Semester-wise Titles of the Papers in M.A./M.Sc. (Geography)

Year	Sem.	Course Code	CoreCompulsory/Elective/ Valueadded	Paper Title	Theory/Practical	Credits
4	VII		Core	Geomorphology	Theory	4
4	VII		Core	GeographyofIndia	Theory	4
4	VII		Core	EcologyandEnvironment	Theory	4
4	VII		Core	StatisticalMethodsinGeography	Theory	4
4	VII		Core	StatisticalTechniquesandCartography or ComputerAidedStatisticalDiagramsandGraphs	Practical	4
				Dissertation	Research Project	4
4	VIII		core	ClimatologyandOceanography	Theory	4
4	VIII		core	Laws,Models&TheoriesinGeography	Theory	4
4	VIII		core	RegionalPlanningandDevelopment	Theory	4
4	VIII		Elective	Anyoneofthefollowing: a) Geographyofworldeconomies b) Geography of Waterresource c) Resource geography d) AdvancegeographyofUttarPradesh e) Politicalgeography	Theory	4
4	VIII		Core	Advance cartography(Traditional/Computer)	Practical	4
4	VIII			Dissertation	Research Project	4
5	IX		Core	Geographicalthoughts	Theory	4
5	IX		Core	Interdisciplinaryresearchmethodsand techniquesingeography	Theory	4
5	IX		Core	Population Geography	Theory	4
5	IX		Elective	Anyoneofthefollowing: a) Gendergeography b) Agriculturalgeography c) Socialgeography d) Techniquesandmethodsofregionalanalysis e) Culturalgeography f) Multi-variatestaticalanalysis g) RemotesensingG.I.S.&G.P.S.	Theory	4

5	IX		Core	Remotesensing&G.I.S. Or Advance Surveying	Practical	4
5	IX			Dissertation	Research Project	4
5	X		Core	Urban Geography	Theory	4
5	X		Core	Recent issues in geography	Theory	4
5	X		Elective	Anytwoofthefollowing: a) Ruralgeography b) Mediageography c) Historicalgeography d) Geographyoftourism e) Heritageconservation f) Geographyofhealth g) Geographyofcryosphere	Theory	4
5	X		Core	Arialphotographsandtheir interpretations	Practical	4
5	X			Dissertation	Dissertation	4

Core Compulsory Courses: These are main (major) courses of the subject which every student has to study who has taken admission in PG (First and Second Year). Usually all courses of first semester are compulsory courses.

Core Elective Courses: These are full major courses of the subject. There will be many such elective courses in the syllabus, to be taught over2/3/4 Semesters. The colleges will run these courses in their colleges according to their resources/ specialization of teacher and students will opt them according to their choice.

Minor Electives: Some of the above courses, or any other such course developed by BoS, can be taken as Minor electives by the students of other Faculty, formulate-disciplinarily.

Value added course: Some of the above courses, or any other such course developed by BoS,can be taken as Value Added course (Minimum 2 Credits/30Hours) by the students of other Faculty/Subject, for value addition.

Programme/Class: M.A./M.Sc.	Year: Four	Semester: 7th
Subject: Geography		
Course Code:	**Course Title: Geomorphology**	(Theory)

Course Objectives:

1. An understanding of the linkages between landscape form and processes.
2. Familiarity and experience applying fundamental concepts in physical systems.
3. Practice in using models, data and logical reasoning to critically evaluate and connect information about geomorphic processes.

Course outcomes:

1) Explain basic principles for development of landforms through time.
2) Make an initial geomorphological fieldwork.
3) Learn the techniques of geomorphological analysis.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Nature and scope of Geomorphology, Recent observations on some Fundamental concepts –uniformitarianism, multicyclic and polygenetic evolution of landscapes.	12
II	Earth movements – epeirogenic and orogenic earth movements. Forces of crustal instability, isostasy, plate tectonics, vulcanicity.	12
III	Exogenic Processes: Concept of gradation, Agents and processes of gradation, causes, types and classification of weathering, mass movement, erosional, and depositional processes and resultant landforms and soil formation.	12
IV	Landscape evaluation models: WM Davis, Penck, LC King, dynamics of fluvial, glacial, Aeolian, marine, and karst processes and resulting landforms complexities in geomorphological processes.	12
V	Applied geomorphology – hydro-geomorphology, urban geomorphology, environmental geomorphology, geomorphic hazards and mitigation measures.	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Ahmed, E. (1985): Geomorphology, Kalyani Publishers, New Delhi.
2. Bloom, A.L. (1998/2001): Geomorphology, 3rd Edition, Prentice Hall of India, New Delhi.
3. Chorley, R.J., Schumm, S.A. and Sugden, D.E. (1984): Geomorphology, Methuen and Company Ltd., London.
4. Chorley, R.J. (1972): Spatial Analysis in Geomorphology, Methuen, London.
5. Dayal, P. (1996): A Text Book of Geomorphology, Shukla Book Depot, Patna.
6. Dury, G.H. (1959): The Face of the Earth, Penguin Harmondsworth.
7. Fairbridge, R.W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York.
8. Garner, H.F. (1974): The Origin of landscape- A Synthesis of Geomorphology, Oxford University Press, London.
9. Singh, Savindra: Geomorphology (in Hindi).

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

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: four	Semester: 7th
Subject: Geography		
Course Code:	**Course Title: Geography of India**	(Theory)

Course Objectives:

1. his course on the Geography of India assumes' that the students are familiar with the basic landforms, climate, soil, vegetation and population characteristics of India.
2. It is a course designed to enable students to broaden and deepen their understanding of India.

Course outcomes:

1. Students would gain understanding of 'new' geography of their country.
2. The spatial variations of dimensions of vitality and vulnerability would help them see the strength and weakness of the country.
3. The course would help students to contextualize much of their further learnings, teaching and research on India within the contents of this course.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Physiographic division of India; Drainage systems" Mechanism of Indian monsoons and climatic regions of India: types of soils and natural vegetation.	10
II	Characteristics of Indian agriculture and its development since independence; major problems of Indian agriculture and planning for their sustainable development, Agriculture and Agro-ecological regions.	10
III	Natural Hazards: types of Hazards, Vulnerability and impact assessment of Natural Hazards in India and strategies for management	10
IV	Major industrial regions of India; domestic and international trade patterns; Transportation network.	10
V	Growth of population, Distribution and density of population; Demographic attributes; sex-ratio, literacy rate and work force; population problems and policies.	10
VI	Geographical regions of India- Macro, Meso& Micro-regions of India and their comparative analysis a detailed study of upper Ganga-Yamuna doab region.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Despande C.D. (1992): India-A Regional Inter-Pretation ICSSR, Northern Book Centre, New Delhi.
2. Singh R.L. (ed.) (1971): India-A Regional Geography, National Geographical Society, India, Varanasi.

3. Bansal, S.C.: Advanced Geography of India (Hindi), Meenakshi Prakashan, Meerut.
4. Tiwari, A.R.: Geography of Uttar Pradesh, N & T.
5. Hussain M (2017): Geography of India, 7th Edition, McGraw Hill Education; New Delhi.
6. Dr. Chaturbhuj Mamoria, Dr. J.P. Mishra) Geography of India (Hindi), Sahitya Bhawan publications: Agra.
7. Tirtha, R. & Gopal Krishna (1966): Emerging India, Rawat Publications, Jaipur.
8. Verma, R.V. Geography of India (Hindi)
9. Gautam A: Advanced Geography of India, Sharda Pustak Bhawan, Allahabad, 2009.

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

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class:M.A./ M.Sc.	Year: Four	Semester: 7th
Subject: Geography		
Course Code:	**Course Title: Ecology and Environment**	(Theory)

Course Objectives:

1. To develop full scape understanding of environmental issues.
2. To, evaluate role of policies and various measures to mitigate these issues.

Course outcomes:

1. Students will be developing the quality to keep an eye on every aspect of environment/ ecology.
2. Students will be able to apply their enhanced vision in their research analyses.

Credits: 4	Core Compulsory / Elective
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Meaning and definition of Ecology and Environment, Geography as Human Ecology Conceptual background. The Environment – meaning, structure and types, Man, Environment Relationship, Perception of Environment.	10
II	Ecology: meaning and its relation with Geography, Ecosystems: Kinds, structure and functions, energy flow, food chains, food webs and trophic levels, nutrient cycles, Major Biomes of the World.	10
III	Geographical aspects of major environmental problems: Natural hazards- floods, drought, landslides, earthquakes and cyclones, Man-induced hazards – Rapid urbanization, transport development, Agricultural development, Big dams.	10
IV	Environmental Pollution – the concept and types of pollution, ecological impact of pollution- the environmental concerns, the green house effects, ozone depletion, Environmental Policy and Legislation.	10
V	Ecological basis of environmental Management – Concept, need and approaches, Indian and International efforts for environmental conservation and management since 1972.	10
VI	Environmental problems and programmers in India. Environmental impact and assessment of controversial River Valley Projects like Tehri Hydro and Narmada Valley (Sardar Sarovar) Projects, National Parks.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/
assignments, Field visits., Internship, etc.

Suggested Readings:

1. Anjuneyulu, Y. (2004): Introduction to Environmental Science. B. S. Publications, Hyderabad.
2. Athavale, R. N. (2003): Water Harvesting and Sustainable Supply in India. Rawat Publications., Jaipur.

At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: four	Semester: 7th
Subject: Geography		
Course Code:	**Course Title: STATISTICAL METHODS IN GEOGRAPHY**	(Theory)

Course Objectives:

1. To enable the students to quantify the qualitative aspects of man and environment relationship.
2. To develop the vision of students to apply their analytical skills in their studies.

Course outcomes:

1. Explain the nature and types of data and related statistical techniques.
2. Make a rational choice amongst listed various statistical techniques.
3. Describe and explain geographical data relationships

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Statistics, Geography and Statistics; Significance of Statistics in geographical studies; Primary and Secondary Data; Levels of data measurement: Nominal, Ordinal, Interval, and Ratio	12
II	Measures of Central Tendency: Arithmetic Mean, Median, Mode and their geographical significance; Centrographic techniques: Mean Centre, Median Centre and Standard Distance.	12
III	Measures of dispersion and concentration: Mean deviation, Standard Deviation; Coefficient of Variation, Lorenz Curve and Gini's Coefficient; Location Quotient	12
	Correlation and regression: Scatter diagram, correlation by Spearman's Rank Difference and Karl Pearson's Product Moment, Significance testing of Correlation;	12
V	Regression analysis regression equations construction of regression line, computation of residuals and mapping	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. David M. Smith (1975), Patterns in Human Geography, Penguin, Harmonsworth.
2. Ebdon, D (1983), Statistics in Geography: A Pratical Approach, Blackewell, London.
3. Gregory, S. (1978) Statistical Methods and the Geographer (4th Edition), Longman, London.
4. Gupta, S.P., Statistical Methods, Sultan Chand and Sons, Latest Edition.
5. Mathews, J.A. (1987), Quantitative and Statistical Approaches to Geography, Practical Manual, Pergmon, Oxford.
6. Pal, S.K. (1998), Statistics for Geoscientists; Techniques and Applications, Concept Publishing Company, New Delhi.
7. Peter, J. Taylor (1977), Quantitative Methods in Geography, Houngton Mifflin Company, Boston.
8. Robert Hammond and Patrik Mc. Cullagh (1974), Quantitative Methods in Geography,

Clarendon Press, Oxfords.
9. Yeates, Mauris (1974), An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York

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

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: four	Semester: 7th
Subject: Geography		
Course Code:	**Course Title: Statistical techniques and Cartography**	(Practical)

Course Objectives:

1. This course studies the concept of statistics and its geographical applications.
2. It lays the foundation of quantitative techniques to the students for spatial analysis.
3. It will enhance the ability to interpret data statistically.

