

Part B

Programme: M.A. (Geography) CBCS

Semester- III

Paper – I (DSC-I)

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
HGT/Geography	History of Geographical Thought	60 Periods of 1 hours

Course Outcomes:

1. Students will understand the philosophical and methodological foundations of the subject and its place in the world of knowledge.
2. Student Familiarities with the major landmarks in development of geographic thoughts of different periods of time.

Unit	Content
Unit I	Geographical knowledge of the ancient world: Contribution of Greek and Roman geographers, Dark Age, Geography of medieval period: Contribution by Arab geographers, Contributions of explorers: Marco Polo, Christopher Columbus, Vasco da Gama, Ferdinand Magellan, Captain James Cook. (Period 14)
Unit-II	Founders of modern geographical thoughts 1) Alexander Von Humboldt, 2) Carl Ritter, 3) Friedrich Ratzel, 4) Vidal de la Blache, 5) Ellen Churchill Semple, 6) Richard Hartshorn (Period 12)
Unit III	Dichotomy and dualism: Environmental determinism, Cultural OR Social determinism, Dualism in Geography : Physical and Human Geography, Systematic and Regional Geography (Period 12)
Unit-IV	Conceptual development: Area differentiation, Spatial analysis, Locational analysis, System analysis, Models in Geography : Significance and need of models in Geography, Types of models, Explanations in Geography (Period 12)
Unit-V	Modern approaches in Geography: Positivism, Radicalism, Behaviouralism, Humanism and Postmodernism, Paradigms in Geography, Recent trends in Geography. (Period 10)

Course Material/Learning Resources

Text books:

Reference Books :

- 1) Arild H.J. (1999) : 'Geography : History and Concept, SAGE Publication, London.
- 2) Alber, Ronald, (1971) Adams, John S. Gould, Peter: 'Spatial Organization : The geographer's view of the world, Prentice Hall, New Jersey.
- 3) Amedeo, Douglas (1971): 'An Introduction to scientific reasoning in Geography, John Wiley, U.S.A.
- 4) Graithwaite E.B. (1960) : 'Scientific Explanation, Harper Torch Book, New York.
- 5) Chorley, R.J. (Ed) : 'Directions in Geography, Matheun and Co., London.
- 6) Dickinson, R.E. (1969) : 'The Makers of Modern Geography,' Prentice Hall of India, New Delh
- 7) Dixit R.D. (1997) : 'Geographical Thought ; Contextual History of Ideas, Prentice Hall, New Delhi.
- 8) Dixit R.D. (ed) (1994) : 'The Art and Science of Geography - Integrated readings,' Prentice Hall of India, New Delhi.
- 9) Freeman T.W. (1965) : 'Geography as Social Science,' Harper and Row Publishers New York.
- 10) Harvey. D. (1969) : 'Explanation in Geography,' Edward Arnold, London.
- 11) Hartshorne, R. (1959) : 'Perspectives of Nature of Geography, Rand McNally & Co.
- 12) Husain M (2001) : 'Evolution of Geographic Thought,' Rawat Publication, Jaipur, New Delhi.
- 13) Johnston, R.J. (1983) : 'Philosophy and Human Geography,' Edward Arnold, London.
- 14) Johnston R.J. (1988) : 'The future of Geography,' Methuen, London.
- 15) Kaushik, S.D. : 'Bhugolik Vichardharayeavam Vidhitantra' (Hindi)
- 16) Minshull R. (1970) : 'The Changing Nature of Geography,' Hutchinson University Library, London.
- 17) Richard, P. (1998) : 'Modern Geographical Thought,' Blackwell, Singapore.
- 18) Shrivastava V.K. (2002) : 'Bhugolik Chintan Ke Aadhar' (Hindi)

Part B

Programme: M.A. (Geography) CBCS

Semester- III

Paper – II (DSC-II)

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
POG/Geography	Population Geography	60 Periods of 1 hours

Course Outcomes:

1. Analyze the types of data of population Geography.
2. Describe the distribution and density of population.
3. Apply the theories of population in arriving at solutions to the issues.
4. Investigate Current Issues and Problems in India.

Unit	Content
Unit I	Meaning, nature, scope and significance of population Geography, Relationship with other disciplines, Approaches and Methodology, Sources of Population data and their level of reliability. (Period 10)
Unit-II	World Population : Growth, Distribution and density, Factors Influencing Population growth, distribution and density , Theories of population growth Malthus, Neo-Malthusian, Marx, Demographic Transition Theory. (Period 12)
Unit III	Components of population change: Fertility – measures and methods of estimation, spatiotemporal variations, Mortality – Measures and methods of estimation and spatiotemporal variations, Migration –Direct and indirect measures, Types of migration, Determinants of migration, Migration theories: Ravenstein and Everett Lee, Epidemiological Transition (Period 14)
Unit-IV	Population Composition: Sex composition, Age composition, Occupational composition, Religion composition, Literacy composition and their determinants (Period 12)
Unit- V	Population in India – Growth, distribution and density, their pattern, Composition of population in India – Sex, Age, Occupation, Religion, Literacy, Rural-Urban Composition, Changing nature of Indian Population Policies. (Period 12)

Course Material/Learning Resources

Text books:

Reference Books: :

- 1) Agarwal J.C. (2004) : 'Population Education,' Shirpa Publication, Delhi.
- 2) Agarwal S.N. (1974) : 'India's Population Problems,' Mcgraw Hill Publishing Co.,Ltd., New Delhi.
- 3) Barrett H.R. (1992) : 'Population Geography,' Oliver and Boyd, Longman House,Harlow.
- 4) Bhend, A., (2011) Kanitkar, T.: 'Principles of Population Studies,' Himalaya PublishingHouse, Mumbai.
- 5) Birdsell N., (2003)Kelley A.C., SindingS.: 'Population Matters : Demographic change, Economic growthand poverty in developing Countries,' Oxford University PressOxford.
- 6) Brue New Bold, N.(2010): 'Population Geography : Tools and Issues,' Rowman& Litter field Publishers, Inc, U.K.
- 7) Bongue, D.J. (1969) : 'Principles in Demography,' John Wiley, New York.
- 8) Bose Ashish et al(1974): 'Population in India's Development (1947-2000);' Vikas Publishing House, New Delhi.
- 9) Berelson, B. (1974) : 'Population Policy in Developed Countries,' MacmillanLondon
- 10) Chandana R.C. (2013) : 'Population Geography,' Kalyani Publishers, Ludhiana, Delhi.
- 11) Clark J.I. (1972) : 'Population Geography,' Pergamom Press, Oxford.
- 12) Crispin, J. (2000)Jegade J.: 'Population, Resource and Development,' Harper Collins, Education 2nd edition.
- 13) Crook, Nigel (1997) : 'Principles of Population and Development,' PergamomPress,New york.
- 14) Coale, A.J. (1958)and Hoover, E.M.: 'Population Growth and Economic Development in Low Income countries,' Amit Publishers, New Delhi.
- 15) Daugherty, (1998)Helen Gin, KennethC.W. Kammeyir: 'An Introduction to Population,' (2nd edition), The Guilford Press, New York, London.
- 16) Davis, K. (1951) : 'Population of India and Pakistan,' Princeton University Press,Princeton.

