteristics and Purpose of Research. Research Approaches; Deductive and Inductive. Types of Research; Fundamental/Basic, Applied, Experimental, Exploratory, Descriptive, Explanatory, Cross Sectional and Longitudinal Research. Research Design.	**Hours** 15

Unit II	Major Steps in Scientific Research. Formulation of Research Problem. Research Introductio. Review of Literature. Research Objectives and Research Questions. Writing Hypothesis. Types of Hypothesis (Null & Alternative). Testing of Hypothesis.	15
Unit III	Research Methodology and Research Methods. Qualitative, Qualitative Mixed Methods. Types of Data; Primary and Secondary Sources. Sampling Techniques: Parametric and Non-parametric. Data Collection; Schedule and Questionnaire. Data collection Strategies; Experiment, Case Study, Content Analysis, Field Work and Observation, Field Survey.Data Analysis; Bi-variate and Multivariate Analysis. Test of Significance; 'Z' test,'t' test, 'f' test and Chi-square test.	15
Unit IV	Citation; MLA Style, APA Style, Chicago Style and Harvard Style. Dissertation or Report Writing. Types of Plagiarism, Research Ethics, Publication Misconduct. Vrious Indexes; Impact Factor, H Index, I-10 and I-1000 Index.	15

Reference Books:

1	बंसलएस. च. (2021): शोध विधि तंत्र : भूगोल, मीनाक्षी प्रकाशन, मेरठ।
2	शर्मावी.पी.(2021): रिसर्च मेथडोलोजी, पचशील प्रकाशन जयपुर।
3	कटारियाएस.और पालीवाल एन. (2022): शोध प्रविधि, नैशनल पब्लिशिंग हाउस, जयपुर।
4	सिंहएस. कु. (2019): समकालीन शोध विधियाँ एंव उनका प्रयोग,राजेश पब्लिकेशन, नई दिल्ली।
5	आहूजारा. (2015): सामाजिक अनुसंधान, रावत पब्लिकेशन, जयपुर।
6	कोठारीसी. आर. (2023): शोध पद्धति, New Age International Publishers, New Delhi.
7	आहूजाआर. (2008): सामाजिक अनुसंधान, रावत प्रकाशन, जयपुर।
8	शुक्लाह. (2022): शोध पद्धति शास्त्र विधियाँ व तकनीकें, महावीर प्रकाशन।
9	Creswell J. W. and Creswell J. D. (2022): Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Sage Publication.
10	Mishra H. N. and Singh V. P. (2017): Research Methodology in Geography, Rawat Publication.
11	Kothari C. R. and Garg G. (2023): Research Methodology, New Age International Publishers, New Delhi.
12	Ahuja R. (2001): Research Methods, RawatPubns, Jaipur.
13	Kumar R. (2019): Research Methodology a step- by-step guide for beginners, SAGE Publications Ltd.

Learning Objectives

- This course covers various dimensions of Human Geography and its relevance. This paper is necessary to develop human orientation as core of the discipline of geography covering changing man-environment relationship, human races, population dyanamics, human activities etc.

Learning Outcomes

- Introduction to branches of human geography, different concepts of man–environment relationship, different races and tribes of the world and interpretation of the world population dynamics.
- Develop compitencies to visualize various patterns of urbanization and migration and aspects of human settlement and to learn about the population resource relationship, concept of development and population problems.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Human Geography**	**Course Code: 24MGS9202T**
Total hour 60		
Unit I	Definition, Nature and Scope of Human Geography, Human Geography and its Relation with other Scientific Disciplines. Paradigms of Man-Environment	15

	Relationship; Determinism, Possibilism and Neo-determinism, Fundamental Principles of Human Geography; Principle of Activity, Principle of Areal Differentiation, Principal of Terrestrial Unity. Human vs. Physical Geography Dualism.	
Unit II	Human Races; Types and Distribution (Classification of G. Taylor), Study of Socio-economic Life of Tribes; Eskimo, Bushmen, Pygmies, Santhal, Nagas and Bhil, Religion and Language.WorldPopulation; Growth, Density and Distribution, Concept of Optimum Population.Population Resource Relationship.	15
Unit III	Human Settlements; Site and Situation. Types and Morphology of Rural Settlements.Environmental Issues in Rural Settlements. Classification and Morphology of Urban Settlements.Hierarchy of Urban Settlement. Concepts of Primate City and Rank Size Rule. Functional Classification of Towns. Satellite Towns. Smart Cities. Trends and Patterns Urbanisation in the World.Problems of Urbanization.	15
Unit IV	Migration; Definition, Causes, Types and Consequences, Migration Theories. World Migration Patterns, Remettances, Brain Drain and Brain Gain. Concept of Human Development, Population Dividend and Problems. World Population Policies.	15

Reference Books:

1	कौशिकएस. डी.(2017): मानव भूगोल, रस्तोगी प्रकाशन, मेरठ।
2	हुसैनमाजिद (2012): मानव भूगोल, रावत प्रकाशन, जयपुर।
3	भल्लाएल. आर.(2017): मानव भूगोल, कुलदीप पब्लिकेशन, जयपुर।
4	मौर्यएस. डी.(2022): मानव भूगोल, शारदा पुस्तक भवन, इलाहाबाद।
5	अग्रवालएल. सी. (2023): मानव भूगोल, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
6	Johnston, R.J. (2000). Dictionary of Human Geography. New York: Oxford.
7	Chandna, R.C. (2010):Population Geography,KalyaniPublisher, New Delhi.
8	Leong G. C. and Morgan G. C. (2017): Human and Economic Geography, Masood Books, UP.
9	Singh, L.R. (2005): Fundamentals of Human Geography. ShardaPustakBhawan, Allahabad
10	Singh S. and Saroha J. (2021): Human and Economic Geography, Pearson Education.
11	Husain M. (2018): Human Geography, Rawat Publication.
12	Singh S. and Saroha J. (2021): Human and Economic Geography, Pearson.
13	Jones A. (2012): Human Geography: The Basics Hardcover, Routledge.
14	Rubenstein J. (2018): Contemporary Human Geography, Pearson.

Learning Objectives

- To introduce with the concepts of population geography and demography.
- To develop an understanding of the importance and use of demographic data and to develop understanding of spatio-temporal dymanics of population.

LearningOutcomes

- This paper will develop understanding on population geography along with basic concepts of demography.
- The students will be able to understand the world population trends and theoretical aspects.
- Familiarize with the global mandate of addressing population problems through SDGs.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	Population Geography	Course Code: 24MGS9203T
Total Lecture hour 60		Hours

Unit I	Meaning, Scope and Development of Population Geography. Sources of Population Data: Census, Sample Surveys and Vital Statistics. Determinants of Population Distribution.Population Growth and Density. Pattern of World Distribution. Population Distribution in India.	15
Unit II	Demographic Transition Theory. Concepts of Optimum, Over and Under Population. Population Theories / models(Malthus, Marx, Sadler and Ricardo). Population Potential. Population Components.Mortality, Fertility and Migration Analysis;Types of Measurement, Patterns and its Determinants.	15
Unit III	PopulationCharacteristics:AgeStructure,SexComposition,Rural-Urban, Work Force Participation and Dependency Ratio, Occupational Structure, Educational Status and Religion. Population Composition of India:Components and Characteristics. Population Problems in India.	15
Unit IV	Population and Development Interplay. Population-Resource Regions of the World.Population and Environment. Population Policies in Developed and Less Developed Countries. Population Policy of India.Contemporary Issues: Population Ageing, Declining Sex Ratio, Human Development Concept and Indexes, Sustainable Development Goals (SDGs)2030.	15

Reference Books:

1. चाँदनाआर. सी. (2021): जनसंख्या भूगोल, कल्याणी प्रकाशन, नई दिल्ली।
2. मौर्यएस. डी. (2021):जनसंख्या भूगोल, शारदा पुस्तक भवन, इलाहाबाद।
3. बंसलसु. च. (2015): जनसंख्या भूगोल, आर के बुक्स, दिल्ली।
4. Bhende A. A. and Kanitkar T. (1978): PRINCIPLES OF POPULATION STUDIES, Himalaya Pub. House, Bombay.
5. Singh Y. I. (2023): Population And Settlement Geography, GNP.
6. Barcus H. R. and Halfacree K. (2018): An Introduction to Population Geographies Lives Across Space, Routledge.
7. Newbold K. B. (2021): POPULATION GEOGRAPHY : TOOLS AND ISSUES, Rowman& Littlefield Publishers.
8. Dutt. N. (2021): Demography and Population Geography, Academic Aspiraions Publishers.
9. Kayastha S. L. (1998): Geography of Population, Rawat Publication, Jaipur.
10. Majumdar P. K.(2010): Fundamentals of Demography, Rawat Publication Jaipur.
11. Nag P. and Debnath G. C. (2021): POPULATION GEOGRAPHY, Garuda Prakashan.
12. Husain Majid (2009): Population Geography, Anmol Publications, New Delhi.
13. Chandna, R.C. (2010):Population Geography,KalyaniPublisher, New Delhi.
14. Maurya S. D. (2018): Population Geography, Pravalika Publications, Allahabad.

Learning Objectives

- This is a basic course for developing research aptitude among the students. This paper includes basics of data handling, data analysis and effective representation of analysis.
- To equip students with scientific skillsof statistical diagrams and statistical techniques.

LearningOutcomes

- Introduces the basic concepts of data collection and effective data representation.
- Develop understanding on various types of one, two and three dimensional diagrams for data representation.
- Elaborates on various specific diagrams, graphs and cartograms for the representation of dataanddevelopcommand on various statistical techniques such as central tendencies, measures of dispersion and association.

- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	Practical	Course Code: 24MGS9201P
Unit I	Types of Data and Methods of Data Collection. Scales of Measurement and Data Organisation. Use of Diagramsand Graphs for Data Representation. General Rules for Constructing Diagrams & Graphs. Types of Diagrams; One Dimensional Diagram: Line, Bar and Pyramid Diagram.	
Unit II	Two Dimensional Diagram; Unit Square, Block-pile Diagram, Rectangular,Circle (Wheel and Ring) Diagrams. Three Dimensional Diagrams; Spherical, Cube and Block-Pile Diagram. Ternary/Triangular Diagram, Scatter Diagram. Cartogram; Isochrones & Traffic Flow Cartogram. Graphs: Simple Linear, Poly Linear and Band Graph. Data tabulation, Frequency Distribution, Frequency Polygon, Histogram, Ogive.	
Unit III	Measures of Central Tendency; Mean, Mode and Median. Measures of Dispersion and Concentration; Range, Quartile Deviation, Mean Deviation, Variance and Standard Deviation. Lorenz Curve and Gini's Coefficient. Methods of Measuring Association, Simple and Multiple Correlation and Regression.	
Unit IV	Selection of Class Intervals for Mapping. Measurement of Spatial Patterns of Distribution; NearestNeighbour Analysis (NNA). Scaling Techniques. Rank Score and Weighted Score. Simulation Model, Gravity Model.	

Reference Books:

1	शर्माजे. पी.(2023): प्रायोगिक भूगोल, रस्तोगी पब्लिकेशन, मेरठ।
2	खुल्लर, डी. आर. (2022): प्रयोगात्मक भूगोल, कल्याणी प्रकाशन, नई दिल्ली।
3	भल्लाएल. आर. (2017): प्रायोगिक भूगोल के मूलतत्व, सलोनी ऑफसेट, जयपुर।
4	शर्मापी.एम.(2009): भूगोल में सांख्यिकीय विधियाँ, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
5	Singh, L.R. (2010): Fundamentals of Practical Geography, ShardaPustakBhawan, Allahabad.
6	Mishra, R. N. and Sharma, P. K. (2022): Practical Geography, Pareek Publication.
7	Singh, R.L. and Singh Rana P.B.(1991): Elements of Practical Geography. Kalyani Publishers, New Delhi.
8	MahmoodAslam (2020): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
9	Sarkar A. (2015): Practical geography, A systematic approach, Orient Black Swan Private Ltd. New Delhi.

Learning Objectives

- To develop geographical understanding of process of urbanization, urban spaces and Urban Hirarchy.
- To develop understanding of applied orientation for solving real world problems associated with urban growth and environment.

LearningOutcomes

- Develop understanding about historical process of urban growth, development and spatial patterns of distribution of urban centers.
- Develop scientific orientation about concepts and theories related to urban development, settlement hierarcy and morphological characteristics.
- Enhance knowledge about problems of urban areas and policy interventions.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	Urban Geography	Course Code: 24MGS9204T
Total hour 60		
Unit I	Nature, Scope and Development of Urban Geography. Origin and Growth of Urban Centers; Ancient, Medieval and Modern Reriods. Ecological Processes of Urban	15

	Growth. Spatial Pattern and Distribution of Urban Centres.Process of Urbanization: Trends of Urbanization in the World. Development of Conurbation and Megalopolises: North Eastern USA, Rhine-Ruhr Region, Mumbai and Kolkata Region. Urbanization in India. Development of Metropolitan Cities in India.	
Unit II	Central Business District (CBD): Criteria and Historical Process. Zone of Transition: Concept and Characteristics. Urban Land Use; Models of Burgess, Harris-Ullman, P. Mann and H. Hoyt. Morphological and Functional Classification of Urban Centers; Works of Mumford, Henri Pirenne, Gordon Child and G. Taylor. Centripetal and Centrifugal Forces of Urban Growth.	15
Unit III	Settlement Systems; Rank-Size Rule, Primate City and Index of Primacy. Rural-Urban Fringe. City-Region.Concept of Urban Hierarchy; Development of Concept of Central Place, Christaller's Central Place Theory and August Losch's Theory of Market Centres. Concept of Smart City, Mega City, Edge City and Global City.	15
Unit IV	Morphology of Indian Cities; Ancient, Medieval and Modern Planned Cities of India (Case Studies of Jaipur and Chandigarh Cities). Social Structure in Urban Areas and Social Segregation in Indian Cities.Urban Environment; Urban heat island effect, solid waste management in urban areas, urban floods. Urban Policies: Smart City Mission, National Urban Policy Framework.SDG Framework for Urban Area Development (Special Reference to Goal 11).	15

Reference Books:

1	सिंह आर. एन. और मौर्य एस. डी. (2022): नगरीय भूगोल, शारदा पुस्तक भवन, प्रयागराज।
2	मण्डलआर. बी. : नगरीय भूगोल की रूपरेखा, कन्सेप्ट पब्लिशिंग कंपनी।
3	बंसल सु. च. (2023): नगरीय भूगोल, मीनाक्षी पब्लिकेशन, मेरठ।
4	जोशी आर. (2020): नगरीय भूगोल, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
5	Maurya S. D. (2022): URBAN GEOGRAPHY, ShardaPustakbhawan, Allahabad.
6	Verma L. N. (2007): Urban Geography, RawatPublivation, Jaipur.
7	Singh S. and Saroha J. (2021): URBAN GEOGRAPHY, Pearson.
8	Holloway S. R. and Kaplan D. H. (2024): URBAN GEOGRAPHY, WILEY Blackwell.
9	Ramchandran R. (1997): URBANIZATIION AND URBAN SYSTEMS IN INDIA, OUP India.
10	Holloway S. and Kaplan D. H. : Urban Geography, Wiley India Pvt. Ltd.
11	Short J. R. (2018): AN INTRODUCTION TO URBAN GEOGRAPHY, Rawat Publication.
12	Hall T. and Barrett H.: Urban Geography, Routledge.