Course outcomes:

1. The students will learn various statistical skills.
2. The students will know how the statistical theories and functions will be applied in geography.
3. The students will learn about the significance test to strengthen their argument with facts and represent data.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Representation of statistical data: Histogram, Lorenz curve multiple bar diagrams, duo directional bar diagram, pie diagram, ring diagram, spherical diagram	15
II	Scatter diagram, poly linear graph, ergograph, Climograph, Hythergraph	15
III	Distribution maps: choropleth, Isopleth, dot method, pictorial method, choro-schematic method	15
IV	Application of statistical data on the maps: mean, standard deviation, correlation, coefficient of variation.	15

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Dr. J.P Sharma: Practical Geography (Hindi), Rastogi publications Meerut.
2. Dickinson. G.C. 1968. Statistical Mapping and Presentation of Statistics. Arnold, London
3. Gregory, S. (1978): Statistical Methods and the Geographer, Longman, London.
4. Misra. R.P.1969. Fundamentals of Cartography. Prasaranga. University of Mysore, Mysore.
5. Yadav, Hirilal (1998): MatratamakBhaugool, Radha Publication, New Delhi
6. McGrew, Jr. J.C. and Monroe, C.B. (2000). *An Introduction to Statistical Problem Solving in Geography* (second edition), McGraw Hill, Boston.
7. Rohatgi, V. K. and Saleh, A. K. 2015. *An Introduction to Probability and Statistics*, John Wiley & Sons, New Jersy.

8. Gregory, S. 1978. *Statistical Methods and the Geographer* (4th Edition), Longman, London.

This course can be opted as an elective/ value added course by the students of following subjects:
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class: M.A./M.Sc.	Year: Four	Semester: 7th
Subject: Geography		
Course Code:	**Course Title: Computer Aided Statistical diagrams & graphs**.	(Practical)

Course Objectives:

1. To develop the understanding about computer-based cartography.
2. To enhance ICT skills among the students.

Course outcomes:

1. To promote quick data analyses.
2. Students will be able to develop analytical skills in order to prove their worth in various fields.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	The Mean, Median, Mode, and Other Measures of Central Tendency: The Arithmetic Mean, The Median ,The Mode, The Empirical Relation Between the Mean, Median, and Mode, The Relation Between the Arithmetic, Geometric, and Harmonic Means, The Root Mean Square, Quartiles, Deciles, and Percentiles, Software and Measures of Central Tendency.	20
	The Standard Deviation and Other Measures of Dispersion: Dispersion, or Variation, The Range, The Mean Deviation, The Standard Deviation, The Variance, Short Methods for Computing the Standard Deviation, Properties of the Standard Deviation, Empirical Relations Between Measures of Dispersion, Absolute and Relative Dispersion; Coefficient of Variation, Measures of Dispersion.	20
III	Moments, Skewness, and Kurtosis: Moments , Moments for Grouped Data ,Relations Between Moments , Computation of Moments for Grouped Data, Skewness, Kurtosis, Population Moments, Skewness, and Kurtosis, Software Computation of Skewness and Kurtosis.	20

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Murray R. Spiegel, Larry J. Stephens: Statistics, McGraw – Hill International publication.
2. R.B. Patil, H.J. Dand and R. Bhavsar: A Practical Approach using R, SPD publications.
3. S.C. Gupta and V.K. Kapoor: Fundamental of Mathematical Statistics, Sultan Chand and Sons.
4. Dr. Khullar: Practical Geography, kalyani publications.

This course can be opted as an elective/ value added course by the students of following subjects: Open for all ……
Suggested Continuous Evaluation Methods: ……
Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree. ……
Suggested equivalent online courses: ……..
Further Suggestions: ……..

At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fourth	Semester: 8th
Subject: Geography		
Course Code:	Course Title: **Climatology and Oceanography**	(Theory)

Course Objectives:

1. In depth study of Climatology and Oceanography
2. Knowledge of inter-relationship between Climatology and Oceanography

Course outcomes:

1. Dynamic of climate and related theories
2. Assessment of different aspects of sea floors

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	. Nature and scope of climatology and its relationship with meterology. Composition and structure of the atmosphere. Insolation and Heat Budget. Green House Effect. Distribution of Temperature and Pressure. Planetary wind system. Jet Streams and Monsoon machanism.	10
II	Humidity and Precipitation. Acid Rain, Air Masses and Fronts, Origin of Cyclones, Anticyclones and Thunderstorms and their effects. Ocean atmospheric interaction: EI Nino and La Nina Phenomenon.	10
III	Climatic classification of Koeppen and Thornthwaite, Major –climates of the world- tropical, temperate, desert and mountain climate. Climatic changes and Global warming.	10
IV	Nature and scope of oceanography. Distribution of land and water. Surface configuration of the ocean floor. Submarine relief of the pacific. Atlantic and Indian Ocean.	10
V	Composition of Oceanic Water. Distribution of Temperature and Salinity. Circulation of Oceanic Water: Waves, Tides and Currents.	10
VI	Ocean Deposits: their sources and kinds. Corals and coral reefs: Types and theories of their origin.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentation activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Barry, R.G. and Chorley P.J. (1998): Atmosphere, Weather and Climate. Routledg London and New York.
2. Critchfield, J.H. (1993): General Climatology, Prentice Hall, India, New Delhi.
3. Das, P.K. (1987): Monsoons National Book Trust, New Delhi.
4. Fein, J.S. and Stephens, P.N. (1987): Monsoons, Wiley Interscience.
5. Indian Met. Deptt. (1968): Climatological Tables of Observatories in India, Govt.
6. Lal, D.S. (1986): Climatology, Chaitanya Publication, Allahabad.
7. Lydolph, P.E. (1985): The Climate of the Earth, Rowman.
8. Menon, P.A. (1989): Our Weather, P.B.T. New Delhi.
9. Peterson, S. (1969): Introduction to Meteorology, Mc Graw Hill Book, London.
10. Robinson, P.L. and Henderson S. (1999): Contemporary Climatology, Henlow.
11. Sharma, R.C. & Meera Vatal : Oceanography for Geographers

This course can be opted as an elective/ value added course by the students of following su Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class:M.A./ M.Sc.	Year: Four	Semester: 8th
Subject: Geography		
Course Code:	**Course Title: Laws, Models & Theories in Geography**	(Theory)

Course Objectives:

1. To introduce applied aspect/nature of the subject
2. To elaborate philosophy and scientific nature of the subject

Course outcomes:

1. Student will enable to understand the nature and philosophy of the subject in order to apply their knowledge in the field of research and development

Credits: 4	Core Compulsory / Elective
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Development of Theoretical Geography, Definition and Meaning of Model, Paradigm, Theory and Law, Systems Analysis in Human Geography.	10
II	Laws of Isostasy, Mountain Building, Buys Ballot's Law, Gravity Model, Centrifugal, Centripetal Forces, Coriolis Force.	10
III	Locational Theories – Von Thunen's, Alfred Weber's, Isards, Losch, Central Place Theory.	10
IV	Cropping Intensity, Crop – Combination, Productivity Analysis.	10
V	Urban Primacy, Rank Size Rule, Nearest Neighbour Analysis.	10
VI	Koeppen's, Thornthwait's Model, Davis and Penck Cycles of Erosion.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Baskin, C.W. (Translator): Central Places in Southern Germany, Prentice Hall Inc. Englewood Cliffs New Jersey, 1966. Originally written by C.W. Christaller in German with title Die ZentralenOrteSudevtsch Land in 1933.
2. Dikshit, R.D. (1996): Political Geography: A Contemporary Prespective, Tata McGraw Hill, New Delhi.
3. Haggelt, P., Andrew, D. et al (eds) (1979): Locational Models, Arnold Heinemann.
4. Isard, W. (1956): Methods of Regional Analysis, The Technology Press of M.I.T. & John Wiley & Sons, New York.
5. King, L.J. (1986): Central Place Theory, Saga Publications, New Delhi.
6. Losch, A. (1954): Economics of Location, Yale University Press, New Heaven.
7. Weber, Alfred (1957): Theory of Location of Industries, Chicago University Press, Chicago.

Suggestive digital platforms web links-

1. https://study.com/academy/lesson/introduction-to-geographic-models.html

Programme/Class: M.A./M.Sc.	Year: Fourth	Semester: 8th
Subject: Geography		
Course Code:	Course Title:**Regional Planning and Development**	(Theory)

Course Objectives:

1) The students will be exposed to 'regional' approach in studying geography.
2) The students will be conscious of the various facets of regional geography – foundations and dimensions, regional consciousness and identity, and forms an evolution.
3) The students will be aware of the hierarchy of regional divisions of India.

Course outcomes:

1) The students will be able to understand and analyse the principal issues confront regions today.
2) The students will get an insight into 'how regions work', through case-study fro
3) The students will be able to understand and analyse the principal issues confro the different regions of India.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. Lecture 60..
I	Regional concept in geography, Concept, Nature and Scope of Regional Planning., changing concept of the region from an inter-disciplinary view-point, concept of space, area and locational attributes.	1
II	Types of region: Formal and functional; uniform and nodal, single purpose and composite regions, in the context of planning; regional hierarchy.	1
III	Physical regions, planning regions of India, regional divisions according to variations in levels of socio-economic development; special purpose regions-river valley regions, metropolitan regions, problem regions – hilly regions, tribal regions, regions of drought and floods.	1
IV	Approaches to Delimitation of different types of regions and their utility in planning. Planning process – Sectoral, temporal and spatial dimensions; short-term and long term perspectives of planning.	1
V	Regional development strategies – concentration vs. dispersal, case studies for plans of developed and developing countries, Regional plans of India.	1

VI	Concept of Multi-level planning; decentralised planning; Panchayati Raj System, role and relationship of Panchayati Raj Institutions (Village Panchayat, Panchayat Samiti and Zila Parishad) and administrative structure (Village, Block and District). Regional development in India, problems and prospects.	1

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Bhat, L.S.(1973): Regional Planning in India, Statistical Publishing Society, Calcut L.S. et al.(1976) : Micro-Level Planning : A Case Study of Karnal Area, Haryana, K.B. Publications, New Delhi.
2. Chandna, R.C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publish New Delhi.
3. Chaudhuri, J. R. (2001): An Introduction to Development and Regional Planning w special reference to India. Orient Longman, Hyderabad.
4. Friedmann, J. (1992): Empowerment: The Politics of Alternative Development. Bla Cambridge MA and Oxford.

