UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 301 **Title: Geography of India with Special Reference to Maharashtra**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Sub-Topic	Learning Points	Periods
01.	Introduction	a) Geographical Location b) Economic Position c) Geological Structure d) Geological Structure	1.Geographical and relative location of India. 1.Economic position of India in Relation to World. 1. Salient features of geological structure of India and Maharashtra.	5
02.	Physiography and drainage	a) Main Physiographic Divisions b) Drainage Systems c) Physiographic	1. The northern mountains. 2. The north Indian Plain. 3. The peninsular plateau 4. The coastal lowlands and islands. 1. East flowing rivers: Ganga, Bhrahmaputra, Godavari, Krishna. 2. West Flowing Rivers: Sindhu, Tapti, Narmada. 3. Major river systems of Maharashtra: east Flowing and west flowing rivers. 1. Physiographic divisions and Drainage systems of Maharashtra	5
03	Climate	Seasons and Climatic regions	1. Various seasons and associated weather conditions. 2. Mechanism of Monsoon. 3. Major Climatic regions of India. 4, Climate of Maharashtra	5
04	Soils	Soil Types	1. Major soil types and their distribution in India. 2. Soil degradation and soil conservation. 3. Major soil types and their distribution in Maharashtra	3
05	Forest	Forest Types	1. Major forest types and their distribution in India. 2. Deforestation and conservation of forest. 3. Major forest types and their distribution in Maharashtra	3
06	Mineral and Power Resources	Distribution and Utilization	1. Iron over, manganese, bauxite. 2. Coal, Petroleum, Natural gas. 3. Major power projects in India. (Hydro, Thermal, Atomic.) 4.Mineral and Power resources in Maharashtra.	4
07	Agriculture	Distribution and Production of Major Crops	1. Rice, Wheat, Jawar, Cotton, Sugarcane. 2. Green revolution in India; its socio-economic And ecological importance. 3. Major crops of Maharashtra.	4
08	Industries	Major Industries and Development	1. Account of development of distribution of Cotton Textile, sugar, chemical, fertilizers and Engineering. 2. Problems related to industrial development. 3. Major industries and development in Maharashtra.	4

09	Population	Growth and Distribution	1. Growth and distribution of population in India. 2. Population Composition. 3. Growth and distribution of population in Maharashtra	4
10	Regional Development	Development of Different Regions	1. Developed and Underdeveloped regions of India and Maharashtra.	3

N.B. According need of topics, maps are expected.

Reference Books :

1. Agrawal A. N. - Indian economy, Problems of Development and Planning.
2. Chopra S. N. - India, An Area Study.
3. Dubey and Negi - Economic Geography of India.
4. Gopal Singh - India.
5. Memoria I.B. - Geography of India.
6. R. L. Singh - Regional Geography of India.
7. Sharma and Continuo - Economic and Commercial Geography of India.
8. Arunanchalam B. (1967) Maharashtra : A study in Physical , Regional setting and Resource Development
9. Deshpande C.D. (1971) Geograhy of Maharashtra.
10.. Dikshit K.R. (1986) Maharashtra in Maps. Maharashtra Statev Board for literature and culture, Bombay.
11. Diddee J, Jog S.R. Kale V.S. and Datye V.S. (2000) Geography of Maharashtra. Rawat publication , New Delhi

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 302 **Title: Interpretation of Topographical Maps and Village Survey / Project Report**

No. of Credits: 04 **Total Periods : 60**

Sr. No.	Topics	Sub-topics	Learning Points	Practicals (3 hrs)	No: of sheets (minimum)
a. Interpretation of Topographical Maps (for 50 marks)					
1	Study of S.O.I and O.S Topographical Maps (1: 50,000 Series)	1.Indexing systems and conventional signs and symbols (OS)	1. 15' 15' 2. 7.1/2' 7.1/2' 3. 5' 7.1/2'	4	2 (One each for S.O.I and O.S. sheets)
		2. Grid references.	1. 4-figure grid 2. 6-figure grid 3. International grid reference		
		3. Locational and Relief aspects of the area	1. Latitudinal & Longitudinal extension 2. Contour interval 3. Maximum and Minimum heights		
2	Interpretation of S.O.I and O.S. toposheets.	1. Patterns of Relief	1. Distribution of Spot heights, bench marks, Trigonometrical Points etc. 2. Types of Slopes (convex, concave, uniform etc.) 3. Major landforms from contour patterns	10	SOI –3 sheets OS – 3 sheets
		2. Patterns of Drainage network	1. Types-trellis, dendritic, radial, etc. 2. Streams with water, without water. 3. Influence of relief on drainage		
		3. Patterns of Vegetation.	1. Types of vegetation 2. Association of relief and drainage 3. Reserved Forest and Protected Forest		
		4. Patterns of Settlements.	1. Types, amenities, facilities and communication, etc 2. Distribution, relative size, relative distance (dispersed, nucleated etc)		
		5. Patterns in Land Use.	1. Agriculture, mining etc, areal distribution, impact of physical landscape.		
b. Village Survey / Project Report with oral (for 30 marks)					

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3	Physical Survey	Location	1. Location on toposheet (lat. & long), extension, grid reference if available, height above mean sea level, area, site and situation) 2. Map showing physical features surrounding the village./ Project area 3. Position of the village on the cross-section line. 4. Location of the village /Project area shown in the map of catchment area.	6	
		Geology and climate	Information regarding geology, climate, soils and vegetation of the village		
4	Socio-Economic Survey	Population characteristics	1. Population, population structure, facilities available 2. Information regarding households-based on 10% sample survey.		
		Village morphology	1. Plan prepared by pace survey 2. Description of the plan.		