Learning Objectives

- To enhance the understanding of development of social and cultural geography, various social and cultural concets and theories.
- To provide a critical understanding of the contemporary issues and the politics in the fields of social and cultural geography.

Learning Outcomes

- Develop understanding about core concepts, elements and theoretical developments in social and cultural geography.
- Understanding about geographical epistemologies for analyzing social structure, processes, culture change and continum.
- Developmen to analytical capability to study contemporary issues relating to social and cultural geography.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	Social & Cultural Geography	Course Code: 24MGS9205T
Total Lecture hour 60		
		Hours
Unit I	Nature, Scope and Development of Social Geography.Social Interaction and Relations. Social Groups; Formation, Characteristic and Types. Community and Society. Concept of Social Space. Social Structure. Social Processes. Geography of Social Problems (Poverty, Crime, Social inequalities). Concept of Social Well-Being.	15
Unit II	Elements of Social Geography;Race (Development of Concept, Racial Characteristics, Classification of Races and Zone and Strata Theory), Ethnicity, Tribe (Definition, Characteristics, Theories of Tribal Groupsand Case Studies of Pigmy, Kyrghizs, Bushman, Eskimo, Naga, Gond and Bhil), Dialect, Language, Caste and Religion.	15
Unit III	Nature and Scope of Cultural Geography, Creation of Cultural Spaces. School of Cultural Determinism. Cultural Adaptation, Assimilation, Integration, Diffusion and Cultural Diversity.Culture and Environment; Economy and Cultural Landscapes. Industrial Revolution and Cultural Development. Globalization and Culture Conflicts. Cultural Heritage.	15
Unit IV	Concept of CultureAreas; Cultural Hearths, Realms and Cultural Regions. Cultural Complexes. Cultural Regions of the World and Indian Sub-continent. Sanskritization and Cultural Urbanization. Cosmopolitization. Problems Arising due to Cultural Diffusion, Racism and Terrorism.	15

Reference Books:

1. रिजवी एम. और जोशी आर. (2016): सांकृतिक भूगोल, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
2. प्रसादगा. (2022): सांस्कृतिक भूगोल, शारदा पुस्तक भवन, इलाहाबाद।
3. मौर्यएस. डी. और शालिनी (2023): सांस्कृतिक भूगोल, शारदा पुस्तक भवन, प्रयागराज।
4. मौर्यएस. डी. (2023): सामाजिक भूगोल, शारदा पुस्तक भवन, प्रयागराज।
5. सिंहबी. एन. : सामाजिक एंव सांस्कृतिक भूगोल, प्रवलिका पब्लिकेशन्स, प्रयागराज।
6. सिंहज. (2015): सामाजिक एंव सांस्कृतिक भूगोल, हिन्दी बुक सेंटर दिल्ली।
7. Maurya S. D. (2023): CULTURAL GEOGRAPHY, ShardaPustakbhawan, Allahabad.
8. Devi R. (2020): Cultural Geography, Book Enclave, Jaipur.
9. Chauudhuri S. (2023): SOCIAL and CULTURAL GEOGRAPHY, PHI Learning Pvt. Ltd. Delhi.
10. Sen J. (2008): Social and Cultural Geography, Kalyani Publishers, Delhi.
11. Duncan J. (2003): A Companion to Cultural Geography, Wiley-Blackwell.
12. Ahmed A. (2021): Social Geography Of India, Concept Publishing Company.
13. Anderson J. (2021): UNDERSTANDING CULTURAL GEOGRAPHY : PLACES AND TRACES, Routledge.
14. Ahmad A. (2002): SOCIAL GEOGRAPHY,Rawat Books.

	Curve. Climatic Graphs:Climograph, Hythergraph, Climatograph, Ergograph, Rainfall VariabilityGraph, TemperatureVariationGraph and Altimetric Frequency Graph.
Reference Books:	
1	शर्मा.जे. पी.(2023):प्रायोगिकभूगोल,रस्तोगीपब्लिकेशनमेरठ।
2	खुल्लर, डी. आर.(2022): प्रयोगात्मकभूगोल, कल्याणीप्रकाशन, नईदिल्ली।
3	भल्लाएल. आर.(2017) : प्रायोगिकभूगोलकेमूलतत्व, सलोनीऑफसेट, जयपुर।
4	शर्मापी. एम.(2009): भूगोलमेंसांख्यिकीयविधियाँ, राजस्थानहिन्दीग्रंथअकादमी, जयपुर।
5	Singh, L.R. (2010): Fundamentals of Practical Geography, ShardaPustakBhawan, Allahabad.
6	Mishra, R. N. and Sharma, P. K. (2022): Practical Geography, PareekPublication.
7	Singh, R.L. and Singh Rana P.B. (1991): Elements of Practical Geography. Kalyani Publishers, New Delhi.
8	SarkarA. (2015): Practical geography,Asystematic approach,Orient Black Swan Private Ltd.New Delhi.

Learning Objectives

- To develop familiarity and understand on the concepts, phenomenon and approaches relating to environment and ecology with a geographical perspective, changing man-environment relationship, increasing anthropogenic interventions and itsimpacton environment.
- To develop awareness about the grave environmental issues and challenges, facing by the mankind at different levelsand to impart knowledge about the environmental governance, policy making and legislative frameworks at both national and international levels.

LearningOutcomes

- Increasing knowledge about the concept of environment, environmental processes and changing nature of man-environment relationship.
- Develop more awareness aboutanthropogenicinterventions at different levels and impacts of these on the surrounding environment,conservation strategies and environmental planning.
- Develop insights on various efforts at national and international level for environmental consertion and restoration and assessmentoftheseenvironmental programs, policies and legislations.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Environmental Geography**	**Course Code: 24MGS9104T**
Total Lecture hour 60		
Unit I	Nature,Scope and Development of Environmental Geography, Its relation with other Disciplines.Environment and Ecosystem: Concepts and Approaches.Human Ecology, Environmental Functions,Trophic Levels; Food Chain, Food Web and Ecological Pyramid.Energy Flow, Environmental Cycles; Geo-chemical, Carbon, Nitrogen and Oxygen Cycles. Concept of Biodiversity and Its Conservation. Biodiversity Hot Spots in India.	**Hours** 15
Unit II	Human Interaction with Environment; Processes, Causes and Impacts. Urban Environmental Problems and Their Management; Urban Heat Island Effect, Atmospheric,WaterandNoise Pollution, Solid Waste Management, Land Degradation and Land Conservation.Concept and Approaches of Environmental Impact Assessment (EIA).	15
Unit III	Environmental Hazards and Disasters; Vulnerability and RiskAssesment, Disaster Risk Reduction (DRR), Salient Features of Sendai Framework for DRR. Characteristics, Factors and Management of Landslides, Cyclones and Floods (with special reference to India). Contemporary Environmental Issues;Climate Change, Greenhouse Effect, Ozone Depletion, Flash Floods, Acid Rain, Desertification and	15

	Droughts. International Treaties andProgrammesand Policies; Brundtland Commission, Kyoto Protocol, Agenda 21, Paris Agreement and Sustainable Development Goals (SDG)2030.	
Unit IV	Environmental Governance and Legislation in India. Salient features of Environmental laws and Acts; The Wildlife Protection Act, The Water (Prevention and Control of Pollution) Act, The Air (Preventionand Control of Pollution) Act, The Forest (Conservation) Act. Environmental Policy of India. Environmental flagship programs (Project Tiger, Namami Gange Program, JalJeevan Mission, National Action Plan on Climate Change).	15