This course can be opted as an elective/ value added course by the students of following su Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/1 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Any one of the following (elective subject):

Programme/Class:M.A./ M.Sc.	Year: four	Semester: 8th
Subject: Geography		
Course Code:	**Course Title: Geography of World Economies**.	(T
Course Objectives: Course outcomes:		
Credits: 4	Core Compulsory / Electiv	
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.		

Unit	Topics
I	Economic Geography: The Stuff of Economic Geography, A brief history, Why Economic Geography? Modes of Theorizing in Economic Geography: Political Economy, Poststructuralist Economic Geography.
II	Capitalism, Fundamental Concepts: Use-value, Exchange Value, Capital, Capital and Labour, Capital Accumulation, Capital Accumulation by Dispossession.
III	Capitalism in Twentieth Century: Organized Capitalism Disorganized Capitalism. Neo-Liberalism. World Economy and the Capitalist mode of production.
IV	The Basic Elements of World Economy: A Single Market, a Multiple State System, the Three-tier structure; A Space-Time Matrix of the World Economy.
V	Dynamics of World Economy, Spatial Structure of the World Economy.
VI	Economic Development: Globalization or Internationalization, Patterns of International Trade, WTO and Developing Countries.

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Aoyama, Yuko et.al. (2011), Key Concepts in Economic Geography, London: Sage
2. Benko, Georges and Ulf Strohmayer (2004), Human Geography, London: Arnold.
3. Daniels, Peter et.al. (2003). Human Geography, New Delhi: Pearson.
4. Gwynne, Robert et.al. (2003), Alternative Capitalism, London: Arnold.
5. Harvey, David (1982), The Limits to Capital, Oxford: Basil Blackwell.
6. Harvey, David (2008), A Brief History of Neoliberalism, Oxford: Oxford Universit
7. Harvey, David (2015), Seventeen Contradictions and the End of Capitalism, Lond Profile Books.
8. Johnston, R.J. et.al. (eds.) (2003), Geographies of Global Change, Oxford: Blackwe

9. Knox, Paul et.al. (2003), The Geography of the World Economy, London: Arnold.
10. Leyshon, Andrew et.al. (2011), The Sage Handbook of Economic Geography, Lon
Sage.

At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class:M.A./ M.Sc.	Year: Four	Semester:
Subject: Geography		
Course Code:	**Course Title: Geography of Water resources.**	(Theor

Course Objectives:

1) This course give a holistic view of the water environments i.e., hydrology seen as a wa in nature with human influence.
2) To know diverse methods of collecting the hydrological information, which is essent understand surface and groundwater hydrology?
3) To develop an understanding of how this knowledge may be applied in practice in ar economic and environmentally sustainable manner.
4)

Course outcomes:

1) Apply the water balance equation to various hydrological problems in time and space
2) Describe how components of the water cycle are influenced by human activities.
3) Analyse hydrological data in order to evaluate water resource management in an ar

Credits: 4	Core Compulsory / Ele
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	I Tot
I	Water as a focus of geographical interest, inventory and distribution of world's water resources (surface and subsurface); world hydrologic cycle: quantitative estimates; water storages. Glaciers, river channels, lakes and reservoirs; soil moisture, ground water. The basic hydrologic cycle: precipitation: potential, evapotranspiration and interception losses; runoff.	
II	Water demand and use: methods of estimation – agricultural, industrial and municipal uses of water. Agricultural use of water: estimation of crop – water requirement; soil-watercrop relationships; water balance and drought; major and minor irrigation: methods of distribution of water to farms; water harvesting techniques, soil water conservation. Irrigation – water logging, salinity and alkalinity of soil – over exploitation of ground water, land subsidence, saline water intrusion into the coastal aquifers. Water quality parameters, water pollution-river and ground water – floride and arsenic	
III	Industrial use of water: methods of estimation; demand for water in the industrial sector of India. Municipal use of water: general trends in water supply to the urban and rural communities in India, Internal navigation, hydel power and recreation.	

IV	Problems of water resource management, structural and non-structural adjustment of flood hazards, embankments, reservoirs, channel improvement, soil conservation, afforestation, flood forecasting, evacuation floodplains; landuse regulation and insurance.	
V	Conservation and planning for the development of water resources-social and institutional considerations; integrated basin planning; conjunctive use of surface and groundwater resources; watershed management; international and inter-state river water disputes and treaties; some case studies.	
VI	Case studies of major floods. Droughts – occurrence, major drought management.	

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Cl activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Beek, E., Loucks, P.D. 2005. Water Resource Systems Planning and Management: An Introduction to Methods, Models and Applications, UNESCO, Paris.
2. Bhattacharya, S.K. 1988. Urban Domestic Water Supply in Developing Countries, CBS Publishers, CR Distributors, Delhi.
3. Chow, V.T., Maidment, D.R. and Mays, W.L. 1988. Applied Hydrology, McGraw-Hil International Editions, McGraw-Hill Book Company, New York.
4. Beach, Tim and Jonathan, M.F. 2017. Wetland Hydrology: The International Encyclop Geography, Wiley Online Library.
5. Jain, S.K., Aggarwal, P.K. and Singh, V.P. 2007. Hydrology and Water Resources of I Springer, The Netherlands.
6. Karanth, K.R. 1988. Groundwater: Exploration, Assessment and Development, Tata-M Hill, New Delhi.
7. Mahajan G. 1989. Evaluation and Development of Groundwater, Ashish Publishing Ho Delhi.
8. Micklin, Philip, P. 1996. Man, and the water cycle: challenges for the 21st century, Ge 39 (3): 285-298.
9. Rai, S.C. 2017. Hydrology and Water Resources: A Geographical Perspective, Ane Bo Ltd., New Delhi.

This course can be opted as an elective/ value added course by the students of following sub for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject …….. in class/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./ M.Sc.	Year: Five	Semester: 8th
Subject: Geography		
Course Code:	**Course Title: Resource geography**	(Theor

Course Objectives:

1) Awareness about resource availability, accessibility, utilization, its use and misuse.
2) Spatial distribution of natural resources.
3) Resource management and governance.

Course outcomes:

1) At the end the course student should learn importance of natural resources.
2) Conservation methods and awareness about community participation.
3) Assessment of role of national and international efforts to mitigate resource problem

Credits: 4	Core Compulsory / Electi
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	N Le T 60
I	Introduction: Concept, models and approaches to natural resource management; problems of resource utilization; population pressure, development and resource use; natural hazards and risk management.	
II	Use and misuse of Resources: Global and Indian scenario.	
III	Historical background and future prospects of various resources; soil, water, minerals, forests.	
IV	Conservation and management of resources: Meaning, principles, philosophy and approaches to conservation; resource conservation and management methods.	
V	Resource appraisal and policy making: appraisal of Land resources, geophysical, geochemical, geobotanical; Policy models towards better management and conservation of resources.	
VI	Resource Development: Sustainable resource concept, methods, dimension and sustainable system; integrated resource development and its application.	

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Cl activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Adams, W.M.: Green Development: Envionment and Sustainability in the Third World Routledge and Chapman Hall, New York, 1990.
2. Burton, I. And Kates, R.W. (1978): Readings in Resources Management and Conserva McGraw Hill, New York.
3. Clark, G.L., Feldman, M.P. and Gertler, M.S. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, Oxford and New York.
4. Ehrlich, P.R., Ehrlich, R.H. and Holdren, J.P. (1998): Ecoscience: Population, Resourc Development. 2nd edition. Freeman and Company, San Francisco.
5. Granfelt, T.R. (1999): Management the Globalized Environment, J. & L. Composition New York.
6. Holechek, J.L. et al (2000): Natural Resources: Ecology, Economics & Policy, Prentic New Jersey.
7. Hooja, R & Joshi, R. (1994): Desert, Drought and Development, Studies and Resource Management and sustainability; Rawat Publication, Jaipur.
8. Kates, R.W. & Burton, I. (eds) (1986): Geography, Resources and Environment, Vol I University of Chicago Press, Chicago.

This course can be opted as an elective/ value added course by the students of following s Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject …….. in class/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fourth	Semester: 8th
Subject: Geography		
Course Code:	**Course Title: Advanced Geography of Uttar Pradesh**	(Theory)

Course Objectives:

1. To, understand the relief features and climatic effects on human life
2. to understand the development of socio-economic.

Course outcomes:

1. It enhance to Buit up strategies for sustainable development of regional variations.
2. students will be able to understand various agricultural issues at UP & national level.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No Lectur 60.
I	Locational Set-up of Uttar Pradesh in India and its changing map. Relief and Physical Divisions, Structure, Drainage, Ground Water Resource, Soils and their types, Climate and Climatic regions and vegetative cover.	
II	Problems Related to Over Utilization of Natural Resources in Uttar Pradesh: Usar and Sodic soils formation and soil erosion, Underground water scarcity, Depletion of forest cover and wild life, Surface Water Resource Utilities, Drinking Water and Power Shortage, Flood and drought affected parts.	
III	Spatio Temporal Trends of Agricultural production, Development of Irrigational facilities including canals and dams, Agricultural Productivity and Crop-Combination regions, Power Generation and its distribution in different sectors of economy, Agro-Processing industry and their problems with special reference to sugar industry.	
IV	Human Resource Development in Uttar Pradesh: Demographic and Religious composition (Density, Rural-Urban distribution of Population, Sex-ratio, S/C/ S/T population, Literacy and trend of urbanisation), occupational Structure and Poverty Eradication programmes initiated. Accessibility and Transport infrastructural gaps.	
V	Planning for Balanced Development: Planning for sustainable development including health, education, drinking water.	
VI	Emerging Political Issues and Voting Behaviour in General elections and Policy of the State Government for Balanced regional development.	1

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations activities/ assignments, Field visits., Internship, etc.

1. Despande C.D. (1992): India-A Regional Inter-Pretation ICSSR, Northern Book C Delhi.
2. Singh R.L.(ed.) (1971): India-A Regional Geography, National Geographical Socie Varanasi.
3. Tiwari, A.R. : Geography of Uttar Pradesh, N & T.
4. Tirtha, R. & Gopal Krishna (1966): Emerging India, Rawat Publications, Jaipur.
5. Kundu A., Raza Moonis (1982): Indian Economy: The Regional Dimension, Spect Publishers, New Delhi.
6. Mamoria, C.B. : Advanced Geography of India.
7. Bansal, S.C. : Advanced Geography of India (Hindi), Meenakshi Prakashan, Meeru
8. Bansal, S.C. Geography of Uttar Pradesh (Hindi), Meenakshi Prakashan, Meerut.