- 17) Desoza, A.A. (1983) : 'Indian Population Problems in Perspective and Social Action,' Concept Publications, New Delhi.
- 18) Dyson T. (2010) : 'Population and Development : Demographic Transition, 2ndBooks Ltd.
- 19) Ehrlich, P.R. (1996)and Ehrlich, A.H.: 'Eco-science : Population, Resources, Environment (6th edition) W.H. Freeman and Company, San Francisco.
- 20) Garnier, B.J. (1970) : 'Geography of Population, Longman, London.
- 21) Gould WTS (2009) : 'Population and Development : Perspective on Development,Routledge.
- 22) Hazel B.R. (1994) : 'Population Geography,' Singapore Publishers Pvt. Ltd.,Singapore.
- 23) Hausier, Philip M.(1959)&Duncon (Eds): 'The Study of Population,' Universtiy Press, Chicago.
- 24) Mamoria, C.B. (1981) : 'India's Population Problems'
- 25) PandeyHimanshu (1993): 'Population Growth and Migration Models,' RadhaPublications, New Delhi.
- 26) Premi, M.K. (1991) : 'India's Population : Heading Towards a Billon, B.R.Publishing Corporation.
- 27) Shrinivasan, K. (1998) : 'Basic Demographic Techniques and Applications,' SagePublications, New Delhi.
- 28) Sundaram K.V. (1986)andSudeshNangia (ed): 'Population Geography, Heritage Publication, Delhi.
- 29) Woods, R. (1979) : Population Analysis in Geography, Logman, London.
- 30) Zelinsky Wilber (1966) : 'A Prologue to population Geography,' Prentice Hall

Part B

Programme: M.A. (Geography) CBCS

Semester- III

Paper – III (DSE-I) Elective

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
UGP/Geography	Urban Geography (Elective)	60 Periods of 1 hours

Course Outcomes: At the end of the course, the student shall be able to:

- 1• Analyze the theories of urban evolution and growth, Hierarchy of urban settlements
- 2• Understand the various aspects of urban place : location, site and situation; Rank-size rule and Law of primate city
- 3• Understand the concept of urban hierarchies
- 4• Understand the patterns of urbanization in developed and developing countries
- 5• Understand the ecological processes of urban growth; urban fringe; city-region
- 6• Analyze the models on city structure

Unit	Content	
Unit I	The scope, status and significance of Urban Geography, Approaches to the study of urban Geography, Geography and urbanism, Origin and growth of urban places: bases and process of urbanization from ancient, medieval and modern period.	Period 12
Unit-II	Urban functions : Definition and classification, Determinants of Urban functions, Functions and geographical situation, Classification of Urban settlement on the basis of size and functions Methods of functional, Classification of towns – Empirical method, Empirical-cum Statistical Method and pure statistical method	Period 12
Unit III	Urban Morphology – Factors influencing on Urban morphology, Process of development of Urban morphology. Theories of urban land use : Concentric Zone theory, Sector theory, Multiple Nuclei Theory, Concept and characteristics of C.B.D., Conurbation, Urban Agglomeration	Period 12
Unit-IV	Concept of City region, Umaland, Hinterland and Sphere of influence area, Methods of delimitation, Rural-urban fringe, Concept of Megalopolis and Metropolitan region.	Period 12
Unit- V	Urban hierarchies and central place concepts – Rank size rule, central place theory of Christaller and Losch, Theory of parroux and Boudeville, Urbanization in India – Trends of Urbanization in India, Urban problems, Urban planning and policies in India.	Period 12

Course Material/Learning Resources

Text books:

Reference Books:

- 1) Berry, B.J.L. (1970) and Horton F.F.: 'Geographic Perspectives on Urban System,' Prentice Hall, Englewood Cliff, New Jersey.
- 2) Bansal (1990)Sureshchandra: 'NagriyaBhugol' (Hindi) MinakshiPrakashan, Meerut, New Delhi.
- 3) Bose, A (1980) : 'India's Urbanization, Tata McGraw Hill, New Delhi.
- 4) Carter H (1979) : 'The Study of Urban Geography, Arnold Heinemann, London.
- 5) Chorely R.J.O., (1966)Haggett P (ed): 'Models in Geography, Methuen, London.
- 6) Dickinson, R.E. (1964) : 'City and Region,' Routledge, London.
- 7) Everson, J.A. &Fitz Gerald B.P.: 'Concepts in Geography, 3-Inside the city,' Longman, London.
- 8) GarnierBeaujen J.(1967) & Chabot G: 'Urban Geography,' Longman, London.
- 9) Gibbs J.P. (1961) : 'Urban Research Methods D. Von Nostrand C. Inc. Princeton,New Jersey.
- 10) Hall, T. (2006) : 'Urban Geography, Routledge, London.
- 11) Johnston J.H. (1974) : 'Urban Geography, Pergoman Press, Oxford.
- 12) King L.J., (1978)Golledge R.G.: 'Cities, Space and Behaviour,' Prentice Hall, Englewood Cliff, New Jersey.
- 13) Kundu A. (1992) : 'Urban Development and Urban Research in India,' KhannaPublication.
- 14) Mandal R.B. (2000) : 'Urban Geography,' Concept Publishing Company, NewDelhi.
- 15) Mayer Harold M(1967)& Kohn Clyde : 'Reading in Urban Geography,' Central Book Depot. Allahabad.
- 16) Northam Ray M.(1975): 'Urban Geography John Kliley and Sons, Inc, New York
- 17) PrakasaRaoVLS(1983): 'Urbanization in India – Spatial dimensions,' Concept Publishing Company, New Delhi.

18) Putnam G. Robert,(1970) Taylor F.J.,Kettle P.G. : 'A Geography of Urban Places – Selected Readings,' Methuen,London.

19) Ramchandran, R.(1994): 'Urbanization and Urban Systems in India,' Oxford University Press, New Delhi.

Part B

Programme: M.A. (Geography) CBCS

Semester- III

Paper – III (DSE-I) Elective

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
GRS/Geography	Geography of Rural Settlements (Elective)	60 Periods of 1 hours

COs-

1. Understand meaning, scope and significance
2. Understand size, spacing of Rural settlement and classification of Rural settlement
3. Know the social and economic issue in Rural settlement
4. Understand the Environmental issue in Rural settlement
5. Know the causes and consequences of Rural Migration
6. Understand the Role of GIS and Remote sensing in Rural Settlement.

Unit	Content	
Unit I	Meaning and scope of Settlement Geography, Significance and development of Geography of Rural Settlements, Approaches in the study of Rural Settlement Geography, Evolution and development of Rural settlement from ancient to 21st century- Spatio temporal dimensions and sequent occupancy.	Period 12
Unit-II	Distribution of Rural Settlements: size and spacing of Rural settlements, Types, forms and patterns of Rural settlements: Causes and effects, Functional classification of Rural settlements, Central places and rural service centers: Their nature, hierarchy and functions, Rural – Urban fringe – structure, characteristics and functions.	Period 12
Unit III	Social and economic issues in Rural Settlements – Poverty, Housing and Shelter, Deprivation and Inequality, Empowerment of women, Health care, Rural-urban interaction	Period 12
Unit-IV	Environmental issues in Rural settlements: Access to environmental infrastructure – Water supply, Sanitation, Drainage, Occupational health hazards	Period 12
Unit- V	Rural Settlement in India : House types and field patterns of rural settlement in India, Types of rural settlements in India, Causes and consequences of Rural migration, Measures of development of amenities and infrastructure in rural India, Problems of Rural settlements, Rural development planning in India, Role of GIS and Remote sensing in rural settlements.	Period 12

References :

