

**MAHARAJA SUHEL DEV STATE UNIVERSITY
AZAMGARH U. P. (276001)**



Syllabi

Semester Courses of:

3 Years UG Programme

3 Years UG (Hons) Programme

4 Years UG (Hons) Programme

4 Years UG (Hons With Research) Programme

And

PG Programme

of Geography Based on National Education Policy 2020 Programmed on the basis of Choice Based Credit System (C.B.C.S.)



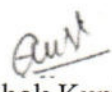
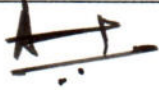
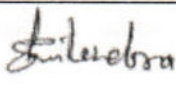


[Effective: 2024-25 Onwards]

Approved by:

BOARD OF STUDIES IN GEOGRAPHY

Maharaja Suhel Dev State University,

Azamgarh- 276001, Uttar Pradesh

 Dr. Ehteshamul Haque Convener (Shibli National College, Azamgarh)	 Prof Salahuddin Qureshi) Subject Expert (AMU, Aligarh)	 Prof Ashok Kumar Singh Subject Expert (Kunwar Singh PG College, Ballia)
 Prof Ahmad Ali Member, BoS (Shibli National College, Azamgarh)	 Mr. Shailendra Kumar Yadav) Member, BoS (DAV PG College, Azamgarh)	 Dr Durgesh Singh Member, BoS (DAV PG College, Azamgarh) Dr Jagdev, Member, Bos SG College, M.Bad Mau 

MAHARAJA SUHEL DEV STATE UNIVERSITY, AZAMGARH
SYLLABUS FOR 1 YEAR POSTGRADUATE PROGRAMME
GEOGRAPHY
UNDER CBCS [NEP-2020]
(Approved by the Board of Studies)



Those who have offered as one of the optional subjects at Four Year B.A./BSc.,(Hons) and (Hons with Research) may be admitted to 1 YEAR GEOGRAPHY course. No one is allowed to pursue the course as private candidate.

Programme Details -

Semester-I (ix): In the 1st Semester the student will have to study 3(2 Core compulsory Papers and 1 Elective paper) Theory Courses/Papers and 01 Practical also besides that they have to carry out 01 Major Research Project. All the courses are compulsory and of 4 credit each.

Semester-II (x): In the 2nd Semester the student will have to study 3 Theory Elective and 01 Practical also. There are three separate groups namely A,B and C of 2 Elective papers each out of which the students have to opt one group paper from each two group. There will be 01 Practical and 01 Major Research Project which are compulsory, and each Paper is of 4 credits.

Note: Nature of Research Project may be either Individual/Determined (Project to be completed in only 1st Semester) or Progressive/Indeterminate (to be started in the beginning of 1st Semester and to be completed at the end of 2nd Semester). In case of Research to be Individual the Project of each Semester will be of 4credits, whose combined evaluation will be done at the end of the year. In case of Research Project to be Progressive it will be evaluated at the end of the year whose total credit will be 8.

Format of the Question Paper: There will be **Section-A** of one Compulsory Question consisting of 10 parts of Very Short answer type questions. Each part will have to be answered in about 50 words. **Section-B** will consist of five Short Answer type questions each with internal choice. Each question will have to be answered in about 200 words. **Section-C** will consist of five Long Answer type questions. Any two questions from Section-C will have to be attempted. Each question will have to be answered in about 500 words.

COURSE OBJECTIVES:

The course aims at empowering students with knowledge and skills for spatial acumen and analysis, to comprehend real world issues and contribute to society in a meaningful way.

PROGRAMME SPECIFIC OUTCOMES:

1. The course intends to orient the learner with the approaches to the broader discipline of geography. It eventually prepares the students to understand the development of the subject and delve into the issues suited to the needs of the contemporary world.
2. At the end of the one-year two semester course, students will have comprehensive knowledge about contemporary themes and issues in geography.
3. Acquisition of in-depth understanding of the applied aspects of geography as well as interdisciplinary subject in everyday life.
4. This specific course introduces learner with standard geographical knowledge along with advance contemporary cartographical skill, remote sensing, GIS, etc.

MAHARAJA SUHEL DEV STATE UNIVERSITY, AZAMGARH

BA/BSc Geography
SEMESTER-WISE DISTRIBUTION OF COURSES
B.A. B.Sc./B.A. B.Sc. (Hons)/ B.A. B.Sc. (Hons with Research)

Academic Year	Semester	Course Code	Paper Title	Theory/Practical	Credits
Year 1 Semester 1					
1	I	A110101T	Physical Geography	Theory	4
1	I	A110102P	Elements of Map and Surveying	Practical	2
Year 1 Semester 2					
1	II	A110201T	Human Geography	Theory	4
1	II	A110202P	Thematic Mapping and Surveying	Practical	2
Year 2 Semester 3					
2	III	A110301T	Environment, Disaster Management and Climate Change	Theory	4
2	III	A110302P	Statistical Techniques and Surveying	Practical	2
Year 2 Semester 4					
2	IV	A110401T	Economic Geography	Theory	4
2	IV	A110402P	Weather Maps, Geological Maps and Surveying	Practical	2
2	IV	A110403R	Research Project	Project	3
Year 3 Semester 5					

3	V	A110501T	Regional Geography	Theory	4
3	V	A110502T	Basics of Remote Sensing and GIS	Theory	4
3	V	A110503P	Tour and Tour Report Or Fieldwork and Report	Practical	2

Year 3 Semester 6

3	VI	A110601T	Geography of India	Theory	4
3	VI	A110602T	Evolution of Geographical Thoughts	Theory	4
3	VI	A110603P	Remote Sensing and GIS	Practical	2

4th Academic Year for B.A./B.Sc. Hons.

Year 4 Semester VII

Academic Year	Semester	Course Code		Paper Title	Theory/Practical	Credits
4	VII	A110701T		Geomorphology	Theory (Compulsory)	4
4	VII	A110702T		Settlement Geography	Theory (Compulsory)	4
4	VII	A110703T		Geography of Transport and Trade	Theory (Compulsory)	4
4	VII	A110704T		Industrial Geography	Theory (Elective)	4
4	VII	A110705T		Advanced Economic Geography	Theory (Elective)	4
4	VII	A110706P		Statistical Methods and Aerial Photography Interpretation	Practical (Compulsory)	4

Note: Choose any one of the elective papers, ie, Either Course Code A110704TOR A110705T

4 th Academic Year for B.A. /B.Sc. (Hons.) with research						
Year 4 Semester VII						
Academic Year	Semester	Course Code		Paper Title	Theory/Practical	Credits
4	VII	A110701T		Geomorphology	Theory (Compulsory)	4
4	VII	A110702T		Settlement Geography	Theory (Compulsory)	4
4	VII	A110703T		Geography of Transport and Trade	Theory (Compulsory)	4
4	VII	A110706P		Statistical Methods and Aerial Photography Interpretation	Practical (Compulsory)	4
4	VII	A110707R	Compulsory for BA/ BSc(Hons.) with Research	Research Project	Research Project	4

4 th Academic Year for B.A. /B.Sc. (Hons.)						
Year 4 Semester VIII						
Academic Year	Semester	Course Code		Paper Title	Theory/Practical	Credits
4	VIII	A110801T		Political Geography	Theory (Compulsory)	4
4	VIII	A110802T		Population Geography	Theory (Compulsory)	4
4	VIII	A110803T		Geography of Rural Development	Theory (Compulsory)	4
4	VIII	A110804T		Agricultural Geography	Theory (Elective)	4
4	VIII	A110805T		Cultural Geography	Theory (Elective)	4

4	VIII	A110806P		Advanced Statistics and Cartographic Techniques; and Surveying	Practical (Compulsory)	4
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Note: Choose any one of the elective papers, ie, Either Course Code A110804T OR A110705T

4 th Academic Year for B.A./B.Sc. (Hons.) with Research						
Year 4 Semester VIII						
Year 4 Semester VIII	VIII	A110801T		Political Geography	Theory (Compulsory)	4
4	VIII	A110802T		Population Geography	Theory (Compulsory)	4
4	VIII	A110803T		Geography of Rural Development	Theory (Compulsory)	4
4	VIII	A110806P		Advanced Statistics and Cartographic Techniques; and Surveying	Practical (Compulsory)	4
4	VIII	A110807R	Compulsory for BA/ BSc (Hons.) with Research	Research Project	Research Project	4

Note. For pursuing 4th Year BA/BSc (Hons) with Research the students must have secured 75% marks in aggregate at BA/BSc 3 year course.

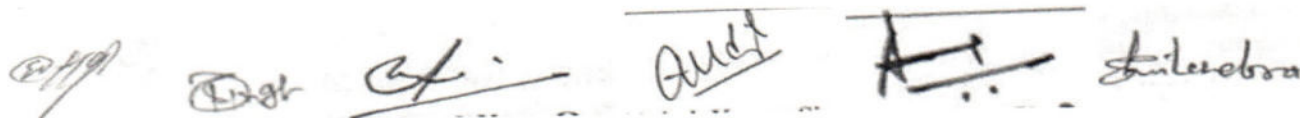
**PG Programme
Semester I(IX)**

Academic Year	Semester	Course Code		Paper Title	Theory/Practical	Credits
	I (IX)	A110901T		Climatology	Theory (Core Compulsory)	4
	I (IX)	A110902T		Geographical Thoughts and Concepts	Theory (Core Compulsory)	4
	I (IX)	A110903T	Choose any one (Elective)	Urban Geography	Theory (Elective)	4
	I (IX)	A110904T		Geography of Environment	Theory (Elective)	4
	I (IX)	A110905P		Map Projections and Surveying	Practical (Compulsory)	4
	I (IX)	A110906R		Major Research Project	Research	4

Semester II (X)

Choose one elective paper from each group

	II (X)	A111001T	Group A	Oceanography	Theory (Elective)	4
	II (X)	A111002T		Social Geography	Theory (Elective)	4
	II (X)	A111003T	Group B	Geography of Rural Settlement	Theory (Elective)	4
	II (X)	A111004T		Regional Planning and Development	Theory (Elective)	4
	II (X)	A111005T	Group C	Geography of Resources	Theory (Elective)	4
	II (X)	A111006T		Regional Geography of India	Theory (Elective)	4
	II (X)	A111007P		Methods and Techniques of Geographical Information Systems(GIS)	Practical (Compulsory)	4
	II (X)	A111008R		Major Research Project	Research	4



**BA 1st Year, Sem. I ,
Course (Theory)**

Programme/Class: Certificate/ BA	Year: First	Semester: First
Subject: Geography		
Course Code: A110101T	Course Title: Physical Geography	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> • The Earth geomorphic transition from beginning to present day. • Plate tectonics and related movements • Landforms carved by various agents of erosion • Earth's climate and that factors that influence it • Oceans system and biogeography of the world. 		
Credits: 4		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectures
I	Meaning, definition, Nature and Scope of Physical Geography. Origin of Universe, solar system and Earth. Geological Time Scale. Interior of the earth.	10
II	Origin of continents and oceans. Continental Drift and Plate Tectonics Theory. Earthquakes and Volcanoes. Isostasy	8
III	Classification of rocks. Folding, Faulting, Weathering and Erosion. Cycle of Erosion by Davis and Penck.	8
IV	Atmosphere- Its composition and structure. Weather and climate: Temperature, Pressure winds and Cyclones. Precipitation : Flood and draught.	10
V	Climatic regions of the world –Tropical Temperate and Polar. Climate Change.	8
VI	Ocean Bottoms: composition of marine water- Temperature and Salinity. Circulation of Ocean water- Waves, Currents and Tides; Ocean deposits, Corals and atolls.	8
VII	Biosphere, Biotic succession, Biome, Zoo-geographical regions of the world. Environmental Pollution and Degradations, Environmental Hazards and Remedies.	8

Suggested Readings:

1. Singh, Savindra (2018): Physical Geography (Eng./Hindi) Allahabad, India: Prayag Pustak
2. Huggett, R.J. (2007): *Fundamentals of Geomorphology*. New York, U.S.A.: Routledge.
3. Khullar, D.R. (2012): *Physical Geography*, New Delhi, India. Kalyani Publishers.
4. Strahler, A. H. and Strahler, A N. (2001): *Modern Physical Geography* (4/E). New York, U.S.A. John Wiley and Sons, Inc.
5. Thornbury, W. D. (2004): *Principal of Geomorphology*, New York, U.S.A.: Wiley.
6. Bloom, A. L. (2003): *Geomorphology- A Systematic Analysis of Late Cenozoic Landforms*, New Delhi, India: Prentice-Hall of India.

This course can be opted as an elective by the students of following subjects: Open for all

Suggested Continuous Evaluation Methods:
Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Suggested equivalent online courses:
https://onlinecourses.swayam2.ac.in/cec21_hs03/preview
https://onlinecourses.swayam2.ac.in/nos20_sc25/preview

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BA 1st Year, Sem.I
Course II (Practical)

Program/Class: Certificate/BA	Year: First	Semester: First
Subject: Geography		
Course Code: A110102P	Course Title: Elements of Map and Surveying	
Course Learning Outcomes On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> ● Understand the basic idea of Map, Scale and Topographic sheets. 		
Credits: 2		Core Compulsory
Max. Marks: 100		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		
Unit	Syllabus	No. of Lectures
I	Cartography: Nature and Scope. Scales–Concept and application; Graphical Construction of Plain, Comparative & Diagonal Scale.	7
II	Map Projections: Classification, Properties and Uses; Graphical Construction of Polar Zenithal, Stereographic, Bonne’s and Mercator’s Projections, with reference to Universal Transverse Mercator (UTM) Projection.	7
III	Topographical Map: Coverage, Scale and Topo Symbol, Interpretation Survey of India Toposheets. Representation of landforms by Contours. Slope Analysis – Wentworth’s method.	8
IV	Basics of Surveying: Surveying: meaning, classification, merits and demerits. Plane Table Surveying(Radiation &Intersection Methods)	8
Suggested Readings:		
<ol style="list-style-type: none"> 1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London 2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition. 3. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata. 4. Sharma, J. P. (2001): Prayogik Bhugol., Rastogi Publication, Meerut 3rd. edition. 5. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,. 6. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad. 		
This course can be opted as an elective by the students of following subjects: Open for all		

Note: In Final Examination Student shall be examined by external and internal examiners. Marks Distribution: Written Exam, Viva, Practical File, Map Preparation, Topo sheet interpretation.

**BA 1st Year, Sem. II
Course I (Theory)**

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code:A110201T	Course Title: Human Geography	
<p>Course Learning Outcomes</p> <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> To understand the Concept, Nature, Meaning and Scope of Human Geography To understand the natural and Cultural Changes in and around the Human Environs and their interrelationship. 		
Credits: 4	Core Compulsory	
Max. Marks: -25+75	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectures
I	Concept, Nature, Meaning and Scope of Human Geography. Development of Geographical understanding in India with special reference to Puranas.	7
II	Man and Environment relationship - Determinism, Possibilism, and Neo-determinism.	7
III	Population: Distribution (world pattern); Global migration - Causes and consequences, concept of over population and under population.	7
IV	Human Settlements: Origin, types (Rural-Urban) characteristics, House types and their distribution with special reference to India.	7
V	Primitive Economics-Food gathering, Hunting, Pastoral herding, Fishing, Lumbering and Primitive agriculture.	8
VI	Cultural Regions, Cultural Diffusion, Race, Religion and Language.	8
VII	World Tribes: Eskimos, Kirghiz, Bushman, Masai, Semang,& Pygmies.	8

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Suggested Readings:

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. B N Singh (2019): Manav Bhugol ka Swaroop, Pravalika Publication, Allahabad.
3. De Blij, H.J.(1996): Human Geography: Culture, Society and Space, 2nd edition. John Wiley and Sons, New York.
4. Haggett, P. (2004): Geography: A Modern Synthesis, 8th edition, Harper and Row, New York.
5. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
6. B N Singh (2021): Manav evam Arthik Bhugol, Pravalika Publication, Allahabad.
7. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
8. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
9. Singh, K. N. and Singh, J. (2001): Manav Bhugol, Gyanodaya Prakashan, Gorakhpur. 2nd edition.
10. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad.
11. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd., London
12. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography, Prentice-Hall, Englewood Cliffs, New Jersey.
13. B N Singh (2020): Samajik aur Sanskritik Bhugol, Pravalika Publication, Allahabad.
14. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
15. Ali, S. Muzaffer (1966). Geography of the Puranas. New Delhi, People's Pub. House.

