

**C C S University, Meerut**

**M A Geography**

**Syllabus**

**(Session 2020-21 onwards)**

**Prepared by:**

**Board of Studies in Geography  
C C S UNIVERSITY, MEERUT**

# **C C S University, Meerut**

## **Syllabus (Session 2020–21 onwards) M.A Geography**

In the last decade the discipline of Geography has experienced vast expansion of knowledge, new multi –disciplinary frontiers and a technological revolution based on remote sensing and Geographic Information System (GIS). Thus to provide excellence in knowledge of the subject it becomes essential to incorporate the new knowledge in the subject by updating and reframing the syllabus. This objective led to restructuring of syllabus of M.A./M.Sc. Geography of CCS University, Meerut.

The entire content was divided into 28 papers of 100 equal marks; twenty four papers of theory and four papers of practical. There shall be equal sharing in theory papers for marks awarded by external as well as internal examiners. The University will bear ranging to conduct theory examination and evaluation by external examiners for 50 marks in each theory paper. While the internal 50 marks shall be awarded by conducting 2 tests of 20 marks each, for assignment or term paper writing 05 marks and its presentation 05 marks.

In all the theory papers, for purpose of examination, ten questions are to be set, 2 questions from each unit. Students will be required to attempt 5 questions in all, selecting at least one question from each unit.

## M.A. Geography

# Abstract of Syllabus

Semester	Course No.	Course Title	Marks	
			Internal	External
I	I	Geomorphology	50	50
	II	History of Geographical Thought	50	50
	III	Advanced Geography of India (Physical & Regional)	50	50
	IV	Natural Resource Management	50	50
Practical	V	Statistical Techniques in Geography	---	100
II	VI	Climatology and Oceanography	50	50
	VII	Laws, Models & Theories in Geography	50	50
	VIII	Advanced Geography of India (Socio-economic)	50	50
	IX	Regional Planning and Development	50	50
Practical	X	Advanced Cartography	---	100
III	XI	Recent Issues in Geography	50	50
	XII	Interdisciplinary Research Methods and Techniques	50	50
	XIII	Ecology and Environment	50	50
	XIV	Advanced Geography of Uttar Pradesh	50	50
Practical	XV	Advanced Surveying	---	100
IV	XVI	Population Geography	50	50
	XVII	Agricultural Geography	50	50
	XVIII	Urban Geography	50	50
	XIX(A)	Geography of Tourism <b>OR</b>	50	50
	XIX (B)	Geography of Rural Settlement <b>OR</b>	50	50
	XIX (C)	Dissertation	50	50
Practical	XX	Remote Sensing, GIS and GPS	-	100



**C C S University, Meerut**  
**Syllabus (2020-21 & onwards)**  
**M. A. Geography**  
**Semester I**  
**Course I**  
**Geomorphology**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Nature and scope of Geomorphology, Fundamental concepts–uniformitarianism, multicyclic and polygenetic evolution of landscapes. Interior of the earth, Plate tectonics.
- Unit- II : Earth movements – epirogenic and orogenic earth movements. Forces of crustal instability, isostasy, Fold, Fault, Earthquake and Vulcanicity.
- Unit- III : Exogenic Processes: Concept of gradation, Agents and processes of gradation, causes, types and classification of weathering, mass wasting, erosional, and depositional processes and resultant landforms and soil formation.
- Unit- IV : Landscape evaluation models: WM Davis, Penck, LC King, dynamics of fluvial, glacial, Aeolian, and karst processes and resulting land forms complexities in geomorphological processes.
- Unit- V : Applied geomorphology – hydro-geomorphology, urban geomorphology, environmental geomorphology, geomorphic hazards and mitigation measures, Regional Geomorphology of – Siwalik Hills of U.P., Ganga Yamuna Doab of U.P.

**Suggested Readings**

- Ahmed, E. (1985): Geomorphology, Kalyani Publishers, New Delhi.
- Bloom, A.L. (1998/2001): Geomorphology, 3<sup>rd</sup> Edition, Prentice Hall of India, New Delhi.
- Chorley, R.J., Schumm, S.A. and Sugden, D.E. (1984): Geomorphology, Methuen and Company Ltd., London.
- Chorley, R.J. (1972): Spatial Analysis in Geomorphology, Methuen, London.
- Dayal, P. (1996): A Text Book of Geomorphology, Shukla Book Depot, Patna.
- Dury, G.H. (1959): The Face of the Earth, Penguin Harmondsworth.
- Fairbridge, R.W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York.
- Garner, H.F. (1974): The Origin of landscape- A Synthesis of Geomorphology, Oxford University Press, London.
- Gautam, A. (2005): Geomorphology (in Hindi), Rastogi Publishing House, Meerut.