Note:

1. The selection of the village must be based on the availability of S.O.I. toposheet and/ or Cadastral Map.
2. As far as possible the village should be selected from the nearby area, so that the students can undertake at least two field visits.
3. Collection of data / information should be undertaken by the student by visiting the various Government Offices
4. The Village Survey Report should includes all geographical and socio-economic aspects.
5. Appropriate maps, diagrams, graphs, sketches etc should be included.
6. The Report should not preferably exceed 25 pages and **a group of maximum 5 students is permissible.**
7. Village survey is equivalent to 6 Practicals.

Reference Books :

1. Tamaskar B.G. and Deshmukh V.M. (1974), Geographical Interpretation of Indian Topographical Maps.
Orient Longman Limited Bombay
2. Ramamurthy, K. (1982): Map interpretation, Madras
3. Petrie N. (1992), Analysis and Interpretation of Topographical Maps. Orient Longman Limited Calcutta.
4. Dury G.H. (1960), Map Interpretation. Sir Isaac Pitman and Sons Limited, Pitman House, Bath.
5. Meux A. H. (1960), Reading Topographical Maps. University of London Press Limited
6. Jones P. A. (1968), Field work in Geography. Longmans, Green and Company Limited
7. Archer J. E and Dalton T. H. (1968), Field work in Geography B.T. Batsford Limited London
8. Wheeler K.S. Ed (1970), Geography in the field. Blond Educational, London.
9. Gupta, K. K. and Tyagi, V. C. (1992): Working with maps, Survey of India Publication, Dehradun
10. Vaidyanadhan. R. (1968). Index to a set of 60 topographical maps, CSIR, New Delhi

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 303 **Title: Research Method in Geography**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Sub-topic	Learning Points	Lectures
1.	Surveying And Map projections	Definition Importance and types	1. Plane and geodetic Survey 2. Methods of Survey 3. Principles and methods of Dumpy level and theodolite survey 4. UTM projection	6
2.	SOI Toposheet	Interpretation and use	1. Indexing system of SOI Toposheet 2. Data base creation for physical and cultural features 3. Drainage basin demarcation, terrain cross profiles	6
3.	Aerial photographs and satellite images	Interpretation and use	1. Concept of stereoscopic view 2. Geometry of Aerial photograph**:** flight line, overlap, fiducial marks, Measurement of relative heights 3. Data base creation from aerial photographs and satellite images	6
4.	Statistical methods	Application	1. Nature of data Geographical data. 2. Descriptive and inferential statistics 3. Bivariate and multivariate correlation analysis 4. Testing of hypothesis: parametric and non parametric tests (Chi squared, ks, t, f)	6
5.	GIS	Use of GIS	1. Use of GIS in spatial data analysis and modelling	5
6.	Field work	Components	Field sampling Questionnaire, interviews, measurements and field mapping.	5
7.	Report writing	Technique	Research problem, survey of literature, research methods applied, analysis, conclusions References and Bibliography	6

Reference Books:

1. Shaw G and Wheller D. (1985): Statistical techniques in geographical analysis. John Wiley and sons, New- York
2. Sumner G J (1978): Mathematics for physical geographers. Edward Arnols
3. Karlekar Shrikant and Kale Mohan (2005): Statistical analysis of Geographical data, Dimond publication
4. P. A. Burrough and R.A. McDonnell, Principle of Geographical Information System, 2000, Oxford University Press.
5. Geoge Joseph (2003): Fundamental of Remote Sensing, Universities Press, Hyderabad.
6. Ebdon David (1989): Statistical for Geographers
7. King, (1975): Statistical Geography
8. Norcliffe G. B. (1977): Inferential statistics for Geographers (Hutchinson, London)
9. Rogerson P. A. (2001): Statistics for Geography (SAGE pub., London, New Delhi}
10. Singh & Kanauja : Map work and Practical Geography.
11. Maslov A. V.Gordeev A. V. Batrakov Yu. G. (1984) : Geodetic surveying, Mir Publishers, Moscow
12. Kanetkar T. P. & Kulkarni S.V. 1986. Surveying & leveling, Pune Vidyarthi Griha Prakshan, Pune
13. V. Natarajan P., Adler Ron K:. Advanced Surveying, B. 1 Publ. Bombay
14. Richardus P., Adler Ron K (1972) : Map projections, North Holland publ. Co. Amsterdam
15. Maling .H. (1973) : Co ordinates systems and map projections, George Philip, London.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 304 **Title: Social and Cultural Geography**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Subtopics	Learning points	Periods
01	Introduction	Nature, Scope andDevelopment	1. Definitions 2. Early Contributions 3. Subject Matter 4. Conceptual and Methodological approaches 5. Trends and Developments	04
02	Philosophical bases Social and Cultural Geography	Bases and Concepts	1. Materialism, Idealism,Phenomenalism, Existentialism, Structuralism,Radicalism, liberalism, Positivism, Humanism 2. Origin and Diffusion of Culture	05
03	Space and Society	Structure and Processes of Social Patterns	1. Individual's space- Intimate, Personal, Socialand Public Space. 2. Theoretical space – Organic, Perceptive andSymbolic space 3. Interaction and Social relations	06
04	Social Groups	1. Activities 2. Concepts 3. Processes 4. Types and Structure	1. Groups in Society 2. Social Structure, 3. Models of Assimilation andSegregation 4. Industrialization, Migration, Urbanization, Modernization, Globalization	07
05	Socio- Cultural Regions	1. Origin anddiffusion ofculture 2. Bases ofregion formation	1. Cultural Diversities 2. Role of Race, Religion, Caste, Ethnicity, Tribe 3. Language and Dialect 4. Literacy, Education,Economic Activities, Class and Power 5. Transformations and Changes. 6. Cultural regions of the World and India	07
06	Social Well-being	1. Concepts 2. Components and Indicators 3. Measurementand Patterns	1. Quality of Life and Human Development 2. Components of Regional and SocioCultural Indicators 3. Human Development Index. 3. Methods of Measuring well-being byweighingIndicators. 4. Patterns of social well-being –States, Indiaand World	08
07	Human Settlements	1. Relation to Ideology, Social Structure and Technology.	1. Social areas in Urban and Rural Settlements. 2. Social and Physical Infrastructure. 3. Rural urban contrasts- Housing, Health,Education, Social structure, Economic andCulturalCharacteristics. 5. Impact of Technologyon HumanSettlements. 4. Redistribution of Resource for Social Justice, Equality and Welfare.	08

Reference Books:

1. AnandAijazuddin (1999) : Social Geography, Rawat Publications, New Delhi
2. Bulsara, J. F. (1970) : Patterns of Social Life in Metropilitan Areas, Popular Prakashan, Bombay
3. Censys of India (1974) : Economic and Socio-Cultural Dimensions of Rationalization Census Centenary, Monograph No. 7, Govt. of India, New Delhi
4. Coates, B. E. et. al. (1977) : Geography and Inequality, Oxford University Press, London
5. Orang, Mike (1998) : Cultural Geography. Routledge Publication, London

6. Dubey, S. C. (1991) : Indian Society, national Book Trust, New Delhi
7. Gregory, D. and Lassy, J. (1985) : Social Relations and Spatial Structures, McMillan
8. Harmondorf (1989) : Tribes of India : The Struggle for Survival, Oxford University Press, Delhi
9. Hutchinson and Smith, D. (1996) : Ethnicity : Oxford University Press, Delhi
10. Jordon and Lester, G. (1995) : The Human Mosaic, Harper and Row, New York
11. Maloney, Clarence (1974) : People of South Asia, Winston, New York
12. Massey, D. and Jess, P. (1995) : A Place in the World : Places, Cultures and Globalization, OxfordUniversity Press, New York
13. Massey, D. et. al. (Eds) (1999) : Human Geography Today, Policy Press, Cambridge.
14. Mukherjee, A. B. and Ahmad, A. (1985) : India : Culture Society and Economy, Inter – India Publication,New Delhi
15. Schwartzberg, Joseph (1978) : A Historical Atlas of South Asia, University of Chicago Press, Chicago
16. Smith David (1980) : An Exploration of India. Cornell University Press, Ithasa
17. Sopher, David (1980) : An Exploration of India, Cornell university Press, Ithasa
18. Harvey, D. (1973) : Social Justice and the City, Arnold Publishers
19. Herbert, D.T. and Smith, D. M. (1979) : Social Problems and City Geographical Perspective, OxfordUniversity Press, London
20. Hutchson and Smith, D (1996) : Ethnicity, Oxford University Press, Oxford
21. Jones, Emrys and Eyles, J. (1977) : An Introduction to Social Geography, Oxford University Press,London
22. Jones, Emrys (1975) : Readings in Social Geography, Oxford University Press, London
23. Jordon and Lester, G. (1995) : The Human Mosaic, Harper and Row, New York
24. Knoy, P. L. (1988) : Social Well-being – A Spatial Perspective, Oxford University Press, London
25. Kulkarni, K. M. (1990) : Geographical Patterns of Social Well-being Gujarath, Concept Publishing Co.,New Delhi

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 305 **Title: Practicals in Watershed analysis**