- 1) Dr Vijay Bakaramji Kharate : Pattern of. Rural Settlements in the Painganga Valley. Nabh Prakashan , Amravati .
- 2) डॉ विजय खराते : ग्रामीण वस्ती भूगोल, नभ प्रकाशन अमरावती
- 3) Alam, S.M. (1982) : 'Settlement System of India,' Oxford and IBH Publication Company, New Delhi.
- 4) Brock,J.O.M. (1978) andWelb, J.W. : 'Geography of Mankind,' McGraw Hill, London.
- 5) Chishlom, M. (1967) : 'Rural Settlements and Land use,' John Wiley, New York.
- 6) Clout, H.D. (1977) : 'Rural Geography,' Permagon, Oxford.
- 7) Danier, P and (1986) Hopkinson, M. : 'The Geography of Settlements,' Oliver & amp; Byod, Edinburgh.
- 8) Grover, N. (1985) : 'Rural Settlement – A cultural Geographical Analysis,' Inter India Publication, Delhi.
- 9) Haggett, P. (1965) : 'Locational Analysis in Geography, Edward Arnold, London.
- 10) Hudson F.S. (1976) : 'A Geography of Settlements,' Mac Donald & Evans, New York.
- 11) Mandal R.B. (2001) : 'Introduction to Rural Settlements,' Concept Publishing Company.
- 12) Mosely, M.J. (2005) : 'Rural Development : Principles and Practices,' Sage Publication, London.
- 13) Mitra, A (1960) : 'Report on House Types and Village settlement patterns in India,' Publication Division, Govt. of India, Delhi.
- 14) Panda, P.C. (1990) : 'Geomorphology and Rural Settlements in India,' Chugha Publication
- 15) Ramchandran, H.(1985): 'Village clusters and Rural Development,' Concepts Publication ,New Delhi.
- 16) Rao, E.N. (1986) : 'Strategy for Integrated Rural Development, B.R. Publication Co. Delhi.
- 17) Rappoport, A (1969) : 'House forms and Culture, Prentice Hall, New Jersey.

- 18) Sen, L.K. (ed)(1972) : 'Reading in Micro-level Planning and Rural Growth Centers, National Institute of Community Development, Hyderabad.
- 19) Singh R.Y. (1994) : 'Geography of Settlements' Rawat Publications, Jaipur.
- 20) Srinivas, M.N. (1968) : 'Village India,' Asia Publication House, Bombay.
- 21) Tiwari, R.C. (1984) : 'Settlement System in Rural India,' Prasad Mudranalaya, Allahabad.
- 22) Wanmali, S. (1983) : 'Service Centers in Rural India,' B.R. Publication Cor. New Delhi.
- 23) Woods, M. (2005) : 'Rural Geography,' Sage Publication, London.

Part B

Programme: M.A. (Geography) CBCS

Semester- III

Paper – IV (DSC-3) Practical-I

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
P1/Geography	Practical-I	3 Periods/Week

COs.

1.Understand the various Techniques of Spatial Analysis to Represent population data- population Density, components of population change,

2.Ripresent the population data – Located Diagram,Spatial distribution Map, Population Projection, Dependency Ratio, Growth Rate.

3. Techniques of Spatial Analysis to understand the Urban and Rural Settlement

Unit	Content	
Unit I	Techniques of Spatial Analysis : Population data. a) Population Density : i) Arithmetic Density. ii) Economic Density iii) Agricultural Density iv) Critical Density b) Components of population change. i) Crude Birth Rate ii) Age specific Birth Rate iii) General fertility Rate iv) Crude Death Rate v) Age specific Mortality vi) Infant Mortality Rate vii) Net Migration viii) Migration Index.	Marks 20
Unit-II	Techniques of Spatial Analysis : Population Data – A) Located Diagrams. i) Proportional Squares ii) PropotionalCricles	Marks 20

	iii) Proportional Spheres iv) Proportional Cubes v) Divided Circles vi) Block Diagrams vii) Age and Sex Pyramids : Compound, Superimposed Pyramid. B) Spatial Distribution Maps. i) Dot Maps – Population Distribution. ii) Choropleth Maps – Sex and Age distribution, Occupational Structure, iii) Isopleth Maps : Population Density, Population Potentials. C) Population Projection, Dependency Ratio, Growth Rate. .	
Unit III	A) Techniques of Spatial Analysis – Urban Settlement i) Basic measures of urbanization. ii) Calculation of CBD iii) Index of Centrality iv) Nearest Neighbor Analysis v) Shop-rent Index. vi) K3, K4 and K7 value computation. vii) Rank size Rule.	Marks 20
Unit-IV	Techniques of spatial Analysis : Rural Settlement i) Methods of Dispersion and Concentration of Rural Settlements. ii) Measurement of Shape (Pattern) of Rural Settlements. iii) Distance Decay Graph. iv) Density of Housing. v) Distance Decay Graph.	Marks 20
Unit- V	Viva Voce and Practical Record Book.	Marks20

References :

- 1) Aggarwal J.C. (2004) : 'Population Education' Shipra Publications Delhi.
- 2) Bhende A.A. (1993) And Kanitkar: 'Principles of Population Studies,' Himalaya Publishing House, Bombay.
- 3) Dube Kamala (1994) and Singh M.B. : 'Jansankhya Bhugol,' Rawat Publications, Jaipur
- 4) Haggett P. (1965) : 'Locational Analysis in Human Geography,' Edward Arnold, London.
- 5) Hall, T. (2006) : 'Urban Geography,' Routledge, London.
- 6) Khullar Dr. (1997) : 'Practical Geography,' King Books, Delhi.

- 7) Lawrence, G.R.P. : 'Cartographic Methods,' Mathur Co. London.
- 8) Mandal R.B. (2001) : 'Introduction to Rural Settlements,' Concept Publishing Company, New Delhi.
- 9) Mishra R.P. (1986) and Ramesh A. : 'Fundamental of Cartography'
- 10) Monkhouse, FJR (1971) and Wilkinson H.R.: 'Maps and Diagrams,' Methuen, London.
- 11) Negi B.S. (1995) : 'Practical Geography' 3rd Edn, Kedar Nath Ram Nath, Meerut and Delhi.
- 12) Pacione, M. (2009) : 'Urban Geography - Global Perspective,' Routledge, London.
- 13) Pathak, K.B. (2013) and Ram, F. : 'Techniques of Demographic Analysis,' Himalaya Publishing House, Mumbai.
- 14) Ramchandran R. (1997) : 'Urbanization and Urban System in India,' Oxford University Press, Delhi.
- 15) Robinson, A.H. (1995) : 'Elements of Cartography,' John Wiley & Sons, U.S.A.
- 16) Sanant S.B. (1994) and Athavale : 'Population Geography,' Mehta Publishing House, Pune.
- 17) Sarkar A.K. (1977) : 'Practical Geography: A Systematic Approach,' Orient Longman, Kolkata.
- 18) Siddharth, K. (2013) and Mukherjee, S. : 'Cities, Urbanization and Urban System,' Kishalayya Publishing Pvt. Ltd., New Delhi.
- 19) Singh and Kanojia (1972) : 'Map Work and Practical Geography,' Central Book Depot, Allahabad.
- 20) Singh Gopal (2001) 'Map Works and Practical Geography,' Vikas Publishing House Pvt. Ltd.
- 21) Singh R.L. (2004) and Singh R.B. : 'Elements of Practical Geography,' Kalyani Publishers, New Delhi, Ludhiana
- 22) Singh R.L. (2011) : 'Fundamentals of Practical Geography,' Sharda Pustak Bhavan, Allahabad. M. A./M.Sc. Part-II (CBCS)

Part B

Programme: M.A. (Geography) CBCS

Semester- III

Paper – V (DSC-4) Practical-II

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
P2/Geography	Practical-II	3 Periods/Week

COs-

- 1.Understand meaning and use of statistics and its application in Geography
- 2.Measures of central Tendencies using group and Un group data
- 3.Know the various methods of to analyse Geographical data
- 4.Corelation Analysis- various types of correlation method, significance of T,test