**M. A. Geography**  
**Semester I**  
**Course II**  
**History of Geographical Thought**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- 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.
- Unit-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.
- Unit-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.
- Unit-IV : Dualisms in geography: systematic & regional geography; physical & human geography. The myth and reality about dualism.Regional geography.Concept of region, regionalization and the regionalmethods.
- Unit-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 Indian Universities and Professional Institutions.

**Suggested Readings:**

- Abler, Ronald; Adams, Jons, S. Gould, Peter, N.J. (1971) : Spatial Organization: The Geographer's View of the World, Prentice Hall, New Jersey.
- Ali, S. M.(1966): The Geography of Puranas, Peoples Publishing House, Delhi.
- Amedeo, Douglas (1971) : An Introduction to Scientific Reasoning in Geography, John Wiley, U.S.A.
- Dikshhit, R.D.(ed.) (1994): The Art & Science of Geography Integrated Readings, Prentice Hall of India, New Delhi.
- Daniels, P., Bradshaw, M., Shaw, D. And Sidaway, J. (2000): An Introduction to Human Geography. Issues for the 21<sup>st</sup> Century. Prentice Hall, London.
- Dikshhit, R.D.(2004): Geographical Thought: A Critical History of Ideas. Prentice-Hall of India, New Delhi. (in English and Hindi).
- Kaushik,S.D. and Rawat, D.S.(2018): The History of Geographical Thoughts( in Hindi & English), Rastogi Publishing House, Meerut.

**M. A. Geography**  
**Semester I**  
**Course III**  
**Advanced Geography of India (Physical & Regional)**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Making of India through Geological Time : Geology, Structure and Relief of India, Physical Divisions of India.
- Unit II : Drainage System and Watersheds, Hydrology and Water Balance, Climate Characteristics, Mechanism of Indian Monsoon, Climatic Regions of India.
- Unit III : Soil Resource & Conservation, Problem of Soil Erosion, Problem of deforestation, Forest Resources and their Conservation, Types of Soils and Natural Vegetation, Resource Regions of India.
- Unit IV : Different Schemes of Physiographic Regionalization of India, their bases and Comparative Studies.
- Unit V : Detailed case Studies of Uttarakhand Himalayas and Gangetic Plain with respect to their Geology, Structure, Relief, Drainage and Physiographic Divisions.

**Suggested Readings:**

- Centre for Science & Environment: State of India's Environment, New Delhi, 1988.
- Deshpande, C.D. (1992): India: A Regional Interpretation ICSSR & Northern Book Centre.
- Ganguly, S. and Neil, De Votta (eds.) (2003): Understanding Contemporary India. Lynne Rienner Publishers, Boulder and London.
- Gautam, A.(2005): Geography of India( in Hindi & English): Rastogi Publishing House, Meerut.
- Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- Khullar, D.R. (1968): India. A Comprehensive Geography. Kalyani Publishers, New Delhi, 2006.
- Krishnan, M.S.: Geology of India and Burma, 4<sup>th</sup> Edition, Higgin Bothams Private Ltd., Madras.
- Majid, Husain (2008): Geography of India, Tata McGraw Hill Company, New Delhi.
- Nag, P. and Gupta, S.S. (1992): Geography of India, Concept Publishing Company, New Delhi.
- Singh, J. (2003): India: A Comprehensive and Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
- Singh,R.L.(Ed.)(1971): India: A Regional Geography, National Geographical Society of India, Varanasi.

**M. A. Geography**  
**Semester I**  
**Course IV**  
**Natural Resources Management**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

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

**Selected Readings**

- Adams, W. M.: Green Development: Environment and Sustainability in the Third World, Routledge and Chapman Hall, New York, 1990.
- Burton, I. And Kates, R.W. (1978): Readings in Resources Management and Conservation. Mc Graw Hill, New York.
- 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.
- Ehrlich, P.R., Ehrlich, R.H. and Holdren, J.P. (1998): Eco science: Population, Resources and Development. 2<sup>nd</sup> edition. Freeman and Company, San Francisco.
- Granfelt, T.R. (1999): Management the Globalized Environment, J. & L. Composition Ltd, New York.
- Holechek, J.L. et al (2000): Natural Resources: Ecology, Economics & Policy, Prentice Hall, New Jersey.
- Hooja, R & Joshi, R. (1994): Desert, Drought and Development, Studies and Resource Management and sustainability; Rawat Publication, Jaipur.