No. of Credits: 03 **Total Periods : 45**

Ex No.	Topic	Sub topic	Learning points	Practical(3hrs)
1	Delineation of Watershed/Drainage basin	Delineation of Watershed/Drainage basin from toposheet	3 to 5 th order basin delineation from Toposheet	1
2	Basin perimeter, shape and area	Basin perimeter, shape and area	Calculation of Basin perimeter, shape and area	1
3	Linear aspects of Drainage basin	Stream ordering(Strahler's method)	Stream ordering, Numbering, Measurement and calculation of Stream length, Mean stream length, Stream length ratio, Bifurcation ratio	2
4	Relief aspects of Drainage basin	Relief ratio, relative relief, Ruggedness number	Calculation of Relief ratio, relative relief, Ruggedness number	2
5	Aerial aspects of Drainage basin	Drainage density, Drainage frequency, Texture ratio, Form factor, circularity ratio, Elongation ratio,	Calculation of Drainage density, Drainage frequency, Texture ratio, Form factor, circularity ratio, Elongation ratio,	2
6	Preparation of DEM	Digitization of contours from Toposheet	Preparation of TIN model and Grid based DEM	2
7	Software based	Delineation of watershed	DEM based	2
8		Digitization of layers	Point ,line and Polygon	
9		Finding ridge line and valley floor	Finding ridge line and valley floor within basin/Watershed	
10	Profile drawing	DEM based	Set of Profiles at an equal interval 5 to 8 profiles	1
11	Hypsometric Integral	DEM based	Plotting of Hypsometric curve and Calculation of Hypsometric Integral	2

References:

1. King, C. A. M (1966): Techniques in Geomorphology, Edward Arnold, London
2. Monk house, F. J. and Wilkinson, H. R., (1976). Maps and Diagrams, Methuen & Co.
3. Savindra Singh (2002): Geomorphology, Prayag Pustak Bhawan, Allahabad
4. Miller, Austin (1953): The skin of the Earth, Methuen & Co. Ltd. London
5. Strahler: Physical Geography
6. Wilson, J., Gallant, J., 2000. Terrain Analysis: Principles and Applications. New York: John Wiley and Sons.
7. Rajvir Singh, (2008) Watershed Planning and Management, 2nd Edition, Yash Publishing House, Bikaner, India.
8. V. V. Dhruvanarayana, G. Sastry, U. S. Patnik. (2006)Watershed Management,
9. B. K. Kakde, (2004) Watershed Manual – A Guide for Watershed Development Practitioners and Trainers, BAIF Development Research Foundation, Pune.
10. R. Suresh (2006) Soil and Watershed Conversation Engineering, 2nd Edition, – Standard Publication Distributors, Delhi.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 313 **Title: Urban Geography**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Sub-Topic	Learning Points	Periods
1	Introduction	Nature, Scope and significance of Urban Geography	1. Nature and scope 2. Significance 3. Relation to other disciplines	4
2	Urbanization	Concept and Process	1. Meaning of Urban settlement and urbanization. 2. Brief review of spatial- temporal variations in urbanization in the world 3. Urbanization curve 4. Contemporary factors of urbanization	5
3	Urban Morphology	Models of urban structure	1. Park and Burgess Model 2. Homer Hoyet Model. 3. Harris and Ullman Model 4. Characteristics and demarcation of CBD	5
4	Urban Classification	Criteria Used for Classification Functional Classification	1. Urban functions 2. Functional classification of towns and cities by C.D. Harris and H. J. Nelson	4
5	Urban Demography	Characteristics of urban populations	1. Growth of urban population 2. Density of population in cities. 3. Age, sex and occupational structure	4
6	Rural-Urban fringe	Characteristics and methods of demarcation	1. Meaning of rural-urban fringe. 2. characteristics of rural-urban fringe 3. Concepts of conurbation, megalopolis and satellite towns.	4
7	City and its Region	Concept, characteristics and demarcation	1. Concepts of city region and various synonymous terms used. 2. Criteria used to demarcate the city region	4
8	Central place concepts	Central place theory and urban Hierarchy	1. Christaller's Central Place Theory. 2. Rank-size relationship and rank-size rule 3. Hierarchy of urban settlements	5
9	Contemporary Urban issues	Nature of issues	1. Price of land and vertical and horizontal growth of cities 2. Scarcity of housing and growth of slums 3. Problems of civic amenities 4. Urban transport problem 5. Urban Environmental pollution	5
10	Urban policy and planning	Development policies and	1. Policies of Urban development. 2. Need of city planning	5

		planning	3. Elements of city plan 4. Urban development and urban policy in India 5. Use of GIS in urban planing.	