Unit	Content	
Unit I	Statistical Techniques: Definitions of Statistics, Types of Statistical tools, Importance and Uses of Statistics, Limitations of Statistics, Fallacies in Statistics, Importance and Uses of Statistical Techniques in Geography. Presentation of Statistical Data – Frequency Distribution / Frequency Graph : Histogram, Frequency Polygon, Frequency Curve, Ogive Curve.	Marks 20
Unit-II	Measures of Central Tendencies: Calculation of mean, Median, Mode, Quartile, for grouped and ungrouped data, Measures of Dispersion : Absolute Measurements : Mean Deviation, Quartile deviation and Standard Deviation.	Marks 20
Unit III	Relative Measurements: Coefficient of Mean Deviation, Co-efficient of Quartile Deviation, Coefficient of Variations, Skewness: Karl Pearson's Method, Bowley's Method, Comparison between Dispersion and Skewness.	Marks20
Unit-IV	Correlation Analysis: Definitions of Correlation, Types of Correlations, Methods of Studying Correlation, Karl Pearson's Co-efficient of Correlation, Merits and Limitations, Probable error, Spearman's Rank Correlation Co-efficient, Significance of 't' Test for Correlation Coefficients, Time Series Analysis : Moving averages, Least square Method and drawing of line of best fit, Logistic curve.	Marks 20
Unit- V	Viva Voce and Practical Records Book.	Marks 20

References :

- 1) Baily, T.C. (1995) and Gatrell, A.C.: 'Interactive Spatial Data Analysis,' Prentice Hall, London.
- 2) Cole, J.P. & (1968) C.A.M. 'Quantitative Techniques in Geography' John Wiley & Sons, Inc. New Delhi.
- 3) David Unwin (1981) : 'Introductory Spatial Analysis, Methuen, London.
- 4) Dickinson, G.C. (1977) : 'Statistical Mapping, and the Presentation of Statistics,' Edward Arnold Ltd., London.
- 5) Ebdon, D. (1977) : 'Statistics in Geography' Basil Blackwell, Oxford.
- 6) Fotheringham, A.S.(2000) Bunson, C., Charlton, M.: 'Quantitative Geography : Perspectives on Spatial Data Analysis,' Sage Publication Ltd., London.
- 7) Frank, H and (1994) Althoen S,C,: 'Statistics: Concepts and Applications,' Cambridge University Press, Cambridge.
- 8) Gregory, S. (1978) : 'Statistical Methods for Geographers,' Longman, London
- 9) Griffith, D.A., (2002) Layne, L.J.: 'A Case Book for Spatial Statistical Data Analysis: A Compilation of Analyses of Different Thematic Data sets.
- 10) Gupta, C.B. (1978) : 'An Introduction to statistical Methods, Vikas Publication House, New Delhi.
- 11) Gupta, S.P. (2000) : 'Statistical Methods,' Sultan Chand and Sons, New Delhi.
- 12) Hammond, R. (1991) and McCullagh, P.: 'Quantitative Techniques in Geography,' Clarendon Press, Oxford.
- 13) Hoel P.G. : 'Elementary Statistics,' Wiley, New York.
- 14) Johnston R.J. (1973) : 'Multivariate Statistical Analysis in Geography,' Longman, London.

15) Karlekar Shrikant (2013) and Kale Mohan: 'Statistical Analysis of Geographical Data,' Diamond

Publication, Pune.

16) Khullar Dr. (1997) : 'Practical Geography,' King books, Delhi.

17) Mahmmod Aslam (1977): 'Statistical Methods in Geographical Studies,' Rajesh

Publication, New Delhi.

18) Mann, P.S. (2007) : 'Introductory Statistics,' John Wiley and Sons, New Delhi.'

19) Maurice Yeat (1974) : 'An Introduction to Quantitative Analysis in Human Geography,'

McGraw Hill, New York,

20) Rogerson, P.A. (2010) : 'Statistical Methods for Geography,' Sage Publication, London.

21) Shukl U and (2001) Kulkarni S.T.: Sankhiki Tatvaani Vyawhar, Pimplapure And Company

Publishers, Nagpur (Marathi)

22) Singh R.L. (1990) : 'Elements of Practical Geography,' Kalyani Publishers, New Delhi.

23) Taylor P.J. (1977) : 'Quantitative Methods in Geography,' Houghton, Mifflin, Boston.

Syllabus Prescribed for M.A. Second Year PG Programme (CBSC)

Programme: M.A. Geography

Semester- III

Credits -02

Total Marks 50

Code of the Course/Subject	Title of the Course/Subject	(Total Number of Periods)
SEC / Geography	Measurement of Area	60 Periods of 1 hours

COs

1. Understand the basic principles of Surveying
2. Understand conventional and modern methods of surveying.
3. Develop ability to transform basic concept of surveying to field practice.
4. Interpret plans and maps for planning and setting out works.
5. Understand modern surveying techniques for mapping.

*** List of Practical/Laboratory Experiments/Activities etc.**

1. Theodolite Survey: Introduction, the vernier transit theodolite,
Measuring horizontal and vertical angles, methods of traversing, closing error
Computation of latitudes and departure, check in closed and open traverse,
balancing of traverse, Gale's table, omitted measurements.
2. Planimeter- Measurement of Area by Planimeter
Reading on Planimeter
Method of using Planimeter: Pole exterior and Pole Interior method
Observation table
Calculation of area by digital *planimeter*.

References:

1. R.Subramanian "Surveying and leveling" 2nd edition, 2013, Oxford university press, New Delhi.
2. Dr. A.M. Chandra, "Plane Surveying", 2007, New Age International (P) Ltd., New Delhi.
3. Dr. A.M. Chandra, "Higher Surveying", 2006, New Age International (P) Ltd.,

New Delhi.

4. Dr. B.C. Punamia, “Surveying Vol. I&II”, 2016, Laxmi Publishers. New Delhi

5. S.K. Duggal “Surveying, Vol. I, II and III”, 2009, Tata Mcgraw Hill, New Delhi.

Pedagogy for Course Delivery:

1. Classroom lectures, Tutorials & Field Survey
2. Home assignments, class tests and class quiz

Part B

Programme: M.A. (Geography) CBCS

Semester- IV

Paper – I (DSC-1)

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
AGG/Geography	Agricultural Geography	60 Periods of 1 hours

Cos:-

1. Introduced the students to the basic principles and concepts in Agriculture Geography
2. Acquainted with the applications of Agriculture Geography in different areas and development.
3. Incorporated and understand the various factors of Agriculture development.
4. Acquainted with the dynamic aspect of Agriculture Geography.

Unit	Content	
Unit I	Definition, nature, scope and significance of Agricultural Geography, Various approaches to the study of Agricultural Geography, Origin and dispersal of Agriculture.	Period 10
Unit-II	Determinants of Agricultural pattern – Physical, Economic, Social and Technological, Agricultural Systems – Location, Distribution, Types and characteristics of agriculture, General pattern of world Agriculture, Pressure of population of Land	Period 12
Unit III	Agricultural regionalization : concept and Techniques of delimitation of Agricultural Regions – Cropping pattern, Crop combination, Concentration and diversification pattern, Regional patterns of Agricultural productivity, Degree of commercialization, Patterns of crop rotation	Period 14
Unit-IV	Agricultural land use models – Significance of Agricultural models, Limitations of models, Classification of Agricultural models, Von-thunen’s Model, Jonasson’s Model	Period 12
Unit- V	Agricultural in India – Land use patterns in India, Regional patterns of productivity in India, Crop combination regions in India, Dryland agricultural, Food security, Problems of Indian Agriculture, Agricultural policy in India, Green Revolution, White revolution, Globalization and Indian Agriculture.	Period 12

References :