Reference Books:

1	सिंहसविद्र (2021): पर्यावरण भूगोल का स्वरूप, प्रवालिका प्रकाशन, इलाहाबाद।
2	प्रसादगा. और नोटियाल आर. (2023): पर्यावरण भूगोल, शारदा पुस्तक भवन, प्रयागराज।
3	नेगीपी. एस. (2013): पारिस्थितिकी एंव पर्यावरण भूगोल,रस्तोगी प्रकाशन, मेरठ।
4	Hussain, J. and Naskar, B. (2020): Environmental Geography, Notion Press, India.
5	Husain M. (2022): Environment & Ecology, GK Publication, New Delhi.
6	BharuchaE : Environmental Studies, UGC, New Delhi.
7	Rajagopalan R. (2015): Environmental Studies, Oxford University Press.
8	Rangarajan M. (2006): Environmental Issues In India, Pearson, New Delhi.
9	Lokanadha G. (2015): ENVIRONMENTAL EDUCATION, Discovery publishing House.
10	Agrahari R. P.(2023): Environmental Ecology, Biodiversity, Climate Change & Disaster Management, McGraw Hill.
11	Kumar P. and Meena U. (2021): Fundamentals of Ecology and Environmen, Pathfinder Publication.
12	Duram L. A. (2021): Environmental Geography: People and the Environment, University of Nebraska Press.
13	Singh Savindra (2020): Environmental Geography, Pravalika Publication, Allahabad.
14	Saxena, H.M. (2017): Environmental Geography, Rawat Publications, Jaipur.

Learning Objectives

- To familiarize with basics of biogeography, ecology, interface between biology and ecologyanddevelopunderstanding on ecology and evolution continuum, biogeographic processes and biodiversity.
- To enhance knowledge about plant and zoo geography, animal and plant classification and paleobiogeography.

LearningOutcomes

- Develop deep understanding about plant and animal kingdom,enhanceknowledge about ecology, habitat and biodiversity.
- Develop deeper insight in biogeographic processes, animal and plant classification and policy interventions in India.
- Basics contents for various competitive examinations conducted by state and union public service commissions, UGC NET-JRF and so on.

Course Title:	**Biogeography**	**Course Code: 24MGS9105T**
Total Lecture hour 60		
Unit I	Nature, Scope and Historyof Biogeography. Elements of Biogeography.Ecological Niche. Ecology vs. History. Phylogeography; Ecology and Evolution Continuum.Plant and Animal Classification; Five Kingdom System, Seven Levels of Taxonomy. Raunkiaer's and Grime's classificationofPlant and Animal. Species Interactions.	Hours 15
Unit II	Biogeographic Processes;Evolution, Adoption, Speciation, Extinction, Succession,	15

Semester III

Advanced Geography of India

Learning Objectives: To make students aware of the Geography of India. Developing a deeper understanding of physical and cultural resource of India.

Learning Outcomes

On completion of this course, learners will be able to:

1. The importance of "Ek Bharat Shrestha Bharat"
2. The wider physical and cultural aspects of India.

Course Title	Advanced Geography of India	Course Code: 24MGS9301T
Total Lecture hour 60		**Hours**
Unit I	Geological structure and its relation to distribution of minerals, physiographic divisions, Climate: seasons and associated weather characteristics, mechanism of Monsoon, Vegetation types and vegetation regions, problem of deforestation, Major soil types, problem of soil erosion, drainage pattern.	**15**
Unit II	Water resources and Multipurpose irrigational project (Bhakra, Damodar and Chambal), Problem of floods and droughts, Agriculture: Major Crops (Wheat, Cotton, Tea, Sugarcane) Green revolution, White revolution, Yellow revolution and Blue revolution, Agro climatic regions.	**15**
Unit III	Major mineral resources (Iron, Copper, Bauxite), Power resources, Major industries (Iron steel, sugar and textile) Industrial regions of India.	**15**
Unit IV	Population structure, distribution and growth, Population problems and population policy of India, Human resource development in India.	**15**

Reference Books:

1. Chapman, G. and Baker, K.M. (eds.) (1992): The Changing Geography of Asia. Routledge, London.
2. Farmer, B.H. (1983): Introduction to South Asia. Methuen and Company Ltd. and Company Ltd., London.
3. Ganguly, S. and Neil, DeVotta (eds.) (2003): Understanding Contemporary India. Lynne Reinner Publishers., Boulder and London.
4. Johnson, B. L. C. (ed.) (2001): Geographical Dictionary of India. Vision Books, New Delhi.
5. Johnson, B.L.C. (1983): Development in South Asia. Penguin Books, Harmonsworth.
6. Khullar, D. R. (2006): India. A Comprehensive Geography. Kalyani Publishers., New Delhi.
7. Krishnan, M. S. (1968): Geology of India and Burma. 4th edition. Higgin Bothams Private Ltd., Madras.
8. Nag, P. and Gupta, S. S. (1992): Geography of India. Concept Publishing. Company, New Delhi.
9. Sharma, T. C. (2003): India: Economic and Commercial Geography. Vikas Publication., New Delhi.
10. Singh, J. (2003): India: A Comprehensive and Systematic Geography. Gyanodaya Prakashan, Gorakhpur.
11. Singh, R. L. (ed.) (1971): India. A Regional Geography. National Geographical Society of India, Varanasi.
12. Spate, O.H.K., Learmonth, A.T.A. and Farmer, B. H. (1979): India and Pakistan. Methuen and Company Ltd. and Company Ltd., London.
13. Subbarao, B. (1959): The Personality of India. University of Baroda Press, Baroda.
14. Tirtha, R. (2002): Geography of India. Rawat Publications., Jaipur and New Delhi.
15. Tiwari, R. C. (2007): Geography of India, Prayag Pustak Bhawan, Allahabad
16. Wadia, D. N. (1959): Geology of India. MacMillan and Company, London and Madras. Student edition.

Practical

Learning objectives: This paper includes various basic aspects of surveying instruments and process of surveying.
Learning out comes: The students will be able to know about parts of instruments and know about how to use these surveying instruments for making small level plan.

Course Title	**Practical Geography (Field Surveying and Camp Work)**	**Course Code: 24MGS9301P**

Plane table surveying - instruments, Survey Operation Methods of Plane table surveying, Resection by three point problem and two point problem.

Prismatic compass surveying - Instruments, Kinds of bearing, convert whole circle bearing to quadrant bearing, Survey operation, methods of prismatic compass surveying, correction of bearing, plotting of bearing, Bowditch rule and calculation of included Angles.

Dumpy level Surveying parts, meaning of terms used in Levelling, Temporary Adjustment of the level, observation and reading of staff Reading, Recording of staff reading by Rise and fall level field book and Height of collimation level field book, methods of levelling, Plotting the longitudinal profile.

Theodolite Surveying: Types of Theodolite, Part off a transit Theodolite, meaning of terms used in Theodolite surveying, Methods of Theodolite surveying, Procedure of Theodolite Surveying. Setting up of the Theodolite measurement of angles. Filling in the angle book and Plotting the plan.
Camp Work: A Topographical Survey of a settlement of specific landscape will be done by organising a camp at least for a week away from the institute and maps and reports of the same will be prepared. (Students are expected to stay in the camp at night.)