Reference Books :

1. Carter (1972) : The Study of Urban Geography, Edward Arnold,.London.
2. Hall P. (1992) Urban and Regional Planning, Routledge, London
3. Kundu, A. (1992) : Urban Development and Urban Research in India, Khanna Publication.
4. Singh. K. and Steinberg. F.(eds) (1998) : Urban India in Crisis. New Age Interns,
5. Brian.R.K. (1996) : Landscape of Settlement Prehistory to the present, Routledge, London
6. Northam : Urban Geography
7. Urban Geography : Tim Hall
8. Johnson : Urban Geography
9. K. Siddharth and S. Mukherji : Cities,. Urbanizations and Urban Systems.
10. Mayer and Kohn : Readings in Urban Geography
11. Roy Turner: Indian's Urban Future.
12. Shah Manzooor Alam : Urbanization in Developing Countries
13. Verma : Urban Geography, Rawat, Jaipur
14. Bhattacharya: Urban development in India, Shree publication.
15. Raj Bala : Urbanization in India.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 321 **Title: Political Geography**

No. of Credits: 03 **Total Periods : 45**

Sr. No	Topic	**Sub- Topic**	**Learning Points**	Periods
1	Introduction to political Geography	Nature, Scope, Development	1) Definition 2) Geography & politics 3) History & development of political Geography	5
2	Approaches to the Study of Political Geography	Types of Approaches	1) Whittlesey's landscape approach 2) Functional approach 3) Centrifugal & centripetal forces, analysis of external functions, 4) Unified Field Theory	6
3	Concept of Nation & State	Geographical Perspective	1) Territoriality 2) State & Nation 3) State formation. 4) Nation building / Nationalism	5
4	Frontiers & Boundaries	1. Definition. 2. Classification	1) Definition of frontiers & boundaries 2) Distinction between frontiers & boundaries 3) Genetic, functional & morphological classification of boundaries	7
5	Global Geo-Strategic View	Land, Sea, & Air Power	Views of Mahan, Mackinder, Spyk man & Cohen	5
6	Resource Development & Power	Resources & National Strategy	1) Classification of resources 2) Resources & National strategy 3) Resource management & power of Nation	5
7	Geopolitical Significance of Indian Ocean	Geopolitics Indian Ocean Border States and England	Political Geography of SAARC region.	5
8	Political Geography of India	Contemporary Issues	1) Changing political map of India. 2) Unity in diversity. 3) Stability & instability in state politics 4) Interstate water & language Disputes. 5) Problems of border states of India 6) Emergence of new states.	7

Reference Books :

1. Alexander L.M (1963): World Political Patterns, Ram McNally, Chicago.
2. Political Geography By Sudeepta Adhikari, Rawat Publication.
3. Dikshit R.D (1996): Political Geography: A Contemporary Perspective, Tata McGraw Hill, New Delhi.
4. Dikshit R.D (1999): Political Geography: A Century of Progress, Sage, New Delhi.
5. De Blij. H. J And Glassner, M. (1968) Systematic political Geography, John Wiley, New York.
6. Pounds N.J.G (1972): Political Geography, McGraw, New York.
7. Taylor, R.J.(1989) Political Geography, Longman UK.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-III: Revised Syllabus (from June-2014)

Code No. Gg: 333 Title: Practicals in Population and Settlement Geography

No. of Credits: 03 Total Periods : 45

Sr. No.	Topic	Sub-Topic	Learning Points	**Period** Each Practical of 3 Hours
1	Population Geography	1. Demographic indices	1. Mean age at marriage and fertility relationship 2. Mean age at marriage and infant mortality rate 3. Underweight children of age 1- 47 months and under 5 years mortality rate. 4. % of woman married to blood relative and infant mortality.	8
		2. Determination of Demographic Transition	1. Demographic transition – applied to Maharashtra 2. Pull-push factors affecting volume of migration – simple correlation matrix. 3. Relationship between per capita income and infant mortality	
2	Settlement Geography	Indices	1. Delimitation of CBD by Vance and Murphy 2. Relationship between Basic/ Non-basic ratio and growth rate 3. Relationship between land values and land use. 4. Gravity model by W. J. Relly and Zipf, its application (Potential Population surfaces) 5. Primary Index (Jefferson) Multiple Primacy. 6. Stages according to urbanization Curve. 7. Rate of growth and level of Urbanization. 8. Rank size rule. 9. Huft's Model. 10. Gini's Coefficient concentration index	7

Books :