**M. A. Geography**  
**Semester I**  
**Course V**  
**Statistical Techniques in Geography (Practical)**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Types of profiles, Slope Analysis by different methods (Wentworth and Henry Raisz), Morpho-metric Analysis.
- UnitII : Standard Deviation, Mean, Quartiles One and Three, Ranking methods. Probability. Theory of Probability Geographical Application of statistical techniques.
- Unit III : Correlation – Spearman’s and Carl Parsons Methods, Line of Regression, Chi-square test, binomial test.
- UnitIV : Techniques of Mappings  
Drainage density, flow diagrams, population mapping.
- UnitV : Fieldwork  
Field work and data processing techniques, sampling tests, dispersion diagrams.

Note : For written test in all 10 questions shall be given selecting 02 questions from each unit. The students shall be attempting five questions selecting one question from each unit. Each question shall be carrying 15 marks.

For Examination the break-up of marks- Written Test (3Hrs.)	60 marks
Field Study	20 marks
Viva-voce	10 marks
Record work	10 marks

**Suggested Readings:**

- David Unwin (1981): Introductory Spatial Analysis, Methuen, London.
- Gregory, S.(1978): Statistical Methods and the Geographer, Longman, London.
- Hammond, R. and P.S. McCullagh (1974): Quantitative Techniques in Geography: An Introduction, Clarendan Press, Oxford.
- John, P. Cole and Cuchlaine A.M. King (1968): Quantitative Geography, John Wiley, London
- Johnston R.J.(1973): Multivariate Statistical Analysis in Geography, Longman, London.
- Koutsoyannis, (1973): Theory of Econometrics, Mcmillan, London.
- Maurice Yeats (1974): An Introduction to Quantitative Analysis in Human Geography.

**M. A. Geography**  
**Semester II**  
**Course VI**  
**Climatology and Oceanography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Nature and scope of climatology and its relationship with meteorology. 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 mechanism.
- Unit-II : Humidity and Precipitation. Acid Rain, Air Masses and Fronts, Origin of Cyclones, Anti-cyclones and Thunder storms and their effects. Ocean atmospheric interaction: El Nino and La Nina Phenomenon.
- Unit- III : Climatic classification of Koeppen and Thornthwaite, Major –climates of the world-tropical, temperate, desert and mountain climate. Climatic changes and Global warming.
- Unit- IV : Nature and scope of oceanography. Distribution of land and water. Surface configuration of the ocean floor. Sub-marine relief of the Pacific. Atlantic and Indian Ocean, Composition of Oceanic Water. Distribution of Temperature and Salinity.
- Unit-V : Circulation of Oceanic Water: Waves, Tides and Currents. Ocean Deposits: their sources and kinds. Corals and coral reefs: Types and theories of their origin.

**Suggested Readings :**

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

**M. A. Geography**  
**Semester II**  
**Course VII**  
**Laws, Models & Theories in Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Development of Theoretical Geography, Definition and Meaning of Model, Paradigm, Theory and Law, Systems Analysis in Human Geography.
- Unit- II : Laws of Isostasy, Mountain Building, Buys Ballot's Law, Gravity Model, Centrifugal, Centripetal Forces, Coriolis Force. Koeppen's, Thornthwait's Model, Davis and Penck Cycles of Erosion.
- Unit- III : Locational Theories – Von Thunen's, Alfred Weber's, Isards, Losch, Central Place Theory.
- Unit- IV : Copping Intensity, Crop–Combination, Productivity Analysis.
- Unit- V : Urban Primacy, Rank Size Rule, Nearest Neighbour Analysis.

**Suggested Readings:**

- 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 Zentralen Orte Sudevtsch Land in 1933.
- Dikshhit, R.D. (1996): Political Geography: A Contemporary Perspective, Tata McGraw Hill, New Delhi.
- Haggelt, P., Andrew, D.etal(eds)(1979): Locational Models, Arnold Heinemann.
- Isard, W.(1956): Methods of Regional Analysis, The Technology Press of M.I.T. & John Wiley & Sons, New York.
- King, L.J. (1986): Central Place Theory, Saga Publications, New Delhi.
- Losch, A.(1954): Economics of Location, Yale University Press, New Haven.
- Weber, Alfred (1957): Theory of Location of Industries, Chicago University Press, Chicago.

**M. A. Geography**  
**Semester II**  
**Course VIII**  
**Advanced Geography of India (Socio-economic)**

Max. Marks: 100

Theory Exam: 50

Int. Assessment: 50

**Course Contents:**

- Unit- I : Agricultural system and technological problems of Indian agriculture, developments, agrarian reforms, green revolution achievements and shortcomings, need of 2<sup>nd</sup> green revolution, Agro-climatic regions of India. Regionalization of agriculture in India, Crop combination regions of India, Food production and population growth.
- Unit- II : Energy in India- Conventional and Non-conventional power resources, regional set-up of Hydro and Thermal Power stations, locational patterns and analysis of coal & petroleum resources, govt. policies and conservation of energy resources.
- Unit- III Analysis of Agro-Based (Sugar), Forest Based (Paper & Pulp) and Mineral based industries (Iron & Steel), Industrial regions of India, Modes of transport, their significance and development, the pattern of foreign trade.
- Unit- IV : Socio-economic implications of explosive growth of population, distribution and density of population, population resource regions, trends of urbanization, urban regions, population problems and policies.
- Unit- V : Basis of Economic Regionalization macro, meso and micro regional division of India, economic regionalization in India, Detailed study of the meso-regions of Great-Plains-their inter-regional disparities with reference to agricultural. Human Resource development.