Suggested Continuous Evaluation Methods:

Assignment / Test / Quiz(MCQ) / Seminar/ Presentations

Course prerequisites: 12th Standard Pass/Open to all

Suggested equivalent online courses:

Courses on Swayam / MOOCs

https://onlinecourses.swayam2.ac.in/nou20_hs18/preview

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BA 1st Year, Sem. II
Course II (Practical)

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code:A110202P	Course Title: Thematic Mapping and Surveying	
Course Learning Outcomes On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> Understand the basic idea of Map, Scale and Topographic sheets. 		
Credits: 2	Core Compulsory	
Max. Marks: -100	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		
Unit	Syllabus	No. of Lectures
I	Maps : Classification and Types; Principles of Map Design. Diagrammatic Data Presentation – Line, Bar and Circle.	7
II	Thematic Mapping Techniques : Properties, Uses and Limitations; Areal Data -- Choropleth, Dot, Proportional Circles; Point Data – Isopleths.	7
III	Cartographic Overlays – Point, Line and Areal Data. Thematic Maps – Preparation and Interpretation.	8
IV	Instrumental Survey: Prismatic Compass	8
Suggested Readings: 1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London 2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition. 3. Sharma, J. P. (2001): Prayogik Bhugol., Rastogi Publication, Meerut 3rd. edition. 4. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi., 5. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad. 6. Sharma, JP. (2008): Prayogatmak Bhugol Ki Rooprekha, Rastogi Publications- Meerut.		
Note: In Final Examination Student shall be examined by external and internal examiners. Marks Distribution: Written Exam, Viva, Practical File, Map Preparation.		

BA 2nd Year, Sem. III
Course I (Theory)

Programme/Class: Diploma/BA	Year: Second	Semester: Third
Subject: Geography		
Course Code: A110301T	Course Title: Environment, Disaster Management and Climate Change	
Course outcomes: Students will be able to understand		
<ul style="list-style-type: none"> • The course aims to give basic understanding of concept of Environment, Climate Change and Disaster Management. • Understanding of the concept of appraisal and conservation of Environment and Natural Resources. • It will help to develop understanding the impacts of climate change. • This course shall introduce the basic concepts related to disaster management. 		
Credits: 4		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lecture
I	Concepts & components of Environment; Ecology and ecosystem. Indian traditional Knowledge in Environment and disaster Management.	8
II	Bio-diversity and its conservation, sustainable development.	8
III	Deforestation, soil erosion, soil exhaustion, Desertification, Air pollution, water pollution and Disposal of solid waste.	8
IV	Ganga Action Plan; Tiger project, Tehri dam & Narmada Valley project.	8
V	Science of Climate Change: Understanding Climate Change; Green House Gases and Global Warming.	8
VI	Global Climatic Assessment – IPCC, Impacts of Climate Change, National Action Plan on Climate Change.	7
VII	Disaster: Hazards, Risk, Vulnerability, Type of Disasters, Disaster Management, Disaster Management Cycle.	7
VIII	Flood, Drought, Cyclone, Earthquake, Tsunami, Landslide, Chemical and Nuclear Disasters. Do's and Don'ts During Disasters.	6

Suggested Readings:

1. Casper J.K. (2010): *Changing Ecosystems- Effects of Global Warming*, Infobase Pub, New York, USA:
- Hudson, T. (2011): *Living with Earth- An Introduction to Environmental Geology*, PHI Learning Private Limited, Delhi, India.
2. Miller, G.T. (2007): *Living in the Environment: Principal, Connections, and Solutions*, Brooks/ Cole Cengage Learning, Belmont, Australia:
3. Singh, R.B. (1993) *Environmental Geography*, Heritage Publishers, Delhi, India.
4. UNEP (2007): *Global Environment Outlook: GEO4: Environment For Development, United Nations Environment Programme*. University Press, Cambridge, UK.

5. Government of India, (2011): *Disaster Management in India*, Ministry of Home Affairs, Delhi, India.
6. Singh, Savendra (2019): *Pryavaran Bhugol*, Pravalika Publication, Allahabad.
7. Kapur, A. (2010): *Vulnerable India: A Geographical Study of Disasters*, Sage Publication, Delhi, India.
8. Singh, Savendra (2019) : *Apada Prabandhan*, Pravalika Publication, Allahabad.
9. Ramkumar, M. (2009): *Geological Hazards- Causes, Consequences and Methods of Containment*, New Delhi, India.
10. Climate Change: Understanding Climate Change; Green House Gases and Global Warming; Global Climatic Assessment- IPCC
11. Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability; Social Vulnerability.
12. Impact of Climate Change: Agriculture and Water; Flora and Fauna; Human Health
13. Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia.
14. The Climate Change Policy Framework: Global Initiatives UNFCCC and COPs; National and Local Action Plan on Climate Change.
15. Government of India. (2008): *Vulnerability Atlas of India*. New Delhi, India.
16. Modh, S. (2010): *Managing Natural Disaster:- Hydrological, Marine and Geological Disasters*, Macmillan. Delhi, India.
17. Bansal SC, (2020) *Jalvayu vigyan evam Samudra Vigyan*, Meenakshi Publication, Meerut.
18. Bansal SC, (2019) *Prayavarn ek adhyan*, Meenakshi Publication, Meerut.

This course can be opted as an elective by the students of following subjects: Open for all

Suggested Continuous Evaluation Methods:

Assignment / test / Quiz(MCQ) / Seminar/ Presentations




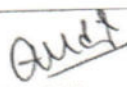

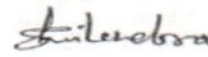
Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/aic19_ge05/preview

https://onlinecourses.swayam2.ac.in/nou21_bt03/preview

**BA 2nd Year, Sem. III
Course II (Practical)**

Programme/Class: Diploma/BA	Year: Second	Semester: Third
Subject: Geography		
Course Code: A110302P	Course Title: Statistical Techniques and Surveying	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> • To differentiate between qualitative and quantitative information. • To understand the nature of various data. • To understand sampling methods for data collection. • To present data through graphical and diagrammatic formats. • To use the concept of probability mainly the normal distribution. 		
Credits: 2	Core Compulsory	
Max. Marks: 100	Min. Passing Marks: 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P- 2/w		
Unit	Syllabus	No. of Lectures
I	Use of Data in Geography: Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio)	8
II	Tabulation and Descriptive Statistics: Frequency Distribution Table, Cross Tabulation, Graphical Presentation of Data (Bar diagram, Histograms, Frequency Curve and Cumulative Frequency Curves), Measurement of Central Tendencies (Mean, Median and Mode), Measurement of Partitions (Deciles, Quartiles and Percentiles), Dispersion (Standard Deviation, Variance and Coefficient of Variation).	8
III	Sampling: Probability sampling Non-probability sampling. Correlation: Rank Correlation and Product Moment Correlation.	7
IV	Instrumental Survey: Sextant	7

Suggested Readings:

1. Berry B. J. L. and Marble D. F. (eds.): Spatial Analysis – A Reader in Geography.
2. Ebdon D., 1977: Statistics in Geography, A Practical Approach.
Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
4. Sharma, JP (2001): Prayogik Bhugol, Rastogi Publication, Meerut.
5. Hammond P. and McCullagh P. S., 1978: Quantitative Techniques in Geography: An Introduction, Oxford University Press.
6. Sharma, PM, (2009): Bhugol Me sankhikiya Vidhyan, Rajasthan Granth Accademy, Jaipur.
7. Bansal SC,(2020) :Shodh vidhitantra va sankhikiya Vishyan, RK Books Publication, New Delhi.
8. King L. S., 1969: Statistical Analysis in Geography, Prentice-Hall.
9. Mahmood A., 1977: Statistical Methods in Geographical Studies, Concept.
10. Pal S. K., 1998: Statistics for Geoscientists, Tata McGraw Hill, New Delhi.
11. Sarkar, A. (2013) Quantitative geography: techniques and presentations. Orient Black Swan Private Ltd., New Delhi.

Note: In Final Examination Student shall be examined by external and internal examiners. Marks Distribution: Written Exam, Viva, Practical File, Instrumental Surveys.

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**BA 2nd Year, Sem.
IV Course I (Theory)**

Program/Class: Diploma /BA	Year: Second	Semester: Fourth
Subject: Geography		
Course Code: A110401T	Course Title: Economic Geography	
Course Learning Outcomes On completion of this course, learners will be able to: <ul style="list-style-type: none"> ● Define Meaning, concepts and approaches of Economic Geography. ● Understand the nature of Economic activities, Resource Distribution. ● Understand the Effect of globalization on developing countries. 		
Credits: 4		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectures
I	Meaning, concepts and approaches of Economic Geography; agricultural region of the world (Derwent Whittlesey).	8
II	Resource: meaning, concept and classification. Spatial organization of economic activities.	8
III	Economic organization of space, Forestry, fishing and mining activities.	7
IV	Agricultural typologies, agricultural land use model (J.H. Von Thunen)	7
V	Industries; Factors of location of industries; iron and steel industry, cotton textiles and sugar; Theory of industrial location (Alfred Weber).	8
VI	World transportation: Sea routes and major trans-continental railways.	8
VII	WTO and International trade: Patterns and trends.	7
VIII	Globalization:Effect of globalization on developing countries.	7
Suggested Readings: <ol style="list-style-type: none"> 1. B N Singh (2021) Manav evam Arthik Bhugol, Pravalika Publication, Allahabad. 2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, New York. 3. Clark,G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA. 		

4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): Aarthik Bhugol Ke Mool Tattava, Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chattoraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff, New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.
10. Knowles, R, Wareing, J. (2000): Economic and Social Geography Made Simple, Rupa and Company, New Delhi.
11. Sokal, Martin 2011. Economic Geographics of Globalisation: A short Introduction. Cheltenham, UK : Edward Elgar.
12. Alexander, J. W. (1988): Economic Geography. Prentice-Hall, New Delhi,

Suggested Continuous Evaluation Methods: Assignment / test
/ Quiz (MCQ) / Seminar/Presentations

Suggested equivalent online courses:
Courses on Swayam / MOOCs
https://onlinecourses.nptel.ac.in/noc21_hs50/preview

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BA 2nd Year, Sem. IV
Course II (Practical)

Program/Class: Diploma /BA	Year: Second	Semester: Fourth
Subject: Geography		
Course Code:A110402P	Course Title: Weather Maps, Geological Maps and Surveying	
<p>Course Learning Outcomes</p> <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> ● Identify the various Survey Operations and Survey Instruments ● To understand the idea of Basic and applied Instrumental surveying 		
Credits: 2	Core Compulsory	
Max. Marks: 100	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		
Unit	Syllabus	No. of Lectures
I	Weather Maps, Study and Interpretation of Weather Map, Weather Forecasting.	7
II	Geological Maps: Types, Signs, Bed and Bedding plane, Rock Outcrop, Dip, Strike etc. Construction of Geological Sections.	7
III	Instrumental Survey: Indian Clinometer.	8
IV	Instrumental Survey: Theodolite	8
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. Sharma, JP (2001): Prayogik Bhugol, Rastogi Publication, Meerut 2. Kanetker, T.P. and Kulkarni, S.V.(1967): Surveying and Levelling, Vol I and II V.G. Prakashan, Poona. 3. Natrajan, V. (1976): Advanced Surveying, B.I. Publications, Mumbai. 4. Pugh, J.C. (1975): Surveying for Field Scientists, Methuen and Company Ltd., London, First Publication. 5. Shephard, F.A. (1968): Surveying Problems and Solutions, Edward Arnold (Publishers) Ltd, London. 6. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions), Kalyani Publishers, Ludhiana and New Delhi. 7. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press, Hyderabad. 8. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York. <p>Note: In Final Examination Student shall be examined by external and internal examiners. Marks Distribution: Written Exam, Viva, Practical File, Instrumental Surveys.</p>		

**BA 2nd Year, Sem. IV
Course III (Project)**

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code:A110403R	Course Title: Research Project	
Course outcomes: Students will be able to understand <ul style="list-style-type: none"> • In-depth knowledge of research methodology. • Learn to prepare Project Report. 		
Credits: 3	Core Compulsory	
Max. Marks: 100	Min. Passing Marks: 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P- 2/w		
Unit	Topics	No. of Lectures
I	<p>Meaning, types and significance of Research, Literature review and formulation of research design, research problem, objectives, hypothesis, Research materials and methods. Collection of data. Preparation of tables and maps, Result and discussion, Conclusions & Suggestions. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract and keywords.</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Each faculty member shall teach these topics of research to his/her Group of students independently. 2. Student shall choose supervisor according to his/her research interest and specialisation of Faculty member. 	30
Suggested Readings:		
This course can be opted as an elective by the students of following subjects: Open for all		
Suggested Continuous Evaluation Methods: Seminar, Presentations, VIVA		
Suggested equivalent online courses		

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BA 3rd Year, Sem. V
Course I (Theory)

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code: A110501T	Course Title: Regional Geography	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> • To understand the concept of Region and Regional Planning. • To familiarize the students with Theories and Models for Regional Planning. • To develop understanding about concept of Development, Sustainable Development and Multi level planning. 		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectures
I	Concept and types of Region: Formal and functional regions.	8
II	Planning Regions: Need and types of regional Planning.	8
III	Regional Planning: Concept and scope; Delineation of Region and Regional Planning.	8
IV	Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow and Friedmann.	8
V	Sustainable Development: Concept of Development and Underdevelopment.	8
VI	Environmental issues in regional planning. Planning for Sustainable Development.	7
VII	Indicators (Economic, Social and Environmental).	7
VIII	Need for regional planning in India, Five Year Plans and Regional Planning, multi- level planning in India.	6
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. Agyeman, Julian, Robert, D. Bullard and Bob, Evans. (Eds.) (2003): <i>Just Sustainabilities: Development in an Unequal World</i>. London: Earthscan. (Introduction and conclusion.). 2. Anand, Subhash.,(2011). <i>Ecodevelopment : Glocal Perspectives</i>. New Delhi, India: Research India Press. 		

3. Misra, R. P., Sundaram, K.V., and Rao, V.L.S. (1974): *Regional Development planning in India*. Delhi, India: Vikas Publishing House.
4. Singh, M B, () Pradeshik Vikas Niyogan, Tara Book Agency, Varanasi.
5. Peet, R. (1999). *Theories of Development*. New York, USA: The Guilford Press.
6. Berry, B.J.L. and Horton, F.F. (1970): *Geographic Perspectives on Urban Systems*. Prentice Hall, New Jersey.
7. Bhat L.S. (1972): *Regional Planning In India*, Statistical Publishing Society.
8. Blij H. J. De, 1971: *Geography: Regions and Concepts*, John Wiley and Sons.
9. Kulshetra ,S.K,(2012) : *Urban and Regional Planning in India : A hand book for Professional Practioners* , Sage Publication , New Delhi.
10. Kundu, A. (1992): *Urban Development Urban Research in India*, Khanna Publ. New Delhi.
11. Misra , R.P, Sundaram K.V, PrakashRao , VLS(1974): *Regional Development Planning in India* , Vikas Publication , New Delhi.
12. Misra, R.P (1992): *Regional Planning: Concepts , techniques , Policies and Case Studies* , Concept , New Delhi
13. Friedmann, J. and Alonso W. (1975). *Regional Policy - Readings in Theory and Applications*. Massachusetts, USA: MIT Press.

