

Punyashlok Ahilyadevi Holkar Solapur University, Solapur



NAAC Accredited-2015
'B' Grade (CGPA 2.62)

FACULTY OF: SCIENCE AND TECHNOLOGY

CHOICE BASED CREDIT SYSTEM

Syllabus: M.A. / M.Sc. Geography (Sem. I & II)

Name of the Course: M.Sc. I (Sem.- I & II)

(Syllabus to be implemented from w.e.f. June 2020)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur.

Subject- Geography

M.A./ M.Sc. Part –I &II

Semester-I

Paper No.	Code	Title of the Paper	Semester Exam.			L	T	P	Credit
			UA	IA	Total				
Geog		Hard Core							
Paper I	HCT1.1	Geomorphology- I	80	20	100	4	-	-	4
Paper II	HCT1.2	Climatology- I	80	20	100	4	--	--	4
Paper III	HCT1.3	Oceanography and Geohydrology	80	20	100	4	--	--	4
Soft Core (Any One) Elective									
Paper IV	SCT1.1	Human Geography	80	20	100	4	--	--	4
	SCT1.2	Economic Geography	80	20	100	4	--	--	
		Tutorial		25	25		1		1
Practicals									
Hard Core									
Practical I	HCP1.1	Representation of Landform and Topographical Map	40	10	50			2	6
Practical II	HCP1.2	Study of Weather Maps	40	10	50	--	--	2	
Practical III	HCP1.3	Analysis of Climatic Data	40	10	50	--	--	2	
Soft Core (Any One) Elective									
Practical IV	SCP1.1	Analysis of Socio-Economic Data-1	40	10	50	--	--	2	2
	SCP1.2	Representation of Socio-Economic Data	40	10	50	--	--	2	
Total For First Semester			480	145	625				25

Semester-II

Paper No.	Code	Title of the Paper	Semester Exam.			L	T	P	Credit
			UA	IA	Total				
Geog		Hard Core							
Paper V	HCT2.1	Geomorphology- II	80	20	100	4	-	-	4
Paper VI	HCT2.2	Climatology- II	80	20	100	4	--	--	4
Soft Core (Any One) Elective									
Paper VII	SCT2.1	Population Geography	80	20	100	4	--	--	4
	SCT2.2	Geography of Health	80	20	100	4	--	--	
Open Elective (Any One)									
Paper VIII	OET2.1	Regional Geography of India	80	20	100	4	--	--	4
	OET2.2	Geography of Maharashtra	80	20	100	4	--	--	
		Tutorial		25	25		1		1
Practicals									
Hard Core									
Practical V	HCP2.1	Study of Landforms Analysis Techniques	40	10	50			2	4
Practical VI	HCP2.2	Statistical Techniques in Geography- I	40	10	50	--	--	2	
Soft Core (Any One) Elective									
Practical VII	SCP2.1	Statistical Techniques in Geography- II	40	10	50	--	--	2	2
	SCP2.2	Practical in Population Geography	40	10	50	--	--	2	
Open Elective (Any One)									
Practical VIII	OEP2.1	Analysis of Socio-Economic Data- II	40	10	50	--	--	2	2
	OEP2.2	Surveying	40	10	50	--	--	2	
Total For First Semester			480	145	625				25

L = Lecture, T= Tutorials, P= Practical, IA= Internal Assessment,
 4 Credits of Theory = 4 Hours of teaching per week
 2 credits of Practical = 4 Hours per week
 HCT= Hard core theory
 SCT= Soft core theory HCP=
 Hard core Practical SCP=
 Soft core Practical OET=
 Open elective theory OEP=
 Open elective Practical
 MP= Major Project

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Revised Structure of Syllabus

For M.A./M.Sc. Part- I

Semester –I

Paper- I

Name of the Paper: Geomorphology-I

Paper Code: HCT1.1

Total Lectures- 60

Total Marks- 100

Objectives:

To familiarize the students with certain fundamental Geomorphological concepts, interior of the Earth, mountain building theories and movement of the Earth

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Meaning of Geomorphology and Development of Geomorphic Thoughts: ancient, medieval and modern period a Brief Review. Principles of Uniformitarianism, Contribution of Huttan, Gilbert, Dutton and Davis.	15
2	Constitution of Earth's Interior, The Theories of Isostasy- Pratt, Airy And Joly	15
3	Geosynclines- Geosynclinals theory of Kobber. Holms theory of conventional currents.	15
4	Factors contributing landforms Developments- Exogenetic and Endogenitic forces, weathering, Earthquake, Volcanoes and associated features, distribution and effect on Mankind.	15

References:

1. Bloom A.L. (1991) Geom. 2 Ed Englewood Cliffs, M.J. Prentice.
2. Christopherson R.W. (1995) Element ecosystem Prentice. Hall, N.J. Oqum (1985) Ecology, London.
3. Chorley, J.R. S.A. Schumm and DE Slogden (1984) Gcom. Methun, N.Y. London.
4. Christopherson, R.W. (1995) Elemental Geosystems : A Foundation in Physical Geography, Prentice Hall Englewood Cliffs, New Jersey.
5. Dayal P. (1996) : A Textbook of Geomorpology, Shukla Book Depot, Patna.
6. Fairbridge, R.W. (ed) : Eneyclopaedia of Geomorphology Reinhold, New York.
- Thurman, H.V. (1994) : introductory Oceanography 7th Ed. Mac Millan Pub. Co. New York.
8. Whittone, J. (1994) Dictionary of Physical Geogaphy, Penguin Books.
9. Spark B.W. : An Introduction to Geomorphology, Longman, London.
10. Spark B.W. : Geomorphology, Longman, London.
11. Savinder Singh (1998) Geomorphology, Prayag Pustak Bhavan, Allahabad.
12. Morgan R.S. & Wooldridge S.W. (1959) L Outline of Geomorphology the Physical basis of Geography, Longmans Green, London.
13. Worcester P. G. (1948) : Textbook of Geomorphology, Princeton, D.van, Nortrand.

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M.A./M.Sc. Part- I

Semester –I

Paper- II

Name of the Paper: Climatology-I

Total Lectures- 60

Paper Code: HCT1.2

Total Marks- 100

Objectives:

1. To acquaint the student with weather phenomena, pressure belts and winds, air masses, atmospheric disturbances.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Atmosphere: Composition & Structure, Insolation & terrestrial heat balance, Distribution of temperature- Vertical and Horizontal	10
2	Pressure belts & their Shifting, Planetary winds, Mechanism of Monsoon, Local & Variable Winds.	15
3	Humidity & the process of Saturation-Atmospheric Equilibrium, Stability & Instability, Condensation & Precipitation-types.	15
4	Air masses-types-properties, Frontogenesis & Frontolysis Polar fronts & Inter Tropical Convergence Zone. Atmospheric Disturbances-i)Tropical cyclones- origin, distribution & weather associated with them ii) Mid latitude cyclones- Origin, distribution, stages of life cycle –Weather associated with them iii)Tornadoes, Water Spouts	20

References:

1. Byrs R.H. : "General Meteorology", Magraw Hill BK Co. New York.1974.
2. Pellersons: "Intoductionto Meteorology" Mc Gray Hill BK Co. New York.1969.
3. Richi H. : "intoruduction to Atmosphere" Mc Gray Hill BK Co. New York.1972.
4. Sellers W.D. : "Physical Climatology" University of Chicago Press. 1965.
5. Trewartha G.T. : An Introduction to climate "Mc Graw Hill BK Co. New York. 1968
6. Das P.K. : The Mansoon, Prayag Pustak Bhawan, Allahabad.
7. Shastri Rama : Weather & Weather forecasting, Ministry of Information NBT Dehli.
8. Lal D.S. : Climatology, Prayag Pustak Bhawan, Allhabad.
9. Ramashatri : Weather & Weather forecasting, Ministry of Information & Broadcasting.
- 10.Savindra Sing (2000) : Climatology, Prayag Pustak Bhawan, Allahabad.
- 11.Mather J.R. (1975) : Climatology : Fundamental & Applications. Mc Gray Hills Book Co. New York.
- 12.Hobbs J.E. (1980) : Applied Climatology, Butterworth, London.
- 13.Crist Field : Principles of Climatology, Prentice Hall, London.
- 14.Oliver J.E. (1973) : Climatic & Mans Environment, John Wiley & Sons, New York.

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M.A./M.Sc. Part- I

Semester –I

Paper- III

Name of the Paper: Oceanography and Geohydrology

Paper Code: HCT1.3

Total Lectures- 60

Total Marks- 100

Objectives:

To know many facts of oceans such as properties of sea water, water circulation, structure of ocean basin, evolution of oceans, characteristics of marine environments.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Ocean basin topography-Continental shelf, slope, Abyssal plain, Ocean deeps, Submarine hills, Ridges, Plateaus, trenches, Coral reefs, Islands, Arcs, Ocean deposits.	15
2	The heat budget of ocean-Distribution of temperature & Salinity	10
3	Hydrological cycle. Ocean water: circulation, factors affecting ocean currents, currents in Atlantic, Pacific & Indian Ocean. EL Nino & La Nina. Man & Oceans: Oceans as a store house of Minerals & Food resources.	15
4	Surface & Subsurface water resources: Occurrence of Groundwater- origin & age of groundwater, Rocks properties affecting on groundwater, Distribution , Zone of Aeration, Zone of Saturation, types of Aquifers, groundwater basins, groundwater movement- Darcy's law, permeability, groundwater flow rates, flow direction, dispersion.	20

References:

1. Chorley R.J. (1967) : Introduction to geographical Hydrology, Methuen, London.
2. Dakshinamarthy C. et al (1973) : Water resource of India & their utilization in Agriculture, Indian Agricultural Res. Inst. New Dehli.
3. Eskstein O. (1965) : Water Resource Development, harvard University Press, Cambridge, Mass.
4. Facon R. (1963) : The Problem of Water- A world survey, Faber & Faber.
5. International Water Resource Association & Central Board o Irrigation & Power. (1975).
6. Water for Human needs wol. II, III, IV & V, proceedings of second world congress on waters resource 1-b-Dec. New Dehli.
7. Sing R.A. & Singh S.R. (1979) : Water management, Principles & Practices, Tara Publication, Varanki.
8. Todd D.K. (1959) :Ground Water Hydrology, John Wiley, New York.
9. Negi, S.S. (1994) : Geographical Science & Water resource Management, Printwell Jaipur (India)
10. Joseph W & Howard P : Introductory oceanography, McGraw Hill, Lognkusha, Ltd. New Delhi. (International Student Education)
11. Peter K. W. (1970): Oceanography: An Introduction to the marine Environment, John Wiley & Sons Inc. New York.
12. Sharma R.C. (1970) : Oceanography for Geographers, Chaitanya Publishing House, Allahabad.
13. Negi B.S. (1994-95) : Climatology & Oceanography, Kedarnath Ramanath Meerat, New Delhi.
14. Michael A. M. (1978) : Irrigation, theory & practices, Vikas Pub. House, New Dehli.
15. Savinder Singh (1999) L: Physical Geograpy, Prayag Pustak Bhavan, Allahabad.
16. Straher A. (1996) : physical Geography, Science & System of the Human Environment, New York, Jahu Wiley.
17. Siddhartha K (1999) : Oceanography A Brief Introduction. Kaisalya Pub. New Dehli.

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Revised Structure of Syllabus

M.A./M.Sc. Part- I

Semester –I

Paper- IV (Elective)

Name of the Paper: Human Geography

Paper Code: SCT1.1

Total Lectures- 60

Total Marks- 100

Objectives:

1. To acquaint the students with the nature, scope of human geography, races and religions.
2. To identify and understand population in terms of their growth and spatial distributional pattern to comprehend the theories of population.
3. To acquaint the students with the human settlements & human development.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Introduction to Human Geography: definitions, nature & scope of Human Geography. Determinism, Possibilism, cultural or social determinism.	15
2	Races & Religions: Races of Man, Racism, Ethnic groups. Religions: Classification religions, religions & natural features- Christianity, Buddhism, Hinduism & Tribal religions.	15
3	Population: Population growth and distribution, Population composition, Theories of Population- Malthus, Marxian & Demographic Transition Theory	15
4	Settlement & Human Development: Settlement: Types & functions of rural and urban settlements, Trends & Pattern of World Urbanization. Human Development: Historical Perspective, Human development Index & its indicators, Spatial pattern of HDI, computing the HDI, Population- Resource Relationship	15

Reference :

1. Chandana R. C. (2010): Population Geography, Kalyani, Dehli
2. Hassan M. I. (2005): Population Geography, Rawat publication Jaipur
3. Danial P. A. & Hopkinson M. F. (1989): The Geography of Settlement, Oliver & Boyd, London.
4. Johanston R.: Gregory D. PrattG. et al. (2008): The Dictionary of Human Geography, Blackwell Publication
5. Hussain Majid (2012): Human Geography, Rawat publication Jaipur

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M.A./M.Sc. Part- I

Semester –I

Paper- IV (Elective)

Name of the Paper: Economic Geography

Paper Code: SCT 1.2

Total Lectures- 60

Total Marks- 100

Objectives:

1. To acquaint the students with the nature and scope of Economic Geography, basic economic process and economic activities.
2. To familiarize the students with the principles of industrial location and industrial theories.
3. To acquaint the students with the resources, transportation, connectivity and trade.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Definitions, Nature & Scope of economic geography, Approaches. Basic Economic Processes, production, exchange & consumption. Classification of economic activities- primary, secondary, tertiary, quaternary and their characteristics.	15
2	Principles of Industrial Location. Substitution- Interdependence- Territorial production complexes- Location theories of Alfred Weber & August Losch.	15
3	Resources- renewable & non renewable- World energy situation- Sources of energy- coal, oil.	15
4	Models of transportation & transportation cost- Accessibility & connectivity. Inter regional & international –Ullman’s triad-complementarily intervening opportunity- transferability. Trade organization, GATT, OPEC, WTO & EEC	15

References :

1. Alexander J.W. : (1976) : Economic Geography , Prentice Hall of India, New Dehli.
2. Alcxandersson G. (1988) : Geogaphy of manufactureing. Prentice Hall of India.
3. Berry, Conkling & Ray (1988) : Economic Geography Prentice Hall of India, New Dehli.
4. Hurst Ellion (1986) : Geography of Economic Behavior, Unwin, London.
5. Johnson R. J. & Taylor D.J. (1989) : A world in crisis. Basil-Blackwell, Oxford.
6. Losch : (1954) : Economics of Location. Yale University, New York.
7. Redeliff M (1987) : Development of & the environmental crisis, Methuen, London.
8. Sinha B.N. (1971) : Industrial Geography of India.
9. Watts H.D. (1987) : Industrial Geography, Longman Scientific & Technical New York.
10. Haggett, Peter : Modern Synthesis in Geography.
11. Robinson H & Bamford C. G. (1978) : Geography of Transport, Macdonald & Evans USA.
12. Misra R. P. : Regional Planning, Concepts, New Dehli.
13. Jones & Darkenwald :EconomicGeography.