**Suggested Readings:**

- Brahmanand, P.R. et., (1987): The Development Process of Indian Economy, Himalaya Publishing House, New Delhi.
- Deshpande, C.D. (1992): India: A Regional Interpretation, ICSSR, New Delhi.
- Farmer, B.H. (1983): Introduction to South Asia. Methuen and Company Ltd. and Company Ltd., London.
- Ganguly, S. and Neil, De Votta (eds.) (2003): Understanding Contemporary India. Lynne Rienner Publishers., Boulder and London.
- Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- Johnson, B.L.C. (1983): Development in South Asia. Penguin Books, Harmondsworth.

**M. A. Geography**  
**Semester II**  
**Course IX**  
**Regional Planning and Development**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit – 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. Types of region: Formal and functional; Uniform and Nodal, Single purpose and Composite regions in the context of planning; Regional hierarchy.
- Unit – II : 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.
- Unit – III : 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.
- Unit – IV : Regional development strategies – Concentration vs. Dispersal, Case studies for plans of developed and developing countries, Regional plans of India.
- Unit – V : Concept of Multi-level planning; Decentralized 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.

**Suggested Readings:**

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

**M. A. Geography**  
**Semester II**  
**Course X**  
**Advanced Cartography (Practical)**

Max. Marks: 100

**Course Contents:**

- Unit- I : Definition, Scope and Development of Modern Cartography. Classification of Map. Map as a Data Model. Tools of Map Making. Lettering and Symbolization of Maps. Techniques of Map making. Computer Assisted Cartography.
- Unit- II : Graphical Presentation of Statistical Data: Graphs and Diagrams, Construction of Climograph, Ergograph, Hythergraph, Wind Rose.
- Unit-III : Compound Pyramid Diagram, Circle and Spherical Diagram, Dispersion and Scatter Diagrams.
- Unit-IV : Distribution Maps: Types and Methods of drawing thematic maps, Choroschematic, Chorochromatic, Choropleth, Isopleth.
- Unit-V : Map Projections: Properties, classification and choice of map projections. Mathematical construction of Sinusoidal, Mollweide, International and Gall's Projections.

Note : For written test in all 10 questions shall be given selecting 02 questions from each Unit from I to V. The students shall be attempting five questions selecting one question from each unit. Each question shall be carrying 15marks.

For Examination Break-Up of Marks- Written Test (3Hrs.):	75marks
Record Work :	15marks
Viva-voce :	10marks

**Suggested Readings:**

- Cromely, Robert G.(1992): Digital Cartography Englewood Cliffs, New Jersey, Prentice-Hall, Inc.
- Dent, B.(1985): Principles of Thematic Map Design, Reading, Massachusetts, Addison-Wesley Publishing Company.
- Dorling, D. and Fairborn, D. (1997): Mapping, Ways of Representing the World, Longman, Harlow.

**M. A. Geography**  
**Semester III**  
**Course XI**  
**Recent Issues in Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Recent Conceptual Development in Geography: Philosophical Issue – Positivism, Behaviouralism, Phenomenology, Idealsim, Existentialism and Humanistic Geography, Spatial Justice, Radicalism & Postmodernism.
- Unit- 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.
- Unit-III: Use of Technologies in Geography: Remote Sensing technique and Geographical Information System (GIS) and Global Positioning System (GPS).
- Unit-IV : Scientific Methods in Geographical Research: Hypothesis Testing, Problem Solving approach in Geography, Project Formulation and Project Evaluation Techniques.
- Unit-V : Recent Issues in Indian Geography: Post Colonialism and Indian Geography, Trends of Geographical Researches in India, Prospects of Professional Opportunities in Geography, Future of Indian Geography, Problems, Perspectives and Prospects.

**Suggested Readings:**

- Adams, P, Steven, H. and Karel, T.(eds.)(2001): Texture of Place. Exploring Humanistic Geographies. University of Minnesota Press, Minneapolis.
- Anderson, K., Domosh, M., Pile, S. and Thrift, N. (eds.) (2003): Handbook of Cultural Geography. Sage Publications, London.
- Barnes, T. and Gregory, D.(eds.)(1997): Readings in Human Geography: The Poetics and Politics of Inquiry. Arnold, London.
- Bunkše, E. V. (2004): Geography and the Art of Life. John Hopkins University Press, Baltimore.
- Buttimer, A. (1971): Society and Milieu in the French Geographic Tradition. Rand McNally, Chicago.
- Daniels, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): An Introduction to Human Geography. Issues for the 21st Century. Prentice Hall, London.

