

SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE

STRUCTURE & SYLLABUS

M.A./ M.sc. Geography

(Sem. I & II)

Revised Semester Pattern Syllabus w.e.f. June 2013

Solapur University, Solapur.

Sub.- Geography

M.A./ M.Sc. Part –I (1st Year)

Allocation of Periods/ Lectures & Scheme of Examination with title of papers form – June 2013

Semester-I

| Paper No. | | Title of Paper | Period per Week | Mark | Duration of Examination |
|-----------|------------|---|-----------------|------|-------------------------|
| Code No. | Course No. | | | | |
| PG-1 | PG-101 | Geomorphology-P-I | 04 | 100 | 3 Hours |
| | PG-102 | Climatology –P-I | 04 | 100 | 3 Hours |
| | PG-103 | Oceanography & Geohydrology | 04 | 100 | 3 Hours |
| | PG-104 | Economic Geography | 04 | 100 | 3 Hours |
| | PG-105 | Practical-I Analysis of Socio - Economic data | 08 Per Batch | 100 | 5 Hours |
| | PG-106 | Practical –II Analysis of Climatic data | 08 Per Batch | 100 | 5 Hours |

Note :

1. Total Periods/Lectures for each paper shall be 50 per semester.
2. Total Periods/Lectures for each practical paper shall be 128 per semester.
3. Strength of students for each practical batch shall not more than twelve.

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Revised Structure of Syllabus
For Class - M.A./ M.Sc. Part –I (1st Year)
Semester –I
Paper -I

Name of the paper : GEOMORPHOLOGY – Paper I

Paper- Code No. – PG-1

Course No.- 101

Total Lectures-50

Total Marks- 100

Objectives :

1. To familiarize the students with the need for understanding of Geomorphology with reference to certain fundamental concepts, focusing on the unity of geomorphology in the earth materials & the processes with or without an element of time.

Contents of the course:-

| Unit No. | Details | Lectures/ Periods |
|----------|---|-------------------|
| 1 | Meaning of geomorphology & Development of geomorphic thoughts a brief review. Principles of Uniformitarianism. Contribution of Hutton, Gilbert, Dutton & Davis. | 10 |
| 2. | Constitution of earth's interior, The theories of isostasy. Pratt, Airy & Joly. | 10 |
| 3. | Geosycline- Geosynclinal theory of Kobber. Holms theory of conventional currants. | 10 |
| 4. | Factors contributing landforms development- Exogenic & endogenic forces. Denualational process. Types of Weathering, Erosion & Mass Wasting. | 12 |
| 5. | Earthquakes, volcanoes & associated features, Distribution effect on Mankind. | 08 |

References : PG-101 (Geomorphology)

1. Bloom A.L. (1991) Geom. 2nd Ed Englewood Cliffs, M.J. Prentice.
2. Christopherson R.W. (1995) Elementel 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.
7. Thurman, H.V. (1994) : introductory Oceanography 7th Ed. Mac Millan
Pub. Co. New York.
8. Whitton, 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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Revised Structure of Syllabus

For Class - M.A./ M.Sc. Part –I

Semester –I

Paper -II

Name of the paper : CLIMATOLOGY – Paper I

Paper- Code No. – PG-1

Course No.- 102

Total Lectures-50

Total Marks- 100

Objectives :

1. Provide an understanding of weather phenomena & dynamics of global climate.
2. Provide information about the generation of climatic information & its applications.

| Unit No. | Details | Lectures / Periods |
|----------|---|--------------------|
| 1 | Atmosphere-Composition & Structure: Insolation & terrestrial heat balance- Distribution of temperature- Vertical- Horizontal. | 10 |
| 2. | Pressure belts & Shifting of them, planetary winds, Mechanism of Monsoon Winds, Local & Variable Winds. | 10 |
| 3. | Humidity & the process of Saturation- Atmospheric Equilibrium, Stability & instability, condensation & precipitation- types. | 10 |
| 4. | Air masses-types-properties, Frontogenesis & Frontolysis, Polar fronts & inter tropical convergence. | 10 |
| 5. | Atmospheric Disturbances – (i) Tropical cyclones-origin-distribution & weather associated with them (ii) Mid-latitude cyclones- origin, stages of life cycle – Weather associated with them. (iii) Tornadoes, water spouts. | 10 |

References : PG-102 (Climatology-I)

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 Monsoon, 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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For Class - M.A./ M.Sc. Part –I

Semester –I

Paper -III

Name of the paper: OCEANOGRAPHY & GEOHYDROLOGY

Paper- Code No. – PG-1

Course No.- 103

Total Lectures-50

Total Marks- 100

Objectives :

1. 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 & impact of man on the marine environment.