1. Economic and Political Weekly – Special issue of population survey
2. Liendzore J.M. Techniques in Human Geography
3. Martin Cad : Analytical Urban Geography
4. Siddhart, K and Mukherjee, S (1999) : Cities urbanization and urban system. Transworld Media and Communication, Patana.
5. Chandana, R.C. Population, Geography
6. Yeats, M.H. (1978) : An introduction to quantitative analysis in human geography.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 401 **Title: Theoretical and Applied Geography**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topics	Subtopics	Learning points	Periods
1.	Historical Development of Geographical Thought	1. Ancient period	1. A brief account of Greek, Roman, and Indian Schools of thought 2. Contributions of Herodotus, Eratosthenes, Strabo, Ptolemy.	12
		2. Medieval period	1. First Half – Dark age and brief account of Arab School. 2. Second Half – Age of Discovery, Contributions of Marco Polo, Columbus, Vasco-Da-Gama and Captain Cook.	
		3. Modern period	1. A brief account of different schools of thought – German, French, British and American. 2. Contributions of Kant, Humboldt, Ritter, W. M. Davis.	
2.	Dualism in Geography	Dualism and Dichotomies in Geography	1. Determinism and Possibilism 2. Systematic versus Regional Geography 3. Physical versus Human Geography	6
3.	Paradigms, System approaches and Models in Geography	1. Paradigms	1. Hypothesis, Theories and Laws. 2. Paradigms in Geography	10
		2. Systems	1. Structure, elements and relationship. 2. System approaches in Geography.	
		3. Models	1. Definitions and Significance. 2. Types of Models used in Geographical Studies	
4.	Recent Trends in Geography	1. Scientific methods 2. Quantitative revolution 3. Computer application	1. Field survey process studies and experimental studies. 2. Quantification and application of statistical techniques in Geography. 3. Computer based Cartography, Remote Sensing, GIS and Geo-informatics.	7
5.	Applied Geography	1. Definition 2. Application of Geographical concepts and techniques	1. Definition, Need and Significance 2. Application in land-use planning, regional planning and urban planning, resource management, environmental management, natural hazards, scenic evaluation.	10

Reference Books :

1. Hertshone, R. (1959) : Perspectives of Nature of Geography, Rand MacNally and Co.
2. Frazire, J. W. (1982) : Applied Geography, Prentice Hall, Englewood Cliffs.
3. Hussain, M. (1995) : Evolution of Geographical Thought, Rawat Pub., Jaipur
4. Coffey, W. J. (1981) : Geography : Towards a general spatial systems approach, Mathuen, London
5. Cooke, R. U. and Doornkamp, J. C. (1974) : Geomorphology in Environmental Management, Clarendon Press, Oxford.
6. Singh I. (2006) : Diverse aspect of Geographical Thought, ALFA Publications, New Delhi.
7. Dikshit, R. D. (1997) : Geographical Thought : A Contextual History of Ideas, Pub. By A. K. Ghosh, Prentice – Hall of India Pvt. M 97, New Delhi.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 402 **Title: Principles of Remote Sensing and GIS**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Sub-topic	Learning Points	Periods
1.	Remote Sensing	history & development	definition, concept and principles and development in India	3
2	EMR and EMS	EM Radiation and EM Spectrum	radiation principles Black body radiation, Laws of radiation	3
3	Interaction of EMR	Interaction of EMR with atmosphere and Earth's surface	Interaction of EMR with atmosphere and Earth's surface	3
4.	Platforms	Types and characteristics	Types and their characteristics	3
5	Satelites	Satellites and their characteristics	Geo-stationary and sun-synchronous	5
		Earth Resources Satellites	LANDSAT, SPOT, IRS, IKONOS satellite series	
		Meteorological satellites	INSAT, NOAA, GOES	
6.	Sensors	Types and their characteristics Optical mechanical scanners	, Across track (whiskbroom) and Along track (pushbroom) scanning MSS, TM, LISS, WiFS, PAN	4
7	Concept of Resolution	Spatial, Spectral, Temporal , Radiometric	Spatial, Spectral, Temporal , Radiometric	3
9	Basic concept and principles of Thermal , microwave and hyperspectral sensing	Basic concept and principles of Thermal , microwave and hyperspectral sensing	Thermal , microwave and hyperspectral sensing	3

10	Basic principles, types, steps and elements of image interpretation Techniques	Basic principles, types, steps and elements of image interpretation Techniques of visual interpretation and interpretation keys	Basic principles, types, steps and elements of image interpretation Techniques of visual interpretation and interpretation keys	3
11	Introduction to GIS	definitions, concept and history	definitions, concept and history of developments in the field of information systems	3
12	Data structure and formats	Data structure and formats Raster and vector data models	Data structure and formats Raster and vector data models	3
13	Data input in GIS Data base design	editing and topology	editing and topology creation in GIS, Linkage between spatial and non spatial data	3
14	Spatial data analysis	significance and type Vector and raster based analysis Buffer analysis	significance and type, Attribute Query, spatial query Vector based spatial data analysis Raster based spatial data analysis Buffer analysis	3
15	Integration of RS and GIS data	Integration of RS and GIS data	Integration of RS and GIS data and their applications	3

Reference books:

1.Campbell, J.B.2002: Introduction to Remote sensing. Taylor Publications
2.Drury, S.A., 1987: Image Interpretation in Geology. Allen and Unwin
3.Gupta, R.P.., 1990: Remote Sensing Geology. Springer Verlag
4.Jensen, J.R. 2000: Remote Sensing of the Environment: An Earth resource Perspective. Prentice Hall.
5.Joseph George, 2003 : Fundamentals of remote sensing. Universities Press
6.Lillesand, T.M., and Kieffer, R.M., 1987: Remote Sensing and Image Interpretation, John Wiley.