**M. A. Geography**  
**Semester III**  
**Course XII**  
**Interdisciplinary Research Methods and Techniques**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- 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.
- Unit-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.
- Unit-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.
- Unit-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.
- Unit-V : Drafting of the research report, Quantitative & Qualitative interpretations, Writing manuals (Arranging themes, maintaining coherence, cross comparison concluding, referencing noting etc.). Proof marks & marked proof, Size scale and Types of report, Organization and Designing of report, Evaluating a report.

**Suggested Readings:**

- Ahuja, R.(2001): Research Methods, Rawat Publications, Jaipur and New Delhi.
- Bhattacharyya, D.K.(2005) :Research Methodology, Excel Books, New Delhi
- Blackburn, J .and Holland, J.(eds.)(1998): Who Changes? Institutionalizing Participation in Development. IT Publications, London.
- Blaxter, L., Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.
- Mishra, R.P. : Research Methodology: A Handbook, Concept Publishing Company Pvt. Limited, New Delhi.
- Crang, Mike (1999): Cultural Geography. Routledge, London.
- Daniels, P., Bradshaw, M., et al. (2000): Human Geography: Issues for the 21st Century. Prentice Hall, London and Pearson Publishers, Singapore. Indian reprint, 2003.



**M. A. Geography**  
**Semester III**  
**Course XIII**  
**Ecology and Environment**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Ecology and Environment, Geography as Human Ecology Conceptual background. The Environment – meaning, structure and types, Man Environment Relationship, Perception of Environment.
- Unit-II : Ecology: meaning and its relation with Geography, Ecosystem: Kinds and functions, food chains, food structure webs, Structure and trophic levels, Energy flow and nutrient cycles, Major Biomes of the World.
- Unit-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.
- Unit-IV : Environmental Pollution concept and types of pollution, Ecological impact of pollution, its environmental concerns, the green house effects, Global warming and ozone depletion, Environmental Policy and Legislation.
- Unit-V : Ecological basis of environmental Management – Concept, need and approaches, Indian and International efforts for environmental conservation and management: Environmental problems and programmes in India. Environmental Impact Assessment (ETA) of River Valley Projects like Tehri Hydro and Narmada Valley (Sardar Sarovar) Projects, National Parks.

**Suggested Readings:**

- Anjuneyulu, Y. (2004): Introduction to Environmental Science. B. S. Publications, Hyderabad.
- Athavale, R. N. (2003): Water Harvesting and Sustainable Supply in India. Rawat Publications, Jaipur.
- Blaikie, P., Cannon, T. and Davis, I. (eds.) (2004): At Risk: Natural Hazards, Peoples Vulnerability and Disasters. Routledge, London.
- Bodkin, E. (1982): Environmental Studies, Charles E. Merrill Pub. Co., Columbus, Ohio.
- Chandna, R.C. (1998): Environmental Awareness, Kalyani Publisher, New Delhi.
- Eyre, S.R. and Jones, G.R.J. (eds.) (1966): Geography as Human Ecology, Edward Arnold, London.
- Gautam, A. (2007): Environmental Geography, Sharda Pustak Bhawan, Allahabad.

**M. A. Geography**  
**Semester III**  
**Course XIV**  
**Advanced Geography of Uttar Pradesh**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-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.
- Unit-II : Problems Related to Over Utilization of Natural Resources in Uttar Pradesh: Usar and Sodic soils formation and soil erosion, Under ground water scarcity, Depletion of forest cover and wild life, Surface Water Resource Utilities, Drinking Water and Power Shortage, Flood and drought affected parts.
- Unit-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.
- Unit-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 urbanization),occupational Structure and Poverty Eradication programmes initiated. Accessibility and Transport infrastructural gaps.
- Unit-V : Planning for Balanced Development: Planning for sustainable development including health, education, drinking water, Emerging Political Issues and Voting Behaviour in General elections and Policy of the State Government for Balanced regional development.

**Suggested Readings:**

- Despande C.D. (1992): India-A Regional Inter-Pretation ICSSR, Northern Book Centre, New Delhi.
- Gautam, A.(2005): Geography of India,( In Hindi & English) Rastogi Publishing House, Meerut.
- Kundu A., Raza Moonis (1982): Indian Economy: The Regional Dimension, Spectrum Publishers, New Delhi.
- Mamoria, C.B.(1980) : Advanced Geography of India, Sahitya Bhawan, Agra.
- Singh, S.,(2019): Geography of Uttar Pradesh, Sahitya Bhawan, Agra.