This course can be opted as an elective by the students of following subjects: Open for all

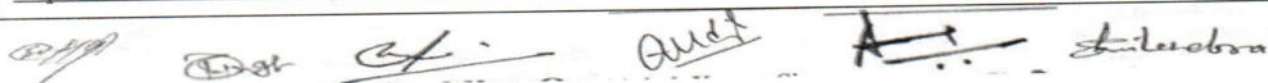
Suggested Continuous Evaluation Methods:
Assignment / test / Quiz(MCQ) / Seminar/ Presentations

Suggested equivalent online courses:
https://onlinecourses.swayam2.ac.in/aic19_ge05/preview

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BA 3rd Year, Sem. V
Course II (Theory)

Program/Class: Degree /BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code:A110502T	Course Title: Basics of Remote Sensing and GIS	
Course Learning Outcomes On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> Understand the Basic idea and application of Remote sensing Techniques and Geographical Information System 		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectursses
I	Remote Sensing: Definition, Type, Scope and Historical Development. Types of Satellites.	7
II	Electro-magnetic radiation: Characteristics, spectral regions and bands. Stages or Process of Remote Sensing.	7
III	Remote sensing satellites: Platform and sensors. Resolution: Spatial, Spectral, Temporal, Radiometric Resolution.	8
IV	Remote Sensing data processing and applications: Visual and digital image processing techniques.	8
V	Remote Sensing applications in Urban Planning, Agriculture, Forestry, Land use/Land cover Mapping, Oceanic Studies and Disaster Management.	6
VI	Introduction to GIS: Definition, concept and history of GIS.	8
VII	Computer fundamentals for GIS, GIS Packages like ARC GIS, ERDAS, QGI etc.	8
VIII	Coordinate system, Datum, Raster and vector data.	8
Suggested Readings: <ol style="list-style-type: none"> Choniyal, D D, (2016): Sudur Samvaden evam Bhogolic Suchna Pranali ke sighthant, Sharda Pustak Bhavan, Allahabad. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation, 4th edition, John Wiley and Sons, New York. Campbell, J.B. (2002): Introduction to Remote Sensing. 5th edition, Taylor and Francis, London Bhatta, B. (2010): Remote Sensing and GIS, Oxford University Press, New Delhi. Nag Prithvish and Kudrat M. (1998): Digital Remote Sensing, Concept Publishing Company, New Delhi Curran, P.J. (1985): Principles of Remote Sensing, Longman, London. <p>Suggested Continuous Evaluation Methods: Assignment / test / Quiz(MCQ) / Seminar/Presenatations</p> <p>Suggested equivalent online courses:Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/aic20_ge05/preview</p>		



**BA 3rd Year, Sem. V,
Course III (Practical)**

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code: A110503P	Course Title: Tour and Tour Report OR Field Work and Report	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> • The variation among geographical locations. • Interaction with people with different natural and cultural settings. • Study physical and human geography of area being visited. • Learn to prepare tour report. 		
Credits: 2	Core Compulsory	
Max. Marks: 100	Min. Passing Marks: 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P- 2/w		
Unit	Tour and Tour report	No. of Lectur
I	Objective, Scope and methods of field study. Preparation of questionnaire; Sampling techniques for collection of data, Collection, processing and presentation of data.	10
I	How to prepare Field Book, steps and methods for preparing Tour report, Methodology for Research in Field Trip, Various aspects of study in Field Trip, Preparation of Surveying in Field Trip. (30 lectures shall be taken before and during field trip)	10
III	<p>Tour: Students are required to undertake a field study tour of distant area or region to study certain aspect of social cultural landscape and on-spot observations under the supervision of teachers who will accompany the students.</p> <p>A comprehensive tour report on the area/region shall be submitted by the students with in two weeks on their return from the tour. The report shall be sent to examiner for evaluation, and subsequently the students have to appear for viva-voce examination.</p>	10
Or Fieldwork and Report		

Each student will prepare a report based on primary data collected from field survey and secondary data collected from different sources.

Students will select either one rural area (mouza) or an urban area (municipal ward) for the study, with the primary objective of evaluating the relation between physical and cultural landscape.

The fieldwork should be completed within the span of semesters 4.

The report should be handwritten in English/ Hindi on A4 size paper in candidate's own words within 125 pages including tables, photographs, maps, diagrams, references and appendices in line with the given dimensions:

1.Introductory Chapter

3.Physical Aspects:

3.Socio-economic Aspects:

4.Concluding Chapter:

Maps and diagrams should not exceed 25 pages.

All sections of the report should contain relevant maps, diagrams and photographs using primary and secondary data, clearly citing sources.

A copy of the bound report, duly signed by the concerned teacher, and the head of the department will be submitted during viva-voce examination.

Suggested Readings:

1. Archer, J.E. & Dalton T.H. Fieldwork in Geography, London, 1968.
2. Jones P.A., Fieldwork in Geography, London, 1968.
3. Glodard R.H., Field Techniques and Research Methods in Geography, Dubuque 1982.
4. Wheelso, K.S. and Harding M., Geographical Fieldwork London, 1965.

Suggested Continuous Evaluation Methods:

The following shall be the guidelines and structure of Educational tour;

Geographical Excursion Committee

1. All faculty members shall organize geographical excursion as 'tour in-charge' in rotation according to departmental seniority list.
2. There shall be Geographical Excursion Committee headed by HOD in University and Principal in colleges. Tour in-charge shall act as convener of committee and shall convene a meeting at the beginning of session or semester. All other teachers of department shall be member of committee. Four/Five meritorious students based on last available examination result shall be invited by the tour in-charge to participate in meeting as members of committee.
3. Committee shall:
 - a) Review the tour plan.
 - b) Confirm that all arrangements shall be made in advance before tour departure.
 - c) Listen to the opinion of students and give recommendations to tour in-charge accordingly.
 - d) Review academic nature of tour and evaluate day wise tour plan and academic activity as submitted by Tour in-charge.

Structure of the tour party

1. For 20 or less than 20 students one faculty member with one non teaching staff shall accompany the Tour party. For 21 to 50 students two faculty members with one non teaching staff shall accompany the Tour party. If two faculty members are required for tour, second faculty member shall be selected on the recommendation of tour in-charge. If students are more than 50 then a separate tour batch shall be constituted in same manner.
2. If female students are also participating in tour and tour in-charge, accompany other faculty member or Non teaching staff none are female then one female attended (Female faculty member from Geography or any other departments/female non teaching staff) shall accompany with tour party.

Responsibility of tour in-charge

1. Tour shall at least of 6 days stay at location with inter region variation.
2. Tour in-charge shall submit tentative day wise activity report in advance to HOD in University and Principal in colleges.
3. Tour in-charge shall coordinate with Institutes/Colleges/ Universities/Research institutes etc in location where tour is being planned for following activities like;
 - a) Interaction of students.
 - b) Lectures on various local physical and cultural attributes of the area by the experts.
 - c) Local visit with faculty members having academic understanding of the area.
4. Lectures by tour in-charge on physical and human characteristics of area being visited for educational tour.
5. Survey with students with at least one instrument like Dumpy Level, Sextant, Theodolite, GPS etc.
6. Questionnaire survey on various socio-cultural or any other aspects. Questionnaire must be prepared in advance and shall be shared during Geographical Excursion Committee meeting.
7. Tour in-charge shall collect undertaking from all students which shall be counter signed by their guardian.
8. Tour in-charge will prepare list of students accompanying the tour with their information like mobile number, address, guardian contact information and one recent color photo. One copy will also be submitted to the head in universities and Principal in colleges.
9. Teacher shall always try to minimize tour expenditure of students by;
 - a) Using concession train reservation and avoiding buses if possible.
 - b) Making stay arrangements of students in advance in youth hostels/lodges/guest

house etc.

- c) Try to visit few important locations only with objective of spot study and avoiding unnecessary travel for sightseeing.

10. After the completion of tour there shall be presentation by students regarding learning outcomes and experiences under the supervision of tour in-charge. Presentation shall be attended by Geographical Excursion Committee members along with other faculty members, staff, students etc.
11. All students shall submit tour report under supervision of Tour in-charge for evaluation. Tour report shall portray all activities conducted and places visited for the purposes of study.
12. In case of any incident/injury where one or more than one student can't join tour party in return journey. One teaching/non teaching staff member shall stay with student until student's guardian arrives or alternative arrangement is not made by the college. In case tour in-charge stays the other teacher/staff member shall act as tour in-charge for remaining tour period according to seniority.

Exemption of Students from Tour

1. Tour can be exempted in very special circumstances on recommendation of tour in-charge and head (in University) or Principal (in Colleges). Exempted students will prepare local tour report based on his/her own local tour visits. Report shall be prepared under supervision of tour in-charge.

TA, DA and other expenses

1. The TA, DA and other expenses of teachers and attendants shall be met out by college as admissible to their cadre as per government rules.

Suggested equivalent online courses

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**BA 3rd Year, Sem. VI,
Course I (Theory)**

Program/Class: Degree /BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code:A110601T	Course Title: Geography of India	
Course Learning Outcomes On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> • Understand the importance of “Ek Bharat Shrestha Bharat” • Understand the wider aspects of Geography of India 		
Credits: 4		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectures
I	Space relationship of India with neighboring countries; Drainage system; Physiographic regions; Ek Bharat Shrestha Bharat: A Geographical Prospective.	8
II	Mechanism of Indian monsoons and rainfall patterns: Koppen’s classification of climate. Natural vegetation; Soil types and their distributions.	8
III	Resources: Land, surface and groundwater, energy, minerals, biotic and marine resources.	7
IV	Industry: Locational factors of industries; Industrial regionalization; New industrial policies; Special Economic Zones.	7
V	Cultural Setting: Racial, linguistic and ethnic diversities; religious minorities. Tribal areas, and their problems.	8
VI	Population: Growth, distribution, and density of population; Demographic attributes: sex-ratio, age structure, literacy rate. Population problems and policies.	8
VII	Agriculture: Infrastructure: Irrigation, seeds, fertilizers, power. Cropping pattern & land capability. Green revolution and its socio-economic and ecological implications.	6
VIII	Settlements: Types, patterns, and morphology of rural settlements; Urban developments; Urban sprawl; Slums and associated problems; Problems of urbanization and remedies.	8

Suggested Readings:

1. Chauhan, P.R. and Prasad, M. (2003): Bharat Ka Vrihad Bhugol, Vasundhara Prakashan, Gorakhpur.
2. Farmer, B.H. (1983): An Introduction to South Asia. Methuen, London.
3. Gautam, A. (2006): Advanced Geography of India, Sharda Pustak Bhawan, Allahabad.
4. Johnson, B.L.C. (1963): Development in South Asia. Penguin Books, Harmondsworth
5. Krishnan, M.S. (1982): Geology of India and Burma, CAS Publishers and Distributors, Delhi.
6. Bansal SC,(2018) Bharat Ka Bhugol, Meenakshi Publication, New Delhi, Meerut.
7. Nag, P. and Gupta, S. S. (1992): Geography of India, Concept Publishing Company, New Delhi.
8. Rao, B.P. (2007): Bharat kee Bhaugolik Sameeksha, Vasundhara Prakashan, Gorakhpur.
9. Sharma, T.C. and Coutinho, O. (2003): Economic and Commercial Geography of India, Vikas Publishing House Private Ltd. New Delhi.
10. Singh , J. (2003): India: A Comprehensive Systematic Geography. Gyanodaya Prakashan, Gorakhpur
11. Singh, J. (2001): Bharat: Bhougolik Aadhar Avam Ayam, Gyanodaya Prakashan, Gorakhpur.(Hindi)
12. Singh, R.L. (ed.) (1971): India: A Regional Geography. National Geographical Society of India, Varanasi.
13. Spate, O.H. K., Learmonth A. T. A. and Farmer, B. H. (1996): India, Pakistan and Sri Lanka. Methuen, London, 7th edition.
14. Sukhwai, B.L. (1987): India: Economic Resource Base and Contemporary Political Patterns. Sterling Publication, New Delhi
15. Tiwari, R.C. (2007): Geography of India, Prayag Pustak Bhawan, Allahabad.
16. Wadia, D. N. (1959): Geology of India. Mac-Millan and Company, London and student edition, Madras.
17. Khullar, D.R. (2007): India: A Comprehensive Geography, Kalyani Publishers, New Delhi.

Suggested Continuous Evaluation Methods:

Assignment / test / Quiz(MCQ) / Seminar/ Presentations

Suggested equivalent online courses: Courses on Swayam / MOOCs

https://onlinecourses.swayam2.ac.in/nou20_ag10/preview

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**BA 3rd Year, Sem. VI,
Course II (Theory)**

Program/Class: Degree /BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code:A110602T	Course Title: Evolution of Geographical Thought	
Course Learning Outcomes On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> • Understand the contribution of Indian and other renowned Geographers • Understand the concept of evolution of Geographical Thought. 		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Syllabus	No. of Lectures
I	Contribution of Indian Geographers in Ancient India.	7
II	Concepts of distributions; relationships, interactions, areal differentiation and spatial organization in Geography	7
III	Dualisms in geography; systematic & Regional geography, physical & human geography.	8
IV	Contribution of Greek & Roman geographers in ancient world.	7
V	Contribution of Arab geographers in Middle ages, Renaissance period in Europe.	8
VI	German school of thought:Humboldt, Ritter, Ratzel, Hettner French school of thought - Contribution of Blache & Brunhes.	8
VII	Soviet geographers, American school - Contribution of Sample, Hunthington & Carl Sauer. British school - Contribution of Mackinder.	7
VIII	Paradigms in Geography, Thomas Kuhn theory about the growth and development of science.	8
Suggested Readings:		
1. Ali, S.M. (1960): Arab Geography, Institute of Islamic Studies, Aligarh Muslim University, Aligarh, First Edition.		
2. Daniel, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): Human Geography. Issues for the 21st Century. Prentice Hall, London.		
3. Diddee, J. (ed.) (1990): Indian Geography, Institute of Indian Geographers, Pune,		

first edition.

4. Dikshit, R. D. (2003): Geographical Thought. A Critical History of Ideas. Prentice-Hall of India, New Delhi. (in English and Hindi).
5. Dube, B. (1967): Geographical Concepts in Ancient India, National Geographical Society of India, Varanasi
6. Getice, A., Getis, J. and Fellman, J. D. (2007): Introduction to Geography. 10th edition. McGraw Hill, New York.
7. Hartshorne, R. (1959): Perspective on the Nature of Geography, John Murray, London
8. Harvey, D. (1969): Explanations in Geography. Arnold, London.
9. Holt-Jensen, A. (1980): Geography: Its History and Concepts. Harper and Row Publishers, London.
10. Husain, Majid. (2002): Evolution of Geographical Thought, Rawat Publications, Jaipur.
11. Johnston, R., Gregory, D., Pratt, G., Watts, M. and Whatmore, S. (2003): The Dictionary of Human Geography. Blackwell Publishers, Oxford. 5th edition.
12. Johnston, R. and Sidaway, J.D. (2004): Geography and Geographers: Anglo-American Human Geography Since 1945, Arnold Publishers, London.
13. Rawling, E. and Daugherty, R. (eds.) (2005): Geography into the Twenty-first Century. 2nd edition. John Wiley and Sons, Chichester.
14. Taylor, G. (ed.) (1953): Geography in the Twentieth Century. Methuen and Company, London.