Course contents:

| 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. | 10 |
| 2. | The heat budget of ocean-Distribution of temperature & salinity | 08 |
| 3. | Ocean water- circulation-factors affecting ocean currents, currents in Atlantic, Pacific & Indian Ocean. EL Nino & La Nina. | 10 |
| 4. | Man & Oceans: Oceans as a store house of Minerals & Food resources, Hydrological cycle | 10 |
| 5. | 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. | 06 |

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| 6 | Problems related to water use- salinity, alkalinity, water logging, water pollution, conservation & planning for development of water resources. | 06 |
|---|--|----|

References : PG-103

1. Chorley R.J. (1967) : Introduction to geographical Hydrology, Methuen, London.
2. Dakshinamarthy C. etal (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.
18. David Keith Todd(2007) Groundwater Hydrology,Wiley, India

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Revised Structure of Syllabus

For Class - M.A./ M.Sc. Part –I

Semester –I

Paper-IV

Name of the paper : ECONOMIC GEOGRAPHY

Paper- Code No. – PG-1

Course No.- 104

Total Lectures-50

Total Marks- 100

Objectives :

1. The economy of the world is changing very fastly in recent times. The changes in primary, secondary & tertiary stage is dynamic in nature. In view of this the objectives of this course are to integrate the various factors of economic development to acquaint the students about dynamic aspects of economic geography.

Course contents :

| 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 – their characteristics. | 10 |
| 2. | Principles of Industrial Location. Substitution-interdependence- Territorial production complexes- Location theories Weber & Losch. | 10 |
| 3. | Resources- renewable & non renewable- World energy situation- Sources of energy- coal, oil, energy crisis. | 10 |
| 4. | Models of transportation & transportation cost- Accessibility & connectivity. Inter regional & international – Ullman's triad- complementarily- | 10 |

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| | intervening opportunity- transferability. | |
| 5. | Evolution of world trade- Structure & Pattern of trade after world war second. The trends during post world war second-Trade organization, GATT, OPEC, WTO & EEC | 10 |

References : PG-103

1. Alexander J.W. : (1976) : Economic Geography , Prentice Hall of India, New Dehli.
2. Alexandersson 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 : Economic Geography.

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For Class - M.A./ M.Sc. Part –I

Semester –I

GEOGRAPHY-PRACTICAL –I

Name of the paper : ANALYSIS OF SOCIO-ECONOMIC DATA

Paper- Code No. – PG-1

Practical-50

Course No.- 105

Total Marks- 100

Objectives :

For understanding various techniques of Analysis of Socio Economic Data.

Course Contents

Techniques for the study of spatial patterns of distribution.

| Unit No. | Details | Practicals |
|----------|--|------------|
| 1. | Choropleth Maps: Mapping of Socio- economic phenomena. | 05 |
| 2. | Dot Method & its relevance to distribution maps. | 05 |
| 3. | Flow line charts & maps of transport flow. | 05 |
| 4. | Maps with proportional circles | 05 |
| 5. | Maps with divided proportional circles. | 05 |
| 6. | Maps with proportional speeers. | 05 |
| 7. | Compound Pyramids. | 05 |
| 8. | Superimposed Pyramids. | 05 |

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|-----|---|----|
| 9. | Triangular graph-linear- relationship between three variables | 03 |
| 10. | Cumulative graph. | 03 |
| 11. | Deviational graph | 02 |
| 12. | Scatter diagram | 02 |
| 13. | Journal | |

Note :1. Each exercise should followed by interpretation.