This course can be opted as an elective/ value added course by the students of following su for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/1 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/ Class: M.A./M.Sc.	Year: Fourth	Semester: 8th
Subject: Geography		
Course Code:	Course Title: Political Geography	(Theory)

Course Objectives:

1) To provide students with an understanding of the territorial bases of the state and role of geographic factors in shaping political history.
2) To provide an overview of constituencies and their evolution as well as politico electoral regions of India
3) To provide an understanding of India's role and position in regional blocs and among Indian Ocean and SAARC countries.

Course outcomes:

1) To appreciate the role of terrain and other geographical factors in India's political history.
2) To understand the process of evolution of constituencies and politico electoral regions of India
3) An understanding of India's position in regional power blocs, bilateral relations with SAARC countries and the geopolitics of the Indian Ocean region.

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Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.	

Unit	Topics	No. of Lectures Total 60…….
I	Nature, scope, subject matter and recent development in political geography; approaches to study, major schools of political thought.	12
II	Geographic Elements and the State: Physical Elements; Human elements; Economic elements; Political geography and environment interface.	12
III	Themes in Political Geography: State, Nation, Nation-State and Nation-building, Frontiers and boundaries, Colonialism, decolonizatiojn, Neocolonialism, Federalism and other forms of governance. The changing patterns of World Powers, Perspectives on core-periphery concept, Conflicts and cooperation.	12
IV	Geopolitical significance of Indian Ocean: Political geography of any one of the following regions: SAARC Region, South-East Asia, West Asia, East Asia,	12
V	Political geography of contemporary India with special reference to: The changing political map of India, centripetal & centrifugal forces; stability & instability; Interstate issues (like water disputes & riparian claims) and conflict resolutions insurgency in border states; Emergence of New States; Federal India: Unity in Diversity.	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

1. Alexander, L.M. (1963): World Political Patterns Ran McNally, Chicago.
2. De Blij, H.J. and Glassner, Martin (1968): Systematic Political Geography, John Wile, New York.
3. Dikshit, R.D. Political Geography (1996): A Contemporary Perspective. Tata MCGraw Hill New Delhi.
4. Dikshit, R.D. Political geography (1999): A Centry of progress, Sage, New Delhi.
5. Sukhwal, B.L. (1968): Modern Political Geography of India Sterling Publishers, New Delhi.
6. Taylor, Peter (1985): Political Geography Longman, London.
7. Fisher Charles A. (1968): Essays in Political Geography, Mehthuen, Landon.
8. Pounds N.J.G. (1972): Political Geography. McGraw Hill, New York.
9. John R. Short (1982): An introduction to Political Geography Routledge, London.
10. Moddie, A.E: Geography Behind Politics Hutchinson, London, Latest edition.
11. Prescott. J.R.V.: The Geography of Frontiers and Boundaries Aldine, Chicago.
12. Deshpande C.D (1992): India-A-Regional Interpretation Northern Book Centre, New Delhi.
13. Pnanikkar K.M. (1959): Geographical Factors in Indian History: 2 Vols. Asia Publishing House, Bombay..

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

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree. ……
Suggested equivalent online courses: ……..
Further Suggestions: ……..

At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class: M.A./M.Sc.	Year: four	Semester: 8th
Subject: Geography		
Course Code:	**Course Title: Advanced Cartography (Traditional/Computer)**	(Practical)

Course Objectives:

1. This course studies the concept of statistics and its geographical applications.
2. It lays the foundation of quantitative techniques to the students for spatial analysis.
3. It will enhance the ability to interpret data statistically.

Course outcomes:

1. The students will learn various statistical skills.
2. The students will know how the statistical theories and functions will be applied in geography.
3. The students will learn about the significance test to strengthen their argument with facts and represent data.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Determining the dot value through (Areal or Stilgenbauer's method) & (Volumetric or Sten de Geer's method).	15
II	Conversion of contour maps into block diagrams: multiple section method, layer method.	15
III	Determination of average slope: S. FinsterWalder's method and C.K. Wentworth's method, slope- category method of Raisz and Henry	15
IV	Map projection: International projection, stereographic projection, Mercater with great circle loxodrome, interrupted Mollweide projection, sanson-flamsteed's sinusoidal projection.	15

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Dr. J.P Sharma: Practical Geography (Hindi), Rastogi publications Meerut.
2. Dickinson. G.C. 1968. Statistical Mapping and Presentation of Statistics. Arnold, London
3. Gregory, S. (1978): Statistical Methods and the Geographer, Longman, London.
4. Misra. R.P.1969. Fundamentals of Cartography. Prasaranga. University of Mysore, Mysore.
5. Yadav, Hirilal (1998): MatratamakBhaugool, Radha Publication, New Delhi
6. McGrew, Jr. J.C. and Monroe, C.B. (2000). *An Introduction to Statistical Problem Solving in Geography* (second edition), McGraw Hill, Boston.

7. Rohatgi, V. K. and Saleh, A. K. 2015. *An Introduction to Probability and Statistics*, John Wiley & Sons, New Jersy.
8. Gregory, S. 1978. *Statistical Methods and the Geographer* (4th Edition), Longman, London.

This course can be opted as an elective/ value added course by the students of following subjects:
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Geographical Thought**	(Theory)

Course Objectives:

1) The students will be exposed to the historical dimensions in geography.
2) The students will be conscious of the various components of historical geography.

Course outcomes:

1) The students will be able to understand and analyse the principal issues confronting historical geography.
2) The students will get an insight into various components of historical geography.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	The field of geography: Meaning, philosophy and purpose of Geography. Geography as a social science and natural science. Concepts in the philosophy of geography – distributions, relationships, interactions, areal differentiation and spatial organization.	10
II	Geography in the ancient and medieval period: Contribution of Greek and Roman Geographers- Character of Geography in medieval period- the Dark Age, the Arabic period and the Renaissance period.	10
III	Geography in the modern period: Contribution of German (Humboldt, Ritter &Ratzel), French (Blache and Brunhes), Russian (Gerasimov, Lomonosov), British (L.D. Stamp and Mackinder) and American (Richard Hartshorne, Semple & Huntington) Schools.	10
IV	Dualisms in geography: systematic & regional geography; physical & human geography. The myth and reality about dualism. Regional geography. Concept of region, regionalization and the regional methods.	10
V	History and Development of Geographical Thought in India: Contribution of Indian Scholars in Geography. Geographical contribution in British Period. Development of Indian Geography after independence. Expansion of Geography Teaching in Indain Universities and Professional Institutions.	10
VI		10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

1. Abler, Ronald; Adams, Jons, S. Gould, Peter, N.J. (1971) : Spatial Organization: Th Geographer's View of the World, Prentice Hall, New Jersey.
2. Ali S.M. (1966) : The Geography of Puranas, Peoples Publishing House, Delhi.
3. Amedeo, Douglas (1971) : An Introduction to Scientific Reasoning in Geography, J Wiley, U.S.A.
4. Bansal, S.C. (2010) : History of Geographical thought (in Hindi).
5. Dikshit, Shreekant (2000): Bhugoolik Chintan, Udhavke Vikas, Varanasi.
6. Dikshit, R.D. (ed.) (1994): The Art & Science of Geography Integrated Readings, Pr Hall of India, New Delhi.
7. Danieals, P., Bradshow, M., Shaw, D. And Sidaway, J. (2000): An Introduction to H Geography. Issues for the 21st Century. Prentice Hall, London.
8. Dikshit, R.D. (2004): Geographical Thought. A Critical History of Ideas. Prentice-H India, New Delhi. (in English and Hindi).
9. Harvey, D. (1969): Explanation in Geography. Arnold, London.

This course can be opted as an elective/ value added course by the students of following subj Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 9th
Subject: Geography		
Course Code:	Course Title:**Interdisciplinary Research Methods and Techniques**	(Theory)

Course Objectives:

1. To, understand the fundamentals of research and its various types.
2. To, understand the basic methodology, techniques into various types of research.

Course outcomes:

1. The students will be able to understand the theme of research.
2. The students will be able to find new techniques and areas which are helpful for their applications.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Conceptual Foundation of Research: Meaning and types of research, objectives and motivation of research, concepts of pure and applied research, scientific approach to geographic research, Basic Components of Research, defining a research problem, construction of research design, Hypothesis formulation.	10
II	Sampling Techniques and Selection of Geographic Variables: Aims of Sampling, Basic Components of Sampling Methods, Nature of Geographic Data, Continuous and discrete data. Level of measurements: various scales, data transformation; its process and methods.	10
III	Data Collection: methods of field observation, role of field methods in geographic studies, Techniques for primary data collection, preparation of questionnaires. Data collection from secondary sources. Tabulation and Data Analysis.	10
IV	Cartographic analysis of data. Techniques of data representation by quantitative maps. Hypothesis Testing. Basic principles and procedures of correlation, significance of statistical analysis and interpretation of data.	10
V	Drafting of the research report quantitative & qualitative interpretations, writing manuals (Arranging themes, maintaining coherence, cross comparison concluding, referencing noting etc.)	10
VI	Proof marks & marked proof, size scale and types of report, organisation and designing of report, Evaluating a report.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Ahuja, R. (2001): Research Methods, Rawat Publications, Jaipur and New Delhi.
2. Bhattacharyya, D. K. (2005): Research Methodology, Excel Books, New Delhi
3. Blackburn, J. and Holland, J. (eds.) (1998): Who Changes? Institutionalising Particip in Development. IT Publications, London.
4. Blaxter, L., Hughes, C. and Tight, M. (1996): How to Research. Open University Pr Buckingham.
5. Mishra, R.P. : Research Methodology.
6. Crang, Mike (1999): Cultural Geography. Routledge, London.
7. Daniels, P., Bradshaw, M., et al. (2000): Human Geography: Issues for the 21st Cen Prentice Hall, London, and Pearson Publishers., Singapore. Indian reprint, 2003.

This course can be opted as an elective/ value added course by the students of following subj Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Population Geography**	(Theory)

Course Objectives:

1) This course intends to orient the students towards interdisciplinary perspectives on population issues at different geographical scales.

2) It will acquaint the candidate to appreciate the role of spatial perspectives towards showcasing population changes and its impact on the economy, society, environment and politics at diverse geographical spheres.

Course outcomes:

1) After taking this course, a candidate should be able to appreciate the active role of population geography as a distinct field of human geography.
2) S/he should be conversant with different sources of demographic data, and well versed with debates on population-development linkages.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Population Geography: Scope and Objectives, development of Population Geography as a field of specialization-Population Geography and Demography-sources of population data, their level of reliability, and problems of mapping of population data.	10
II	Population distribution: density and growth – theoretical issues, Classical and modern theories in population distribution and growth, World patterns and their determinants, India, population distribution, density and growth profile, Concepts of under population and over population.	10
III	Population composition: age and sex, family and households, literacy and education, religion, caste and tribes, rural and urban, urbanisation, occupational structure, population composition of India.	10
IV	Population dynamics: Measurements of fertility and mortality, migration, national and international patterns, India's population dynamics, Demographic Research Methods.	10
V	Population and development: population-resource regions and levels of population and socio-economic development, population policies in developed and less developed countries.	10
VI	Human Development Index and its components, India's population policies, population and environment,	10

	implications for the future.	