Suggested Continuous Evaluation Methods: Assignment /
test / Quiz (MCQ) / Seminar/ Presentation

Suggested equivalent online courses:
Courses on Swayam / MOOCs

https://onlinecourses.swayam2.ac.in/cec21_lg06/preview

Dr. G. S. Gupta *Dr. G. S. Gupta* *Dr. G. S. Gupta* *Dr. G. S. Gupta* *Dr. G. S. Gupta*

**BA 3rd Year, Sem. VI,
Course III (Practical)**

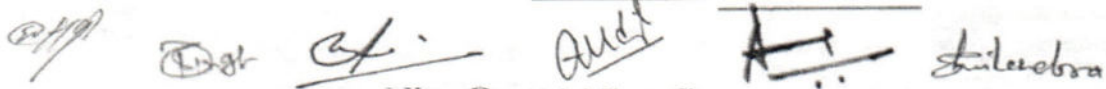
Program/Class: Degree/BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110603P	Course Title: Remote Sensing and GIS	
<p>Course Learning Outcomes</p> <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> ● Understand and Conceptualize Remote Sensing and GIS Technique ● Understand the use of various image processing Software ● Basic idea of Geographical Information System 		
Credits: 2	Core Compulsory	
Max. Marks: 100	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		
Unit	Syllabus	No. of Lectures
I	Overview of image processing & GIS Packages (Including open source Software's). – ARC GIS, ERDAS, MAP INFO, ILWIS, GEOMEDIA, IDRISI, GRASS, SAGA, QGIS.	5
II	Creation of Shape File in GIS Software's. Coordinate system and projections in GIS Software's. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure.	5
III	Geo-Referencing of Maps. Creation of Point, Line and Polygon Files and features. Preparation of Maps with Legend, Scale, North Arrow etc and Export of Map in various Formats.	10
IV	Downloading of Remote sensing Images from various online platforms (like Bhuvan, USGS, ASF, Copernicus etc). Land use Classification (Supervised and Un-supervised) using downloaded images and GIS Packages.	10
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London 2. Chaunial, D. D. (2004): Remote Sensing and Geographical Information System(in Hindi), Sharda Pustak Bhawan, Allahabad 3. Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis, London. 4. Curran, P.J. (1985): Principles of Remote Sensing. Longman, London. 5. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore. 6. Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York. 		

7. Gautam, N.C. and Raghavswamy, V. (2004). Land Use/ Land Cover and Management Practices in India. B.S. Publication., Hyderabad.
8. Jensen, J.R. (2004): Remote Sensing of the Environment: An Earth Resource Perspective. Prentice Hall, Englewood Cliffs, New Jersey. Indian reprint available.
9. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. John Wiley and Sons, New York.
10. Nag, P. (ed.) (1992): Thematic Cartography and Remote Sensing. Concept Publishing Company, New Delhi.
11. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, New Delhi.
12. Campell, J. B. (2003): Introduction to Remote Sensing. 4th edition. Taylor and Francis, London.

Note: In Final Examination Student shall be examined by external and internal examiners.

Marks


Distribution: Written Exam, Viva, Practical File, Map Preparation using open source GIS, Image processing Software Use.

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4th Academic years UG Hons. / Hons. with Research programme

Programme Course	4 th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VII
Subject-Geography		
Course Code	A110701T	
Course Title	Paper-1 – Geomorphology	
Type of Course	Theory	
Credit	4	
Course Assessment	Internal -25 External -75	
Course objectives and outcome	The course has been designed to include a clearer explanation of the nature of geomorphology, of structural landforms, of land-surface process and form, and of land-surface transformation. It also lays emphasis on the application of geomorphic knowledge at various levels. The students will be exposed to evaluate the interactive spaces of physical, human and environmental components of earth. The course provides a stimulating and innovative perspective on the key topics and issues within the field of geomorphology.	

Unit	Syllabus	No. of lectures (In Hours)
I	Meaning and fundamental concepts of geomorphology. Scope of geomorphology. Basic ideas of Hutton, Davis, Penck, Strahler and King. Genesis of geomorphologic studies in India.	14
II	Concept of Isostasy; and views of Airy and Pratt. Theories of continental drift and plate tectonics	10
III	Geological processes and structures. Landforms related to tectonic plates; and small-scale tectonic and structural landforms.	10
IV	The geological timescale. Landscape development in humid; arid; and karst regions. Formation of quaternary and ancient landscapes.	12
V	Geomorphometry; and applied geomorphology. Stream order and its significance. Drainage density. Geomorphic study of Chhotanagpur plateau; and the Sundarban delta.	14



Suggested Readings:

1. *Applied Geomorphology: Theory and Practice*, RJ Allison, John Wiley & Sons, New York, 2002.
2. *Coastal Geomorphology: An Introduction*, 2nd edition, Eric, Wiley, London, 2008.
3. *Earth's Changing Surface*, MJ Selby, Clarendon Press, London, 1991
4. *Encyclopedia of Geomorphology*, Edited by AS Goudie, First published by Routledge, London, 2004
5. *Fluvial Processes in Geomorphology*, Luna B Leopold, M Gordon Wolman and John P Miller, Courier Corporation, North Chelmsford, Massachusetts, United States, 2012 .
6. *Fundamentals of Geomorphology*, Richard Huggett, Routledge, London, 2013.
7. *Geomorphology*, RJ Chorley, SA Schumm and DE Sugden, Methuen, London, 1984.
8. *Geomorphology*, Ahmad, E, Kalyani Publishers, New Delhi, 1991.
9. *Geomorphology*, Haroon, M and Pathak, G (Hindi) Wisdom Publication, Varanasi, 2022.
10. *Introducing Geomorphology: A Guide to Landforms and Processes*, Adrian M Harvey, Dunedin Academic Press, Edinburgh, 2012.
11. *Introducing Physical geography*, 6th edition, Alan Strahler, Wiley, London, 2016
12. *Introduction to Coastal Processes and Geomorphology*, Gerhard Masselink and Michael G Hughes, Arnold, London, 2003.
13. *Key Concepts in Geomorphology*, David R Montgomery and Paul Bierman, Macmillan, Basingstoke, United Kingdom 2013.
14. *Landscapes and Geomorphology: A very Short Introduction*, Andrew Goudie and Heather Viles. Oxford University Press, Oxford, 2010.
15. *Modern Concepts in Geomorphology*, P McCullagh, Oxford University Press, Oxford, 1978.
16. *Phanerozoic Stratigraphy of India*, Amal Dasgupta, The World Press Pvt Ltd, Calcutta, 2010.
17. *Physical Geography (Geophysical Portion)*, Enayat Ahmad, Kalyani Publishers, New Delhi, 1982.
18. *Principles of Geomorphology*, WD Thornbury, John Wiley & Sons; International 2 Revised edition, New York, 1969.
19. *Supercontinent: 10 billion Years in The Life Of Our Planet*, Ted Nield, Granta Books, Wallingford, United Kingdom, 2012.
20. *Tectonic Geomorphology*, Douglas W Burbank and Robert S Anderson, 2nd ed, Wiley-Blackwell, London, 2011.
21. *The Encyclopaedia of Geomorphology*, RW Fairbridge, Dowden Hutchinson and Ross Inc, Philadelphia, 1968.
22. *The Physical Basis of Geography: An Outline Geomorphology*, SW Wooldridge and RS Morgan, Longman, London, 1959.
23. *Geomorphology*, Singh, S, (Hindi, English) Pravalika Prakashan, Prayag 2015.

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Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VII
Subject- Geography		
Course Code	A110702T	
Course Title	Paper 2 -Settlement Geography	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	The course aims to provide students with a comprehensive understanding of the distribution, characteristics, and evolution of human settlements. It explores the nature and patterns of rural and urban settlements, the processes influencing their development, and the spatial organization within settlements. The course also emphasizes sustainable urban development, contemporary challenges like urbanization, and the impact of globalization. Students will develop the ability to analyze settlement patterns using tools such as GIS and engage in practical fieldwork for a deeper understanding of settlement dynamics.	

Unit	Syllabus	No. of lectures (In Hours)
I	Introduction to Settlement Geography: Definition, scope, and evolution of settlement geography; Importance of studying human settlements; Rural and urban settlements: characteristics and differences; Factors influencing the location and growth of settlements (physical, economic, social, and political).	13
II	Rural Settlements: Types and patterns of rural settlements (dispersed, nucleated, linear); Factors influencing the development of rural settlements; Rural house types and settlement morphology; Rural settlement planning and development; Impact of agricultural practices and land use changes on rural settlements.	13
III	Urban Settlements: Definition and characteristics of urban settlements; Historical evolution and development of cities; Urbanization and its trends in developing and developed countries; Functional classification of towns and cities; Models of urban structure (e.g., concentric zone model, sector model, multiple nuclei model).	11
IV	Urban Systems and Planning: Urban systems: Central Place Theory, Rank-Size Rule, Primate cities; Urban sprawl and its implications; Urban planning and management: Sustainable cities, smart cities, and eco-cities; Role of policies and governance in urban development; Case studies on urban development projects in India (e.g., Smart City Mission).	11
V	Contemporary Issues in Settlement Geography: Impact of globalization on human settlements; Challenges of urbanization (e.g., slums, housing shortages, infrastructure development); Rural-urban migration and its consequences; Sustainable development of	12

settlements; Role of GIS in studying settlement patterns and urban planning; Fieldwork-based analysis of a local settlement.
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Suggested Reading

- | 1 | Urban Geography: A Global Perspective | Michael Pacione | Routledge, London | 2009 |
- | 2 | Settlement Geography | M.S. Mahajan | Rawat Publications, Jaipur | 2015 |
- | 3 | Urbanization in India: Patterns and Processes | A.K. Jain | Sage Publications, New Delhi | 2016 |
- | 4 | Geography of Settlements | R.Y. Singh | Rawat Publications, Jaipur | 2004 |
- | 5 | The City in History: Its Origins, Its Transformations, and Its Prospects | Lewis Mumford | Mariner Books, New York | 1961 |
- | 6 | Human Settlements: An Overview | S.K. Aggarwal | Oxford University Press, New Delhi | 2018 |
- | 7 | Rural Settlements and Land Use | Michael Chisholm | Routledge, London | 2017 |
- | 8 | Indian Urbanization and Economic Growth | R.P. Misra | Concept Publishing Company, New Delhi | 2009 |
- | 9 | Geography of Urban Settlements | D.R. Singh | Parvalika Prakashan, Paryagraj | 2014 |
- | 10 | Sustainable Urban Development | J. Evans, P. Jones | Earthscan, London | 2008 |

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Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VII
Subject- Geography		
Course Code	A110703T	
Course Title	Paper 3- Geography of Transport and Trade	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	The purpose of this course is to understand the evolution of transport network in the world and India. After completion of this syllabus, students will be able to describe in detail the basic concept of transport geography and relative significance of different modes of transportation.	

Unit	Syllabus	No. of lectures (In Hours)
I	Nature, Scope, significance and development of transport geography, evolution of transportation-preindustrial era, 19th and 20th centuries. Factors associated with the development of transport system physical, economic, social, cultural and institution. Evolution of transport network. Characteristics and relative significance of different modes of transport: Railway, Roads, Airways and waterways.	14
II	Models and Theories of Transport Systems: Connectivity of Network: Alpha, Beta and Gamma Indices, Cyclomatic number; Koning Number, Detour Index; Taafe, Morrill and Gould Model (1963); Gould Model of Spatial Exploration (1966); Vance's Mercantile Model (1970); Rimmer Model (1977); Measures and Indices of Accessibility and Connectivity: Shortest Path Matrix, Associated Number; Shimbil Index; Connectivity Matrix. Bases of spatial interaction: complementarily, intervening opportunity, transferability. Spatial interaction models: Gravity, Potential and Retail models.	11
III	Transport system in India: Railways, Roads, airways and waterways, patterns of movement, simple models of interaction, movement geometry. Transport policy and planning, transport development in developing countries, urban transportation-growth and problems. Transport and regional planning, transport and environmental degradation, vehicular pollution and congestion. Alternatives to transport system in Megacities of India. National Highway development and planning in India.	11
IV	Growing importance of ports on national and foreign trade; Trade balance; Trade Policy; Export processing zones; Development in communication and information technology and their impacts on economy and society; Indian space programme. Competitive and complementary character of means of transportation in India.	12
V	World Trade Organization, Globalization and Liberalization and World Trade Patterns. Problems and prospects of Inter and Intra	12

Suggested Reading

1. Chorley, R.J. and Haggett P; models in Geography, Methuen & Co London, 1967.
2. Hurst, M.E(ed) : Transportation Geography, McGraw Hill,1974.
3. Haggett P. and Chorley R.J; Networks Analysis, Edward Arnold, London,1968.
4. Hay A : Transport Economy,Macmillan,London,1973.
5. Hoyle,B.S.(ed):Transport and development, Macmillan, London 1973.
6. Raza M. and Agarwal Y.P; Transport Geography of India, concepts New Delhi,1985.
7. Robinson H. and Bamford G.G : Geography of Transport Macdonald & Evans,London,1978.
8. White, H.P. And senior, M.I. : Transport Geography, Longman,London,1953.

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Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VII
Subject-Geography		
Course Code	A110704T	
Course Title	Paper 4 - Industrial Geography	
Type of Course	Theory	
Credit	4	
Course Assessment	Internal -25 External -75	
Course objectives and outcome	The course aims to provide students with an in-depth understanding of the geographical aspects of industries. It covers the theoretical foundations of industrial geography, industrial location theories, and the factors influencing industrial development. The course also explores the impact of globalization, liberalization, and technological advancement on industries. Students will gain insights into the spatial organization of industries and their role in economic development, environmental sustainability, and regional planning.	

Unit	Syllabus	No. of lectures (In Hours)
I	Introduction to Industrial Geography: Definition, scope, and development of industrial geography; Importance of studying industries in geography; Industrial classification and its relevance; Factors influencing industrial location (physical, economic, social, and political); Overview of major industrial regions of the world.	14
II	Theories of Industrial Location: Classical theories of industrial location (Weber, Losch, and Christaller); Modern theories and approaches (Behavioral, Institutional, and Systems approach); Locational factors cotton, textile, iron and steel, sugar, agro-based industries; Industrial houses and complexes including public sector undertakings; Role of transportation, resources, and markets.	12
III	Industrial Regions and Spatial Organization: Major industrial regions of India and the world; Evolution and development of industrial regions; Patterns of industrial concentration and their significance; Industrial clusters and Special Economic Zones (SEZs); Impact of regional disparities on industrial development.	12
IV	Globalization and Industrial Development: Impact of globalization on industries; Liberalization and its effect on the industrial sector; Multinational corporations (MNCs) and their role in industrial development; Outsourcing and global supply chains; Technological advancements and their influence on industrial geography.	10
V	Environmental Impact and Sustainable Industrial Development: Environmental consequences of industrial activities; Industrial pollution and waste management; Concepts of sustainable industrial development; Environmental policies and regulations; Industrial ecology and green industries; Case studies on sustainable practices in industries.	14

Suggested Readings:

1. Industrial Geography: Contemporary Theory and Practice | James Wheeler, Peter Rigby | Routledge, London | 2002 |
2. Industrial Geography | S.C. Guha | Oxford University Press, New Delhi | 2018 |
3. Location of Economic Activity | Hoover E.M. | McGraw-Hill, New York | 1971 |
4. Geography of Manufacturing | E.O. Heady | Prentice Hall, New York | 1968 |
5. The Geography of Industry | A. Smith | Pearson, London | 2010 |
6. Industrial Development and Economic Geography | R.P. Misra | Concept Publishing Company, New Delhi | 2009 |
7. Global Shift: Mapping the Changing Contours of the World Economy | Peter Dicken | Sage Publications, London | 2015 |
8. Industrial Clusters and Regional Development | A. Saxenian | Harvard University Press, Massachusetts | 1996 |
9. Economic Geography: A Contemporary Introduction | Neil Coe, Philip Kelly, Henry W.C. Yeung | Wiley, London | 2019 |
10. Environmental Management and Industrial Development | V.K. Tiwari | Rawat Publications, Jaipur | 2020 |

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Programme Course	4 th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VII
Subject-Geography		
Course Code	A110705T	
Course Title	Advanced Economic Geography	
Types of Course	Theory (Core Compulsory)	
Credit	4	
Course Assessment	Internal – 25 External -75	
Course Objectives and outcome	To educate the students about nature and types of economic activities with relation to location, space, place and geographical resources. On completion of the course students will be able to develop the ideas of geographical aspects of economy, types of economic activities, and also conceptualize, demarcate and analyze the geographical determinants of manufacturing activities and energy resources. Students will also understand the impact of globalization and post globalization on developing countries.	