2. For Journal 10 Marks.

References :

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

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For Class - M.A./ M.Sc. Part –I

Semester –I

GEOGRAPHY-PRACTICAL –I

Name of the paper : GEOGRAPHY- PRACTICAL-II
Analysis of Climatic Data

Paper- Code No. – PG-1

Course No.- 106

Total Practical -50

Total Marks- 100

Objectives :

- To understand the method of collection & analysis of the climatic data & interpret the same.

Course Content

| Unit No. | Details | Practical |
|----------|--|-----------|
| 1. | I) Nature & Sources of climatic data, II) Indian daily weather reports, formats, Reading & interpretation III) Satellite images- interpretation & forecast IV) Analysis of upper air data (Tephigraph). | 15 |
| 2. | I) Wind Roses- Simple, Compound & Octagonal (1 ex.. each) II) Isolines Interpretation-Isotherms, Isobars, Isohyets, Climograph, (1 ex.. each) | 15 |
| 3. | Trend Line graphs- moving averages line, semi-averages line & its graphical analysis (1 ex.. each) | 10 |

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| 4. | Dispersion graphs- Rainfall dispersion diagram, Temperature dispersion diagram, correlation of climatic variables-(Graphical analysis) (1 ex.. each) | 10 |
| 5. | Journal | |

Note : For Journal 10 Marks.

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 & 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. , New York.

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For Class - M.A./ M.Sc. Part –I

Semester –II

Paper-V

Name of the paper : GEMORPOLOGY –PAPER-II

Paper- Code No. – PG-2

Course No.- 107

Total Lectures-50

Total Marks- 100

Objectives :

1. Being a course at the interface of Geography with earth, the students have to be sensitized to background knowledge of geology & environmental sciences.
2. Familiarize the students with a the need for understanding of geomorphology with reference to certain fundamental concepts.

Course Contents

| Unit No. | Details | Lectures/ Periods |
|----------|---|----------------------|
| 1. | Evolution of continents & ocean basins continental drift & plate tectonics. | 15 |
| 2. | Concept of cycle of erosion by W.M. Devis Dynamic agencies of denudation & their work- Fluvial, Glacial, Marine, Aeolian & Karst. | 15 |
| 3. | Slope development- Views of Davis, Penk, Wood & Kings. | 10 |
| 4. | Applied Geomorphology & Recent Trends in Geomorphology, Geomorphic Hazards. | 10 |

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. Sehumm & 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, Patna.
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 Class - M.A./ M.Sc. Part –I

Semester –II

Paper-VI

Name of the paper : CLIMATOLOGY-PAPER-II

Paper- Code No. – PG-2

Course No.- 108

Total Lectures-50

Total Marks- 100

Objectives :

1. Provide understanding weather phenomena, dynamics of global climates & generation of climatic information & their application.

Course contents

| Unit No. | Details | Lectures/ Periods |
|----------|---|----------------------|
| 1. | Basis of climatic classification according to Koppen & Thornthwaite- Climatic regions of the world | 15 |
| 2. | Agro climatology- Droughts, Irrigation Scheduling- Agro climatic regions of India. | 10 |
| 3. | Climate clothing- Role of clothing providing insulation to human body. Physical climatology – (i) Climate & Human comfort, (ii) Climate & 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 past- Causes & effects, (ii) Recent climatic changes – Causes & consequences. | 10 |

References:

1. Critchfield: "General Climatology" Printice Hall, London.
2. Mather J. R. (1974) : "Climatology – fundamental & Application" McGraw Hill Book Co. New York.
3. Oliver J.E. (1973) : "Climate & Man's Environment- An Introduction Applied Climatology", John Wiley & 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 Geograpy of India.
8. Hobbs J.E. (1980) : Applied Climatology, Buttrworth, London.
9. Crist Field : Priciples of Climatology. Printice Hall , London
10. Lal D.S. : Climatology Prayag Pustak Bhavan, Allahabad.

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For Class - M.A./ M.Sc. Part –I

Semester –II

Paper- VII

Name of the paper : REGIONAL GEOGRAPHY OF INDIA

Paper- Code No. – PG-2

Course No.- 109

Total Lectures-50

Total Marks- 100

Objectives :

1. Understand India in terms of various regional divisions, their important characteristics. Intra- regional & inter- regional linkages, to analyse the natural & management resource endowments, their conservation & management.