**M. A. Geography**  
**Semester III**  
**Course XV**  
**Advanced Surveying (Practical)**

Max. Marks: 100

**Course Contents:**

- Unit –I Prismatic Compass Surveying (Mathematical Techniques for Closed Traversing), Interpolation of Contours by Indian Clinometer, Sextant measurement (Vertical and Horizontal), Telescopic Alidade, Dumpy Level (Simple & Differential Levelling, Rise and Fall Methods, Theodolite.
- Unit –II Air Photos and Photogrammetry : Elements of Photographic System; types, scales, Calculation and Measurement of scale and height on Air photo. Numbering of Photographs Air Photo interpretation : shape, size pattern, tone, texture, shadows etc. Photo Mosaics and their comparison with topographical maps.
- Unit – III Scope of Remote sensing, Development of Remote sensing, stages in remote sensing data acquisition, electromagnetic radiation and electromagnetic spectrum, Interaction of EMR with Earth's surface features, and atmosphere .Types and characteristics of platforms, Sensors, Sensors resolutions and application, remote sensing data products, Indenting of remote sensing data in India.
- Unit - IV Definition and development of GIS, computer environment for GIS, Spatial Data : Elements of spatial data; raster and vector data structures, Database Management Systems; GIS Application : GIS in Land Information System, Urban Management, Environmental Management. Use of GPS in data generation and mapping.

**Note :** A Geographical **Survey Camp** of not less than 10 days duration in different area other than of college premises of India will be arranged to acquaint students with the advanced surveying techniques and the spot study of aerial photographs & satellite imageries. Students are required to submit survey camp report containing not more than 10 pages and supported by 5 maps prepared during survey camp. There will be one teacher and one supporting staff on every 10 students group of guiding the students. T.A. & D.A. will be paid by the college concerned to the teaching and supporting staff members accompanying the students during survey camp.

For purpose of examination two surveying exercises from Unit-I will be given to each group of not more than 2 students. These exercises will be of 3 hours duration.

There will be a written test of 3 hours duration for rest of units-II, III & IV. Students will have to attempt 3 questions out of 6 questions (2 from each Unit).

The distribution of marks shall be follows :-

- |     |                           |         |
|-----|---------------------------|---------|
| (1) | Two surveying exercises : | 30Marks |
| (2) | Written Test :            | 30Marks |

- |     |                                     |   |                 |
|-----|-------------------------------------|---|-----------------|
| (3) | Survey Camp Report                  | : | 20Marks         |
| (4) | Sessional Record and Viva Voce Test | : | 10+10 = 20Marks |

**(Note: Students who do not attend the survey camp, their evaluation will be done in practical from 80 Marks).**

**Suggested Readings:**

- Barrett, E.C. and Curtis L.F.: Fundamentals of Remote Sensing and Air Photo Interpretation.
- Campbell, J.: Introduction to Remote Sensing.
- Luder, D.: Aerial Photography Interpretation: Principles and Application.
- Star, J. and J. Estes : Geographic Information Systems : An Introduction.
- Fraser Taylor D.R. : Geographic Information Systems.
- Burroughs, P.A.: Principles of Geographic Information Systems for Land Resources Assessment.
- Campbell, J. B. (2002): Introduction to Remote Sensing. 5<sup>th</sup> edition. Taylor and Francis, London.
- Cracknell, A. and Hayes, L. (1990): Remote Sensing Year Book, Taylor and Francis, London.
- Curran, P.J. (1985): Principles of Remote Sensing, Longman, London.
- Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
- Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation, W.H. Freeman, New York.
- Guham, P. K. (2003): Remote Sensing for Beginners. Affiliated East-West Press Private Ltd., New Delhi.
- Hallert, B. (1960): Photogrammetry, McGraw Hill Book Company Inc., New York.
- Harry, C.A. (ed.) (1978): Digital Image Processing, IEEE Computer Society, California
- Hord, R.M. (1982): Digital Image Processing of Remotely Sensed Data, Academic Press, New York.
- Leuder, D.R. (1959): Aerial Photographic Interpretation: Principles and Application. McGraw Hill, New York.
- Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4<sup>th</sup> edition. John Wiley and Sons, New York.
- Nag, P. (ed.) 1992: Thematic Cartography and Remote Sensing, Concept Publishing Company, New Delhi.