Unit	Syllabus	No. of lectures (In Hours)
I	Meaning, scope, and evolution of economic geography. Approaches to the study of Economic Geography. Recent Trends. Fundamental concepts. Relation of economic geography with economics and other branches of social sciences.	10
II	Concept of Resources, Resources classification. Principle of resource Adequacy and Principle of resource conservation and planning. Human resource, water resources, mineral and power resources.	10
III	Factors of location of economic activities, Spatial organization of economies, Primary, Secondary, Tertiary, Quaternary and Quinary activities. Physical, Socio-economic and cultural factors. Classification of Agricultural system - Whittlesey's classification, VonThunen's model of agriculture location and its modifications Theory of Optimum Physical conditions and limits	12
IV	Classification of industries –Resource based and footloose. industries-Iron and steel, textiles and engineering. Theories of industrial locations-Weber's, Hoover, Losch, Plander and Isarad. Market Competition Theory. Industrial Regions of the world. Problems and prospects of WTO and Globalisation.	14
V	Development of transport - Rail, Road and Water. Transport. Cost accessibility and connectivity comparative cost advantage. Transport system of the world. Economic regions of the world and their salient features. Economic Development. Theoretical aspect of economic development. Indicators of socio- economic development Rostow's model of stages of development. Inequality and patterns of development in India.	14

Suggested Readings:

1. Alexander, J.W. (1988): Economic Geography. Printice-Hall, New Delhi.
2. Coe, N. (2007): Economic Geography : A Contemporary Introduction, Blackwell Publishers, Inc, Massachusetts.
3. Chatterjee S.P.: Economic Geography of Asia, Allied Book, Agency, Calcutta, 1984
4. Chorley R.J and Hagget, P. (ed) Network Analysis in Geography, Arnold, 1969
5. Jones C.F and Darkenwald G.G.: Economic Geography, McMillan Co. N.Y., 1975.
6. Millar E: Geography of Manufacturing, Prentice Hall, N.Y 1962.
7. Raza M and Agrawal, Y: Transport Geography of India, Concepts, New Delhi, 1986.
8. Smith, D.M: Industrial Location An Economic Geographical Analysis, John Wiley N.Y. 1971.
9. Thomas R.S.: The Geography of Economic Activities, McGraw Hill N.Y., 1962

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Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VII
Subject - Geography		
Course Code	A110706P	
Course Title	Paper 5- Statistical Methods and Aerial Photography Interpretation	
Types of Course	Practical (Compulsory)	
Credit	4	
Course Assessment	External -100	
Course Objective and outcome	To enhance the potential of students in advance statistical techniques and its application in Geographical studies and research. Larger objective in to develop the cartographic skills of students to depict and respect the geographic information on the map. The course will create the ability of understanding and reading of maps and aerial photographs.	
Note: Log tables and calculators will be allowed in Examination. The examination related to this section shall be conducted by board of two examiners of which one examiner shall be external.		

Unit	Syllabus	No. of lectures (In Hours)
I	Significance of Statistics in Geography: Sources of Geographic information and data; types of data; and collection of data.	15
II	Statistical Methods in Geography: Central Tendency, Measures of Dispersion: Range; Quartile and Mean deviation; Standard Deviation, Frequency distribution curve and its Characteristics; Coefficient of Variance; Combinational Analysis using Rafiullah's Method.	15
III	Correlation: Pearson's Product Moment Correlation Coefficient; Kendall's and Spearman's Rank Correlation Coefficient. Regression: Simple linear regression and Multiple regression, regression line.	15
IV	Aerial Photographs: Concept, history, platform, types, scale, terminology and interpretation of aerial photograph.	15
	Practical Record, Viva and Assessment.	

Suggested Reading

1. Monkhouse, F.J and Wilkinson, F.J. (1985): Maps and Diagrams Methuen, London
2. Raize, E (1962): General Cartography, John Wiley and Sons, New York. 5th Edition.
3. Haroon, M (2021): Prayogatmak Bhugol, (Hindi), Wisdom Publication, Varanasi.
4. Sharma, J.P. (2001): Prayogik Bhugol , Rastogi Publication, Meerut 3rd edition.
5. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions), Kalyani Publishers, New Delhi.
6. Alvi, Zamir, (2002): Statistical Geography: Methods and Applications, Rawat Publication
7. Ashis, Sarkar: (2015): Practical Geography A Systematic Approach, Orient Blackswan Private Limited-New Delhi

Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VIII
Subject - - Geography		
Course Code	A110801T	
Course Title	Paper1 - Political Geography	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	The course will explain the historical evolution of discipline of Political Geography. It will help to understand about theoretical models related to geopolitics and geo strategy. It will provide the knowledge about political attributes that evolved with territorial structure and geographic influence like state, nation, boundary, elections, and frontier of world in general and India in particular. Students will be able to critically examine the geographical bases of political studies. They will be able to evaluate and correlate different theories with contemporary geopolitical and geo strategic issues.	

Unit	Syllabus	No. of lectures (In Hours)
I	Introduction; nature; and scope of political geography. Development of political geography. Methods and approaches to the study of political geography. Major schools of thought in political geography.	11

Suggested Reading


1. *An Introduction to Political Geography: Space, Place and Politics* by Martin Jones *et al* (2nd edition), Routledge, London, 2015.
2. *Political Geography* by MI Glassner and C Fahrer, Wiley, Hoboken NJ (Great Britain), 2004.
3. *Making Political Geography* by John Agnew and Luca Muscarà, (2nd edition), Rawman & Littlefield, New York, 2012.
4. *Politics, Geography, and 'Political Geography'* by Joe Painter, Arnold Press, London, 1995.
5. 6. *Political Geography: An Introduction to Space and Power* by J Painter and Alex Jaffrey, Sage, Los Angeles, 2009.
7. *Key Concepts in Political Geography* by C Gallaher *et al*, Sage, London, 2009.
8. *Political Geography: World-Economy, Nation-State and Locality* by PJ Taylor, 4th edition, Prentice Hall, 2002.
9. *Rogue States: The Rule of Force in World Affairs* by Noam Chomsky, India Research Press, in arrangement with South End Press, Cambridge, 2000.
10. *The Clash of Civilizations and the Remaking of World Order* by SP Huntington, Penguin Books, London, 1997.
11. *Geopolitics: The Geography of International Relations* by SB Cohen, (3rd edition), Rawman & Littlefield, London, 2015.
12. *The Geography of Frontiers and Boundaries* by JVR Prescott, Routledge, London, 2015.
13. *Geography of Elections* by PJ Taylor and RJ Johnston, Routledge, London, 2015.
14. *Geopolitics* by Patrick O'Sullivan, Routledge, London, 2015.
15. *An Introduction to Political Geography* by JR Short, 2nd edition, Routledge, London, 1993.


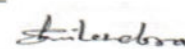
16. *Political Geography: Territory, State, and Society* by KRCox, Blackwell Publishers, Oxford, 2002.
18. *World Political Patterns* by LMAlexander, Ran McNally, Chicago, 1963.
19. *Systematic Political Geography* by De Blij, J Harm and MI Glassner, John Wiley, New York, 1968.
20. *Political Geography: A Contemporary Perspective* by RD Dikshit, Tata McGraw-Hill, New Delhi, 1996.
22. *Modern Political Geography of India* by BL Sukhwai, Sterling Publisher, New Delhi, 1968.
23. *Political Geography* by PJ Taylor, Longman, London, 1985.
24. *Essays in Political Geography* by CA Fisher, Methuen, London, 1968.
25. *Political Geography* by NJG, Pounds, McGraw-Hill, New York, 1972.
26. *An Introduction to Political Geography* by RS John, Routledge, London, 1982.
27. *Geography Behind Politics* by AE Moddie Hutchinson, London, 1957.
29. *India: A Regional Interpretation* by CD Deshpande, Northern Book Centre, New Delhi, 1992.
30. *Geographical Factors in Indian History* by KM Panikkar 2 Vols, Asia Publishing House, Bombay, 1959.

Programme Course	4 th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VIII
Subject -Geography		
Course Code	A110802T	
Course Title	PAPER 2- Population Geography	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objectives and outcome	It seeks to explain the patterns within the human population. The course content has been devised to enhance the perception of students on theoretical aspects of population geography, as well as acquaintances with everything from the natural influences on the changes to birth and death rates to the effects of migration patterns on population increases and decreases. At the end of this course, it is expected that students will be able to comprehend the significance of population geography and demography, which depends on governments and related entities acquainting themselves about the social composition of their societies to meet current demands and project future needs.	

Unit	Syllabus	No. of lectures (In Hours)
I	Population Geography: Meaning, definition, scope and approaches. Development of population geography. Relationship of population geography with demography,	15

	anthropology and ethnography. Sources and types of population data. Reliability of data.	
II	Characteristics of population: meaning of population; growth rate; density; fecundity, fertility and birth rates; mortality; sex ratio; race; and ethnicity. Population pyramid – age and sex structure.	12
III	World population size and growth. Attributes of population growth. Causes and consequences of population growth. Dispersion of population in the world. Demographic Transition Theory, Concept of optimum population	11
IV	Malthus theory of population. Laws of population. Theories of migration. Issues of humanitarian crisis: poverty; hunger; malnutrition; disease; and refugees.	10
V	Human Development Index (HDI). Challenges of an ageing population. Population problems with special reference to India. Population explosion in Indian context. Family welfare programme. The National Population Policy (NPP) 2000 of India.	12



Suggested Reading

1. Ali, A (2018): *Social Well-Being in West Bengal*, Ayushman Publication House, New Delhi.
2. BougueDJ :*Principles of Demography*, John Wiley, New York, 1969.
3. Chandna, RC: *Geography of Population: Concepts, Determinants and World Patterns* (Part-I), Kalyani Publishers, New Delhi, 2021.
4. Chandna, RC: *Geography of Population: India: Population Pattern* (Part-II), Kalyani Publishers, New Delhi, 2021.
5. Clarke, JI: *Population Geography*, Pergamon Press, Oxford, 1965.
6. Crook, N: *Principles of Population and Development*, Pergamon Press, New York, 1997.
7. Daugherty, HG and Kammeyer, KCW: *An Introduction to Population*, The Guilford Press, New York, 1996.
8. Demko, GJ, Rose, HM and Schnell, GA: *Population Geography: A Reader*, McGraw-Hill, New York 1970.
9. Beaujeu-Garnier, J: *Geography of Population*, Longman, London, 1978.
10. Hassan, IM: *Population Geography A Systematic Exposition*, Routledge, New Delhi, 2020.
11. Khan, L.H.: *Socio-Economic and Structural Analysis of Internal Migration*, New Delhi (2010)
12. Maurya, SD :*Population Geography*, (Hindi), Sharda Pustak Bhawan, Allahabad, 2020.
13. Premi, MK: *India's population: Heading Towards A Billion: An Analysis of 1991 Census Provisional Report*, BR Publishing Corporation, New Delhi, 1991.
14. Premi, MK: *Population of India in the New Millennium: Census 2001*, National Book Trust of India, New Delhi, 2006.
15. Qazi, SA and Qazi, NS: *Population Geography*, APH Publishing Corporation, New Delhi, 2006.

16. Spasovaski, M and Santic, D: "Development of population geography from Anthropogeography to spatial-analitical approach" *Stanovnistvo*, 51(2), pp 1-22, 2013.
17. Siddiqui, FA: *Regional Analysis of Population Structures: A Study of Uttar Pradesh*, Concept Publishing Company, New Delhi, 1984.
18. Trewartha, GT: *AGeography of Population: World Patterns*, John Wiley, New York, 1969.
19. Woods, R: *Population Analysis in Geography*, Longman, London 1979.
20. Zelinsky, W: *A Prologue to Population Geography*, Englewood Cliffs, NJ, 1966.

Dr. C. Anil Kumar

Programme Course	4 th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VIII
Subject-Geography		
Course Code	A110803T	
Course Title	Paper 3- Geography of Rural Development	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objective and outcomes	<p>The Focus of the course is to develop an idea about the approaches to understanding the rural development. The objective is to familiarize the students about general concepts, nature and issues of rural development geography. To account the students about nature of rural settlement infrastructure, morphology, infrastructure and challenges for rural development.</p> <p>Student will be able to efficiently formulate the issues and challenges of rural settlement and critically evaluate the suitability of different plans adopted for rural development in varying spatial context.</p>	

Unit	Syllabus	No. of lectures (In Hours)
I	Rural Development concept and geographical perspective, Theoretical framework of rural development. Rural markets and markets centers, growth points and growth centers. Theories of central places, rural urban relationship and their integration. Rural settlements and Rural land use and its problems.	10
II	Dimensions of rural economy: Physical and human resources their spatial patterns and interrelationship, socio-economic dimensions, infrastructural facilities socio-cultural organization, migration and their causes, agriculture and its characteristics.	10
III	Social issues of rural area, poverty housing and shelter deprivation and inequality, empowerment of women, healthcare, social tension and underdevelopment, environmental issues; access to environmental infrastructure water supply and sanitation, drainage occupational health education and rural	12

	development.	
IV	Balanced development strategies of India. Rural and sustainable development. Rural Governance, Panchayat Raj System, role and relationship of Panchayat Raj institution (Village Panchayat, Panchayat Samiti and Zila Parishad and administrative structure (village, block and district). Failure and success of various schemes sponsored by government for rural development government agencies and NGOS. Rural Development Experience in Uttar Pradesh.	15
V	Integrated rural development strategies Critical review of rural development strategies in India Integrated Rural Development Programmes (IRDP) community Development Programmes Mahatma Gandhi Rural Employment guarantee act, National rural health mission (NRHM)	13



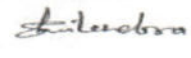
Suggested Reading

1. Kuklinski A.R (ed): Growth poles and Growth Centers in Regional Planning, Mouton, The Hague, 1972.
2. Kundu A. And Raza M; Indian Economy: The Regional dimension, spectrum publishers, New Delhi, 1982.
3. Richardson H.W. regional economics, Wiedenfeld and Nicholson, London 1969.
4. Clout, H.D. rural geography, Pergman, Oxford 1977.
5. Ram chandran, H: Village clusters and rural Development Concept Publication, New Delhi, 1985.
6. Rao E.N.: Strategy for integrated rural development, B.R. Publication Cor Delhi, 1986.
7. Srinivas M.N: Village India, Asia publication house Bombay, 1968.
8. Wanmali, S: Service centers in Rural India B.R. Rublication Cor. Delhi, 1983,
9. Singh, Kartar- Rural Development: Principles, Policies and Management.
10. Maheshwari R.S: - Rural Development in India
11. Cheslism, M: Rural settlement and Land use

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Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VIII
Subject- Geography		
Course Code	A110804T	
Course Title	Paper 4- Agricultural Geography	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	To acquaint with or theoretical approaches factors, theories, models and major challenges of agriculture with spatial dimensions. It provides the basic information of various types of the agricultural practices on the earth surface. At the end of the course students will be able to evaluate the agricultural dynamics include land use, agricultural system and major drawback in agriculture development.	