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

1. Bilasborrow, Richard E and Daniel Hogan (1999): Population and Deforestation in the Humid Tropics, International Union for the Scientific Study of Population, Belgium.
2. Bogue, D.J. (1969): Principles in Demography, John Wiley, New York.
3. Bose, Ashish et.al. (1974): Population in India's Development (1947-2000): Vikas Publishing House, New Delhi.
4. Census of India (2001): India: A State Profile.
5. Chandna, R.C. (2000): Geography of Population, Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
6. Clarke, John I. (1973): Population Geography, Pergamon Press, Oxford.
7. Crook, Nigel (1997): Principles of Population and Development, Pergmon Press, New York.

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

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class:M.A./ M.Sc.	Year: Five	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Gender Geography**	(Theory)

Course Objectives:

1) To enable students to understand the relevance of and developments in the subfield of geography of gender in India.
2) To equip students with an understanding of regional variations in construction of gende through the frame of genderscapes.
3) To provide an understanding of spaces of indigenous feminisms in the Indian context.

Course outcomes:

1) Understanding the emergence of the subfield of geography of gender as well its trajecto growth in India.
2) Understanding gendered implications of public and private spaces and spatial variations construction of gender in India.
3) Understanding the concept of a genderscape and appreciating regional genderscapes in

Credits: 4	Core Compulsory / Elective
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No Lectures T
I	Growth and evolution of this discipline; its connotation; traditional concept of interdependence between men and women.	
II	Gender based demographic structure; infant mortality rates between boys and girls; maternal mortality rate; female infanticide; Gender and Longevity Gap.	
III	Participation ratio in Economic and Social Activities; multiple role of women in land, water and forest resource management; involvement of women in household works, agriculture, mining, construction, industry, service and informal sectors; health-care deliverer.	
IV	Regional inequality in Socio economic development. Gender Gaps in Social and Public Life: Education, wage differentials in economic activities, health care and nutrition, participation in politics and enfranchisement.	
V	Empowerment of women at various levels Village to Parliament with education, economic opportunities, access to reproductive health services, involvement in decision making processes in the arenas of development and environmental management.	
VI	Regional Patterns of Sex Ratio & Determinants. Regional Profile of gender based Structure. Patterns of health care : a Regional Profile.	

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class assignments, Field visits., Internship, etc.

Suggested Readings:

1. Boserup, E. (1989): Women's Role in Economic Development, Earthscan, London.
2. Dankelman, I. & Davidson, J. (1989): Women and Environment in the Third World, Earth London.
3. Deblig, H.J. (1996): Human Geography-Culture, Society and Space (5th ed.), John Wiley,
4. Haraway, D. (1991): Simians, Cyborgs and Women-The Reinvention of Nature, Routledg York.
5. Koblinsky, M. et. al. (eds.) (1993): The Health of Women – A Global Respective, Westvie Boulder.

At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Agricultural Geography**	(Theory)

Course Objectives:

1) This course attempts to introduce the students to the nature and origin of agriculture and its regions.
2) The course examines the questions related to agricultural development and productivity in India.
3) It also critically evaluates the environmental consequences and emerging perspective and policies and interventions aimed at sustainable agriculture

Course outcomes:

1) The students will be able to understand and analyse the historical perspective of agriculture.
2) The students will be able to analyse the agriculture development and productivity and its impacts on various sectors
3) The students will be able to get updated knowledge of contemporary issues and strategies.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Nature, scope, significance and development of agricultural geography. Approaches to the study of agricultural geography: Sources of agricultural data.	10
II	Determinants of agricultural land use-Physical, cultural. Land holding and land tenure systems. Selected agricultural concepts and their measurements; cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization, efficiency and productivity, crop combination regions and agricultural development. Green Revolution-its impact and consequences.	10
III	Theories of agricultural location based on several multi-dimensioned factors: Von Thunen's theory of agricultural location and its recent modifications; Whittlesey's classification of agricultural regions; land use and land capability.	10
IV	Agriculture in India- Land use and shifting cropping pattern. Regional pattern of productivity in India. Green Revolution, White Revolution, Food deficit and food surplus regions; nutritional index. Specific problems in Indian agriculture and their management and planning.	10

	Agricultural Policy in India.	
V	Contemporary issues; Food, nutrition and hunger, food security, drought and food security, food aid programmes; environmental degradation, role of irrigation, fertilizers, insecticides and pesticides, technological know-how.	10
VI	Employment in the agricultural sector: landless labourers, women, children, occupational health and agricultural activities. Land reforms, land use policy and planning.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

1. Bayliss Smith, T.P. (1987): The Ecology of Agricultural Systems. Cambridg University Press, London.

2) Berry, B.J.L. et. Al. (1976): The Geography of Economic Systems. Prentice Hall, New Y

3) Brown, L.R. (1990): The Changing World Food Prospects- The Nineties and Beyond. W

Watch Institute, Washington D.C.

4) Dyson, T. (1996): Poupulation and Food-Global Trends and Furure Prospects. Routledge,

London.

5) Gregor, H.P.(1970): Geography of Agriculture. Prentice Hall, New York

This course can be opted as an elective/ value added course by the students of following subj
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: five	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: SOCIAL GEOGRAPHY**	(Theory)

Course Objectives:

1. To, analyze the social structure of India.
2. To make suitable strategies and planning for the growth and upliftment of society.

Course outcomes:

1. Understand the development of society and different social groups in India.
2. Know the theoretical, philosophical and conceptual base of social geography.
3. Understand the basic concepts of society in geographical perspectives

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Social Geography: Nature, meaning& and Development of Social Geography; Philosophical bases of Social Geography: Positivism, Humanism and Feminism.	15
II	Towards a social geography of India; Concept of Social differentiation, socio cultural regions of India, Socio-Cultural Regions of India; Linguistic Elements in India. Caste System in India.	15
III	Social Well-being : Concepts of social well being, Human Development Index. Human Development in India. Factors of social change	15
IV	Gender Issues of social Well Being: Female Literacy, family Planning, Women Health. Sex Ratio, Women Empowerment. Women Employment.	15

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Ahmad, Aijazuddin (1999) Social Geography, Rawat: New Delhi.
2. Dreze, Jean and Amartya Sen (9196) Economic Development and Social Opportunity Oxford University, Press.
3. Gregory, D and Larry (eds) Social Relations and Spatial Structures, Oxford: Macmillar

This course can be opted as an elective/ value added course by the students of following subj all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th certificate/diploma/ UG degree.

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Suggested equivalent online courses: ……..
Further Suggestions: ……..

At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: five	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: TECHNIQUES AND METHODS OF REGIONAL ANALYSIS**	(Theory)

Course Objectives:

1. Regional Science is a field of the social sciences concerned with analytical approach problems that are specifically regional in nature.
2. In the broadest sense, any social science analysis that has a spatial dimension is em by regional scientists.
3. The students will be exposed to a wide variety of techniques and methods used in regional analysis.

Course outcomes:

1. The students will be able to understand and analyze the role of population and mig in regional economic analysis.
2. The students will be able to appreciate and analyse the implications of region's eco analysis in regional studies.
3. The students will be able to comprehend and analyze the significance of decision a and spatial statistics.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Introduction: origin, growth, scope and nature of regional science.	12
II	Regional Demographic Analysis: census data, population projection, migration estimation	12
III	Regional Economic Analysis: regional income estimation and social accounting; interregional flow analysis and balance of payment statements; regional cycle and multiplier analysis; regional industrial location and complex analysis; interregional and regional input-output techniques.	12
IV	Decision Analysis: game theory and decision analysis.	12
V	Spatial Statistics and Analysis.	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Bendavid, A. 1991. Regional and Local Economic Analysis for Practitioners, Praege York.
2. Brian Field and MacGregor Bryan, 1987. Forecasting Techniques for Urban and Re Planning, Univ. College London.
3. Davis H. Craig, 1990. Regional Economic Analysis and Project Evaluation, UBC Pr
4. Ebdon David, 1985. Statistics in Geography, Basil Blackwell.
5. Isard Walter, 1960. Methods of Regional Analysis: An Introduction to Regional Sci MIT and John Wiley & Sons, Inc.
6. Isard Walter, et. Al. 1998. Methods of Interregional and Regional Analysis, Aldersh Ashgate.

This course can be opted as an elective/ value added course by the students of following sub
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Cultural Geography**	(Theory)

Course Objectives:

1) To enhance the understanding of culture using key concepts of geography
2) To develop analytical skills to decode culture
3) To provide a critical understanding of the contemporary issues and the politics underlying it

Course outcomes:

1) Make sense of culture
2) Geographic epistemologies for analysing culture
3) Develop analytical capability to read contemporary issues of culture

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Nature and development of cultural geography: Philosophical bases of cultural geography, cultural geography in the realm of social sciences. Understanding and its structure and process: geographical bases of social formations: contribution of cultural geography to social theory power relations and space.	12
II	Evolution of socio-cultural regions of India: bases of social region formation: role of race, caste, ethnicity; religion and languages: social transformation and change in India. Cultural diversity and regionalization in India. Concepts of social well-being, physical quality of life, human development cultural diversity.	12
III	Introduction: Definition and Scope of cultural geography: Cultural element and components of culture; convergence and divergence processes; cultural changes; perception, behaviouralism and cultural relativism.	12
IV	Geography of ethnic groups and tribal groups. Re ligion and its diffusion; diffusion of ethnic traits in world as well as India ethnic landscape and economy of the area, Diffusion in folk geography: Cultural landscape and cultural ecology in folk geography.	12
V	Patterns of livelihood: various economic activities & cultural adaptations; agriculture, industrialization and modernizion, technological changes and their geographic implications, pattern of different societies. Socio-cultural palnning in India.	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

1. Ahmad, Aijazuddin (1999): Social Geography, Rawat Publication, New Delh
2. Broek, J.C. and Webb, J.W. (1978): A Geography of Mankind, McGraw Hill York.
3. Crang, Mike (1998): Cultural Geography, Routledge publications, London.
4. De Blij, H.D.: Human Geography, John Wiley and Sons, New York.
5. Dreze Jean, Amartya Sen (1996): Economic Development and Social opportu Oxford University Press, New Delhi.
6. Dubey, S.C. (1991): Indian Society, National book Trust, New Delhi.
7. Gregory, D. and J. Larry (eds.) (1985): Social relations and spatial structures McMillan.
8. Harmandorf, (1989): Tribes of India : The Struggle for survival, Oxford Univ Press, Delhi.

This course can be opted as an elective/ value added course by the students of following subj Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Five	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: MULTIVARIATE STATISTICAL ANALYSIS**	(Theory)

Course Objectives:

1. This course shall equip the students to have a basic understanding of multivariate statistical analyses. It shall allow them to understand purpose and basic assumptio related to regression models.
2. They will also learn about different family of regression models, with data requirem assumptions, and diagnostic tests.