**M. A. Geography**  
**Semester- IV**  
**Course XVI**  
**Population Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- 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.
- Unit-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.
- Unit-III : Population composition: age and sex, family and households, literacy and education, religion, caste and tribes, rural and urban, urbanization, occupational structure, population composition of India.
- Unit-IV : Population dynamics: Measurements of fertility and mortality, migration, national and international patterns, India's population dynamics, Demographic Research Methods.
- Unit-V : Population and development: population- resource regions and levels of population and socio-economic development, population policies in developed and less developed countries, Human Development Index and its components, India's population policies, population and environment, implications for the future.

**Suggested Readings:**

- Bilasborrow, Richard E and Daniel Hogan (1999): Population and Deforestation in the Humid Tropics, International Union for the Scientific Study of Population, Belgium.
- Bogue, D.J. (1969): Principles in Demography, John Wiley, New York.
- Bose, Ashish et.al. (1974): Population in India's Development (1947-2000): Vikas Publishing House, New Delhi.
- Census of India (1991): India: A State Profile.
- Chandna, R.C. (2000): Geography of Population, Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
- Clarke, John I. (1973): Population Geography, Pergamon Press, Oxford.
- Crook, Nigel (1997): Principles of Population and Development, Pergmon Press, New York.

**M. A. Geography**  
**Semester IV**  
**Course XVII**  
**Agricultural Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I : Nature, scope, significance and development of agricultural geography. Approaches to the study of agricultural geography: Sources of agricultural data.
- Unit-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. Zero Budget Natural Farming, Organic Farming, Cellular Agriculture: Definition, History, Methods, Benefits'. Green Revolution- its impact and consequences.
- Unit-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.
- Unit-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. Agricultural Policy in India.
- Unit-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. Employment in the agricultural sector: landless laborers, women, children, occupational health and agricultural activities. Land reforms, land use policy and planning.

**Suggested Readings:**

- Bayliss Smith, T.P. (1987): The Ecology of Agricultural Systems. Cambridge University Press, London.
- Berry, B.J.L. et. Al. (1976): The Geography of Economic Systems. Prentice Hall, New York.
- Brown, L.R. (1990): The Changing World Food Prospects- The Nineties and Beyond. World Watch Institute, Washington D.C.
- Dyson, T. (1996): Population and Food-Global Trends and Future Prospects. Routledge, London.
- Gregor, H.P. (1970): Geography of Agriculture. Prentice Hall, New York.

**M. A. Geography**  
**Semester IV**  
**Course XVIII**  
**Urban Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- 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, Urban growth and theories. Central Place Theory of Christaller and Losch. Theories of Perroux and Boudeville.
- Unit-II : Urban economic base: Basic and non-basic functions, concept of dualism, colonial and postcolonial structure, metropolitan city and changing urban function; role of informal sector in urban economy. Classification of urban settlements on the basis of size and function and its methods.
- Unit-III : Organization of urban space: urban morphology and landuse structure, city core, commercial, industrial and residential area; core-country variations; city-region relations, urban expansion, umland and periphery, Urban Primacy, Rank Size Rule.
- Unit-IV : Contemporary urban issues: urban poverty, urban renewal, urban sprawl, slums; transportation, housing, urban infrastructure; environmental pollution; air, water, noise, solid waste, urban crime.
- Unit-V : 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.

**Suggested Readings:**

- Alam, S.M. (1964): Hyderabad – Secunderabad Twin Cities Asia Publishing House, Bombay.
- Berry, B.J.L. and Horton, F.F. (1970): Geographic Perspectives on Urban Systems, Prentice Hall, Englewood Cliffs, New Jersey.
- Carter(1972):The Study of Urban Geography, Edward Arnold Publishers, London.
- Chorley,R.J.O HaggettP.(ed.)(1966): Models in Geography, Methuen, London.
- Dickinson, R.E. (1964): City and Region, Routledge, London.
- Dwyer, D.J. (ed.) (1971): The City as a Centre of Change in Asia, University of Hong Kong Press, Hongkong.
- Gibbs, J.P. (1961): Urban Research Methods, D. Van Nostrand Co. Inc. Princeton, New Jersey.

**M. A. Geography**  
**Semester IV**  
**Course XIX (A)**  
**Geography of Tourism**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I : Basics of tourism:, Definition of tourism; Factors influencing tourism: historical, natural, socio-cultural and economic; motivation factors for pilgrimages:leisure,recreation;elementsoftourism,tourismasanindustry.
- Unit-II : Geography of tourism:- its spatial affinity; areal and locational dimensions comprising physical, cultural, historical and economic; Tourism types: cultural, eco- ethnocoastal and adventure tourism, national and international tourism; globalization and tourism.
- Unit-III : Indian Tourism: regional dimensions of tourist attraction; evolution of tourism, promotion of tourism.
- Unit-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.
- Unit-V : Impacts of tourism: physical, economic and social and perceptual positive and negative impacts; Environmental laws and tourism – Current trends, spatial patterns and recent changes; Role of foreign capital & impact of globalization ontourism.  
Project report on relevant topics such as impact of eco-tourism, Cultural tourism and Historical tourism.