- 1) Berry, B.J.L. et al (1976) : 'The Geography of economic systems,' Prentice Hall, New York.
- 2) Bhat, M.S. (ed.) (2004) : 'Poverty and food security in India – Problems and policies,' Akar Books New Delhi.
- 3) Bhatiya B.M. (1977) : 'Poverty Agriculture and Economic Growth,' VikasPrakashan, New Delhi.
- 4) Brown L.R. (1990) : 'The changing world food prospects – The Nineties and Beyond, World watch institute, Washigton D.C.
- 5) Chorley R & Hagget (1971) : 'Socio-economic models in Geography, Methuen, London.
- 6) Dyson T (1996) : 'Population and food : Global trends and future prospects, Routledge, London.
- 7) Fule Suresh (2000) : 'KrishiBugol (Marathi)' Vidya Bharat Prakashan, Latur.
- 8) Gregor, H.P. (1970) : 'Geography of Agriculture,' Prentice Hall, New York.
- 9) Grigg, D.B. (1974) : 'The Agricultural Systems of the world,' Cambridge University Press, New York
- 10) Hartshorn, T.N. (1988)
and Alexander J.W. : 'Economic Geography,' Prentice Hall, New York.
- 11) Husain Majid (1999) : 'Systematic Agricultural Geography,' Rawat Publications, Jaipur.
- 12) I bury, B.W. (1983) : 'Agricultural Geography Oxford' University Press, London.
- 13) Mamoria C.B. & (2001) Tripathi B.B. : 'Agricultural Problems of India' KitabMahal, New Delhi
- 14) Morgan W.B (1971) and Norton, RJC : 'Agricultural Geography,' Mathuen, London.
- 15) Morgan W.B. (1978) : 'Agricultural in Third World – A Spatial – Analysis, West view Press, Boulder.
- 16) Negi, B.S. (1999) : 'Agricultural Geography,' Kedarnath Ramnath, Meerut, Delhi.
- 17) Sauer, C.O. (1969) : 'Agricultural origins and Dispersals,' M.I.T. Press, Mass, U.S.A.
- 18) Singh Jasbir (2004) and Dhillon S.S. : 'Agricultural Geography,' Tata Mac Grow Hill Publication, New Delhi.
- 19) Symon, L. (1968) : 'Agricultural Geography, London.

20) Tarrant, J.R. (1974) : 'Agricultural Geography, Wiley, New York.

Part B

Programme: M.A. (Geography) CBCS

Semester- IV

Paper – II (DSC-2)

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
ECG/Geography	Economic Geography	60 Periods of 1 hours

Cos

1. Define Economic Geography, understand its nature and scope, and explain its significance in the study of economic activities and regional development.
2. Identify and describe the fundamentals of Economic Geography, including the various approaches and methodologies used in analyzing economic processes and spatial patterns.
3. Comprehend the key concepts and principles in Economic Geography, such as the spatial distribution of economic activities, production, exchange, and consumption patterns.
4. Define marketing and assess its importance in economic activities and regional development.
5. Analyze the role of transportation in promoting interregional and intraregional trade and economic development.
6. Analyze the Transport Policy and Planning in India and its role in facilitating economic growth and regional connectivity.

Unit	Content	
Unit I	Definition, nature and scope of Economic Geography, fundamentals of Economic Geography, Approaches and methodology in the study of Economic Geography, Concepts and principles in Economic Geography, Basis of economic processes : Production, Exchange and Consumption. Classification of economic activities.	Period 12
Unit-II	Factors of location of economic activities – Physical, Social, Economic and Cultural, The factors for Industrial location, Theories of Industrial location – Alfred Weber, August Losh and Walter Isard theory, Selected branches of manufacturing - Iron and Steel Industry, Cotton Textile Industry, Chemical Industry.	Period 12
Unit III	Definition and importance of marketing, Classification of market centers, Locational Analysis, Spatial pattern, Components of market morphology,	Period 12

	Types of shopping centers, Delimitation of market areas - Empirical and Theoretical methods.	
Unit-IV	Transportation: Factors associated with the development of transport system, Characteristics and relative significance of modes of transportation, Accessibility and connectivity, Interregional and Intraregional, Their role in economic development, Transport cost Theory of Edgar M. Hoover.	Period 12
Unit- V	Economic development of India: Regional disparities, Salient features of Indian economy, Role of Agriculture in economic development of India, Industrial policy of India, Special economic zones, Transport policy and planning in India.	Period 12

References :

- 1) Alexander J.W. (1976) : 'Economic Geography, Prentice Hall of India, New Delhi.
- 2) Alexandersson (1988) Gunnar : 'Geography of Manufacturing,' Prentice Hall of India Pvt. Ltd., New Delhi.
- 3) Berry, Conkling (1988) & Ray : 'Economic Geography,' Prentice Hall of India, New Delhi.
- 4) Berry J.L. (1967) : 'Geography of Market centres and retail distribution,' Prentice Hall, New York.
- 5) Berry B.J. (1976) : 'Geography of Economic systems,' Prentice Hall, Englewood Cliff.
- 6) Boyce R.D. (1974) : 'Bases of Economic Geography, Holt, Rinehard and Winston, New York.
- 7) Chatterjee, S.P. (1984) : 'Economic Geography of Asia, Allied Book Agency, Kolkata.
- 8) Chorley, R.J. (1969) and Hagget P (ed) : 'Network Analysis in Geography, Arnold.
- 9) Dag Gupta A (1972) : 'Economic and commercial Geography,' Mukherjee & Co. Private Ltd., Kolkata.
- 10) Eckarsley R (ed) (1995) : 'Markets, The State and Environment,' McMillan, London.
- 11) Garnier, B.J. (1979) and Delobez : 'A Geography of Marketing,' Longman, London.

- 12) Hamilton, F.E. (1974) : 'Spatial Respectives of Industrial Organization and Decision Making,' John Wiley, New York.
- 13) Hamilton, I (ed) (1992) : 'Resources and Industry,' Oxford University Press, New York
- 14) Hartshorne, T.A. (2010) and Alexander J.W. : 'Economic Geography,' PHI Learning, New Delhi
- 15) Hoyle, B.S. (ed) : 'Transport and Development,' Macmillan, London
- 16) Hurst, M.E. (ed) (1974) : 'Transportation Geography,' McGraw Hill.
- 17) Hurst Elliot (1986) : 'Geography of Economic Behaviour,' Unwin, London.
- 18) Johnson R.J. (1989) & Taylor D.J. : 'A World in Crisis,' Basil-Blackwell, Oxford.
- 19) Knox P Agnew,J (2008) andMccarthy L : 'The Geography of World Economy,' Hodder Arnold, London.
- 20) Knowles, R & (1990) Wareing, J : 'Economic and social Geography,' Heinemann Professional Book London.
- 21) Losh August (1954) : 'Economics of Locations,' Yale University Press, New York.
- 22) Rabinson, H (1978) &Bomford, C.G. : 'Geography of Transport,' Macdonald and Evans, U.S.A.
- 23) Redcliff, M. (1987) : 'Development and the Environmental Crisis,' Methuen, London.
- 24) Roy Prithwish (2000) : 'Economic Geography - A Study of Resources,' New Central Book Agency (P) Ltd, Kolkata.
- 25) Royen Van & (1967)Bengtston: 'Fundamentals of Economic Geography,' Prentice Hall of India, New Delhi.
- 26) Saxena H.M. (1984) : 'Geography of Marketing,' Sterling Publishers, New Delhi.
- 27) Sinha B.N. (1971) : 'Industrial Geography of India.'
- 28) Smith, D.M. (1971) : 'Industrial location: An Economic Geographical Analysis,' John Wiley and Sons, New York.
- 29) Siddarth K (2000) : 'Economic Geography : Theories, Process and Patterns,Kisalaya Publications, New Delhi.