Unit	Syllabus	No. of lectures (In Hours)
I	Nature, scope, significance; development and approaches to the study of agricultural geography. Basic concepts historical perspective and recent trends. Origin and dispersal of agriculture. Land use patterns, policy, cropping pattern, crop concentration, and intensity of cropping, Commercialization, and specialization, efficiency and, carrying capacity of land.	13
II	Determination of crop combination regions, theories of agricultural location based on several mulidimensional factors: von Thunen's theory and its recent modification. Methods of dilineation of agricultural regions. whittlesey's classisication. of agricultural regions. Agricultural regions of the world.	12
III	Agricultural landuse and cropping pattern in india, regional pattern of productivity in india, green, white and blue revolution and their impacts. food deficit and food surplus regions of india. Concept of second green revolution.	11
IV	Measures of agricultural development initiated in the world and India specific poblems in indian agriculture and their management and planning, Agricultural policy of india. Contemporary issues, food, malnutrition, and hunger, food aid programmes. Role of irrigation, fertilizers, insecticides, pesticides and teahnological knowhow in enviromentaldegrdation, Employment in agricultural sector	13
V	Indian agriculture marketing. Role of formal, regulated marketing. Govt purchase Centre. Informal marketing. WTO and its impact on agriculture environment, food security and society.	11


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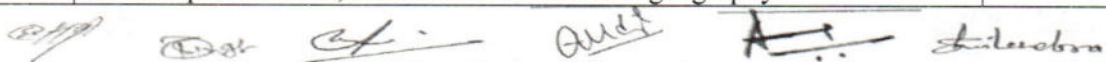
Suggested Reading

1. Baylist Smith T.P.: The Ecology of Agricultural System, Cambridge University Press, London, 1987.
2. Gregor, H.P.: Geography of Agriculture, Prentice Hall, N.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 Methen. London, 1971.
5. Morgan, W.B.: Agriculture in the Third World: A Spatial Analysis, Westview Press, Boulder, 1978.
6. Saure. C.O.: Agricultural Origins and Dispersals, M.I.T. Press, Westview 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.
9. Duckhan, A.N. and Masfield, G.B., Farming Systems of the World, London, 1970.
10. Griggs, D.G., an Introduction to Agricultural Geography, 1964.
11. Husain, Majid., Agricultural Geography, New Delhi.
12. John, R, Tarrant., Agricultural Geography.
13. Mohmmad, A, food production and food problem in India, new delhi.
14. Mohmmad, N., Perspectives in Agricultural Geography, New Delhi.
15. Shafi, M., Agicultural Geography of South Asia, macmillon, new delhi 2000.
16. Shafi, M., Agicultural Geography, Dorling Kinderstey, New Delhi, 2006.
17. Symons, L., Agricultural Geography, London, 1967.
18. Wrigley, G., Tropical Agriculture, 1979
19. Garg, H.S. KirshiBheegol (Hindi), SBPD, Publication Agra,(2021)
20. Mishra, Mukesh : Agricultural Geography, Saukats Publication, (2021)
21. Chopra, Grish: Agriculture Geog, Common Wealth Publication (2017)

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Programme Course	4th Academic Year for B.A. /B.Sc. (Hons.)/B.A./ B.Sc. (Hons.) with Research	Semester VIII
Subject- Geography		
Course Code	A110805T	
Course Title	Paper 5 Cultural Geography	
Types of Course	Theory	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	<p>This course aims to provide students with an in-depth understanding of cultural geography, exploring the relationship between culture and space. Key objectives include understanding the concept of culture and its geographical implications; analyzing the spatial distribution of cultural traits and practices; examining the role of culture in shaping human-environment interactions; assessing globalization's impact on local cultures.</p> <p>Outcomes: By the end of the course, students will be able to: analyze cultural landscapes and their geographical significance; understand the dynamics of cultural change and diffusion; evaluate the impact of cultural geography on social and environmental issues.</p>	

Unit	Syllabus	No. of lectures (In Hours)
I	Introduction to Cultural Geography: Definition, scope, and significance; Historical context; Key concepts (space, place, identity, landscape); Interdisciplinary connections with sociology, anthropology, and environmental studies.	14
II	Components of Culture; Cultural Regions, Cultural Area, Cultural Realm; Major Cultural Realms of the world; Cultural Hearth; Major human races in the world; Major world Religions and Languages: their origin, diffusion and spatial distribution.	12
III	Cultural Diffusion and Change: Mechanisms of cultural diffusion. Impact of technology and globalization; Cultural hybridization and assimilation; Role of local practices in a globalized world.	12
IV	Cultural Identity and Place: Concepts of cultural identity; Sense of place and belonging; Role of culture in shaping identities; Cultural conflicts, resolution, and the importance of inclusivity.	13
V	Contemporary Issues in Cultural Geography: Migration and its impact on cultural landscapes; Urbanization and cultural change. Environmental justice and cultural geography; Sustainable practices in cultural preservation; Future trends in cultural geography.	11



Suggested Reading

1. Cultural Geography: A Critical Introduction David M. Smith Routledge 2015
2. Geography of Culture John G. B. M. McGraw-Hill 2012
3. Culture and Society in a Changing World Steven J. Furman Waveland Press, 2011
4. The Cultural Landscape: An Introduction to Human Geography James M. Rubenstein, Pearson 2018
5. Globalization and Culture Jan Nederveen Pieterse Rowman & Littlefield 2015
6. Religion and Geography: A Global Perspective Philip J. Smith Routledge 2014
7. Cultural Geography: A Global Perspective David N. Livingstone Wiley-Blackwell 2016
8. Culture and Geography: The Relationship Between Space and Culture Keith S. Jones Cambridge University Press 2010
9. Cultural Heritage and Sustainable Development Richard A. Kent Ashgate, 2012
10. Cultural Geography in Practice Christopher T. Tatum SAGE Publications 2013

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Programme Course/ Class BA BSc Hons	4 th Academic Year for B.A. B.Sc. Hons. /B.A. B.Sc. Hons. with Research	Semester VIII
Subject – Geography		
Course Code	A110806P	
Course Title	Paper 5 - Advanced Statistics and Cartographic Techniques; and Surveying	
Types/ Course	Practical (Compulsory)	
Credit	4	
Course Assessment	External -100	
Course objective and outcome	<p>To enhance the potential of students in advance statistical techniques and its application in geographical studies and research. The course will create the ability of students to adopt various methods of relief slope analysis and climatic analysis as well as thematic mapping.</p> <p>The expected learning outcome of this course would be, appropriate use of statistical techniques in varying avenues of geographical studies. In addition to the ability of understanding and reading maps, student will develop cartographic skill and will be able to create maps on their own.</p>	
Note: Log tables and calculators will be allowed in examination.		

Unit	Syllabus	No. of lectures (In Hours)
I	Hypothesis testing: Chi-square test, student "t" test, Analysis of Variance (ANOVA); and Probability.	15
II	Measurement of Indices: Normalization; Standardization; Composite Index. Principal Component Analysis; Cluster Analysis	15
III	Surveying and plotting by Dumpy level; and Chain and Tape Survey	15
IV	Survey consisting of 50 households of Municipal wards/ villages of Azamgarh district.	15
	Practical Record, viva and Assessment.	

Suggested Reading

1. Alvi, Z (1995): *A Text Book of Surveying*, Vikas Publishers, New Delhi.
2. Bhat, LS and Mahmood, A (1977): *Field Work And laboratory Techniques In Geography*, National Council of Educational Research and Training, New Delhi.
3. Robinson, M (1963): *Elements of Cartography*, John Wiley, London.
4. Ishtiyag, M (1989): *A Text Book of Practical Geography*, Heritage Publishers, New Delhi.
5. Ishtiyag, M (1994): *Practical Geography*, Jawahar Publishers and Distributors, New Delhi.
6. Haroon, M (2021): *Prayyogatmak Bhugol*, Wisdom Publication, Varansari.

Programme Course	PG Programme	Semester-I(IX)
Subject- Geography		
Course Code	A110901T	
Course Title	Paper 1- Climatology	
Types of Course	Theory (Core Compulsory)	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objective and outcomes	<p>The course is intended to develop the students' knowledge about the Physical principles and process concerning the weather, climate and atmospheric circulation at global and regional scale. To upgrade the skill of students to observe weather and climatic elements with respect to physical and social changes influencing the earth system.</p> <p>Students will also develop skill in appreciation of theoretical knowledge of hydrology. They will learn field as well as laboratory techniques for estimating different hydrological attributes.</p> <p>Students will also be able to conceptualize, analyze and apply the understanding of weather and climate perspective in life and society.</p>	

Unit	Syllabus	No. of lectures (In Hours)
I	Definition; Scope and evolution of climatology; Climatology and meteorology; Composition and structure of atmosphere; Insulation; heat budget of the earth and atmosphere; Heating and cooling of the atmosphere; Factors controlling temperature; Distribution of temperature: horizontal, vertical and temporal. Greenhouse effects.	13
II	Atmospheric pressure: Horizontal distribution of atmospheric pressure; Seasonal contrasts in world distribution of pressure; General atmospheric circulation patterns; Local winds; Jetstreams - their origin, types and distribution; Monsoon winds; El-Nino-Southern Oscillation (ENSO) and Walker Circulation.	12
III	Atmospheric Equilibrium: Stability and instability; Environmental and Adiabatic Lapse Rate; Temperature Inversion: Definition, types, effects on weather and climate; Cloud Formation: Process, Types and distribution of Precipitation; Hydrological cycle	12
IV	Concepts, classification, and characteristics of air masses and fronts; Cyclones and Anticyclones; Climatic Classification given by Köppen, Trewartha and Thornthwaite.	12
V	Applied climatology and urban climate; Climate change: evidence and possible causes; Role and response of man in climatic changes; Global warming.	11

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Suggested Reading

1. An Introduction to Climatology by GT Trewartha, McGraw Hill, New York, 1968.
2. *Atmosphere, Weather and Climate* by RJ Barry and RJ Chorley, Methuen, London, 1985
3. *Atmospheric and Oceanic Fluid Dynamics: Fundamentals and Large-scale Circulation* by Geoffrey K Vallis, Cambridge University Press, Cambridge, 2006.
4. *Climate Change* by Mike Hulme, Routledge, London 2021.
5. *Climate Change: Biological and Human Aspects* by Jonathan Cowie, Cambridge University Press, Cambridge, 2012.
6. *Climatology* (2nd Edition) by Robert V Rohli and Anthony J Vega, Jones & Bartlett Publishers, Massachusetts, 2011.
7. *Climatology* by DS Lal, Chaitanya Publications, Allahabad, 1986
8. *Climatology*, 5th Printing (4th Edition) by Howard J Critchfield, Prentice Hall, New York, 1990.
9. *Climatology*, by S Singh, ParvalikaPrakashan, Paryagaraj, 2021.
10. *Climatology: Climate Indices, Models, Forecasting and Observations* by Vivian Mortiz, Syrawood Publishing House, New York 2016.
11. *Encyclopedia of Atmospheric Sciences*, **Editors:** Gerald R North, John A Pyle and Fuqing Zhang, Academic Press, Massachusetts, 2014.
12. *Introducing Meteorology: A Guide to the Weather* (New Edition) by Jon Shonk, Dunedin Academic, Edinburgh, UK, 2013.
13. *Introducing Oceanography* by David N Thomas and David George Bowers, Dunedin Academic, Edinburgh, UK, 2012.
14. *Introducing Physical Geography* (6th Edition) by Alan Strahler, Wiley, New Delhi, 2013.
15. *Modern Observational Physical Oceanography: Understanding the Global Ocean* by Carl Wunsch, Princeton University Press, Princeton, NJ, 2015.
16. *The New Climate War: The Fight to Take Back Our Planet* by Michael E Mann, Public Affairs, New York, 2021.
17. *The Theory of Large-Scale Ocean Circulation* by R M Samelson, Cambridge University Press, Cambridge, 2011.
18. *Water, Earth and Man* by RJ Chorley, Methuen, London, 1969.
19. *Weather Elements: A Text in Elementary Meteorology* by TA Blair and RC Fite, Prentice Hall, New York, 1965.

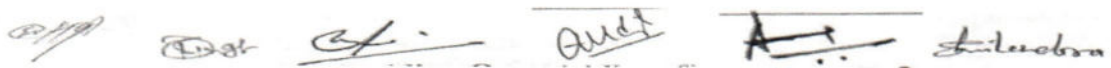
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Programme Course	PG Programme	Semester-I(IX)
Subject - Geography		
Course Code	A110902T	
Course Title	Paper 2- Geographical Thoughts and Concepts	
Types of Course	Theory (Core Compulsory)	
Credit	04	
Course Assessment	Internal - 25 External -75	
Course objective and outcome	<p>Geography has an enduring identity crisis because everything under the sun is considered to be the matter of substance in its ambit. What geographers do inherently is complex. This complexity is intrinsic in the disciplinary perspective but enhances as the different aspects of geography move towards pragmatic significance.</p> <p>Geography is the science of interactions between man-environment and society. Thus, the course seeks to prepare the students to understand as to how nature shapes society at one hand, as well as what way society systematises, modifies, and acceleratingly transforms the natural environment, generating humanised forms from the extensions of original nature, and then cementing layers of socialisation one within the others, one on top of the other, till an intricate natural-social landscape emerges.</p>	

Unit	Syllabus	No. of lectures (In Hours)
I	Geography as a field of study; the genesis of geography. Significance of geographic thoughts and concepts. Relevance of geographic thoughts and concepts. Nature of geography. Evolution of geography in Indian universities as an academic discipline.	16
II	The Major Traditions in Geography:(i)The Spatial Analysis; (ii)Area Studies; (iii)Man-Environment Relationships; and (iv)The Earth Science. Impact of Darwinism on geographical thoughts and concepts. The connections between contemporary geographic thoughts, society, and philosophy.	18
III	Role of Greek; Roman; Arab; and Chinese scholars in formulating the discipline of geography. Themes in Geographic Studies: Dualism (physical versus human; regional versus systematic; qualitative versus quantitative; ideographic versus nomothetic.	19
IV	Paradigm shift. Concepts and Perspectives in Geography: Positivism; Bahaviouralism; Structuralism; Humanism; Feminism; Radicalism; Postmodernism; Marxism; and Social Well-being.	18
V	Contributions of Geographers: Varenus; Kant; Humboldt; Ritter; Schaefer; Hartshorne; and David Harvey. Pioneering contributions of Indian geographers to the fields of:	19

Suggested Reading

1. Ali, A (2018): *Social Well-Being in West Bengal*, Ayushman Publication House, New Delhi.
2. Ronald, A, Adams, JS and Gould, P(1971): *Spatial Organization: The Geographer's View of the World*, Prentice Hall, NJ.
3. Cresswell, T (2012): *Geographic Thought: A Critical Introduction*, Wiley-Blackwell, London.
4. Dikshit, R.D: (ed): *The Art and Science of Geography: Integrated Reading*, Prentice Hall of India, New Delhi, 1994.
5. Hartshorne, R (1959): *Perspective on the Nature of Geography*, Rand McNalley & Co.
6. Harvey, D (1969): *Explanation in Geography*, Arnold, London.
7. Husain, *Evolution of Geographical Thought* (Hindi English), Rawat Pub. Jaipur, 1984.
8. James, PE: *All Possible World: A History of Geographical Ideas*, Sachin Publication, Jaipur, 1980.
9. Johnston, RJ (1988): *Philosophy and Human Geography*, Edward Arnold, London.
10. Johnston, RJ(Ed) (1985): *The Future of Geography*, Methuen, New York.
11. Minshull, R (1970): *The Changing Nature of Geography*, Hutchinson University Library, London.
12. Peet, R (1998): *Modern Geographical Thought*, Blackwell Publishers Ltd, London.
13. Haroon, M.: *History of Geographical Thought* (Hindi) Wisdom Publication, Varanasi.
14. Kaushik, SD, Rawat, D: *Geographical Thought and Methodology*. Rastogi Publication, (2021).



Programme Course	PG Programme	Semester-I(IX)
Subject-Geography		
Course Code	A110903T	
Course Title	Paper 3 - Urban Geography	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	The course aims to understand describe and demonstrate urban dynamic and its surrounding, with historical experiences. The course helps to evaluate the structural knowledge and spatial analysis and functions sub urban areas and morphology, pattern and dimensions of changes of urban places and cities. The students are expected to understand the spatial pattern of urban society and know how to apply the concept and theory they learn from classes to interpret and tackle thereal-world urban issues from the perspective of geography.	