**Suggested Readings:**

- Bhatia A.K. (1996) : Tourism Development: Principles and Prctices. Sterling Publishers, NewDelhi.
- Inskeep. E(1991): Tourism Planning: An Integrated and Subtainable Development Approach, Van Nostrand and Reinhold, NewYork.
- KaulR.K.(1985):DynamicsofTourism&Recreation.Inter-India,NewDelhi.
- KaurJ.(1985):HimalayanPilgrimages&NewTourismHimalayanBooks,NewDelhi.
- LeaJ.(1988):TourismandDevelopmentltheThirdWorld,Routledge,London.
- MiltonD.(1993):GeographyofWorldTourismPrentice.Hall,NewYork.
- PeaceD.G.(1987):TourismTo-day:AGeographicalAnalysis,Harlwo,Longman.
- Robinson,H.A(1996):AGeographyofTourism.MacdonaldandEvans,London.
- Sharma J.K.(ed.)(2000): Tourism Planning and Development- A new perspective, Kanishka Publishers, NewDelhi.



**M. A. Geography**  
**Semester IV**  
**Course XIX (B)**  
**Geography of Rural Settlements**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-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.
- Unit-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.
- Unit-III : Social issues in rural settlements: poverty, housing and shelter, deprivation and inequality, empowerment of women, healthcare, rural-urban interaction.
- Unit-IV : Environmental issues in rural settlements: access to environmental infrastructure, water supply, sanitation, drainage, health hazards.
- Unit-V : Cultural landscape elements in rural settlements in different Geographical environments with special reference to India; House types and field patterns, Origin, evolution, size, socio, spatial, structure of Indian villages. Rural development planning in India.

**Suggested Readings:**

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

**M. A. Geography**  
**Semester IV**  
**Course XIX(C)**  
**Dissertation**

Max. Marks: 100

Note : The students under the supervision of a faculty member shall be selecting a topic from his field of specialization for the dissertation work. The dissertation shall be field work based applying the techniques learned by the student in practicals. It will contain at least 50 pages and 10 to 15 maps and diagrams / charts prepared by the student. The dissertation report duly signed by the teacher supervisor concerned be submitted in the college before the theory examination of the university or as per instructions given by the university. There shall 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 questions will be asked by the faculty members and students. The supervisor will act as an internal examiner, and the internal mark shall be awarded by him/her.

The distribution of marks for dissertation course will be as follows :

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

**M. A. Geography**  
**Semester IV**  
**Course XX**  
**GPS and GIS Based Surveys & Mapping (Practical)**

Max. Marks: 100

- Unit-I** Introduction to computers, Definition and scope of GIS: Introduction to computers: Basic operating systems DOS and Windows: Functional requirements of GIS : Hardware configuration and software modules; Graphic user interface of Arc Info. Arc View and Geomedia: GIS Cartographic interface; Recent trends in GIS.
- Unit-II** Geographic data : Spatial and non spatial; Data Models: Raster and Vector, Database management System (DBMS) and Data Structures; Relational: Hierarchical and network; Data input: Digitization of maps and imageries: Topology building , Editing and cleaning; Coordinate transformation; Attribute data generation.
- Unit-III** Global Positioning System, Introduction and definition of Global Positioning Systems: GPS satellite and constellations; GPS segments-Space Segments, Control Segments, User Segments, GPS signals and codes.
- Unit-IV** GIS Application: GIS as a Decision Support System- expert. GIS in Land Information System, Urban Management, Environmental Management and Emergency Response System. Use of GPS in data generation and mapping.

**Note:** A Geographical Survey Camp of not less than 10 days duration in different area other than of college premises will be arranged to acquaint students with the advanced surveying techniques and the spot study of aerial photographs and satellite imageries. Students are required to submit survey camp report containing not more than 10 pages and supported by 05 maps prepared during survey camp. There will be one teacher and one supporting staff on every 10 students to guide the students. T. A. & D.A. will be paid by the college concerned to the teaching and supporting staff members accompanying the students during survey camp. For purpose of examination two surveying exercises from Unit-I will be given to each group of not more than 02 students. These exercises will be of 03 hours duration. There will be a written test of 03 hours duration for rest of units-II, III & IV. Students will have to attempt 03 question out of 06 question( 02 from each Unit). The distribution of marks shall be follows:-

- |   |            |
|---|------------|
| (1) Two surveying exercises                   | : 30 Marks |
| (2) Written Test                              | : 30 Marks |
| (3) Survey Camp Report                        | : 20 Marks |
| (4) Sessional Record and VIVA VOCE Test 10+10 | : 20 Mark  |