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M.A./M.Sc. Part- I

Semester –I

Practical Paper- I

Name of the Paper: Representation of Landform and Topographical Map

Paper Code: HCP 1.1

Total Practical- 30

Total Marks- 50

Objectives:

To familiarizes the students the identification of different Landforms on the Topographical Maps.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	A) Maps-Definitions-Types of Maps, Indexing of Topographical Sheets B) Methods of Representation of Relief: i) Pictorial ii) Mathematical	15
2	Identification of Landforms from Topographical Maps: i) Ridge ii) Saddle iii) Col iv) Pass v) Spur vi) Plateau vii) Escarpment viii) Cliff ix) 'V' Shaped Valley	15

References:

1. Davis, Peter. (1974) Science in Geography Data Description and presentation, Vol.3, Oxford University Press, London.
2. Hanwell, J.D. and Newson, M.D. (1973) Macmillan Education Ltd, London.
3. Mishra, R.P. (1973) : Elements of Cartography, Prasaranga, University of Mysore.
4. Monkhouse, F.JR and Wilkinson, H.R. Maps and Diagrams, Mathwn and Company, London.
5. Robinson, A.H. and Sale R.D. : Elements of Cartography. Johns House and Sons, London.
6. Sing R. L. (1996) : Map Work and Practical Geography, Central Book Dept. Allahabad.
7. Singh & Kannuja (1973) : Map Work and Practical Geography, Central Book Dept. Allahabad.

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M.A./M.Sc. Part- I

Semester –I

Practical Paper- II

Name of the Paper: Study of Weather Maps

Paper Code: HCP 1.2

Total Practical- 30

Total Marks- 50

Objectives:

To understand the method of Collection and Analysis of the Climatic data and interpret the same.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	I) Nature and Sources of climatic data II) Indian Daily Weather Reports, Formats, Reading and Interpretation III) Interpretation of weather broadcasting on television news Forecast IV) Analysis of Upper Air Data (Tephigraph).	15
2	I) Wind Roses- Simple, Compound and Octagonal II) Isolines Interpretation: Isotherms, Isobars, Isohyets, III) Climograph	15

References :

1. Ashis Sarakar : Practical Geography A Systematic approach, Orient Longman Ltd. Kolkatta.
2. Critchfield : Principles of Climatology.
3. Lawrence, G.R.P.: Cartographic methods, Mathur Co. London.
4. Mather J.R. (1974) Climatogogy, Fundamental & applications. Mc Graw Hill Book Co. New York.
5. Monkhouse, F.J.R. : Maps & Diagrams, Wilkinson, H.R. Methuen and Co. London.
6. R. L. Singh & Rana P.B. Singh: Element of Practical Geography, Kalyani Pub. New Dehli.(1999)
7. Trewartha G.T. : An Introduction to climate McGraw – Hill Book Co. , NewDelhi.

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M.A./M.Sc. Part- I

Semester –I

Practical Paper- III

Name of the Paper: Analysis of Climatic Data

Paper Code: HCP 1.3

Total Practical- 30

Total Marks- 50

Objectives:

To Understand the student with the interpretation and construction of climatic graphs and diagram

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Trend Line Graphs- Moving Averages Line, Semi-Averages Line and its Graphical Analysis	15
2	Dispersion Graphs- Rainfall Dispersion Diagram, Temperature Dispersion Diagram, Correlation of climatic variables (Graphical Analysis).	15

References :

1. Ashis Sarakar : Practical Geography A Systematic approach, Orient Longman Ltd. Kolkatta.
2. Critchfield : Principles of Climatology.
3. Lawrence, G.R.P. : Cartographic methods, Mathur Co. London.
4. Mather J.R. (1974) Climatogogy, Fundamental & applications. Mc Graw Hill Book Co. New York.
5. Monkhouse, F.J.R. : Maps and Diagrams, Wilkinson, H.R. Methuen and Co. London.
6. R. L. Singh and Rana P.B. Singh: Element of Practical Geography, Kalyani Pub. New Dehli.(1999)
7. Trewartha G.T. : An Introduction to climate McGraw – Hill Book Co. ,NewDelhi

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M.A./M.Sc. Part- I

Semester –I

Practical Paper- IV

Name of the Paper: Analysis of Socio-Economic Data

Paper Code: SCP 1.1

Total Practical- 30

Total Marks- 50

Objectives:

To familiarize the students various techniques of analysis of Socio Economic Data.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Choropleth Maps: Mapping of Socio- Phenomena	5
2	Dot Method and its relevance to Distribution Maps	5
3	Flow Line Charts and Maps of Transport Flow	5
4	Maps with Proportional Circles	5
5	Maps with Divided Proportional Circles.	5
6	Maps with Proportional Spheres.	5

References:

1. Lawrence, G.R.P. (1973) : Cartographic methods, Methuen and Co. London.
2. Mishra, R. P. (1982) : Fundamental of cartography, Prasaranga, University Mysore.
3. Monkhouse, F.J.R and Wilkinson, H.R.: Maps and diagrams, Methuen and Co. London.
4. Raisz , Erwin : Principles of cartography, McGraw- Hill Book Co. , New York.
5. Robinson A.H. and Sale R.D. : Element of Cartography, John House and Sons Ltd. London.
6. Singh R. L.: Elements of Practical Geography.