Recommended Readings:

1. चौहान, पी.आर. 2008: प्रयोगात्मक भूगोल। वसुन्धरा प्रकाशन, जयपुर।
2. शर्मा, जे.पी. 2011: प्रयोगात्मक भूगोल की रूपरेखा। रस्तोगी पब्लिकेशन, मेरठ।
3. Singh, L.R. 2006: Practical Geography. Prayag Pustak Publisher, Allahabad, U.P.
4. Monkhouse, F.J. and Wilkinson, F.J. 1985: Maps and Diagrams. Methuen, London.
5. Singh, R.L. and Singh Rana P.B. 1991: Elements of Practical Geography. Kalyani Publishers, New Delhi.
6. Sarka, A.k. 1997: Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
7. Venkatrameiah, C. 1997: A Text Book of Surveying. University Press. Hyderabad.

Principles and Theories of Economic Geography

Learning Objectives:
1. To make students aware about world economy.
2. Understanding recent trends in economic geography

Learning Outcomes:
1. Student will be able to critically examine various economy issues in geographical context.
2. They will be able to evaluate and correlate theories with reference to contemporary Economic issues.

Course Title	**Principles and Theories of Economic Geography**	**Course Code: 24MGS9302T**
Total Lecture hour 60		**Hours**
Unit I	Meaning and scope of economic geography, simple model of economy and spatial structure of economy, classification of the economies of the world, recent trends in economic geography.	**15**
Unit II	Theories, Concepts and models of development, developed, developing and under developed economies. Regional disparities in economic development.	**15**
Unit III	Economic location theory: Weber, Losch, Von Thunen and Christaller.	**15**
Unit IV	Decision Making process, Location decision-behavioral view, Economic Regions and their salient features. Impact of WTO, Globalization and liberalization.	**15**
Reference Books:		

1. Alexander, J.W. 2001. Economic Geography. Pprentice Hall of India, New Delhi
2. Chapman, K and Walker, D. 1991. Industrial Location: Principles and Policies Blackwell,
3. Oxford Grigg, D. 1995. An Introduction to Agricultural Geography. Second edition, Routeledge,
4. London Gupta, P. Sen and Sydasuk, Galyna: Economic Regions and Regionalization in India.
5. James, W. and Peter, Q. M. 1986. Economic Geography. John Wiley and Sons, New York
6. Jarret, H. R. 1977, A Geography of Manufacturing. Trans-Atlantic Publishers, Landon
7. Hodder B.W. and Lee, R. 1974: Economic Geography. Methuen, London.
8. Mandal, R. B. 1982. Land Utilization Theory and Practice. Concept Publishing Company, New Delhi.
9. Scott, A. J. 1988, New Industrial Spaces. Pion, London
10. Shafi, M. 2000. Agricultural Geography of south asia, MaCMillan, New Delhi
11. Singh J. and Dhillon, S. S 2004: Agricultural geography. Tata Mc-Graw hill, New Delhi
12. Singh, Kashi Nath and Siddiqui, A.R.: Economic Geography, Prayag Pustak Bhawan Allahabad.
13. Smith, D. M. 1981. Industrial Location an economic, geographical analysis. John Wiley New York.
14. Tyagi, B. P. 1998. Agricultural Economics arid. Rural Development. Jai Praksh Nath Co. Merrut (sixth edition).
15. Wheeler, J.O. and Muller, O.P. 1995: Economic Geography, John Wiley, New York

Agricultural Geography

Learning Objectives:

1. To make students aware of the agricultural practices of the world.
2. To make students aware of agricultural types, agricultural regions, cropping patterns and crop combination method.

Learning outcome:

1. Solution of problems related to agriculture and strengthening the concept of sustainable agriculture.
2. To gain knowledge about the different agricultural system and techniques of the world.

Course Title	**Agricultural Geography**	**Course Code: 24MGS9303T**
Total Lecture hour 60		**Hours**
Unit I	Nature, Scope, significance, development and approaches of agriculture geography. Origin and dispersal of agriculture, Factors affecting Agriculture : physical (Topography, Climate Soils Water) Socio-Economic and political	**15**
Unit II	Types of Agriculture, land use and land reforms, Von-Thuenen theory and its recent modification.,	**15**
Unit III	Cropping pattern. Crop concentration, intensity of cropping, Crop Combination, Crop Diversification, Agricultural Productivity and land carrying capacity.	**15**
Unit IV	Methods of delineation of agricultural regions. Whittlesey's classification of agricultural regions. New Perspectives in Agriculture: food Security and Sustainable agriculture, Place of Agriculture in global economy.	**15**

Reference Books:

1. Baylist Smith T.P.: The Ecology of Agricultural System, Cambridge University Press, London, 1987.
2. Gregor, H.P.: Geography of Agriculture, Prentice Hall, B.Y., 1970.
3. Mannion, A.M.: Agriculture and Environmental Change, John Wiley, London, 1971.
4. Morgan, W.B. and Norton, R.J.C.: Agricultural Geography, Methuen, London, 1971.
5. Morgan, W.B. Agricultural in the Third World, A spatial Analysis, West View Press, Boulder, 1978.
6. Sauer, C.O.: Agricultural Origins and Dispersals, M.I.T. Press West View Press Mass, USA, 1969.
7. Singh J. and Dhillon S.S.: Agricultural Geography, Tata McGraw Hill Pub., New Delhi, 1988.
8. Tarrant, J.R.: Agricultural Geography, Wiley, N.Y., 1974.

Industrial Geography

Learning Objectives: To develop understanding among student about industrial geography, industrial development and industry generated problems. To make them aware about the present status of various industries in India.

Learning Outcomes: Student will contribute to industrial development by gaining knowledge about location of industries and Industrial trends.

Course Title	Industrial Geography	Course Code: 24MGS9304T
Total Lecture hour 60		**Hours**
Unit I	Evolution of industrialization, location factors of industries, new trends in industrial geography, concept of entrepreneur.	**15**
Unit II	Formation and delineation of industrial regions, industrial complexes, industrial regionalization, industrial regions in India: Hooghly side industrial regions, Damodar valley industrial regions, Delhi-Mumbai industrial corridor.	**15**
Unit III	industrial policies of India, liberalization, privatization and globalization (special reference of India); special economic zones, industrial regions of World.	**15**
Unit IV	Industries: cotton, textile, iron and steel, aluminium, cottage and agro-based industries, concept of optimum location, multi-location industries, market oriented industries, foot loose industries, raw material oriented industries, manufacturing industries, processing industries.	**15**

Reference Books:

1. Loyd and Dicken: Location in Space: A theoretical Approach to Economic Geography.
2. M.C Cart and Lindberg Hodder and Lee Economic Geography: A proface to Economic cography
3. Smith, D.E. Cox K.P. Man: Industrial Location. A Economic, Geographical Analysis Location arxl Behavior-An Introduction to Human Geography.
4. Riley, R.C. 1973: Industrial Geography. Chalto and windus, London.
5. Bengston, N.A.: Fundamentals of Beonomic Geography, Prentice Hall, New York.
6. Besoh, H.: A Geography of world Economy, D. Van Nostrand.
7. Britton. John. N.H.: Regional Analysis and Economie Googmphy. G. Bell and Sant, London.
8. Estall. R.C. and Buchanan, R.O.: Industrial Activity and Economic Geography. Hutchinson and Co. London.
9. Ghose. B.C: Industrial London.
10. Hoover, E.M.: The Loention of Econonue Acuvity. McGraw Hill Books Co. New York.
11. Saxena, Economic Geography,

Settlement Geography

Learning Objectives:

1. To develop geographical understanding of process of development of settlement.
2. To development understanding of applied orientation for solving real problems associated with settlement growth and environment.