Unit	Syllabus	No. of lectures (In Hours)
I	Meaning,scope, approaches and evolution of Urban Geography. Origin and growth of urban settlements. Attributes of urban places during ancient, medieval and modern period. The models of urban growth: concentric zone,sectoralandmultinuclei.Bases and process of urbanization.	12
II	Urban growth, Urban hierarchy and rank size rule. Theories of urban growth: Christaller, Losch,Peroux and Boudeville.Urban profile, demographic structure and characteristics of urban population.	12
III	Urban economic base:Occupational structure and basic and non-basic function. Functional classification, Morphologyand land use,structure-built up and non-built-up.C.B.D, Commercial,Residential, Industrial and Institutional areas. Cityregion relations and modern urban landscape.	12
IV	The Urban profile: Demographic structure and characteristics ofurban population. Movement of population within and beyond corporate limit. City as central place. Umland, rural urban fringe.	12
V	Urban problem-urban poverty, urban Renewal, urban sprawl, slums, transportation, housing, urban pollution, solid waste, urban crime and environmental health. Urban policy and planning: planning for new wards city planning, green belts. Garden cities,Globalization and urban planning.Special study of KAVAL Towns of UP.	12

Suggested Readings

1. **Berry B.J.L. And Horton F.F.** :Geographical Perspectives on Urban Systems , Prentice Hall ,Englewood cliffs , N.J. 1970
2. **Bansal, S.C.**, 'Urban Geography (Hindi) MeenakshiPrakashan, New Delhi-2023
3. **Dickinson R.E.** City and Region ,Roultedge , London , 1964
4. **Gibbs, J.P.**Urban Research Methods ,Van Nostrand Co Princeton ,N.J.1961.
5. Hall, P :Urban and Regional Planning Roulade London 1992
6. **Kundu, A** :Urban Development and Urban Research in India , Khanna Publications, 199
7. **Rao ,V.L. S.P.** Urbanization in India : Spatial Dimensions , Concepts publican Co. New Delhi.
8. **SmailesA.E.** : The Geography of Towns , Hutchinson , London 1953.
9. **Maurya'S. D.**: Urban Geography (Hindi, English) Sharda Publications Allahabad.
10. **Singh,Surrender,Saroha,J.**:UrbanGeography,Pearson Education ,New Delhi (2021)
11. **Vema,L.N.**; Urban Geography

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Programme Course	PG Programme	Semester-I(IX)
Subject-Geography		
Course Code	A110904T	
Course Title	Paper 4- Geography of Environment	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objective and outcomes	<p>To create the environmental aptitude among students. Students will develop their deep understanding of environmental issues. The main objective is to familiarize the students with concept, issues, and approaches about environment. Student will be acquainted with contemporary environmental problems and challenges.</p> <p>Students will be able to know the various aspects of ecological degradation and evolve and generate enthusiasm for protection, planning, preservation and sustainable management of environment.</p>	

Unit	Syllabus	No. of lectures (In Hours)
I	Geography as study of Environment. Meaning, scope, concepts and approaches to the study of Environmental Geography. Environment and Society. Relations of Environmental Geography with other sciences. Components and types of Environments. Man and environment relationships.	12
II	Concept of ecology and ecosystem, meaning types and components of ecosystem: Trophic level, Food Chain and Food Web. Ecological Pyramid and Flow of Energy, Bio-geo-Chemical cycles – Nitrogen Cycle, Oxygen, Carbon cycle, Hydrological cycle. Biodiversity hotspot.	12
III	Classification and characteristics of Biomes. Issues of environmental degradation. Sources and types of pollution: air, water, noise and soil. Effects of air pollution on weather and climate. Global warming, Ozone depletion, green house effects. Water pollution and its impact on human health. Effects of El Nino and La Nina	12
IV	Environmental perception and society. Human Health, ecological effect, urbanization, industrialisation and environment degradation. Environmental Management at International level: International Treaties, Programmes and Policies (Brundtland Commission, Kyoto Protocol, Agenda 21, Paris Agreement and Sustainable Development Goals)	12
V	Environmental planning at National, Regional and Local level: Programmes and Policies; Legal framework. Environmental Impact Assessment (EIA). Impact of climate change. Issues of environmental refugees in the world. Environmental Catastrophe. Role of Ramsar Project in the management of wetland.	12

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Suggested Reading

1. Ali, A.: 'Environmental Refugee: A Serious Issue For The Geographic Landscape', in Landscape and Development Interfaces in Geographical Research, (ed) Bandyopadhyay and Satpati, Academic Publishers, Kolkata, 2014.
2. Strahler, A.N. and Strahler A.H.: Geography and Man's Environment, John Wiley & Sons,
3. Detwyler, T.R.: Man's Impact of the Environment, McGraw Hill. N.Y. New York., 1976
4. Clapham, W.B.: Natural Ecosystem, MacMillan, London, 1973.
5. Dassman, R.F.: Environmental Conservation, John Wiley, N.Y., 1976.
6. Singh, S.; Environmental Geography (English & Hindi), PrayagPustakalaya, Alld., 1998.
7. Tivy: Biogeography, Longman, London, 1982.
8. ChanalancR.C. (1998), Environmental Awareness, Kalyani Publishers.
9. Gaur, S and Chandrasekhar. T (2006) Global Environmental cruses, Book enclave, Jaipur.
10. Park, C.C. (1980).: Ecology and Environmental management Butterworths London
11. Chris Barrow (2005): Environmental Management and Development Rout ledge.
12. CastreeNoclDemerith, D, liverman, D (2009)- A Companion into Environmental Geography, Wiley-Blackwell.

Programme Course	PG Programme	Semester-I(IX)
Subject-Geography		
Course Code	A110905P	
Course Title	Paper 5 - Map Projections and Surveying	
Types of Course	Practical (Compulsory)	
Credit	4	
Course Assessment	External - 100	
Course objective and outcomes	The expected learning outcome of this course would be appropriate use of statistical techniques in varying avenues of geographical studies. In addition to the ability of understanding and reading map and map projection, students will develop cartographical skill and will be able to create maps on their own.	
Note: Log tables and calculators will be allowed in Examination. The examination related to this section shall be conducted by board of two examiners of which one examiner shall be external.		

Unit	Syllabus	No. of lectures (In Hours)
I	Map interpretation: Classification by scale; and classification by function. Classification; and choice of map projections. Map projections: Classification, properties, choice, merits, and demerits of projections.	15
II	Drawing of the following map projections by using mathematical methods: Construction of Gall's, Mercator's, Universal Transverse Mercator and two standard conical projections. Equatorial cases of Gnomonic, Stereographic and Orthographic projections, Mollweide's and interrupted Mollweide's projection, Sinusoidal and Interrupted sinusoidal projection. Lambert's conical equal area Projection and International Projection.	16
III	Surveying: Methods of surveying; and relevance of surveying. Preparation of questionnaire; Sampling: Need, types, significance. Sampling techniques: Random; Stratified; Cluster; and Systematic Sampling	14
IV	Measurement of horizontal and vertical angles by Theodolite; Measurement of height by Sextant	14
	Practical record, viva and assessment	

Suggested Readings

7. Alvi, Z (1995): *A Text Book of Surveying*, Vikas Publishers, New Delhi.
8. Bhat, LS and Mahmood, A (1977): *Field Work And laboratory Techniques In Geography*, National Council of Educational Resaerch and Training, new Delhi.
9. Raisz, E (1962): *General Cartography*, John Wiley and Sons, New York.
10. Robinson, M (1963): *Elements of Cartography*, John Wiley, London.
11. Ishtiyahq, M (1989): *A Text Book of Practical Geography*, Heritage Publishers, New Delhi.
12. Ishtiyahq, M (1994): *Practical Geography*, Jawahar Publishers and Distributors, New Delhi.
13. Haroon, M (2021): *Prayyogatmak Bhugol*, Wisdom Publication, Varansari.
14. Singh, RL and Singh, RPB (1993): *Elements of Pracactical Geography*. (Hindi and English editions). Kalyani Publishers, New Delhi,.
15. Singh, LR (2006): *Fundamentals, of Practical Geography*, Sharda Pustak Bhawan, Allahabad.

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Programme Course	PG Programme	Semester-II(X)
Subject- Geography		
Course Code	A111001T	
Course Title	Paper 1- Oceanography	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objective and outcomes	To develop the understanding about concepts associated with hydrosphere with context to oceanic relief, surfaces and their distribution on earth. To provide the knowledge about physical principles, characteristics, oceanic deposits and processes governing the circulation and characteristics of water bodies on Earth. After the end of syllabus students will be able to examine and compare the different ocean and water bodies with their distinct oceanic bottom relief, circulation system and marine deposit.	

Unit	Syllabus	No. of lectures (In Hours)
I	Oceanography – nature, scope and development, distribution of land and water, Ocean bottom topography, bottom relief of Pacific, Atlantic and Indian Ocean.	13
II	Characteristics of Ocean water: temperature – distribution, salinity – composition, source and distribution, density of sea level.	12
III	Movement of ocean water: currents - causes and character, currents of Atlantic, Indian and Pacific Ocean, Waves, tides and theories of origin.	12
IV	Ocean deposits and coral reefs: sources, types and distribution of ocean deposits, coral reefs – formation, condition of growth, type and theories of origin.	12
V	Marine resources: biotic, mineral and energy resources; Effects of global warming on oceans: sea-level changes, coral bleaching, coastal hazards; Laws of the sea and marine pollution.	11

Suggested Readings

1. Davis, R.J.A. 1986, Oceanography – An Introduction of the Marine Environment, Win C. Brown, Iowa.
2. King, C.A., Oceanography for Geographers, Edward Arnold Pub.
3. Murray, S.J., 1913, Ocean, A General account of the Science of the sea, Thorton Butter Worth, London.
4. Siddhartha, K. 1999, Oceanography, A Brief Introduction, Kisalaya Pub. Pvt. Ltd., New Delhi..
5. Singh, S. 2002, Physical Geography, Prayag Pub., Allahabad.
6. Stahler, A. N. Stahler A.M., 1997, Geography and man's Environment, John Wiley and Sons, New York.
8. Thurnman, H.V., 1978, Introduction to oceanography, Charles E. Merrill Pub. Co., London.

9.

Programme Course	PG Programme	Semester-II(X)
Subject-Geography		
Course Code-	A111002T	
Course Title-	Paper 2 - Social Geography	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	<p>It is intended that over the course of the study the students develop insights into the socio-spatial dynamics, as well as will become as engaged and enlivened by the diversity of social geographic perspectives and enquiry. The students might take what social geographers try to bring forth to them and apply it, expand it, and rework it is, at the same time, an existing prospect. The discussions may be such that the students are stimulated to research the subject more. The students must be taught and trained to the level that they become capable to examine social geography in relation to environmental and ecological geographies, urban geographies, political-economic geographies, cultural geographies, as well as post-social and post-human geographies. Emphasis must be made to realise that social geography has maintained its integrity in relation to these varying fields of inquiry is a testament to its value.</p>	

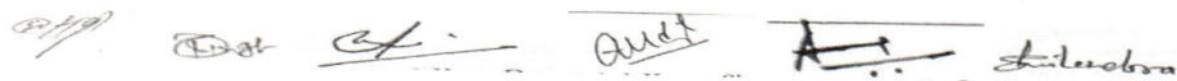
Unit	Syllabus	No. of lectures (In Hours)
I	Themes in social geography: Meaning; definitions; nature; and scope of social geography. Critical social geography. Growth and development of social geography. Methodological approaches to the study of social geography.	12
II	Theories about deviant behavior: Social theory and social geography; crowding theory; design determinism; alienation; compositional theory; and structuralist theory. Ideas of Marxism; social justice; radicalism; and welfarism. Spatial organisation and locational conflict: The spatial organisation of ethnic groups; external factors; internal group cohesiveness; spatial outcomes; spatial organisation, community conflict and quality of life; and territorial justice. The location and accessibility services and facilities.	12
III	The dynamics of spatial differentiation: The built environment; environmental quality; and the socio-economic environment. Residential mobility and neighborhoods change. Social area analysis; studies of factorial ecology; and social indicators. The social dimensions of modern urbanism: types of urban culture; urbanism and social theory; human ecology; social interaction in urban environments; social distance and physical distance; social networks, neighborhoods and communities.	12
IV	Planning and social welfare: Concept of social well-being and welfare	12

	geography. Genesis and components of Human Development Index (HDI); and variables for measuring the levels of living. Area-based positive discrimination planning; public participation; and social movements. Politics and society: the para-political structure; community power structures and the role of the local state. Social structure; and social processes: race; tribe; dialect; language, caste and religion as elements of regional formation in India. Indian tribes: their characteristics, distribution and responses to impulses of development and social change; and social pathology.	
V	Changes in the current phase: Economic change; technological change; demographic change; cultural change; political change; and social restructuring. Issues of gig worker; migration; hunger; malnutrition; crime; poverty; climate crisis; human trafficking; deprivation; demographic anxieties; food security; and shelters. Types of classes in societies: Preindustrial society; industrial society; and postindustrial society. Tracing the characteristic features of fourth world societies with special reference to: The Pygmies of Congo Basin; The Kirghiz of Central Asia; The Bushmen of Kalahari Desert; and The Aborigines of Andaman Island	12

Suggested Reading

1. Ahmad, A (1999): *Social Geography*, Rawat Publications, Jaipur.
2. Ali, A (1995): *Geographical Patterns of Social Well-Being in West Bengal*, Unpublished MPhil, Department of Geography, AMU, Aligarh.
3. Ali, A (2018): *Social Well-Being in West Bengal*, Ayushman Publication House, New Delhi.
4. Ali, A and Hemant, H (2023): *An Introduction to the Social Geography of India: Concepts, Problems and Prospects*, Routledge India, New Delhi.
5. Blaunt, A and Wills, J (2000): *Dissident Geographies: An Introduction to Radical Ideas Practice*, Prentice Hall, Engelwood Cliffs, NJ.
6. Collins, D and Coleman, T (2008): Social geographies of education: looking within, and beyond, school boundaries, *Geography Compass*, 2.1: 281-99.
7. Del Casino, V, Jr and Marston, S (2006): Social geography in the United States: everywhere and nowhere, *Social and Cultural Geography* 7.6, 995-1010.
8. Conerly, TR et al (2021): *Introduction to Sociology*, 3rd edition, OpenStax, Rice University, Houston, Texas.
9. Danielson, MN(1976) : *The Politics of Exclusion*, Columbia University Press, New York.
10. Eyles, J (1978): Social Geography and the study of the capitalist city: a review, *Tijdschriftvoor Economische en Sociale Geografie*, 69, 296-305.
11. Hamnett, C (1996): *Social Geography: A Reader*, Arnold, London.
12. Hawley, AH (1950): *Human Ecology: A Theory of Community Structure*, Ronald Press, New York.
13. Herbert, DT (1972): *Urban Geography: A Social Perspective*, David & Charles, Newton Abbot.
14. Herbert, DT (1972b): The study of delinquency areas: a social geographical approach, *Transactions, Institute of British Geographers*, NS 1, 472-492.
15. Husain, M (1993): Perspectives in Human Geography, Vol 2 – Social Geography, Anmol Publications, New Delhi.
16. Jones, E and Eyles, J (1977): *An Introduction to Social Geography*, Oxford University Press, London.
17. Johnston, RJ (1984a): *City and Society*, 2nd edition, Hutchinson, London.