7.Sabbins, F.F., 1985: Remote sensing Principles and interpretation. W.H.Freeman and company

8.Anji Reddy, M. 2004 : Geoinformatics for environmental management.B.S. Publications
9.Chang.T.K. 2002 : Geographic Information Systems. Tata McGrawHill
10.Heywood.I, Cornelius S, CrverSteve. 2003: An Introduction to Geographical Information Systems. Pearson Education
11.Ram Mohan Rao. 2002: Geographical Information Systems. Rawat Publication.
12.Skidmore A.2002: Environmental modeling with GIS and Remote Sensing. Taylor and FrancisTar Bernhardsen. Geographical Information Systems. John Wiley.
13.Wise S.2002: GIS Basics. Taylor Publications

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 403 **Title: Practicals in Remote Sensing and GIS**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Sub-topic	Learning Points	Practical (3hrs)	No. sheets (minimum)
1.	Aerial Photography	Concept, Measurements Interpretation	1. Electromagnetic spectrum 2. Geometry of aerial photograph: pp fiducial mark, flight line, overlap region, annotation strip 3. Determination of Scale and relative height {using parallax bar) 4. Measurement of area and distance. 5. Visual Interpretation of Stereo pair (BW and color) using Stereoscope. Preparation of maps (at least 4 stereo pairs) with calculation of overlapped area.	5	6
2.	Satellite Images	Interpretation	1. Satellite images: Annotation strip 2. Visual Interpretation of Landsat, IRS-LISS,IRS-PAN images Preparation of maps (at least 1 for each type)	5	5
3.	GIS Analysis	Introduction to GIS operations	1. Introduction to GIS- definition, application and data models (vector and raster) 2. Manual exercises (minimum 4 layers) –digitization from a toposheet quadrant 3. Raster and vector overlay, map algebra (AND, OR).from a toposheet quadrant 4. Spatial interpolation from a toposheet quadrant	5	4

Reference Books:

1. George Joseph (2003): Fundamentals of Remote Sensing, Universities Press, Hyderabad
2. Chang Kang-tsung. (2002): Introduction to GIS, Tata McGraw Hill, New Delhi.
3. Burrough, P.A. and R.A. McDonnell (2000) : Principles of Geographical Information System, Oxford University Press.
4. Vaidyanadhan, R.(1973): Index to a set of 70 aerial stereopairs, UGC, New Delhi.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 404 **Title: Geography of Food Security of India**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topics	Learning points	Periods
1.	Introduction	1.Concept of food security. 2. Importance and availability of food. 3. Accessibility, utilisation food stability 4. Hunger and Malnutrition.	6
2	Economics of Food	1.Economic Growth. 2. Physical Factors affecting food security. 3. Agricultural productivity, Land Availaility, Land degradation. 4. Land rights and holding.	7
3.	Food Crops	1. Food and cash crops. 2. Distribution of major food and cash crops. 3. Production of food crops. 4. Availability of food for masses. 5. Socio-economic factor in food security.	8
4.	Food Sovereignty	1. Concept of food justice. 2. Food Sovereignty. 3. Economic constraint on access and availability, 4. Social injustice- gender inequalities. 5. Food Security conditions in India at national and state level.	10
5	India's Food Security Bill	1. India's Food Security Bill 2013. 2. Benefits and detriments of Food Security Bill. 3. Importance of Food Security in India.	8
6.	Pedagogy	1. Regional and National news analysis from magazines, journals and newspapers is essential. 2. An interdisciplinary approach will be useful in knowing the multi-dimensions of food security. 3. Study of spatio-temporal aspects by various physical and socio-economic maps.	6

Reference Books :

1. Chose Arpita (2010): ‘Globalisatin, Agriculture growth and food Security in India’.

2. Kumar (2008): “Agriculture Finance in India: the Role of NABARD’.

3. Parera (2003): Irrigation development and agrarian changes”.

4. Srivastava Sahay, Vidyarti and Singh (2010): ‘Second Green Vs. Rainbow Revolution’.

5. Mohammed Shafi : Agriculture Geography.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 405 **Title: Geography of Health**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Sub topic	Learning points	No of Lectures
1	Geography of health	Definition and approaches to study	Definition, development, achievements and challenges, approaches to geography of health care	5
2	Geographical factors	Geographical factors affecting human health	Geographical factors affecting human health and diseases arising from them	5
3	Classification of diseases	genetic, communicable, non – communicable, occupational, deficiency diseases, WHO classification of diseases	genetic, communicable, non – communicable, occupational, deficiency diseases, WHO classification of diseases	5
4	Ecology, etiology, transmission of major diseases	Diffusion of diseases and causes	Diffusion of Diseases and causes of the same. Deficiency disorders and problems of malnutrition	6
5	Health care systems in India		Socio-political context – Sources of health care – Demand and supply	6
6	Rural environment and health		Custom, social practice and disease 2.2. Food habit and health- 2.3. Environment and health – 2.4.Health problems of tribal	6