Course outcomes:

1. This course must train the student about the need, purpose, and advantage of regr models over other crude methods.
2. Students should be well conversant with different families of regression models, its underlying assumptions, data requirements, interpretation of regression results, ar to apply the diagnostic test to check the model fit.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Introduction to regression models: assumptions, properties, and applications	12
II	Bivariate linear regression	12
III	Multiple regression	12
IV	Logit regression	12
V	Factor analysis; Principal component analysis	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Berry, W.D. 1993. *Understanding Regression Assumptions*, Sage Publications, Londo
2. Dunteman, G.H. 1989. *Principal Component Analysis*, Sage Publications, London.
3. Kim, J., and Mueller, C.W. 1978. Factor Analysis: Statistical Methods and Practical Iss Sage Publications, London.
4. Menard, S. 2002. *Applied Logistic Regression Analysis*. 2nd edition, Sage Publications, London.
5. Retherford, R.D., and Choe, M.K. 1993. *Statistical Models for Causal Analysis*, Wiley& Inc, New York.
6. Schroeder, L.D., Sjoquist, D.L., and Stephan, P.E. 1986. *Understanding Regression An An Introductory Guide*, Sage Publications, London.
7. Goddard, J., Kirby, A. 1976. *An Introduction to Factor Analysis*. Concepts and Techni Modern Geography, Institute of British Geographers, London.

8. Daultrey,S. (1976) *Principal Component Analysis*. Concepts and Techniques in Mode Geography, Institute of British Geographers, London.

This course can be opted as an elective/ value added course by the students of following subj
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12[t] certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class: M.A./M.Sc.	Year: five	Semester: 9th
Subject: Geography		
Course Code:	Course Title: Remote Sensing G.I.S and G.P.S	(Theory)

Course Objectives:

1. To develop an understanding of remote sensing, GIS and GPS technologies and thei potential applications.
2. To develop basic skills to interpret remote sensing images for various applications i geography.
3. To develop basic skills to use GIS for various applications in geography.

Course outcomes:

1. Overall understanding of potential of Remote Sensing, GIS and GPS
2. Understanding of image interpretation
3. Understanding of GIS analysis workflow and integrated applications in various dom Geography

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Meaning and basic concept of Remote sensing along with Nature and scope of Remote sensing; basic principles of thermal and microwave Remote sensing	10
II	Meaning and types of sensors, platforms of Remote sensing. Major programs of Remote sensing in India. Digital Image Processing. Fundamentals of Aerial Photography	10
III	Factors influencing soil reflectance properties, Spectral signatures, soil moisture assessment, Soil Erosion Assessment Models, Soil conservation.	10
IV	Spectral properties of crops, crop canopy, crop acreage estimation, vegetation indices, crop condition assessment, Yield Modelling	10
V	Definition and development of GIS, computer environment for GIS, Spatial Data: Elements of spatial data; quality and error variations-raster and vector data structures, Database Management Systems: and spatial modeling-output format and generation., GIS Application: GIS data model structure, data input method and editing.	10
VI	Nature and scope of G.P.S, characteristic of G.P.S, advantages & disadvantages of G.P.S.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Gupta, R.P. 2018. *Remote Sensing Geology*, 3rd Edition, Springer.
2. Gonzalez Rafael C and Woods Richard E.: Digital Image Processing Addison Wesley, York
3. Campbell, J.: Introduction to Remote Sensing.
4. Luder, D.: Aerial Photography Interpretation: Principles and Application.
5. Star, J. and J. Estes : Geographic Information Systems: An Introduction.
6. डॉदेवीदत्तचौनियाल: सुदूरसंवेदनएवंभौगोलिकसूचनाप्रणाली, शारदापुस्तकभवनइलाहाबाद.
7. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London.
8. Garg, P. K. and Agarwal, C. S. (2000). Book on Remote Sensing for Natural Resources Inventory &Management.. Wheeler Publishing House, Delhi.
9. Garg, P. K. (2021). *Book on: Digital Land Surveying and Mapping*. New Ag International Pvt Ltd, Delhi

This course can be opted as an elective/ value added course by the students of following sub
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Five	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Remote Sensing and GIS**	(Practical)

Course Objectives:

1) To make student understand glacial geomorphology and hydrology using ea observation and GIS.
2) Of specific interest are glacier variations and response to climate which inclu consequences of the cryosphere change to society such as glacial hazards and impact on livelihood of Himalayan Mountain dwellers.

Course outcomes:

1) The course will help in understanding cryosphere geography and its relevance in t present time.
2) Student will learn how to use Earth Observation and GIS for glacier and glacial lak inventory and impact assessment on society.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Electro-magnetic spectrum, interaction of EMR with the Earth's surface, patterns of reflected EMR, measurement of spectral reflectance.	12
II	Digital image classification: unsupervised, supervised, object-based, pixel based	12
III	Digital models: DEM (digital elevation model), DTM (digital terrain model), TIN (triangulated irregular model).	12
IV	NDVI (normalize difference vegetation index): forest cover and agriculture of western Uttar-Pradesh.	12
V	Any two applications of Remote Sensing	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Ian Heywood. An Introduction to Geographical Information Systems
2. Aronoff, S. Geographic Information Systems: A Management Perspective
3. Elangovan, K. GIS - Fundamentals, Applications and Implementations
4. Chang, Kang-Tsung Introduction to Geographical Information Systems
5. डॉ०देवीदत्तचौनियाल: सुदूरसंवेदनएवंभौगोलिकसूचनाप्रणाली, शारदापुस्तकभवनइलाहबाद.
6. Garg, P. K. (2021). Book on: Digital Land Surveying and Mapping. New Age Intern Pvt Ltd, Delhi

This course can be opted as an elective/ value added course by the students of following sub
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: five	Semester: 9th
Subject: Geography		
Course Code:	**Course Title: Advance Surveying**	(Practical)

Course Objectives:

1. This course studies the concept of surveying and mapping.
2. It lays the foundation of plane table surveying to the students for land use depictio
3. This will enhance the ability to draw the spatial details existing on the ground.

Course outcomes:

1. The students will learn various surveying skills.
2. The students will know how the surveying techniques and functions will be applied field of cartography.
3. The students will learn about the significance of land use mapping and its applicatio

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Basic introduction of Survey: types of survey, methods of survey- intersection, radiation, radio-progration, traverse method. Resection: meaning, methods & merits and demerits.	20
II	Plane table survey: Resection method (two point problem & three point problem)	20
III	Theodolite/auto level/ GPS/total stations: (Any two applications of any one instrument)	20

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Dr. J.P Sharma: Practical Geography (Hindi), Rastogi publications Meerut
2. Misra. R.P.1969. Fundamentals of Cartography. Prasaranga. University of Mysore, Mysore.
3.

This course can be opted as an elective/ value added course by the students of following sub Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree. ……
Suggested equivalent online courses: ……..
Further Suggestions: ……..

At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 10th
Subject: Geography		
Course Code:	Course Title: Urban Geography	(Theory)

Course Objectives:

1) To engage students methodologically to unpack urban spaces and processes
2) To study the dynamics of 'everyday' as a methodological tool
3) To make sense of 'everyday' context as a field and source of data

Course outcomes:

1) Engage with literature on urban every-day and diverse forms of agency and methodologies
2) Reflect the ways in which methodological lenses are constituted through understanding urban cultural spaces
3) Innovative methodological approaches and field Journal writing

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Nature and scope of urban geography, different approaches and recent trends in urban geography, attributes of urban places during ancient, medieval and modern period, Bases and process of urbanization and development,	10
II	Urban growth and theories. Central Place Theory of Christaller and Losch. Theories of Perroux and Boudeville.	10
III	Urban economic base: Basic and non-basic functions, input-output models, concept of dualism, colonial and postcolonial structure, metropolitan city and changing urban function; role of informal sector in urban economy. Functional classification of towns. Classification of urban settlements on the basis of size and function and its methods.	10
IV	Organization of urban space: urban morphology and landuse structure, city core, commercial, industrial and residential area; core-country variations; city-region relations, modern urban landscape; morphology of urban settlements and its comparison with western urban settlements; urban expansion, Umland and periphery, Urban Primacy, Rank Size Rule.	10
V	Contemporary urban issues: urban poverty, urban renewal, urban sprawl, slums; transportation, housing, urban infrastructure; environmental pollution; air, water, noise, solid waste, urban crime	10
VI	Urban policy and planning, development of small and medium sized towns, city planning, green belts, garden cities, urban policy, contemporary issues in urban planning globalization and urban planning in the Third World. Contributions of	10

	Indian scholars to the studies of urban settlements.	

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

1. Alam, S.M. (1964): Hyderabad – Secunderabad Twin Cities Asia Publishing House, Bombay.
2. Berry, B.J.L. and Horton, F.F. (1970): Geographic Perspectives on Urban Systems, Prentice Hall, Englewood Chiffs, New Jersey.
3. Bansal, S.C. : Urban Geography (English & Hindi both), Meenakshi Prakashan, Me
4. Carter (1972): The Study of Urban Geography, Edward Arnold Publishers, London.
5. Chorley, R.J.O Haggett P. (ed.) (1966): Models in Geography, Methuen, London.
6. Dickinson, R.E. (1964): City and Region, Routledge, London.
7. Dwyer, D.J. (ed.) (1971): The City as a Centre of Change in Asia, University of Hon Kong Press, Hongkong.
8. Gibbs, J.P. (1961): Urban Research Methods, D. Van Nostrand Co. Inc. Princeton, N Jersey. Hall, P. (1992): Urban and Regional Planning, Routledge, London.
9. Hall, P. (1992): Urban and Regional Planning, Routledge, London.

This course can be opted as an elective/ value added course by the students of following sub
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: Recent Issues in Geography**	(Theory)

Course Objectives:

1. To update students about latest trends in the subject
2. To develop vision about research and future opportunities

Course outcomes:

1. Advance research and application

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60….
I	Recent Conceptual Development in Geography: Philosophical Issue – Positivism, Behaviouralism, Phenomenology, Idealsim, Existentialism and Humanistic Geography, Spatial Justice, Radicalism & Postmodernism.	10
II	Recent Methodological Development in Geography: Quantitative Revolution and use of Statistical Techniques. Use of Hardware and Software Technologies in data analysis and mapping, use of models and paradigms in geography.	10
III	Use of Technologies in Geography: Remote Sensing and GIS and GPS.	10
IV	Scientific Methods in Geographical Research: Hypothesis Testing, Problem Solving approach in Geography, Project Formulation and Project Evaluation Techniques.	10
V	Recent Issues in Indian Geography: Post Colonialism and Indian Geography, Trends of Geographical Researches in India, Prospects of Professional Opportunities in Geography,	10
VI	Future of Indian Geography, Problems, Perspectives and Prospects.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

1. Adams, P., Steven, H. and Karel, T. (eds.) (2001): Texture of Place. Exploring Hum Geographies. University of Minnesota Press, Minneapolis.
2. Anderson, K., Domosh, M., Pile, S. and Thrift, N. (eds.) (2003): Handbook of Cultu Geography. Sage Publications, London.
3. Barnes, T. and Gregory, D. (eds.) (1997): Readings in Human Geography: The Poet Politics of Inquiry. Arnold, London.
4. Bunkše, E. V. (2004): Geography and the Art of Life. John Hopkins University Pres Baltimore.
5. Buttimer, A. (1971): Society and Milieu in the French Geographic Tradition. Rand

McNally, Chicago.
6. Daniels, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): An Introduction to Hu
Geography. Issues for the 21st Century. Prentice Hall, London.