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M.A./M.Sc. Part- I

Semester –I

Practical Paper- IV

Name of the Paper: Representation of Socio-Economic Data

Paper Code: SCP 1.2

Total Practical- 30

Total Marks- 50

Objectives:

To understand the students various techniques of representation of Socio-Economic Data.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Representation of Data by One Dimensional Diagrams: Graphs- Line, Multiple, Simple Bar Graph, Joint Bar Graph and Compound Bar Graph	10
2	Two Dimensional Diagrams: Proportional Square, Proportional Circle, Divided Rectangle and Divided Circle	10
3	Three Dimensional Diagrams: Cube Diagrams	10

References:

1. Lawrence, G.R.P. (1973) : Cartographic methods, Methuen and Co. London.
2. Mishra, R. P. (1982) : Fundamental of cartography, Prasaranga, University Mysore.
3. Monkhouse, F.J.R and Wilkinson, H.R.: Maps & diagrams, Methuen & Co. London.
4. Raisz , Erwin : Principles of cartography, McGraw- Hill Book Co. , New York.
5. Robinson A.H. and Sale R.D. : Element of Cartography, John House and Sons Ltd. London.
6. Singh R. L.: Elements of Practical Geography.Patna.

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Revised Structure of Syllabus

For M.A./M.Sc. Part- I

Semester –II

Paper-V

Name of the Paper: Geomorphology-II

Paper Code: HCT2.1

Total Lectures- 60

Total Marks- 100

Objectives:

1. To acquaint the students with the theories of evolution of continents and Ocean basins.
2. To familiarize the students with the concept of erosion and applied geomorphology.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Evolution of Continents and Ocean basins, Wegener's Continental Drift and Plate Tectonics.	15
2	Concept of cycle of erosion by W.M. Davis, Dynamic agencies of denudation and their work- Fluvial, Glacial, Marine, Aeolian and Karst.	15
3	Slope development- Views of Davis, Penk, Wood and Kings.	15
4	Applied Geomorphology and Recent Trends in Geomorphology, Geomorphic Hazards: landslide, earthquake, volcano.	15

References :

1. Bloom A.L. 1991 Geom. 2nd Ed. Englewood Cliffs, M. J. prentice.
2. Christopherson R.W. 1995: Elements ecosystem Prentice Hall. N.J.
3. Chorley, J.R. S.A. Sehum & DE Slogden 1984 Geom. Methuen. N.Y. London
4. Christopherson, R.W. 1995: Elemental Geosystems : A Foundation in Physical Geography, Prentice Hall Englewood Cliffs, New Jersey.
5. Dayal . P. 1996. : A Textbook of Geomorphology, Shukla Book Depot,

6. Fairbridge R.W. 1968 (Ed) : Eneyelopaedial of Geomorphology Reinhold, New York.
7. Garrison, T. 1994, : Essential of Oceanography, New York, Wadsworth Pub. Co. London.
8. Hamblin, W. K. 1995. : Earth's Dynamic Systems 7th ed. Preshre Hall, New York.
9. Oqum 1985 Ecology, London.
10. S. Singh 1999. : Physical Geography, Prayag Pustak Bhavan, Allahabad.
11. Strahier A. (1996) Physical Geography, Science & System of the Human Environment, New York, Hahu Wiley.
12. Starahier, A & A Strahler 1992 Physical Geography, John Wiley & Sons. New York.
13. Thornbury W.D. 1998 : Principles of Geom. 2nd New Dehli. New Age International press.
14. Thurman H.V. 1994. : Inroductory Oceanography 7th ed. Mc Millan Pub. Co. New York.
15. Whittone J. 1984. : Dictionary of physical Geography, Penguin Books.
16. Spark B.W. : Geomorphology, Longman, London.

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Revised Structure of Syllabus

For M.A./M.Sc. Part- I

Semester –II

Paper- VI

Name of the Paper: Climatology-II

Paper Code: HCT 2.2

Total Lectures- 60

Total Marks- 100

Objectives:

3. To provide an understanding of Classification of climate and climatic regions.
4. To acquaint the students with the Climate and clothing, Climatic problems.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Basis of climatic classification according to Koppen and Thornthwaite, Climatic regions of the world.	10
2	Agro-Climatology: Droughts, Irrigation Scheduling, Agro climatic regions of India.	15
3	Climate clothing- Role of clothing as providing insulation to human body. Physical climatology – (i) Climate & Human comfort (ii) Climate and health (iii) Urban Climate & Heat island (iv) Air Pollution (v) Global Warning (vi) Ozone Layer Depletion.	15
4	Paleo - Climatology- (i) Climatic changes of the Geological periods- Causes and effects (ii) Recent climatic changes – Causes and Consequences.	20

References:

1. Critchfield: "General Climatology" Printice Hall, London.
2. Mather J. R. (1974) : "Climatology – fundamental and Application"
McGraw Hill Book Co. New York.
3. Oliver J.E. (1973) : "Climate & Man's Environment- An Introduction
Applied Climatology", John Wiley and Sons, New York.
4. Lutgens F.K. & Tarbuck, E.J. (5th Ed.) The Atmosphere- An Introduction to
meteorology, Printice Hall, New Jersey.
5. Miller G.T. (Jr.) (9th Ed.) : "Living the Environment" Wadsworth Publishing
Co. New York.
6. Savinder Singh (1999) : Physical Geography, Prayag Pustak Bhavan,
Allahabad.
7. Mamoria C.B. : Agricultural Geography of India.
8. Hobbs J.E. (1980) : Applied Climatology, Buttrworth, London.
9. Crist Field : Priciples of Climatology. Printice Hall , London
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For M.A./M.Sc. Part- I

Semester –II

Paper- VII (Elective)

Name of the Paper: Population Geography

Paper Code: SCT 2.1

Total Lectures- 60

Total Marks- 100

Objectives:

1. To understand the students with the nature, scope of population geography and sources of population data, population distribution and composition.
2. To acquaint the students with fertility and mortality, population growth theory, population and recourses.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Population Geography- Definition, nature, scope and significance, Source of population data	12
2	Factor affecting population distribution and density- Population distribution pattern: World and India. Population composition: Age and Sex Ratio, Occupational structure.	16
3	Population change: fertility & mortality, factor affecting on them. Population growth & changes in India. Demographic transition theory.	16
4	Population & Resources: Concept of optimum, over & under population. Malthus's theory of Population Growth. Population problems & policies in India.	16

References:

1. Barred H. R. (1992) : Population Geography, Oliver and Boyd Longman House, Harlow.
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3. Chandana R. C. & Manjit K. Siddhu (1980) : Introduction to population Studies Geography, Kalyani Publishers New, Delhi.
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17. Zelinsky, W (1966) : A Prologue of Population Geography, Prentice Hall Inc. M.J.
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For M.A./M.Sc. Part- I

Semester –II

Paper- VII (Elective)

Name of the Paper: Geography of Health

Paper Code: SCT 2.2

Total Lectures- 60

Total Marks- 100

Objective: -

- 1) To acquaint the students with the role of geographical factors, viz; Physical, demographic social & economic, influencing the spatial distribution of diseases:
- 2) To understand the student the relation of health with nutrition, environmental degradation & urbanization.
- 3) To make the students abreast of existing health care facilities, so as to train them with better health care planning for the country.

Contents of the course

Unit No.	Details	Lectures Periods
1	Introduction to Geography of Health.: i) Nature, Scope and significance of geography of health ii) Development of this area of specialization iii) Its distinction from medical science.	15
2	Geographical factors affecting human health and diseases arising from them. i) Physical factors: relief, climate, soils and vegetation ii) Social factors: Population density, literacy, social customs and poverty iii) Economic factors: food and nutrition iv) Environmental factors: Urbanization and pollution.	15
3	Classification of diseases: - i) Communicable and non-communicable ii) Occupational and deficiency diseases. iii) WHO's classification of diseases. Pattern of World distribution of major diseases	15
4	Ecology, etiology and transmission of major diseases: - Cholera, Malaria, Tuber culosis, Hepatits, Leprosy, Cancer, and AIDS Diffusion of diseases and causes. Problems of mal-nutrition in India.	15

References

- 1 Banerjee B. and Hazra J: Geo-Ecology of Cholera in West Bengal, University of Calcutta, 1980
- 2 Hazra J. (ed): Health care planning in Developing countries, university of Calcutta, 1997
- 3 Learmonth A. T. A: Patterns of Disease and hunger, A study in medical Geography; David & Charles Victoria, 1978.
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Revised Structure of Syllabus

For M.A./M.Sc. Part- I

Semester –II

Paper- VIII (Open Elective)

Name of the Paper: Regional Geography of India

Paper Code: OET 2.1

Total Lectures- 60

Total Marks- 100

Objectives:

To understand the students India in terms of various regional divisions, their important characteristics.

To acquaint the students with agriculture, resources and industries in India.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	India: Location, Physiographic divisions, Climatic types, Drainage system, Types of Nature Vegetation, Types of Soils & its conservation	20
2	Agriculture : A) Irrigation – Mode of irrigation (wells, tanks, canals) B) Cereal crops – Rice, Wheat. C) Cash crops – sugar cane, cotton. D) Agro Climatic regions of India	15
3	Resources & Industries A) Mineral & Power Resources their distribution and production. i) Mineral Resources: Iron ore, Bauxite & Manganese ii) Power Resources: Coal & Petroleum B) B) Industry: i) Cotton Textile, ii) Iron & Steel Industry, iii) Industrial Regions of India	15
4	Basis of regionalization: Geo-political, climatic, Agro- climatic, Physiographic, Historical, Demographic, Socio- economic dimensions of regionalization. Political: New state of India – Jharkhand, Uttaranchal, Chhatisgarh and Telangana .	10

References:

- 1) Center for science & Environment (1988) state of India's Environment
New Delhi
- 2) Deshpande C.D. India : a regional Interpretation ICSSR and Northern Book
Center 1992.
- 3) Dreze, Jean and Amartya sen (Ed.) India Economic Development and
social opportunity : Oxford University press, New Delhi 1996.
- 4) Kundu A. Raza Moonis : Indian Economy : The Regional Dimension,
Spectrum Publishers New Dehli. 1982.
- 5) Robinson Francis : The Cambridge encyclopedia of India, Pakistan, Bangladesh,
Sri Lanka, Nepal, Bhutan & Maldives, Cambridge University Press London
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Revised Structure of Syllabus

For M.A./M.Sc. Part- I

Semester –II

Paper- VIII (Open Elective)

Name of the Paper: Geography of Maharashtra

Paper Code: OET 2.2

Total Lectures- 60

Total Marks- 100

Objectives:

1. To understand Maharashtra in terms of Physical divisions, Climate, Soils and Drainage.
2. To familiarize the students with the natural resources & management endowments, their conservation & management.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Maharashtra – Physical Bases -1)Location 2) Physiography 3)Climate 4)Drainage System 5)Soils 6)Vegetation	15
2	Maharashtra : Minerals, Power Resources and Industries. Production & distribution of 1) Minerals - i) Iron ore ii)Bauxite 2)Power Resources – i) Coal ii)Petroleum 3)Industries - i) Cotton-Textile ii)Automobile Industry.	15
3	Maharashtra : Agriculture & Irrigation,1)Agriculture Production & distribution of Major crops i) Rice, ii) Wheat, iii) Sugarcane, 2) Irrigation : Major Sources and Distribution.	15
4	Maharashtra–Transportation, Tourism 1) Transportation :Importance and distribution -i) Roads ii) Railways 2) Tourism- Major Tourist Centers in Maharashtra, ii) Concept of Eco-tourism.	15

References:

- 1) Arunachalam B.: Regional Geography of Maharashtra.
- 2) Britannica Encyclopedia Volumes.
- 3) Center for science & Environment (1988) state of India's Environment
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- 4) Department of Agriculture: Maharashtra State Research Bulletins.
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- 6) Deshpande C.D. India: a regional Interpretation ICSSR and Northern Book
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- 7) Dreze, Jean and Amartya sen (Ed.) India Economic Development and
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- 9) Karve, Iravati: Maharashtra Its Land and People Techno Economic Survey
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Public Relations.
- 12) Maharashtra State Forest Centenary Souvenir- Maharashtra Forest
Department.
- 13) Robinson Francis: The Cambridge encyclopedia of India, Pakistan, Bangladesh,
Sri Lanka, Nepal, Bhutan & Maldives, Cambridge University Press London
1989.
- 14) Sing R. L. (ed): India Regional Geography National Geography Society, India
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- 15) Spate OHK and ATA Learmonth – India and Pakistan Menthuen London
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- 16) Tirtha R. & Gopal Krishna, Emerging India Reprinted by Rawat
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M.A./M.Sc. Part- I

Semester –II

Practical Paper- V

Name of the Paper: Study of Landforms Analysis Techniques

Paper Code: HCP 2.1

Total Practical- 30

Total Marks- 50

Objectives:

1. To identify the different Landforms on the Topographical Maps
2. To identify the different Drainage patterns and types of slopes

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Identification and Mapping of Drainage Pattern: Dendritic, Trellies, Radial, Centrifugal, Stream Ordering Calculation of Bifurcation Ratio, Drainage Density	8
2	Identification and Mapping of Slopes, Calculation of Gradient, Types of Slope: Steep, Uniform, Gentle, Concave, Convex, Terraced (Two Examples each)	7
3	Profile: Serial, Superimposed, Projected, Composite, Transverse, Longitudinal (Two Examples each)	8
4	Slope Determination:G.H.Smith's Method, C.K. Wentworth, Other methods of Slope Analysis: Area Height Diagram and Hypsometric Curve	7

References:

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4. Monkhouse, F.JR & Wilkinson, H.R. Maps and Diagrams, Mathwn and Company, London.
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6. Sing R. L. (1996) : Map Work and Practical Geography, Central Book Dept. Allahabad.
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M.A./M.Sc. Part- I

Semester –II

Practical Paper- VI

Name of the Paper: Statistical Techniques in Geography- I

Paper Code: HCP 2.2

Total Practical- 30

Total Marks- 50

Objectives:

To introduce some basic Statistical techniques to the students to be applied to various themes in Geography.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Definition of Statistics; Importance and Use of Statistical Techniques in Geography. Frequency Distribution- Histogram, Polygon and Ogive Curve	10
2	Measures of Central Tendency- Calculation of Mean, Median and Mode. Quartile from Grouped and Ungrouped Data.	10
3	Measure of Dispersion: Absolute Measurements- Mean Deviation, Quartile Deviation and Standard Deviation.	10

References:

1. Cole, J.P, and King, C.A.M.(1968) : Quantitative Techniques in Geography, John Wiley and Sons.
2. Elhance, D.N. (1972) : Fundamentals of statistics, Kitab Mahal, Allahabad.
3. Gregory, S. (1968) : Statistical methods and the geographer. Longman, London.
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6. King, L.J(1991) : Statistical Analysis in Geography, Printice Hall, Englewood Cliff N.J.
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8. Singh R. L. : Elements of Practical Geography.