Learning Outcomes:

1. Development understanding about historical process of settlement growth and spatial pattern of settlements.
2. Enhance knowledge about problems of settlement and policy interventions.

Course Title	Settlement Geography	Course Code: 24MGS9305T
Total Lecture hour 60		**Hours**
Unit I	Introduction: Nature, scope, significance and approaches to study Settlement Geography, Development of Settlement Geography. Theories of evolution of settlements and Geographical factors affecting growth of settlement distribution.	**15**
Unit II	Rural settlement: Site, location, types and pattern, Morphology of rural settlement, Rural House types: planned and architectural style in different geographical Environment, with reference to India	**15**
Unit III	Urban Settlement: Origin of the cities: Ancient and Medieval, Industrial growth and urban expansion, Functional classification of urban centres: Harris and Nelson Functional classification of Indian cities:	**15**
Unit IV	Settlement Hierarchy and Policies: Rural service centre, Central Place theory (Christaller), Theory of Losch and its application, Issues and policies of Settlements and settlement planning.	**15**

Reference Books:

1. Ambrose, Peter, Concepts in Geography Vol.-I Settlement Pattern, Longman 1970.
2. Baskin, C., (Translator), Central Places in Southern Germany, Prentice-Hall Inc.
3. Haggett, Peter, Andrew D. Cliff and Allen Frey (editer), Locational Models Arnold Heinemann 1979.

4. King, Leslie, J., Central Place Theory, Saga Publications, New Delhi 1986.
5. Mayer, M. Harold and Clyde F. Kohn (editors), Readings in Urban Geography, Central Book Depot, Allahabad 1967.
6. Nangia, Sudesh, Delhi Metropolitan Region, K.B. Publications, New Delhi 1976.
7. Prakasa, Rao, V.L.S., Urbanisation in India; Spatial Dimensions, Concept Publishing Co., New Delhi 1983.
8. Ramachandran, R., Urbanisation and Urban Systems in India, Oxford University Press, New Delhi 1992.
9. Singh R.L. and KashiNath Singh (editors), Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi 1975.
10. Srinivasan, K. and M. Vlassoff, (editors), Population-Development Nexus in India: Challenges for the New Millennium, Tata McGraw-Hill Publishing Co. Ltd., New Delhi 2001.
11. Ucko, M.J., Ruth Tringham and G.W. Dimbleby (editors), Man, Settlement and Urbanism, Duckworth 1972.

Regional Planning and Development

Learning Objectives: To develop geographical understanding of process of regional planning and development .To develop understanding of applied orientation for solving real problems associated with regional planning and development.

Learning Outcomes :To develop understanding strategies of regional planning .Enhance the knowledge about problems related to regional planning and development.

Course Title	**Regional Planning and Development**	**Course Code: 24MGS9306T**
Total Lecture hour 60		**Hours**
Unit I	Conceptual and theoretical framework of regional planning, principles and determination of regional planning and multi-level planning, role of geography in preparation of a regional plan, significance of the term integration (political, economic and spatial) for regional planning.	**15**
Unit II	The process of regional development: indicators of development; levels of regional development and disparities, strategies for development. regional planning in India	**15**
Unit III	concept and indicators of development; regional imbalances; type of regions and methods of regionalization, growth pole and growth centres, environmental issues in regional planning for sustainable development, demarcation and planning regions of India.	**15**
Unit IV	Role of remote sensing, global positioning systems (GPS) and geographic information system (GIS) in modern regional planning, case studies from selected countries: regional planning in USA (TVA), regional planning in India (DVC and NCR) regional planning in Netherlands	**15**

Reference Books:

1. Dube K. N. (ed) 1990: Planning and Development in India. Asia Publishing House, New Delhi.
2. Liovt. of India 1986: Regional Plan 2001 - National Capital Region. NCRPB, Ministry of Urban Development, New Delhi.
3. Bhat, L. S. 1973: Regional Planning in India. Statistical Publishing Society, Kolkata.
4. Blair, J. P. and Carroll, M. C. 2009: Local Economic Development Analysis, Practices, and Globalization, SECOND EDITION, SAGE PUBLICATIONS, INC.
5. Chandna, R. C. 2008: Regional Planning and Development. Kalyani Publishers, Ludhiria.
6. Joumal of Geograplıy and Regional Planning (JORP) is an open access,
7. Hufselunidt, M.M. 1969: Regional Planning: Challenges and Prospectus. Praiger and Conmpany, New York.
8. Mishra, R.P. 1978: Regional Planning und National Development. Vikas Publications, New Delhi.
9. Mishra R.P. (ed) 1992: Regional Planning: Concepts, Technique, Policies and Case Studies: Concept Publications, New Delhi.
10. श्रीवास्तव, शर्मा एवं चौहान 2008: प्रादेशिक नियोजन और संतुलित विकास। वसुन्धरा प्रकाशन, गोरखपुर।
11. www.academia.edu/Papers/in/Ecomonic Geography
12. www.jstor.org/stable/143805

Statistical Methods in Geography

Learning Objectives: To make the students aware of the basics concept of statistical geography.
Learning Outcomes Students will be able to understand

1. Types of data.
2. Sampling methods for data collection.
3. Present data through graphical and diagrammatic formats.
4. Correlation and hypothesis testing.

Course Title	**Statistical Methods in Geography**	**Course Code: 24MGS9307T**
Total Lecture hour 60		**Hours**
Unit I	Methods of data Collection, Classification, Sources and Types of data, Methods of Tabulation of data. Geographical representation of Frequency distribution: Histogram, Frequency polygon, frequency curve, Ogive curve.	**15**
Unit II	Measures of central tendency-Mean, Median and Mode, Mean deviation, Quartile deviation. Standard Deviation	**15**
Unit III	Co-efficient of variation, Co-efficient of Correlation, rank Correlation.	**15**
Unit IV	Steps of Hypothesis testing, Test of Statistical significance, Chi square test.	**15**

Reference Books:

1. Monkhouse, F.J. Maps & Diagrams.
2. Robinson, A.H. Elements of Cartography.
3. Singh, R.L., Elements of Practical Geography.
4. Singh, L.R. & Singh, R.N. Map Work and Practical Geography (Eng./Hindi).
5. Sharma, J.P. Prayogatmak Bhoogol Ki Rooprekha (Hindi).
6. Hira Lal, Prayogatmak Bhoogol Ke Adhar (Hindi).
7. Lal, Hira, Matratmak Bhoogol (Hindi).
8. Tiwari, R.C. and Tiwari, Sudha, Abhinav Prayogic Bhoogol.

Semester IV

Practical Geography

Learning objectives: This paper includes various basic aspects of map projection and techniques of drawing various projections.

Learning outcomes: The students will be able to know about basic aspects of map projection and develop skill to draw map projection.

Course Title	**Practical Geography**	**Course Code: 24MGS9401P**
Maps projections (Mathematical construction) classification and characteristics.		
One standard parallel conical projection, Two standard parallel conical Projection, Bonne's projection and Polyconic Projection.		
Equidistance cylindrical projection, Equal area cylindrical projection, Mercator's projection and Gall's projections.		
Gnomonic Polar Zenithal Projection; Stereographic Polar Zenithal Projection; Orthographic Polar Zenithal Projection; Equal area Polar Zenithal Projection; Equidistance Polar Zenithal Projection; Sinusoidal projection and mollweide projection.		
Recommended Readings: 1. चौहान, पी.आर. 2008: प्रयोगात्मक भूगोल। वसुन्धरा प्रकाशन, जयपुर। 2. □□□□□, जे.पी. 2011: प्रयोगात्मक भूगोल की रूपरेखा। रस्तोगी पब्लिकेशन, मेरठ। 3. Singh, L.R. 2006: Practical Geography. Prayag Pustak Publisher, Allahabad, U.P. 4. Monkhouse, F.J. and Wilkinson, F.J. 1985: Maps and Diagrams. Methuen, London. 5. Singh, R.L. and Singh Rana P.B. 1991: Elements of Practical Geography. Kalyani Publishers, New Delhi. 6. Sarka, A.k. 1997: Practical Geography: A Systematic Approach. Orient Longman, Kolkata. 7. Venkatrameiah, C. 1997: A Text Book of Surveying. University Press. Hyderabad.		