This course can be opted as an elective/ value added course by the students of following sub
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12
certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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ANY TWO OF THE FOLLOWING:

Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: Rural Geography**	(Theory)

Course Objectives:

1) The students will be exposed to basic concepts of urban and regional planning.
2) The students will be conscious of pioneering thinkers in urban planning.
3) The students will be aware of the background theory of regional planning and its processes

Course outcomes:

1) The students will learn about basic principles of urban and regional planning.
2) The students will know about pioneering thinkers in the field of urban planning.
3) The students will study about the different theoretical background and structure of the regional planning process

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Nature, scope, significance and development of rural settlement geography. Approaches to rural settlement geography. Rural-urban continuum Definition and characteristics of rural settlements in the fringe areas and sparsely settled areas. Distribution of Rural settlements: size and spacing of rural settlements. Nearest Neighbour Analysis.	10
II	Types, forms and Patterns of rural settlements: cause and effect, Classification of rural settlements, Rural service centres, their nature, hierarchy and functions, rural-urban fringe – structure, characteristics and functions.	10
III	Social issues in rural settlements: poverty, housing and shelter, depriation and inequality, empowerment of women, health care, rural-urban interaction.	10
IV	Environmental issues in rural settlements: access to environmental infrastructure, water supply, sanitation, drainage, health hazards.	10
V	Cultural landscape elements in rural settlements in different geographical environments with special reference to India; House types and field patterns,	10
VI	Origin, evolution, size, socio-spatial structure of Indian villages, periodic market, Rural development planning in India.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

1. Alam, S.M. et. al. (1982): Settlement System of India, Oxford and IBH Publication Co., New Delhi.
2. Brock, J.O.M. and Welb, J.W. (1978): Geography of Mankind, McGraw Hill, London.
3. Chisholm, M. (1967): Rural Settlements and Land Use, John Wiley, New York.
4. Clout, H.D. (1977): Rural Geography, Permajon, Oxford.
5. Daniel, P. and Hopkinson, M. (1986): The Geography of Settlement, Oliver &Byod, Edinburg.
6. Grover, N. (1985): Rural Settlement – A Cultural Geographical Analysis, Inter-India Publication, Delhi.
7. Hudson, F.S. (1976): A Geography of Settlement, MacDonald & Evans, New York.

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

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Five	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: MEDIA GEOGRAPHY**	(Theory)

Course Objectives:

1. To critically understand the intersection between geography and media.
2. To understand how mediascapes take shape and influence spatial thinking
3. To understand the role of media in bringing rapid transformations in society.

Course outcomes:

1. To understand the role media is playing in expanding the horizons of geographical knowledges.
2. To critically engage with changing constructs of space and place as an outcome of r related branding, representation and regeneration.
3. To be able to understand the intersection between the physical realm and the digit realm and the continuous making of space and place that goes beyond conventiona episteme.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Introduction: Concept of media and the production of space and place; understanding the different approaches in mediascapes; understanding different forms of media and geographical knowledge.	15
II	The Media Industry: Political economy of media industries, production of consumptive cultures, advertising and global markets; creation of global capital and markets.	15
III	Mediascapes: Mediated spaces of affect; everyday representations of space and place in different forms of media; politics of representations and reproduction in mediascapes.	15
IV	Moral economy of Media: Media and the public sphere; free speech and democratisation; value of engagement and participation of audiences and producers.	15

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Aitken, Stuart C., and Leo E. Zonn. 1994. *Place, Power, Situation, and Spectacle: A Geography of Film*, Lanham, MD: Rowman & Littlefield.
2. Boym, S. 2002. *The Future of Nostalgia,* New York: Basic Books. Casey.
3. Burgess, J. and John R. Gold, eds. 1985. *Geography, the Media, and Popular Culture* York: St. Martin's.
4. Jenkins, H. 2006. *Convergence Culture: Where Old and New Media Collide*, New Yor York University Press.
5. Adams, P. C. 2009. Geographies of Media and Communic

A Critical *Introduction*, London: Wiley-Blackwell.

6. Adams, PC, Craine, J, Dittmer, J (eds) 2014. *The Ashgate Research Companion to M Geography*, Aldershot: Ashgate Press.
7. Travis, C. And von Lunen. A. (eds), 2016. *The Digital Arts and Humanities, Neogeog Social Media, Big Data Integrations and applications*, Springer: Switzerland.
8. Gokulsing, K.M., and Dissanayake, W. 2009. *Popular Culture in a Globalised India*, Routledge: London and New York.
9. Rajagopal, A. and Rao, A. 2016. *Media and Utopia: History Imagination and Techn* Routledge: London and New York.
10. Chung, W.H.K. and Keenan, T. (eds), 2006. *New Media, Old Media: A History and Th Reade*r, Routledge: London and New York.

This course can be opted as an elective/ value added course by the students of following sub
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12
certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: HISTORICAL GEOGRAPHY**	(Theory)

Course Objectives:

1. The students will be exposed to the historical dimensions in geography.
2. The students will be conscious of the various components of historical geography.

Course outcomes:

1. The students will be able to understand and analyze the principal issues confronting historical geography.
2. The students will get an insight into various components of historical geography.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. of Lectures Total 60…….
I	Evolution of Historical Geography: Introduction, early (1700-1920), modern (1920-50), contemporary (1950 onwards).	12
II	Sources of evidence and data.	12
III	Re-construction of Natural World: physical environment, landscape.	12
IV	Historical Geographies of Human World: power and control, rural transformations, urbanization, industrialization, trade, transport and communications.	12
V	Historical Geography of India	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

1. Ali, S.M. 1966. *The Geography of the Puranas*, People's Publishing House, Delhi.
2. Baker, A.R.H (ed.) 1972. *Progress in Historical Geography*, David and Charles.
3. Baker, A.R.H., Hamshere, J.D., Langton, J., 1972. *Geographical Interpretation of historical Sources*, David and Charles.
4. Bharadwaj, O.P., 1986. *Studies in the Historical Geography of Ancient India*, Sundeep Prakashan, Delhi.
5. Butin, Robin A., 1993. *Historical Geography: Through the Gates of Space and Time*, Edward Arnold, London.
6. Graham Brian, Nash Catherine, 2000. *Modern Historical Geographies*, Longman, Essex, England.
7. Guelke, L., 1982. *Historical Understanding in Geography: An idealist approach*, Cambridge University Press, Cambridge.
8. Law, B., 1968. *Historical Geography of Ancient India*, SocieteAsiatiquedeiParis, Paris.
9. Pacione, M., 1987. *Historical Geography: Progress and Prospect*, Croom Helm, London.
10. Roberts, P.E., 1995. *Historical Geography of India*, Vol. I & II, Printwell, Jaipur.

This course can be opted as an elective/ value added course by the students of following subjects: Open for all ……
Suggested Continuous Evaluation Methods: ……
Course prerequisites: To study this course, a student must have had the subject in class/12th/ certificate/diploma/ UG degree. ……
Suggested equivalent online courses: ……..
Further Suggestions: ……..

At the end of the whole syllabus any remarks/ suggestions:

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Programme /Class: M.A./M.Sc.	Year: Fifth	Semester: Tenth
Subject: Geography		
Course Code:	**Course Title:Geography of Tourism**	(Theory)

Course Objectives:

1. To introduce the products of tourism industry.
2. To analyze infrastructural growth of different sectors related to this industry.
3. To access national and international potential for the growth of this industry.

Course outcomes:

1. Balanced and sustainable growth of tourism.
2. Growth of career opportunities for the students.
3. The course will support eco-friendly nature of tourism.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	. Basics of tourism:, Definition of tourism; Factors influencing tourism: historical, natural, socio-cultural and economic; motivation factors for pilgrimages: leisure, recreation; elements of tourism, tourism as an industry.	10
II	Geography of tourism:- its spatial affinity; areal and locational dimensions comprising physical, cultural, historical and economic; Tourism types: cultural, eco- ethno-coastal and adventure tourism, national and international tourism; globalization and tourism.	10
III	Indian Tourism: regional dimensions of tourist attraction; evolution of tourism, promotion of tourism.	10
IV	Infrastructure and support system – accommodation and supplementary accommodation; other facilities and amenities; Tourism circuits-short and longer detraction – Agencies and intermediacies – Indian hotel industry.	10
V	Impacts of tourism: physical, economic and social and perceptional positive and negative impacts; Environmental laws and tourism – Current trends, spatial patterns and recent changes; .	10
VI	Role of foreign capital & impact of globalization on tourism. Project report on relevant topics such as impact of eco-tourism, Cultural tourism and Historical tourism.	10

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Bhatia A.K. (1996) : Tourism Development: Principles and Prctices. Sterling Publis New Delhi.
2. Inskeep. E(1991): Tourism Planning: An Integrated and Substainable Development Apporach, Van Nostrand and Reinhold, New York.
3. Kaul R.K.(1985): Dynamics of Tourism & Recreation. Inter-India, New Delhi.
4. Kaur J.(1985): Himalayan Pilgrimages & New Tourism Himalayan Books, New De
5. Lea J.(1988): Tourism and Development I the Third World, Routledge, London.
6. Milton D.(1993): Geography of World Tourism Prentice. Hall, New York.
7. Peace D.G.(1987): Tourism To-day: A Geographical Analysis, Harlwo, Longman.
8. Robinson, H.A(1996): A Geography of Tourism. Macdonald and Evans, London.
9. Sharma J.K.(ed.)(2000): Tourism Planning and Development- A new perspective, Kanishka Publishers, New Delhi.

This course can be opted as an elective/ value added course by the students of following sub
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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This course can be opted as an elective/ value added course by the students of following subj
Open for all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject in class/12th certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Fifth	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: HERITAGE GEOGRAPHY**	(Theory)

Course Objectives:

1. To critically understand the meaning of heritage and the relevance of heritage conservation.
2. To understand how policies at the global level and at national levels shape conserva practices.
3. To appreciate the different meanings of heritage and particularly how diverse communities understand, practice and preserve heritage.