18. Kannan, M (2018): *Social Geography: An Insight Into Trafficking*, Blue Rose Publication, New Delhi
19. Ley, D (1977): Social geography and the taken-for-granted world, *Transactions, Institute of British Geographers*, 2, 498-512.
20. Ley, D (1983): *A Social geography of the city*, Harper & Row, New York.
21. Radford, JP (1981): The Social Geography of the nineteenth century US city, pp 257-93 in DT Herbert and RJ Johnston (eds) *Geography and the Urban Environment*, vol IV, Wiley.
22. Sen, J (2015): *Textbook of Social and Cultural Geography*, Kalyani Publishers, New Delhi.
23. Shevky, E and Bell, W (1955): *Social Area Analysis*, Stanford University Press, Stanford, California.
24. Smith, DM (1973a): *An Introduction to Welfare Geography*, Occasional Paper No.11, University of Witwatersrand, Johannesburg.
25. Smith, DM (1973b): *The Geography of Social Well-Being in the United States*, McGraw-Hill, New York.
26. Srinivas, MN (1986): *India: Social structure*, Hindustan Publishing Corporation (India), Delhi.
27. Suttles, GD (1972): *The Social Construction of Communities*, University of Chicago Press.
28. Harvey, D (1973): *Social justice and the city*, Edward Arnold, London.
29. Jakson, P and Smith, S (1984): *Exploring social geography*, George Allen and Unwin, London.



Programme Course	PG Programme	Semester-II(X)
Subject- Geography		
Course Code	A111003T	
Course Title	Paper 3- Geography of Rural Settlement	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	The primary aim of studying settlement geography is to acquaint with spatial structure and characteristics of human settlement under varied environmental conditions. The course deals with multi-disciplinary perspective on the formation, evolution of rural settlement. The course will help the students to make an understanding of rural settlement.	

Unit	Syllabus	No. of lectures (In Hours)
I	Nature, scope, significance, development and approaches to the study of rural settlement geography. Definition and characteristics of rural settlements. Factors influencing growth and distribution of settlements'istogenesis of rural settlements. Spatio-temporal dimensions and sequent occupance Distribution, size and spacing of rural settlements. Importance of settlement studies in Geography.	13
II	Types, forms and patterns of rural settlement: cause, and effect, functional classification of rural settlements, morphogenesis of rural settlements, morphology of rural settlements. Central places and rural service centres: their nature, hierarchy and functions, service centres as growth points. Theory of Christaller and Losch and its application rural-urban fringe-structure, characteristics and function.	13
III	Cultural landscape, elements in rural settlement in different geographic environments with spacial reference to india, house types and their spatial patterns. origin, evolution. size, socio-spatial structure of indian village.	11
IV	Distribution and density of rural settlements in India. Structure of house and building materials in India. Regional variations in rural settlement patterns in India. Morphology of rural settlement in India	11
V	Social issues in rural settlements-poverty, housing, deprivation, and inequality, environmental issues in rural settlement-water supply, sanitation, drainage and health hazards. planning of rural settlement with special refernce to india.	12

Suggested Reading

1. Aalm, S.M. et al: Settlement system in india, Oxford and IBP publication co. new Delhi, 982.
2. Chisholm M; Rural settlements and Landuse, johnwiley N.Y, 1967.
3. Grover N ;RuralSettlemens: A Cultural Geographical Analysis, Inter India Publication, Delhi; 1985.
4. Danial P. and hopkinson M; The geography of Settlements, Oliver andBoyd, Edinbury, 1986.
5. Hudson F.F.: a geography of settlement, macdonald and evans, N.Y, 1976.
6. Wanmali, S: Service Centres in Rural India ,B.R. publication corportation, new delhi, 1983.
7. Tiwari, R.C. Settlement Geography (Hindi)- Parvatika, Prakash, Allahabad
8. Ghos, Sumitra : Introduction to Settlement Geography (1998) Original, Longmen, Calcutta
9. Singh R.Y : Geography of Settlement, Rawat Publication 1994, New Delhi
10. Sing, R.L: Geographic Dimension of Rural settlement, National Geographic Society of India, 1976

11. Brian, K.R. : Land space of settlements: Prehistory to the Present, Routledge, London(1996)

12. Maurya, SD : Settlement Geography, Sharda Pustak Bharavi, Paryagaraj (2020)

Programme Course	PG Programme	Semester-II(X)
Subject-Geography		
Course Code	A111004T	
Course Title	Paper IV- Regional Development and Planning	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objective and outcomes	<p>The course is designed to develop the knowledge about regional attributes classification and approaches and theories involved in regional planning and development.</p> <p>After the end of the course, students wise able to demarcate the differences among formal, functional and planning regions. They are expected to efficiently formulate, appreciate and apply the specific technique and plan for regional growth and development.</p>	

Unit	Syllabus	No.oflectures (In Hours)
I	Concept and Nature of Regional Planning Philosophy and Purpose of Planning. Development of planning thought. Theories of Regional Development. Economic base theory, International Trade multiplies, Aggregate Growth Model. The concept of growth centers. Growth centre strategy of Regional Planning Rural Economy, Core-periphery relationship.	12
II	Concept of Regions. Attributes of Regions Types of Regions, Functional and Formal Region Uniform and Nodal Regions, Single purpose and composite Regions in the context of Planning. Regional Hierarchy. Approaches for the delimitation of different types of regions and their utility in planning resource base approach- Growth centre Approach.	12
III	Basic Needs, Approach and Habitat transformation Delineation of Planning Regions, Planning regions of India, Planning processes- sectoral, Temporal and spatial Dimensions. Planning for a regions development and multi-regional planning in National context Indicators of Development and measuring levels of development with special reference to India.	12
IV	Regional Planning for rural development with special reference to UP. Infrastructure Elements: irrigation, power, transportation and communication and marketing. Industrialization in Regional Planning. Population resource equilibrium and spatial organisation in Regional Planning. Regional Planning as development strategy since independence concept of Multilevel planning, Decentralized planning. People participation with planning process.	12
V	Environmental issues in Regional Planning, Planning for sustainable development, regional imbalance Disparities in India-causes and	12

consequences. Regional Development and social Movement in India. Global Economic block. World Regional Disparities’.




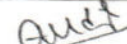


Suggested Reading

1. Bhatt, L.S.: Regional Planning in India, Statistical Publishing Society, Calcutta, 1973.
2. Freidman, J. and Alonso W: Regional Development Policy: A Case study of Venezuela MIT Press, Cambridge Mass-1966
3. Gosal G.S. and Krishnan G: Regional Disparities in Levels of Socio-Economic Development in Punjab, Vishal Publications Kurukshetra, 1984.
4. KuklinshkiA.R. (ed): Growth Poles and Growth Centres in Regional Planning, Mountonj, The Hague, 972
5. Kundu A and Raza M: Indian Economy: The Regional dimension Spectrum Publishers, New Delhi, 1982
6. Losch, A: The Economics of Location, University Press, New Haven, 1954.
7. Mishra, R.P. Regional Planning: Concepts, Techniques and Policies, University of Mysore, 1969.
8. Mishra R.P. and Others (ed): Regional Development-Planning in India: Strategy, Institute of Development Studies, Mysore, 1974.
9. Mitra, A: Levels of Regional development. Census of India vol 1. Part I (A) (i) and (ii) New Delhi, 1965.
10. Tarlok Singh: India’s Development Experience, MacMillan, New Delhi, 1999.
11. Mishra, R.P. et. Al: Multi Level Planning, Heritage Publishers, Delhi, 1980.
12. Chandlan, R.C. (2000) Regional Planning Kalyani Publications, New Delhi.
13. Chand, M, Puri V.K(1983) Regional Planning in India Allied Publisher, New Delhi.
14. Friedman, J and Alose, w. (1967), : Regional Development and Planning “A Reader, NIT Press, Cambridge.

Programme Course	PG Programme	Semester-II(X)
Subject- Geography		
Course Code	A111005T	
Course Title	Paper 5- Geography of Resources	
Types of Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objective and outcomes	To familiarize the students about general concepts, nature and issues of rural Geography. To acquaint the students about nature of rural settlement, infrastructure, morphology, infrastructure and challenges for rural development. Students will be able to efficiently formulate the issues and challenges of rural settlement and critically evaluate the suitability of different plan adapted for rural development in varying spatial context.	

Unit	Syllabus	No. of lectures (In Hours)
I	Nature, scope and significance of geography of resources. Definition and concept of natural resources. Classification of resources.	13
II	Characteristics of natural resources: Resource conservation and management with reference to land and forest resource.	12
III	Water resources-Hydrologic Cycle, fresh water resources, surface and underground water supplies, problems of water supplies. Marine resources, major fishing grounds of the world, fish distribution and exploitation. India's natural resource: water resource, conservation and management and its utilization	12
IV	Energy resources-Conventional energy resources - coal, petroleum, non-conventional - solar and geothermal energy.	12
V	Resources and their management: land, forest, water and energy; Energy crisis; Sustainable use of resources	11

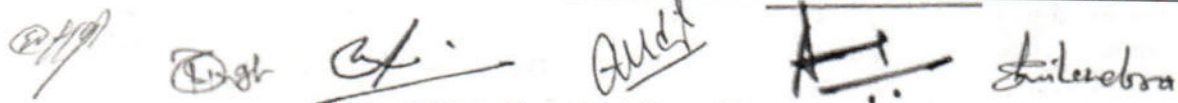
Programme Course	PG Programme	Semester-II(X)
Subject - Geography		
Course Code	A111006T	
Course Title	Paper 6 - Regional Geography of India	
Types/ Course	Theory (Elective)	
Credit	4	
Course Assessment	Internal - 25 External -75	
Course objectives and outcome	<p>The objective of this course is to develop the understanding about physical features of Indian geography. To familiarize the students with physiography, climate and to conceptualize the regional approach and to examine regional differentiation in the study of Indian geography. Students will be exposed to historical economic, cultural, social and physical characters of India. Students will get an introduction to the regions of the India in terms of both their uniqueness and similarities.</p> <p>The students will develop the art of regionalization techniques while focusing on diversity of Indian regions. Students will be able to visualize and recognized about regional identities and socio- cultural dimension of regionalization to address the issues and concerns needed for regional planning.</p>	

Unit	Syllabus	No. of lectures (In Hours)
I	Structure and structural regions of India, Physiographic region of India. Himalayan orogeny, Evolution of extra peninsular India. Its Geological structure, relief and evidence Regarding its present-day evolution. Relief and division of Indo-Gangetic plain, Indian Monsoon, Its mechanism and recent theories of its origin. Climatic Regions. Geographical factors behind federalism and national integration.	14
II	Agriculture land use, Agriculture Regionalization, Agro-climatic region, Agriculture Regions, Green, Blue, and White Revolution and their impact on agriculture. Recent Trends in Indian Agriculture. Impact of WTO, Liberalization and Globalization on Indian agriculture. Locational factors of Indian industries and Industrial Regions.	14
III	Population of India, growth and problems. Population Regions Urbanization and Metropolitan Regions, Regional Development. Planning Regions. Environmental Issues in Regional Development and Planning.	10
IV	Basis of Regionalization, Geopolitical, Climatic, Agro-climatic, Physiographic, Historical, Demographic socio-economic dimension of regionalisation. Basis and efforts of regionalization of India, Meso, Macro Micro, regions of India.	12
V	Regional Geography of Uttar Pradesh: Physiographic divisions. Drainage, Climate, Soils and Vegetation of Uttar Pradesh. Population distribution and Resources of Uttar Pradesh, Trade and Transport in Uttar Pradesh.	10

Suggested Readings:

1. Alka Gautam: Advanced Geography of India, (Hindi, English) ShardaPustakBhavan, Allahabad. (2015)
2. Centre for Science and Environment state of India's Environment, New Delhi (1988)
3. Deshpande, C D.: India: A Regional Interpretation, ICSSR and Northern book Centre 1992.
4. Dreze, Jean and Amartyasen (ed): India: Economic Development and Social Opportunity, Oxford University Press, New Delhi, 1996
5. Hussain, Majid : Geography of India (Hindi, English) , McGraw Hill , New Delhi (2019).
6. Kundu A, Raza M: Indian Economy: The Regional Dimension, Spectrum Publishers, New Delhi, 1982.
7. Mahesh, C, Puri V, K.: Regional Planning in India, Allied Publishers Pvt Ltd, New Delhi, (2012)
8. Singh, R. L. (ed): India: A Regional Geography, National Geographical Society, India, Varanasi, 1971.
9. Spate, O.H.K. and Learnmoth, A.T.A: India and Pakistan, Methuen, London, 1967.
10. Tirtha R. and Gopal Krishna: Emerging India, Reprinted by Rawat Publications, Jaipur 1996.
11. Tiwari, R.C, (2020): Geography of India (Hindi) English) Paravali Prakashan Paryagraj.
12. Tiwari, R. C. : Geography of India, (Hindi, English) , PravalikaPrakashan, Paryagraj, (2020).



Programme Course	PG Programme	Semester-II(X)
Subject- Geography		
Course Code	A111007P	
Course Title	Methods and Techniques of Geographical Information Systems (GIS)	
Types of Course	Practical (Compulsory)	
Credit	4	
Course Assessment	Internal-25 External-75	
Course objective and outcomes	Course objectives and outcomes: On the completion of the course, learners will be able to learn the methods and techniques of GIS. The art of map-making has changed by leaps and bounds, through this course the learners will grasp the know-how of modern mapping system which will prove to be beneficial for the candidates desiring to make their career in the field of geospatial sciences. The course will provide the budding scholars a platform to learn the art and science of map making along with the application in Hydrological modeling as an example.	
<p>Note: The practical examination will be conducted in the concerned department. Log-tables and Calculator will be allowed in the lab. The examination shall be conducted by a board of two examiners of which one examiner shall be external.</p>		

Unit	Syllabus	No. of lectures (In Hours)
I	Basic concepts: Definition and history, Components of GIS, Basics of Geodesy, Geoid/ Datum/Ellipsoid-Definition and Basic Concepts; Datum, Transformations; Map Projections.	15
II	Data structure and formats: Spatial data models – Raster and vector, Database design-editing and topology creation in GIS.	15
III	Georeferencing and digitization in GIS: Creation of shape file layer; Preparation of maps.	15
IV	Hydrological Mapping: Downloading of ASTER and SRTM DEM Data. Watershed mapping and modeling of a rivers system.	15
	Practical Record, Viva and Assessment	

Suggested Reading

1. Cromley, R.G., Digital Cartography, Prentice Hall, N. Jersey, 1992.
2. Bolstad, P., GIS Fundamentals: A First Text on Geographic Information Systems
3. Fraser Taylor, D.R., Geographical Information System, Pergamon Press, U.K., 1991.
4. Maquire, D.J., Good Child, M.F. and Rhind, D.W., Geographical Information Systems: Principles and Application, Taylor and Francis Publication Washington, 1991.
5. Monmonier, M.S., Computer Assisted Cartography: Principles and Prospects, P. Hall, New Jersey, 1982.

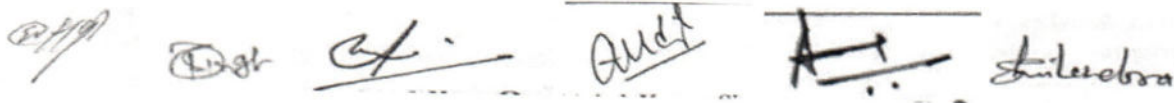
Instructions for Practical and Research Project (UG and PG)

Practical examinations' questions must be framed based on numerical aspects/calculations based on formula in statistical sections; surveying must be done using the prescribed instruments; projections, scales, etc. should also be the cartographic work. If questions in practical are not as per the syllabi, such exams will not be admissible.

Toposheets/weather maps (In original form) to be provided to the students during the classes, and similarly these to be provided at the time of exams as well.

Research projects should be carried out following the given directions.

1. Title (Geographical in core context)
2. Structure of the project (Introduction, Review of literature, etc.)
3. Statement of the problem (Clearly state the problem to be undertaken)
4. Conceptual context
5. Objectives of the study
6. Methodology
7. Research questions/Hypothesis
8. Data source/Collection
9. Sampling
10. Data analysis and cartographic interpretation.
11. Discussion
12. Conclusions/ Recommendations
13. References
14. To be submitted in hardbound format for the evaluation by the external examiners.

A series of handwritten signatures and initials, including a stylized signature, 'Dish', 'G.', 'Amit', 'A.', and 'Sulekha'.