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M.A./M.Sc. Part- I

Semester –II

Practical Paper- VII

Name of the Paper: Statistical Techniques in Geography- II

Paper Code: SCP 2.1

Total Practical- 30

Total Marks- 50

Objectives:

To introduce the relative measures and co-efficient of correlation techniques to the Students to be applied to various themes in Geography.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Relative Measurements: Co-efficient of Mean Deviation, Coefficient of Quartile Deviation, Co-efficient of Variations,	10
2	Index Variability and Relative Variability- Karl Pearson's and Bowley's Method.	10
3	Correlation Analysis: Karl Pearson's Product Moment, Co-relation co-efficient Spearman's Rank order.	10

References:

1. Cole, J.P,& King, C.A.M.(1968) : Quantitative Techniques in Geography, John Wiley & Sons.
2. Elhance, D.N. (1972) : Fundamentals of statistics, Kitab Mahal, Allahabad.
3. Gregory, S. (1968) : Statistical methods and the geographer. Longman, London.
4. Gupta C.B. (1978) : An introduction to statistical Methods, Vikas Pub. House, New Delhi.
5. Hoel P.G. : Elementary Statistics, Wiley, New York.
6. King, L.J(1991) : Statistical Analysis in Geography, Printice Hall, Englewood Cliff N.J.
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M.A./M.Sc. Part- I

Semester –II

Practical Paper- VII

Name of the Paper: Practical in Population Geography

Paper Code: SCP 2.2

Total Practical- 30

Total Marks- 50

Objectives:

To understand various techniques of data analysis in population geography.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Age-Sex Pyramid, Child-Women Ratio, Dependency Ratio, Infant Mortality Rate, Age Specific Mortality	10
2	Rate of Population Change, Population Projection	10
3	Methods of Representing and Mapping of Population Data: Dot Method, Choropleth Method	10

References:

1. Liendsor, J. M. (1997): Techniques in Human Geography, Routledge, London
2. Lloyd P. and Dicken, B. (1972): Location in Space: A Theoretical Approach to Economic Geography, Harper and Row, New York
3. Wood, A. and Roberts, S. (2011): Economic Geography: Places, Network and Flows, Routledge, London
4. Chorley, R. J. and Hagget, P. (1972) Socio-economic Models in Geography, Methuen and Co., London
5. Monkhouse, F. J. and Wilkinson, H. R. (1971): Maps and Diagrams, Methuen and Co., London

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M.A./M.Sc. Part- I

Semester –II

Practical Paper- VIII

Name of the Paper: Representation of Socio-Economic Data- II

Paper Code: OEP 2.1

Total Practical- 30

Total Marks- 50

Objectives:

To understand the students various cartographic techniques of analysis of socio-economic data.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Compound Pyramids.	5
2	Superimposed Pyramids.	5
3	Triangular Graph-Linear- relationship Variables	5
4	Cumulative Graph.	5
5	Deviational Graph	5
6	Scatter Diagram	5

References:

1. Lawrence, G.R.P. (1973) : Cartographic methods, Methuen and Co. London.
2. Mishra, R. P. (1982) : Fundamental of cartography, Prasaranga, University Mysore.
3. Monkhouse, F.J.R & Wilkinson, H.R.: Maps & diagrams, Methuen and Co. London.
4. Raisz , Erwin : Principles of cartography, McGraw- Hill Book Co. , New York.
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M.A./M.Sc. Part- I

Semester –II

Practical Paper- VIII

Name of the Paper: Surveying

Paper Code: OEP 2.2

Total Practical- 30

Total Marks- 50

Objectives:

To understand various surveying methods and preparation of plans.

Contents of the course:

Unit No.	Details	Lectures/ Periods
1	Definition and Meaning of Survey, Classification of Surveying; Terms used in Leveling: Benchmarks, Spot Heights, Reduced Levels, Interpolation and Contouring,	10
2	Preparation of Plan with the help of following instruments: Chain and Tape Survey: Triangulation, Open and Close Traverse Method Plane Table Survey: Radial, Intersection, Open and Close Traverse Method Prismatic Compass Survey: Radial, Intersection, Open and Close Traverse Method	10
3	Dumpy Level: The Instrument- Various components, Common terms used in dumpy level survey, adjustments in dumpy level; Methods of Computation- Collimation method, Rise and Fall method; Field Survey Methods- Profile drawing and Block Contouring	10

References:

1. Singh & Kanujia : Map work and Practical Geography.
2. Maslov A.V. Gordeev A.V.,Batrakov Yu.G. Geodetic surveying,1984, Mir Publishers, Moscow
3. Kanetakar T.P. & Kukarni S.V. 1986. Surveying and leveling, Pune Vidyarthi Griha Prakshan, Pune
4. V. Natarajan P., Adler Ron K. Advanced Surveying, B.1 Publ. Bombay
5. Richardus P., Adler Ron K.: Map projections, 1972, North Holland publ. Co.Amsterdam
6. Maling D.H. ,1973 Co ordinate systems and map projections, George Philip, London.
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