Course contents

| Unit No. | Details | Lectures/ Periods |
|----------|--|-------------------|
| 1. | India: A) Location B) Physiographic divisions C) Climatic types D) Drainage system E) Types of Nature vegetation F) Types of soils & its conservation | 10 |
| 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 | 10 |
| 3. | Resources & Industries. A) Mineral & Power Resources their distribution and production. i) Mineral Resources: Iron ore, Bauxite & Manganese ii) Power Resources: Coal & Petroleum B) Industry: i) Cotton Textile ii) Iron & Steel Industry iii) Industrial Regions of India | 10 |

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|----|---|----|
| 4. | Basis of regionalization : geo-political climatic, agro-climatic, physiographic, historical, demographic, socio-economic dimensions of regionalization, case studies | 10 |
| 5. | Case studies of Meso / Micro level region in detail (one from each of division) A) Natural / Physical: Like suderbans Delta – India – gangatic plain, coastal India. B) Political: New state of India – Jharkhand, Uttaranchal & Chhatisgarh. | 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 1989.
- 6) Sing R. L. (ed) : India Regional Geography National Geography Society, India , Varanasi 1971.
- 7) Spate OHK and ATA Learmonth – India and Pakistan Menthuen London 1997.
- 8) Tirtha R. & Gopal Krishna, Emerging India Reprinted by Rawat publication, Jaipur 1986.

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For Class - M.A./ M.Sc. Part –I

Semester –II

Paper-VIII

Name of the paper : POPULATION GEOGRAPHY

Paper- Code No. – PG-2

Course No.- 110

Total Lectures-50

Total Marks- 100

Objectives :

1. Understand & evaluate the association between demographic & socio economic attribute of population & the resultant level of social-well-being & economic development.

Course contents

| Unit No. | Details | Lectures/ Periods |
|----------|--|-------------------|
| 1. | Population Geography- Definition, Scope & Significance: Source of population data | 10 |
| 2. | Factor affecting population distribution & density- Population distribution pattern- World & India. – Population composition- Sex Ratio, Occupation. | 10 |
| 3. | Population change –fertility & mortality factor affecting them-population growth & changes in India –demographic transition theory. | 10 |
| 4. | Population & Resources –Optimum population : over population & under population-Malths theory of Population | 10 |
| 5. | Population problems & policies in India. | 10 |

References:

1. Barred H. R. (1992) : Population Geography, Oliver and Boyd Longman House, Harlow.
2. Bhende Asha & Kanitkar Tara (1975) : Principles of population Studies, Himalaya Publishing House, Bombay.
3. Chandana R. C. & Manjit K. Siddhu (1980) : Introduction to population Studies Geography, Kalyani Publishers New, Delhi.
4. Chandana R. C. (1984) : Geography of population, Kalyani Publisher, Ludhiana.
5. Gamier, J.B. (1976) : Geography population, Longman Group Ltd. London.
6. George J. Demo et.al. (1970) : Population Geography: A Reader, McGraw Hill Book Co. New York.
7. Hausier, Philip M. & Dumcan (Eds.) (1959) : The study of Population, University Press, Oxford.
8. Hussein, Majid (1999) : Human Geography (2 Ed.) Rawat Publications, Jaipur.
9. John I. Clarke (1972): Population Geography indeed, Pergamon Press, Oxford.
10. Kingsley davis(1951) : Population of India & Pakistan, Princeton University Press, Princeton.
11. Ravenstein E(1889) : The Laws of Migration, Journal, Royal Statistical Society. 49,pp241-305.
12. Sinha V.C. (1979) : Dynamics of India's Population Growth, National Publishing House, New Delhi.
13. Smith, T. L. (1960) : Fundamental of Population Studies, Lipincoll. London.
14. Trewartha, G.T. (1953) : A case for Population Geography, Annals of the Association of Geographers, June, pp 71-97.
15. Trewartha, G.T. (1959) : A Geography of Population; World patterns, John Wiley & Sons Inc. New York.
16. Zelinsky, M. cl. Al. (1970) : Geography & Crowding World, Oxford University Press , New York.
17. Zelinsky, W (1966) : A Prologue of Population Geography, Prentice Hall Inc. M.J.
18. Sawant & Athawale A.S. : Population Geography, Mehta Kolhapur.