Part B

Programme: M.A. (Geography) CBCS

Semester- IV

Paper – III (DSE-1) (Elective)

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
EVG/ Geography	Environmental Geography (Elective)	60 Periods of 1 hours

Cos:-

1. The students acquired the information about environment.
2. Acquired information about climatic, earth's and anthropogenic movement and environment changes.
3. The students improved their role in environment
4. The students increased the knowledge in research.
5. To create awareness about environment in the society

Unit	Content	
Unit I	Meaning, scope and importance of Environmental Geography, and necessity of public awareness, Environment: Definition, Structure, Types, Components, Approaches to the study of environmental Geography, Geography and ecology, Ecological concepts and principles.	Period 12
Unit-II	Ecosystem : Concept of ecosystem, Structure and function, Types, Energy flow in ecosystems, Ecological succession – Types of succession, Food chains, food webs and Ecological pyramids, Stability of eco system.	Period 12
Unit III	Major ecosystems of the world – 1) Forest, 2) Grass Land, 3) Desert, 4) Aquatic, - Their types, Characteristics, Structure and Functions, Biodiversity and its conservation – Levels of Biodiversity, Diversity of Biotic communities and ecosystems, Biogeographic classification of India, India as a mega diversity nation, Hot spots of biodiversity, Threats to biodiversity, Conservation of Bio diversity – In-Situ and Ex-situ conservation of biodiversity, Bio-diversity Act.	Period 12
Unit-IV	Environmental pollution – Causes, Effects and control measures of Air, Water, Soil, Marine, Noise, Thermal pollution and Nuclear hazards, Solid waste management, Disaster management – Earthquake, Volcanoes, Tsunami, Cyclones, Droughts, Floods, Famines, Landslides. Disaster management in Maharashtra and India.	Period 12
Unit- V	Environment Legislation : The Stockholm conference, The Rio-de-Janeiro conference, The Kyoto Conference, Environmental laws in India – Environmental Protection Act, Wildlife protection Act, Forest conservation Act.	Period 12

References :

- 1) Aarmin (2000)
Resencranz, et al, (eds) : 'Environmental law and policy in India Oxford.
- 2) Abbott, P.L. : 'Natural Disasters,' McGraw Hill, London.
- 3) AgarwalAnju : 'Environmental studies, Ram Prasad and Sons, Agra.
- 4) BharuchaErach (2005) : 'Text Book of Environmental Studies,' Universities Press (India) Pvt. Ltd., Hyderabad.
- 5) Bodkin, E (1982) : 'Environmental Studies,' Charles E. Merrill Pub. Co., Columbus, Ohio.
- 6) Botkin, D.B., (2007) Keller, E.A. : 'Environmental Science: Earth as a living Planet,' John Wiley and Sons, New York.
- 7) Chandana R.C. (2002) : 'Environmental Geography,' Kalyani Publishers, Ludhiana.
- 8) Cunningham, W.P. (2004) and Cunningham, M.A. : 'Principles of Environmental Science, Inquiry and Applications,' Tata McGraw Hill, New Delhi.
- 9) Cunnighum W. (2010) and CunninghamMary : 'Environmental Science : A Global Concern,' MacGraw Hill, London.
- 10) Deshpande A.P. (2006) & Others
: 'Environmental Studies,' Pimplapure& Co., Publishers, Nagpur.
- 11) Eyre, S.R. (1966)and Jones, G.R.J. (eds): 'Geography as Human Ecology,' Edward Arnold, London.
- 12) Goudie, A (2001) : 'The Nature of the Environment,' Blackwell, Oxford.
- 13) Government of India(2010): 'Status of Environment Report,' New Delhi.
- 14) Kormondy, E.J. (1989) : 'Concepts of Ecology,' Prentice Hall.
- 15) Keller, E.A., Vecchio,D.E.: 'Natural Hazards : Earth's processes as Hazards, Disasters, and Catastrophes,' Prentice Hall, New York.
- 16) Leela Krishnan, P.(1999): 'The Environmental Law in India,' Eastern, Lucknow.
- 17) Marsh, W.M., (2005)GrossaJ: 'Environmental Geography : Science, Land Use and Earth Systems,' John Wiley, New York

- 18) McKinney, M.L.,(2003) Schoch, R.M.: 'Environmental Science: Systems and solutions.' Jons andBartlett learning.
- 19) Miller G.T. (2004) : 'Environmental Science: Working with Earth,' ThomsonBrooks Cole, Singapore.
- 20) Miller G.T., (2011)Spoolman, Scott: 'Environmental Science': Brooks Cole, London.
- 21) MOEF (2006) : 'National Environmental policy 2006' - Ministry ofEnvironment and forest, Govt. of India, New Delhi.
- 22) Nobel and Wright(1996): 'Environmental Science: prentice Hall, New York.
- 23) Odum, E.P. (1971) : 'Fundamentals of Ecology,' W.B. Saunders, Philadelphia.
- 24) Richard L, Riversz et al(eds) (2000): 'Environmental Law, The Economy and Sustainable Development, Cambridge.
- 25) Singh Savindra (1997) : 'Environmental Geography,' PrayagPustakBhawan,Allahabad.
- 26) Sharma B.K. (1996)andKaurH: 'An Introduction to Environmental Pollution,] Goel Publishinghouse, Meerut
- 27) Verma P.S. (1998)andAgarwal Y.K.: Concept of Ecology, S. Chand & Co. Ltd., New Delhi.
- 28) UNEP (2007) : 'Global Environment Outlook,' United Nations EnvironmentProgramme.

Part B

Programme: M.A. (Geography) CBCS

Semester- IV

Paper – III (DSE-1) (Elective)

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
GWR/Geography	Geography of Water Resources (Elective)	60 Periods of 1 hours

Cos: _

By the end of this course, you should be able to:

1. Explain different physical and social factors of water issues and demonstrate the relationships among the issues
2. to address critical issues in water by various local, provincial, national, and international actors
3. Describe and be able to distinguish between different stakeholder perspectives on major water issues
4. Research and develop a position and rationale from a specific stakeholder perspective for a water management issue
5. Demonstrate advancement in depth of knowledge and ability to analyze water issues

Unit	Content
Unit I	Nature, scope and significance of Geography of water resources, Water as a focus of geographical Interest, inventory and distribution of world' swater resources (surface and sub-surface), world hydrological cycle: Quantitative estimates, The basic hydrological cycle: Precipitation, Evaporation and Evapotran- spiration, Spatio-temporal variations in hydrological cycle Period 12
Unit-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-water-crop relationship Water balance and drought, Major and minor methods of distribution of water to farms, Water harvesting techniques, Problems associated with over-exploitation of Ground water, Problems related to water use : Salinity Alkalinity and Water logging. Period12
Unit III	Industrial use of water : Methods of estimation, Demand of water in the industrial sector of India, Role of water as a primary determinant of Industrial location. Municipal use of water: General trends in water supply to the urban and rural communities in India, Internal navigation, Hydel power and recreation. Period 12
Unit-IV	Problems of water resource management: Water resource management in Disaster area - Foods, Droughts, Water quality management and pollution control, Water management in Urban area, Watershed Management, National water policy Period 12
Unit- V	Conservation and planning for the development of water resources Social and institutional considerations, Integrated basin planning, Conjunctive use of surface and ground water resources, International and interstate river water disputes and treaties Period12

References :