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 407 **Title: Regional Geography of SAARC Countries**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topic	Learning Points	Periods
01.	Introduction	1. History of SAARC Organisation. 2. Importance and Relevance of SAARC Countries 3. General Locations of SAARC Countries- India, Pakistan, Nepal, Bhutan, Bangladesh, Shrilanka, Maldives. 4. Strategic location of India. 5. Salient Features of SAARC Organisation.	8
02.	India	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of India.	8
03	Pakistan	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Pakistan	6
04	Bangladesh	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Bangladesh	6
05	Nepal	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Nepal	5
06	Bhutan	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Bhutan	3
07	Shrilanka	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Shrilanka	3
08	Maldives	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Maldives	3
09	Afghanistan	Physiography, Climate, Drainage, Vegetation, Agriculture, Economic, Demographic and Cultural Aspects of Afghanistan	3

N.B. According need of topics, maps are expected.

Reference Books :

1. Agrawal A. N. - Indian economy, Problems of Development and Planning.
2. Chopra S. N. - India, An Area Study.
3. Dubey and Negi - Economic Geography of India.
4. Gopal Singh - India.
5. Memoria I.B. - Geography of India.
6. R. L. Singh - Regional Geography of India.
7. Sharma and Continuo - Economic and Commercial Geography of India.
8. Regional and Geographic and Economic books on respective SAARC Countries.
9. Various websites related to the countries.

UNIVERSITY OF PUNE

MA/MSc Syllabus in Geography (Credit System)

Sem-IV: Revised Syllabus (from June-2014)

Code No. Gg: 424 **Title: Natural and Manmade Hazards**

No. of Credits: 03 **Total Periods : 45**

Sr. No.	Topics	Subtopics	Learning points	Periods
1.	Introduction to natural hazard and disasters. Risk and risk assessment.	Definition	Definition, types of hazards Definition, Hazard, Risk and Vulnerability Assessment	3
2.	Climatic Hazards	Storms as Hazards	Causes, probability of occurrence, areas affected and effects of cyclonic storms, dust storms, thunderstorms lightning and hail storm, Case study of Maharashtra Hail Storm 2014.	4
		Drought as a Hazard	Causes, probability of occurrence, areas affected and effects of droughts	4
		Floods as Hazards	Causes and effects and areas affected by high magnitude floods and flash floods. Case Study of Kedarnath Flood in 2013.	4
3.	Geological Hazards	Earthquakes and Tsunamis	Cause and effects and areas affected by earthquakes and tsunamis	3
4.	Geomorphic Hazards	Land instability	Cause and affects and areas affected by landslides, subsidence, erosion, deposition	3
5.	Man-made Hazards	Introduction	Types of man induced hazards – physical, chemical, biological, and pollution. Factors contributing to man-made hazards.	3
		Physical Hazards	Cause and effects of Landslides, Soil erosion, forest fires, desertification etc. Impact of large river projects such as the Sardar Sarovar, the Tehri Dam etc., impact of excessive irrigation, effects of thermal and hydel power stations.	6
		Chemical Hazards	Nuclear Hazards, release of toxic elements in the air, soil and water, oil spills etc.	4
		Biological Hazards	Effects of Population growth – its impact on biodiversity, effects of over exploitation of resources, ecological disturbances – such as soil development, hydrological cycle, pollution etc.	5
6.	Global issue and National issues	Global Warming	Effects of global warming, ozone depletion Pollution of rivers with religious importance in India.	3
7.	Disaster Management and Measures	Structural and Non-structural Measures	Disaster prevention, mitigation, preparedness, response, recovery and rehabilitation	3

Reference Books :

1. Turk J. (1985) : Introduction to Environmental Studies, Saunders, College Publication, Japan
2. Singh Savindra (2000) : Environmental Geography, Parag Pustak Bhavan, Allahabad
3. Morrisawa M (Ed) (1994) : Geomorphology and Natural Hazards, Elsevier, Amsterdam
4. Hart M. G. (1986) : Geomorphology, Pure and Applied, George Allen and Unwin, London
5. Valdiya K. S. (1987) : Environmental Geology, Tata McGraw Hill, New Delhi

6. Bryant Edward (2000) : Natural Hazards, Cambridge University Press
7. Daly Herman E. (1996) : Beyond Growth, Beacon Press, Boston
8. Daly Herman E and Twonseed Keneth N (Ed) (1993) : Valuing the earth – Economics, Ecology and Ethics, MIT Press, London
9. Agarwal Anil and Narain Sunita (Ed) (1999) : State of India's Environment The Citizens Report, Centre for Science and Environment, New Delhi
10. Rangachari R, Sengupta Nirmal, et al (2000) : WCD Case Study Large Dams : India's Experience Final Report, Secretariate of World Commission on Dams
11. Dupont, R.R. Baxter, T.E. and Theodore, L. (1998) : Environmental Management :- Problems and Solutions, CRC Press
12. Smith, K. (2001) : Environmental Hazards : Assessing Risk and Reducing Disaster, Routledge.