Course outcomes:

1. To understand the intersections between space, culture, history and heritage.
2. To develop an interdisciplinary approach towards heritage conservation and relate theory, every-day practices and policy.
3. To develop ideas and suggestions for new and innovative ways in which heritage ca identified and conserved effectively.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Introduction: Concept of heritage, different perspectives on heritage culture and history, terms, definitions and trope.	15
II	The Content of Heritage: Global perspectives of heritage, the world heritage concept, Implementation of World Heritage Convention, Broadening the representation and meaning of heritage-Intangible and tangible heritage.	15
III	Conserving Heritage: Heritage complexities, tensions and ethical challenges, conservation and management of cultural and natural heritage, heritage and socio-economic development, community based heritage work.	15
IV	Heritage Conservation with Particular Reference to India: Managing and interpreting heritage in India, representing complicated and diverse heritages of India, government of India policies and programs on heritage conservation	15

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

1. Lowenthal, D. 2003. *The Past is a Foreign Country*, Cambridge University Press: UK
2. UNESCO World Heritage Convention 1972. whc.unesco.org/en/globalstrategy/#analysiswhc.unesco.org/en/criteria/
3. UNESCO, 2003. Intangible Heritage Convention.

4. Rodney Harrison, 2013. *Heritage: Critical Approaches*, Routledge, London.
5. Harold, Kalman, 2014. *Heritage Planning: Principles and Process*, Routledge, New Y
6. Laurajane Smith, 2006. *Uses of Heritage,* Routledge, London.
7. Boym, S. 2002. *The Future of Nostalgia*, Basic Books, Case, New York.
8. Miles Glendinning, 2013. *The Conservation Movement: A History of Architectural Preservation*, Routledge, London and New York.
9. Chitty, G. 2017. *Heritage, Conservation and Communities. Engagement, Participatio Capacity Building*, Routledge, London and New York.
10. Silva, K.D., and Chapagain, N.K. (eds) 2013. *Asian Heritage Management. Contexts, Concerns , Prospects*, Routledge, London and New York.

This course can be opted as an elective/ value added course by the students of following sub
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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Programme/Class:M.A./ M.Sc.	Year: Five	Semester: 10[T]
Subject: Geography		
Course Code:	**Course Title: Geography of Health**	(Theory)

Course Objectives:

1. To understand nature of health issues related to the environment.
2. To analyse environmental factors to deal with the various health issues.

Course outcomes:

1. Students would be acquainted with the basic concepts of population health from geogra perspectives.
2. Students would get clear understanding about how the health care planning and policie the population health issues.
3. Students should recognize the mechanism of how social and economic environment sh population health.

Credits: 4	Core Compulsory / Electiv
Max. Marks: 25 (Int.) 75 (Ext.)	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	L Tota
I	Nature, scope and significance of geography of health Development of this area of specialization; its distinction from medical science.	
II	Geographical factors affecting human health and diseases arising from them, viz 1. Physical factors-relief, climate, soils and vegetation. 2. Social factors-population density, literacy, social customs and poverty. 3. Economic factors-food and nutrition occupation and standard of living 4. Environmental factors- urbanization and congestion, water, air and noise pollution and solid waste.	
III	Classification of diseases: genetic, communicable and non-communicable, occupational and deficiency diseases. WHO classification of diseases, Pattern of World distribution of major diseases.	
IV	Ecology, etiology and transmission of major diseases: cholera, malaria, tuberculosis hepatitis, leprosy, cardiovascular, cancer, AIDS and STDS.	
V	Diffusion of diseases and causes for the same. Deficiency disorders and problems of mal-nutrition in India. (i) International level-WHO, UNICEF, Red Cross (ii) National level-Government and NGOs,	
VI	Health Care Planning and Policies ; availability, accessibility and utilization of health care services; Primary health care; Inequalities in health care services in India; family welfare, immunization, national disease eradication, and Health for All	

	Programmes.	

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Cl activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Banerjee, B. and Hazra J. (1980): Geo-Ecology of Cholera in West Bengal, University Calcutta.
2. Cliff, A. and Haggett, P. (1989): Atlas of Disease Distribution. Basil Blackwell, Oxfor
3. Digby, A. and Stewart, L. (eds.) (1996): Gender, Health and Welfare. Routledge, New
4. Hazra, J. (ed.) (1997):Health Care Planning in Developing Countries. University of Ca Calcutta.
5. Learmonth A.T.A. (1978): Patterns of Disease and Hunger. A Study in Medical Geogra & Charles, Victoria.
6. May , J.M. (1961): Studies in Disease Ecology, Hafner Pub., New York.
7. May, J.M. (1959): Ecology of Human Disease, M.D. Pub., New York.
8. May, J.M. (1970): The World Atlas of Diseases, Nat. Book Trust, New Delhi.

- Suggestive digital platforms web links-

1. http://www.healthgeography.org/regional-health-geography-groups.html
2. https://ij-healthgeographics.biomedcentral.com/
3. https://online.regiscollege.edu/blog/environmental-factors-that-affect-health/

This course can be opted as an elective/ value added course by the students of following subje all

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Suggested Continuous Evaluation Methods:

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Course prerequisites: To study this course, a student must have had the subject …….. in class/ certificate/diploma/ UG degree.

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Suggested equivalent online courses:

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Further Suggestions:

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At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Five	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: GEOGRAPHY OF CRYOSPHERE**	(Theory)

Course Objectives:

1. To make student understand glacial geomorphology and hydrology using earth observation and GIS.
2. Of specific interest are glacier variations and response to climate which includes consequences of the cryosphere change to society such as glacial hazards and its in on livelihood of Himalayan Mountain dwellers.

Course outcomes:

1. The course will help in understanding cryosphere geography and its relevance in th present time.
2. Student will learn how to use Earth Observation and GIS for glacier and glacial lake inventory and impact assessment on society.

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Introduction to Cryosphere Geography: concept, nature and scope, global distribution and contemporary relevance.	15
II	Glacial Geomorphology and Hydrology: glacial system, permafrost/ground ice, runoff, glacial lake environment.	15
III	Mapping and Monitoring Glaciers and Glacial Lakes: remote sensing and GIS for glacier inventory, mass balance, glacial Lake parameter retrieval.	15
IV	Applied Glaciology: glacier variations-response to climate change, glacial hazards and mountain society, field trip follow up.	15

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Barry, Roger G and Gan, Thian Yew, 2011. *The Global Cryosphere Past, Present and*
2. Cambridge University Press.
3. Pelto, Mauri, 2017. *Recent Climate Change Impacts on Mountain Glaciers* (The Cryo Science Series), Wiley-Blackwell, UK
4. Benn, D. I., and Evans, D. J. A. 1998. *Glaciers and Glaciations,* New York, New York,
5. Andrews, J. T. 1970. *Glacial systems*, Belmont, California, Wadsworth
6. C.J. van der Veen. 2013. *Fundamentals of Glacier Dynamics*, Second Edition, CRC Pr
7. Embleton, C., and King, C. A. M. 1975. *Glacial Geomorphology,* New York, New York
8. ICIMOD, 2013, Glacial Lakes and Glacial Lake Outburst Flo in Nepal,
9. http://www.icimod.org/publications/index.php/search/publication/75

This course can be opted as an elective/ value added course by the students of following sub Open for all ……
Suggested Continuous Evaluation Methods: ……
Course prerequisites: To study this course, a student must have had the subject in class/12 certificate/diploma/ UG degree. ……
Suggested equivalent online courses: ……..
Further Suggestions: ……..

At the end of the whole syllabus any remarks/ suggestions:

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Programme/Class: M.A./M.Sc.	Year: Five	Semester: 10th
Subject: Geography		
Course Code:	**Course Title: AERIAL PHOTOGRAPHS AND ITS INTERPRETATION**	(Practical)

Course Objectives:

1. Learn air photo interpretation techniques.
2. Understand the usefulness of air photo interpretation techniques in geography.
3. Enhance the knowledge about the applications of aerial photographs in various fie geography.

Course outcomes:

1. Students will be able to make digital maps and photographs helpful for future planning.
2. It will help to enhance the advance quality and learning to understand aerial photograph

Credits: 4	Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0 or 3-1-0 Etc.

Unit	Topics	No. o Lectures 60…..
I	Aerial Photographs-Types and Characteristics Elements of Air Photo Interpretation;	12
II	Stereo Vision Test, Orientation of stereo model under Mirror Stereoscope; Determination of scale on an aerial photograph; Measurement of height of an object on single vertical aerial photograph;	12
III	Parallax bar measurement and height determination; Preparation of Index map;	12
IV	Preparation of stereogram, stereotriplet and mosaic from aerial photographs; Interpretation of Aerial photographs - Identification, mapping and interpretation of Natural and Cultural features (at least three exercises)	12
V	Land use/Land cover studies on aerial photographs; Urban studies on aerial photographs-Change detection, Residential area study	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Chauniyal, D.D. (2016), Principles of Remote Sensing and Geographical Information System (Hindi version), Sharda Pustak Bhawan, Allahabad.
2. Lillesand, T.M. and Kiefer, R.W. (2002), Remote Sensing and Image Interpretation, Wiley and Sons, New York.
3. Rampal, K.K. (1999), Handbook of Aerial Photography and Interpretation, Concept Publishing Co., New Delhi.
4. Sabins, F.F. (1986), Remote Sensing-Principles and Interpretation, Second Edition,

Freeman and Co., New York.
5. Sharma, J.P. (1996), PrayogicBhoogol, Rastogi Publications, Meerut.
6. Wolf, Paul.R.(1983), Elements of Photogrammetry ,2nd ed.,McGraw-Hill,New York,

This course can be opted as an elective/ value added course by the students of following sub
Open for all
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Suggested Continuous Evaluation Methods:
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Course prerequisites: To study this course, a student must have had the subject in class/12
certificate/diploma/ UG degree.
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Suggested equivalent online courses:
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Further Suggestions:
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At the end of the whole syllabus any remarks/ suggestions:
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Dissertation

Note:

Students under the supervision of a faculty member will be selecting a topic from their field of specialization for the dissertation work. The dissertation will be field work based applying the techniques learned by the student in practical. It must be of minimum 100 pages with 10 to 15 maps and diagrams / charts prepared by the student. Topic of the dissertation will be selected by the student in first semester. Introductory details such as identification and importance of the problem, selection of study area, review of literature, objectives, hypotheses etc., of the topic will be covered in this semester. Evaluation in each semester will be done from the work done in each semester.

Research design / conceptual framework, methodology, data collection tabulation etc. will be done in the second semester. Evaluation of dissertation will be done on the bases of the work completed in this semester.

Chapter plan, statistical & cartographic analyses of data, mapping etc. will be done in third semester. Hypotheses testing, research findings and suggestions will be done in fourth semester.

The dissertation report, duly signed by the teacher/ supervisor concerned, will be submitted in the college before the theory examination of the university or as per instructions given by the university. There will be internal viva-voce on dissertation. The viva-voce examination will be purely internal and shall be conducted before sending the dissertation to the university. The student will present his/ her findings before the audience of department teachers and P.G. students. The supervisor will act as an internal examiner, and the internal marks will be awarded by him/ her.

Distribution of marks for dissertation course in each semester will be as follows:

1.	Evaluation	-	50 Marks ((External)
2.	Viva – voce	-	50 Marks (Internal)