- 1) Agrawal, Anil (1997) and Sunitanarain: 'Dying Wisdom : Rise, Fall and Potential of India's Traditional Water Harvesting System, Centre for Science and Environment, new Delhi.
- 2) Andre Musy (2011) : 'Hydrology : A Science of Nature,' Science Publishers, New Hampshire.
- 3) Andrew A Dzurik, (2002): 'Water Resources Planning,' Rowman & Littlefield Publishers, Inc., Savage, Maryland.
- 4) Brooks, K.N., (2012) Falliott, P.F. and Magner. J.A.: 'Hydrology and the Management of Watershed,' Wiley Blackwell, Oxford.
- 5) Cech, T.V. (2009) : 'Principles of Water Resources : History, Development, Management and Policy (3rd Ed.), John Wiley and Sons, Hoboken, New Jersey.
- 6) Chorley, R.J. (1967) : 'Water, 'Earth and Man,' Methuen, London.
- 7) Chorley, R.J. (1969) : 'Introduction to Physical Hydrology,' Methuen, London.
- 8) Chow, V.T., (1988) Maidment D.R. and Mays, L.W.: 'Applied Hydrology,' McGraw Hill, New York.
- 9) Daniel P. Louck (2005) and Beek, E.V.: 'Water Resources Systems Planning and Management : An Introduction to Methods, Models and Applications,' UNESCO Publishing.
- 10) Dingman, S.L. (2002) : 'Physical Hydrology,' Prentice Hall Inc. New Jersey.
- 11) Economic and Social (1989) Commission for Asia and the Pacific 'United Nations Guidelines for the Preparation of National Master Water plans.'
- 12) Fitts, C.R. (2002) : 'Ground water Science,' Academic press.
- 13) Govt. of India, (1972) Ministry of Agriculture: 'Report of the Irrigation commission,' vol. I to IV, New Delhi.
- 14) Govt. of India, (1980) Ministry of Energy and Irrigation: 'Rashtriya Barh Ayog Report,' National Commission on Floods vol. I & II, New Delhi.
- 15) Gulhati, N.D. (1972) : 'Development of Interstate Rivers : Law and Practice in India,' Allied Publishers, Bombay.
- 16) Husain Majid (1994) : 'Resource Geography,' Anmol Publication Pvt. Ltd., New Delhi.
- 17) International Water (1975) Resource Association and Central Board of Irrigation and Power: 'Water for Human Needs,' Vols. I to V, Proceedings of the Second World Congress on Water Resources, 12-16 December, New Delhi.
- 18) Jones, J.A. (1997) : 'Global Hydrology : Processes, Resources and Environmental Management,' Longman, London.
- 19) Kates, R.W. (1980) and Burton, I (ed) : 'Geography, Resources and Environment,' Ottawa.

- 20) Krutilla, John V (1958) and Eckstein, O : 'Multiple Purpose River Development : Studies in Applied Economic Analysis,' John Hopkin's Press, Boston.
- 21) Law. B.C. (ed) (1968) : 'Mountains and Rivers of India,' IGU National Committee for Geography, Calcutta.
- 22) Lvovich, M.I. (2010) : 'Climatology, Hydrology, Glaciology,' John Wiley and Sons, London.
- 23) Mattern, J.R. (1984) : 'Water Resources Distribution, Use and Management,' John Wiley, Maryland.
- 24) Michael, A.M. (1978) : 'Irrigation : Theory and Practices,' Vikas Publishing House Pvt. Ltd., New Delhi.
- 25) Murthy J.V.S. (1994) : 'Watershed Management in India,' Wiley Eastern Ltd., New Delhi.
- 26) Mutreja, K.N. (1990) : 'Applied Hydrology,' Tata McGraw- Hill Publication Co. Ltd., New Delhi.
- 27) Negi B.S. (1977) : 'Geography of Resources ,' KedarNath Ram Nath, Meerut.
- 28) Neil S. Grigg (1996) : 'Water Resources Management,' McGraw Hill Book Co., New York.
- 29) Newson M (1992) : 'Land, Water and Development : River Basin System and Their Sustainable Management, Routledge, London.
- 30) Pinder G.F. (2006) and Celia M.A. : 'Subsurface Hydrology,' Wiley, Hoboken, Jew Jersey.
- 31) Rao. K.L. (1979) : 'India's water Wealth,' Orient Longman, New Delhi.
- 32) Singh R.A. and Singh S.R. (1979): 'Water Management : Principles and Practices,' Tara Publication, Varanasi.

Part B

Programme: M.A. (Geography) CBCS

Semester- IV

Paper – IV (DSC-3) Practical-I

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
P3/Geography	Practical-I	3 Periods/Week

Unit	Content	
Unit I	Statistical & Cartographic Analysis of Economic Attributes : Economic Maps and Diagrams. i) Lorenz curve ii) Ergograph iii) Triangular graph iv) Accessibility Isopleths : Isochrone v) Simple and Semi - Logarithmic graph. vi) Compound Graph vii) Poly Graph viii) Columnar diagrams. ix) Divided Rectangles x) Star diagrams.	Mark 20
Unit-II	Statistical and Cartographic Analysis of Agricultural Attributes. 1) Determination of Suitability of Crop : Relative Yield Index, Relative Spread Index. 2) Crop Concentration: Cropping Intensity, The location Quotient Method : Index of Crop Concentration. 3) Crop Combination: Weaver's Method, Doi's Method, Rafiullah's Method. 4) Crop Diversification Index of crop Diversification: Bhatia's Method. 5) Measurement of Agricultural Productivity by Kendall's Method. 6) Carrying Capacity Index. 7) Measurement of Agricultural Efficiency.	Mark 20
Unit III	Methods of Measuring the Spatial Distribution of Manufacturing Industries. Location quotient, Co-efficient of Geographic Association, Index of Concentration, Theoretical Measures of Transport Network, Measurement of Accessibility, Models of Network Change, Linear Programming and Gravity Models. Breaking Point Theory, Trade Area Delimitation.	Mark 20
Unit-IV	Visit to Industrial area / Agriculture Produce Market Committee (Krishi Utpann Bazar Samiti) Vegetable, Fruits, Food grains, Wholesale – Retail Markets / Road Transport Office (RTO)/ State Transport Corporation (ST)/Four Wheelers, Two Wheelers Show Room etc. On the basis of observations, Students are expected to carry out field work and generate necessary data, analyze it and prepare a comprehensive visit report –supplemented with maps, sketches and photographs, to submit at the time of examination. Viva-voce on visit Report.	Mark 20
Unit- V	Viva Voce and practical Record Book.	Mark 20

Reference-

- 1) Ali, M. (1979) : 'Dynamics of Agricultural Development in India,' Concept Publication, New Delhi.
- 2) Alexander, J.W. (1993) : 'Economic Geography,' Prentice Hall, New Jersey.
- 3) Alexandersson (1988) Gunnar : 'Geography of Manufacturing,' Prentice Hall of India Pvt. Ltd., New Delhi.
- 4) Bhatia B.M. (1977) : 'Poverty, Agriculture, and Economic Growth,' VikasPrakashan, New Delhi.
- 5) Berry J.L. (1967) : 'Geography of Market Centres and Retail Distribution,' PrenticeHall, New York.
- 6) Chorley, R. (1971) and Hagget, P. : 'Socio-Economic Models in Geography,' Methuen, London.
- 7) Chorley, R.J. and (1969) Hogget, P.(ed): 'Network Analysis in Geography,' Arnold
- 8) Garnier, B.J. (1979) and Delobez : 'A Geography of Marketing,' Longman, London.
- 9) Khullar Dr. (1997) : 'Practical Geography,' King Books Delhi.
- 10) Karlekar Shrikant (2013) and Mohan Kale: 'Statistical Analysis of Geographical Data,' Diamond Publications, Pune.
- 11) Kansky, N.T. (1965) 'Structure of Transport Network,' Hermant Publication, New York
- 12) Losh August (1954) : 'Economics of Location,' Yale University Press, New York.
- 13) Hoyle, B.S.(ed) : 'Transport and Development' Macmillan, London.
- 14) Hammond R (1974) & Mc Cullagh, P. : 'Quantitative Techniques in Geography,' Claredon Press, Oxford.
- 15) Hurst, M.E. (ed) (1974) 'Transportation Geography,' McGraw Hill
- 16) Husain Majid (1991) : 'Systematic Agricultural Geography,' Rawat Publiscation, Jaipur.
- 17) Mahmood Aslam (1977) : 'Statistical Methods in Geographical Studies, Rajesh Publication & New Delhi.
- 18) Monkhouse, F.J. (1971) & Wilkinson, H .R. 'Map and Diagram : Their Compilation and Construction, Mathuen & Co. Ltd., London.
- 19) Negi, B.S. (1999) : 'Agricultural Geography, Kedar Nath, Ram Nath, Meerut, Delhi.
- 20) Robinson H (1978) and Bonford, C.G. : 'Geography of Transport,' Macdonald and Evans, U.S.A.
- 21) Saxena, H.M. (1984) : 'Geography of Marketing,' Sterling Publishers, New Delhi.
- 22) Sinha, B.N. (1971) : 'Industrial Geography of India.'