Political Geography

Learning Objectives:

1. To make students aware about world politics, and the of Political Geography.
2. 2 Understanding current political issues geographically.

Learning Outcomes:

1. Student will be able to critically examine various political issues in geographical context.
2. They will be able to evaluate and correlate theories with reference to contemporary geopolitics and geo-strategic basic concepts issues.

Course Title	**Political Geography**	**Course Code: 24MGS9401T**
Total Lecture hour 60		**Hours**
Unit I	Nature, Scope, development, recent trends and approaches of political geography. Major schools of thought in political geography. Political geography vs. geopolitics, geographic element of the state-physical, human & economic.	**15**
Unit II	The methodology of political geography: A critical analysis of the functional unified theory; Genetic, functional and systems approaches, function and classification. Themes in political geography, frontiers and boundaries.	**15**
Unit III	Colonialism, Decolonization, Neo-colonialism, federalism, and other forms of governance. Global strategic view with particular reference to the ideas of Mackinder, and Spykeman. The changing pattern of super powers and super nationalism.	**15**
Unit IV	Political geography of contemporary India, global strategic view of India, Geopolitical significance of Indian Ocean, Geopolitics in SAARC region.	**15**
Reference Books: 1. Alexander, L.M. World Political Patterns, Ran McNally, Chicago, 1963. 2. De Blij H.J. and Glassner, Martin: Systematic Political Geography, John Wiley, N.Y. 1968. 3. Dikshit, R.D.: Political Geography: A Contemporary Perspective, Tata McGraw Hill, New Delhi, 1996. 4. Taylor, P: Political Geography, Longman, London, 1985. 5. Sukhwal, B.L., Modern Political Geography of India, Sterling Publisher, New Delhi, 1968.		

6. Taylor, P: Political Geography, Longman, London, 1985.
7. Fisher, Charles: Essays in Political Geography, Methuen, London, 1968.
8. Pounds, N.J.G.: Political Geography, McGraw Hill, N.Y., 1972.
9. John R. Short, An Introduction to Political Geography, Routledge, London, 1982. B
10. Moddle A.E.: Geography Behind Politics, Hutchinson, London, 2000.
11. Prescott, J.R.V.: The Geographical Factors and Boundaries, Aldine, Chicago.
12. Deshpande, C.D.: India: A regional Interpretation, Northern Book Centre, New Delhi 1992.
13. Panikkar, K.M.: Geographical Factors in Indian History, 2 Vols. Asia Publishing House, Bombay, 1959

Geography of Rajasthan

Learning Objectives:

1. To make students aware of the Geography of Rajasthan.
2. Developing a deeper understanding of physical and cultural resource of Rajasthan.

Learning Outcomes

On completion of this course, learners will be able to:

1. Know the wider physical and cultural aspects of Rajasthan.
2. Know socio-economic background of Rajasthan.
3.

Course Title	**Geography of Rajasthan**	**Course Code: 24MGS9402T**
Total Lecture hour 60		**Hours**
Unit I	Physiography of Rajasthan: relief, drainage, climate, natural vegetation. Drought, desertification, soils, soil erosion and conservation; water resources- availability, problems and conservation.	**15**
Unit II	Mineral resource (Copper, Zinc and Marble) distribution and production; energy resources: distribution and production (hydro-electricity, coal, petroleum, solar energy and wind-energy) irrigation resources distribution, irrigation projects: detailed study of Indira Gandhi canal project, Chambal valley project and Mahi Bajaj Sager projects.	**15**
Unit III	Agriculture crops (Wheat, Cotton, Groundnut and Pulses), Problems of agriculture development, live-stock and dairy development. Industries: textile, sugar, cement, marble and granite, fertilizer, zinc and copper smelting.	**15**
Unit IV	Population- Structure, population problems, detailed study of Bhil, Meena and and Grarasia. Settlement pattern: types of settlements, building materials and house types in Rajasthan.	**15**

Recommended Readings:

1. Bhalla, L.R. 1996-97: Geography of Rajasthan. Kuldeep publications, Jaipur,
2. Gujar, R.K. 1992: Geography of Indira Gandhi Canal. Rajasthan Hindi Granth Academy
3. Lodha, R.& Maheshwari, D.2001: Geography of Rajasthan. Shahitya Bhawan Publications, Hospital goad, Agra.
4. Mishra, V.C. 1967: Geography of Rajasthan. National book trust of India. New Delhi.
5. Singh, R.L. 1971 (ed.): India A Regional Geography NGSI. Varanasi.
6. Attar Singh. 1992: Flood Prone Areas of India. A viskar Publishers Jaipur
7. Sharma H.S. and M.L. Sharma 2014: Geography of Rajasthan. Panchcil Publisher, Jaipur.
8. नथुरामका, एल.एन., 2013–13 : राजस्थान की अर्थव्यवस्था। कॉलेज बुक हाउस, जयपुर।
9. साईवाल, स्नेह 2012 : राजस्थान का भूगोल। कॉलेज बुक हाउस, जयपुर।
10. सक्सेना, एच.एम. 2012 : राजस्थान का भूगोल। राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।

Geography of Water Resources

Learning Objectives:

1. To make students aware about availability and demand of water resource.
2. To make students aware about quality and quantity of water .related problems.

Learning Outcomes:

1. Student will be able to critically examine various water related problems (water pollution, salinity and, Alkalinity)
2. They will be able to know the methods of water conservation and management of water.

Course Title	Geography of Water Resources	Course Code: 24MGS9403T
Total Lecture hour 60		**Hours**
Unit I	Definition and scope of water resource geography, inventory and distribution of world's water resources, water resources of India.	**15**
Unit II	Groundwater hydrological cycle, demand and use of water, irrigation methods. Salinity, alkalinity, overexploitation of ground water.	**15**
Unit III	Water pollution, river water pollution, demand and water supply in agriculture and industries, flood management, drought and dry land farming.	**15**
Unit IV	Water conservation/participatory approach, traditional methods of water conservation in India and Rajasthan, integrated basin planning, watershed management, river water disputes, environmental disasters and water crisis.	**15**

Reference Books:

1. Agarwal, Anil 2001: Drouht: Try Capturing the Rain, Briefing paper. Down to Earth. Centre for Science and Environment, New Delhi.
2. Agarwal, Ani! and Narain Sunita, 1998, (eds.): Dying Wisdom: Riso, Fall and Potential of one Water liarvesting Systein. Contre for Science and Environment, New Delhi
3. Black. Magie, 2005: The No-Nonsense Guide to Water. Rawal Publications, Jaipur.
4. Black, Mugia, 2004: A Matter of Life and Health. OUP, New Delhi.
5. Barlow and clark Tony, 2002: Blue Gold: The Battle Against Corporate Theft of the World's
6. Water. Earthscan, London
7. भारती, राधाकांत, 1998: भारत की नदियाँ। नेशनल बुक ट्रस्ट ऑफ इण्डिया, नई दिल्ली।
8. Climate Change, 2001: International Pannel on olimate Change. Cambridge University Press. Clarke, Robin 1991: Water: The International Crisis. Earthsean, London.
9. Dans and Development 2000: Report of the World Commission on Dams. November.
10. Das, P.K. 1996: The Monson. National book Trust, India, New Delhi,
11. Dhuruv Narain, V.V., Shastry, G. and Patnaik U.S. 1990: Watershed Management. ICAR, New Delhi
12. Dakshinamurti. C.. Michnol, A.M. and Mohan, S., 1972: Water Resources of India and their
13. Utilization in Agriculture. IARI Monograph No. 3, Now Delhi.
14. Cujar. R.K. 1990: Geographical Perspectives on Irrigation. Rawat Publications, Jaipur, Goudic, A., 1997: The Nature of the Environment, Blackwell, London.
15. Kirmerstay. David, 1988 Troubled Water: River, Politics wid Pollution, Hillen Shipshan, London
16. Mahnou S and Singh. PC. 1991 Soil and Water Conservasion. Intercoopenstion Cosedination Ofier, Jaipur,
17. Nacain, Suniza, 2004: Down to Earth, Pebuary 29, 2004. Park. 1007 The Kaviconmeni. Principles and Application. Routledge. London
18. Rau. K.L., 1975: India's Water Wealth. Orient Longman. New Delhi.
19. Singh, Cupal, 2004: A Geography of India, Alma Ram & Sona, New Delhi.
20. Shiva, Vandens, 2002; Water Wn/s; Privatitation, Pollution and Profßu Pluto Press, London. Sats Warer Resourose Plan, 1998: Volurns, I, II, III Tahal consulting Raginar. Lad. Tel Aviv, Isrmal.
21. Sidhartha, K., 1990: Flood in Indiat A Model ibr Generating Pautas. Condor Patna. Sidhartha, K., 1989. Drought in Indiat Epatio Temporal Variations. H.T. Painn.
22. Singh, R.L., 1971: India: A Regional Geography, NAGI, New Delhi.
23. World. C... 1997! Reflected in Waten A Ceinds of Bosial Resperability. Gasbod London

Basics of Remote Sensing

Learning Objectives: 1. To make students aware about basics of remote sensing and aerial photography.

Learning Outcomes:

1. Student will be able to know basics of remote sensing,
2. They will be able to use remote sensing techniques for resource conservation and regional planning.

Course Title	Basics of Remote Sensing	Course Code: 24MGS9404T
Total Lecture hour 60		**Hours**

Unit I	Remote sensing: Meaning, Definition and Scope; Historical Development; Component of Remote sensing; EMR; Characteristics, Spectral regions and bands,	**15**
Unit II	Remote sensing Platform and sensors: Types of Platform; Types of Satellites; Orbits of Satellite; Remote Sensing Sensor; Resolution; Spatial, Spectral, Temporal, Radiometric.	**15**
Unit III	Aerial Photography, its geometry, Relief Displacement and Image Formations. Classification of Aerial Photographs and their Utility. Elements of Image Recognition and Aerial Photo interpretation.	**15**
Unit IV	Remote Sensing data processing and applications; Visual and digital image processing techniques, Image Classification-supervised and unsupervised; Application of Remote sensing in Geographical Studies.	**15**

Reference book :

1. Campbell, J. B. (2002): Introduction to Remote Sensing. 5th edition. Taylor and Francis, London.
2. Cracknell, A. and Hayes, L. (1990): Remote Sensing Year Book, Taylor and Francis, London.
3. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London.
4. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
5. Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation, W.H. Freeman, New York.
6. Guham, P. K. (2003): Remote Sensing for Beginners. Affiliated East-West Press Private Ltd. New Delhi.
7. Hallert, B. (1960): Photogrammetry, McGraw Hill Book Company Inc., New York.
8. Harry, C.A. (ed.) (1978): Digital Image Processing, IEEE Computer Society, California
9. Hord, R.M. (1982): Digital Image Processing of Remotely Sensed Data, Academic Press, New York.
10. Leuder, D.R. (1959): Aerial Photographic Interpretation: Principles and Application. McGraw Hill, New York.
11. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4th edition. John Wiley and Sons, New York.
12. Nag, P. (ed.) 1992: Thematic Cartography and Remote Sensing, Concept Publishing. Company, New Delhi.
13. Reeves, R.G. (ed.) (1983): Manual of Remote Sensing, Vols. 1 and 2, American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia.
14. Siegel, B.S. and Gillespie, R. (1985): Remote Sensing in Geology, John Wiley and Sons, New York.
15. Silver, M. and Balmori, D. (eds.) (2003): Mapping in an Age of Digital Media. Wiley-Academy, New York and Chichester.
16. Spurr, R. (1960): Photogrammetry and Photo Interpretation, The Roland Press Company, London.
17. Survey of India, (1973): Photogrammetry, Survey of India, Dehradun.
18. Swain, P.H. and Davis, S.M. (ed.), (1978): Remote Sensing: The Quantitative Approach. McGraw Hill, New York.

Course Objectives:

To enhance research ability of students. To improve their analytical and critical approach. To improve their writing skill. To develop skill for and organizing seminar, preparation of research paper and presentation. To enhance skill by taking knowledge by doing as an intern in Internship, Apprenticeship and by Community Outreach

Course Outcomes: To enhance skill in student by doing practical field work.

Course Title:	**Seminar/Internship/Project**	**Course Code:** **24MGS9401S/24MGS9401I/24 MGS9401D**
Guidelines will be issued separately by the university.		

Curriculum Structure									
Session 2024-2025 onwards									
Name of the Programme: LL.M.									
Year: Second						Semester: III (Pawas)			
Pawas Semester III	Course Code	Course Title	Contact Hrs per Week			Credits	Weightage (%)		
			L	T	P		CW$	MTE	ETE
	Discipline Specific Core (DSC):								
	24MLM9301T	Indian Constitutional Framework and Economic Justice	4	0	0	4	10	20	70
	24MLM9302T	Arbitration, Conciliation and Mediation	4	0	0	4	10	20	70
	Discipline Specific Elective(DSE): Select Any One Group								
	Group A: Corporate Law (Select Any Four)								
	24MLM9303T	Banking Law	4	0	0	4	10	20	70
	24MLM9304T	Law of Industrial and Intellectual Property Rights	4	0	0	4	10	20	70
	24MLM9305T	Law of Contractual Obligation	4	0	0	4	10	20	70
	24MLM9306T	Law Relating to Bankruptcy	4	0	0	4	10	20	70
	24MLM9307T	Environmental Law and Corporate Responsibility	4	0	0	4	10	20	70
	Group B : Constitutional Law (Select Any Four)								
	24MLM9308T	Union-State Financial Relations	4	0	0	4	10	20	70
	24MLM9309T	Public Utilities Law	4	0	0	4	10	20	70
	24MLM9310T	Mass Media Law	4	0	0	4	10	20	70
	24MLM9311T	Human Rights	4	0	0	4	10	20	70
	24MLM9312T	Administrative Process and Judicial Control	4	0	0	4	10	20	70
	Value Added Course(VAC):								
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	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):								
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		Total				**26**			

Summary: III Semester (Pawas)		Credits
S.N.	**Particulars**	
1.	Discipline Specific Core(DSC):	**08**
2.	Discipline Specific Elective (DSE):	**16**
3.	Value Added Course (VAC):	**02**
4.	Seminar/Internship/Apprenticeship/Project/Community Outreach (S/I/A/P/C):	**00**
	Total	**26**
$CW (Class work): It would include attendance, class test/quiz test/assignments, ppt, play, learn by fun activities etc.		

Note: VAC to be selected from the list of courses for PG, given on University website.