- 23) Smith, D.A. (1971) : 'Industrial Location : An Economic Geographical Analysis,' John Wiley and Sons, New York.
- 24) Singh Jasbir (2004) and Dhillon, S.S. : 'Agricultural Geography,' Tata Mac Graw Hill Publication, New Delhi.
- 25) Singh R.L. (1990) : 'Elements of Practical Geography,' Kalyani Publishers, New Delhi Ludhiana
- 26) Symon, L. (1968) : 'Agricultural Geography,' London
- 27) Yeats, M.H. (1978) : 'Structure of Transport Network,' Harmant Publication , New York.

Part B

Programme: M.A. (Geography) CBCS

Semester- IV

Paper – V (DSC-2)Practical-II

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods
P4/Geography	Practical-II	3 Periods/Week

Unit	Content
Unit I	Conceptual Foundation of Research : Meaning, Objectives and Types of Research, Marks 25 Research Approaches, Significance of Research, Selection of Research Topic and Study Area, Research Processes, Research Problem, Research Design.
Unit-II	Sources of Data, Methods of Data Collection, Processing and Analysis of Data Marks 25 Sampling Techniques and Fundamentals, Construction of Hypothesis sand their Testing, Review of Literature, Quotations, Footnotes, References and Bibliography
Unit III	III Study Tour and Study Tour Report: Study Tour is to be organized to any Marks 25 places having geographical importance. The students shall conduct a field survey pertaining to physical features, local flora and fauna, Settlement structure, Life style of the people, Local markets etc. Students should adopt any suitable methods for the collection of data at tourist places. On the basisof information collected and observations, the students shall prepare andsubmit tour report supplemented with maps, sketches and photographs. Viva– Voce on study tour report.
Unit- IV	Viva Voce and practical Record Book. Marks 25

References :

- 1) Aaglawe Pradip (2000) : ‘Research Methodology and Techniques,’ Vidya Prakashan,
Nagpur (Marathi)
- 2) Archer J.E. (1968) &Dalton, T.H.: ‘The field work in Geography,’ Et. Batsford Ltd., London.
- 3) Ackoff, Robert, L(1953): ‘The Design of Social Research,’ Chicago.
- 4) Bhandarkar (1990) &Wilkinson: ‘Methodology and Techniques of social Research,’ Himalaya
Publication House, Bombay.
- 5) Flowerdew, R (2005)and Martin, D.: ‘Methods in Human Geography : A Guide for Students
Doing a Research Project,’ Prentice Hall, Harlow.

- 6) Gomez, B. (2010) and Jones, J.P. (eds): 'Research Methods in Geography: A Critical Introduction Wiley Blackwell, Chichester.
- 7) Hay, I. (2012) : 'Communicating in Geography and Environmental Sciences, 'Oxford.
- 8) Kitchin, R . (2000) and Tate, N.J.: 'Conducting Research in Human Geography: Theory, Methodology and practice, Pearson, Harlow
- 9) Kothari, C.R. (2009) : 'Research Methodology' New Age International Publishers, New Delhi.
- 10) Mishra R.P. (1991) : 'Research Methodology in Geography,' concept Publication, NewDelhi.
- 11) Mishra H.N. &Singh, B. P. 'Research Methodology in Geography' Rawat Publication, Jaipur.
- 12) Montello, D.R. (2013),and Sutton, P.C.: 'An Introduction to Scientific Research Methods in Geography and Environmental studies, SAGE, London.
- 13) Persons, A.J. and Knight, P.G. (2005): 'How to Do Your Dissertation in Geography and Related Disciplines,' Routledge, London.

Syllabus Prescribed for M.A. Second Year PG Programme (CBSC)

Programme: M.A. Geography

Semester- IV

Credits -05

Total Marks 100

**Code of the
Course/Subject**

**Title of the
Course/Subject**

**(Total Number of
Periods)**

RP / Geography

Research Project

60 Periods of 1 hours

COs

- Demonstrate the ability to choose methods appropriate to research aims and objectives
- Choose the appropriate research design and develop appropriate research hypothesis for a research project
- Develop the ability to apply the methods while working on a research project work
- Understand the limitations of particular research methods
- Develop skills in qualitative and quantitative data analysis and presentation
- Describe the appropriate statistical methods required for a particular research design
- Develop advanced critical thinking skills
- Demonstrate enhanced writing skills

Project Components:

1. Research and Planning:

- Identify the key geographical concepts and topics .
- Select a suitable study area that exemplifies these concepts (e.g., urban area,rural area river basin, etc.).
- Conduct background research on the chosen area to understand its geography, history, and relevant issues.

2. Data Collection:

- Use a combination of primary and secondary data collection methods:
- Primary data: Field observations, surveys, interviews, and measurements.
- Secondary data: Maps, satellite imagery, census data, government reports, etc.
- Gather information on elements like landforms, climate, population, land use, economic activities, etc.

3. **Fieldwork:**

- Conduct on-site visits to the study area to gather primary data.
- Observe and document geographical features and processes

4. **Data Analysis:**

- Organize and analyze the collected data using appropriate geographical techniques (e.g., GIS software, statistical analysis).

5. **Interpretation and Findings:**

- Interpret the results obtained from data analysis.
- Draw conclusions about the geographical patterns and processes observed in the study area.

6. **Presentation and Report:**

- Create a comprehensive report or presentation summarizing your field project.
- Include maps, charts, images, and graphs to support your findings.

Topics to Explore:

- Urbanization and its impact on the environment and society.
- Climate change and its effects on local ecosystems.
- Human migration patterns and factors influencing them.
- Economic activities and their spatial distribution.
- Analysis of local vegetation and biodiversity.
- Socio Economic Status of Rural / Urban Population
- Impact of Urban center on Rural Population
- Spatio Temporal Analysis of cropping pattern
- Rainfall Trends and Variability

- Socio -Economic study of any rural area.
- Environment issues in rural settlement
- Empirical study of transport net work
- Agricultural productivity
- Any subject related to Geography

References:-

- 1) अन्नदाते शशिकांत, अन्नदाते स्वाती, (२०१९) संशोधन पद्धती, के-सागर पब्लिकेशन
- 2) पाटील महेंद्र, (२०००). संशोधन पद्धती, अथर्व पब्लिकेशन, जळगाव
- 3) भाटकर सुधीर, निताळे विनोद, (२०२१) संशोधन पद्धती, अथर्व पब्लिकेशन, जळगाव
- 4) Kothari C.R., (2004), Research Methodology Methods and Techniques, New Age international Publication New Delhi
- 5) Sarode Anil, Bhagat P.B.,(2019). Research Methodology, Prashant publication