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For Class - M.A./ M.Sc. Part –I

Semester –II

Name of the paper : GEOGRAPHY PRACTICAL –III
(STUDY OF LANDFORMS ANALYSIS TECHNIQUES)

Paper- Code No. – PG-2

Total/Practical-50

Course No.- 111

Total Marks- 100

Objectives :

1. How to prepare map & how to read the map.

Course contents

| Unit No. | Details | Practical |
|----------|--|-----------|
| 1. | A) Maps- Definitions- Types of maps Indexing of Topographical sheets. B) Methods of Representation of Relief: i) pictorial ii) mathematical. | 10 |
| 2. | Identification & mapping of Landforms from Topographical maps (Each 2 examples) i) Ridge, ii) Saddle, iii) Col, iv) Pass, v) Spur, vi) Plateau, vii) Escarpment, viii) Cliff, ix) 'V' Shped Vally | 10 |
| 3. | A) Indetification & mapping of drainage pattern i) Dendritic, ii) Trellis, iii) Radial, iv) drainage pattern-(2 examples each) B) Calculation of Bifurcation Ratio & drainage density. | 10 |
| 4. | Identification & mapping of slopes (2examples each) i) Steep, ii) Uniform, iii) Gentle, iv) Concave, v) Convex & vi) Terraced slopes. | 05 |
| 5. | Profiles (2 examples each) i) Super imposed ii) Projected iii) Composite iv) Transverse v) longitudinal profiles vi) Serial profile. | 05 |

| | | |
|----|---|----|
| 6. | Slope- Significance of slopes-determination A) Gradient- Calculation of gradient (2 examples each) B) i) Calculation of scale of slope ii) methods of average slope determination. i) G. H. Smith's Method of Slope Analysis. ii) Wentworth's Method C) Other methods of Slope Analysis. i) Area height diagram ii) Hypsometric curve | 10 |
| 7. | Journal | |

Note : For Journal 10 Marks.

References:

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

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Revised Structure of Syllabus
For Class - M.A./ M.Sc. Part –I
Semester –II

Name of the paper : GEOGRAPHY-PRACTICAL-IV
(STATASTICAL TECHNIQUES IN GEOGRAPHY)

Paper- Code No. – PG-2

Practical - 50

Course No.- 112

Total Marks- 100

Objectives :

1. To introduce some basic statistical procedures to the students to be applied to various themes in geography.

Course contents

| Unit No. | Details | Practical |
|----------|---|-----------|
| 1. | Definition of statistics; importance & use of statistical techniques in Geography. Frequency Distribution- Histogram, Polygon, Ogive Curve. | 10 |
| 2. | Measures of Central Tendency- Calculation of mean, Median & Mode- Quartile from grouped & ungrouped data. | 10 |
| 3. | Measure of dispersion: Absolute measurements- Mean Deviation, Quartile Deviation& Standard Deviation. | 10 |
| 4. | Relative Measurements: Co-efficient of Mean Deviation- Coefficient of Quartile Deviation- Co efficient of Variations. Index Variability & relative Variability- Karl Pearson's Bowley's Method. | 10 |
| 5. | Correlation Analysis : Kark Pearson's product moment, correlation co-efficient Spearman's rank order. | 10 |
| 6. | Journal | |

Note : For Journal 10 Marks.

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.
7. Hemawati : Statistical Methods for Geographers.
8. Singh R. L. : Elements of Practical Geography.

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FACULTY OF SCIENCE

Nature of Question Paper

M.A./ Msc. Geography

| | | Marks | |
|---|---|------------------------------------|----|
| A) Theory | | | |
| Q.1- Objective type question | | 20 | |
| One mark each | | | |
| Q.2. | } | | |
| Q.3. | | | |
| Q.4. | | Essay type question any 3 question | |
| Q.5. | | 20 marks X 3question | 60 |
| Q.6. | | | |
| Q.7.- Short Notes (4 Notes will be given out of which Students have to solve any 2 notes. | | | |
| B) Practical for paper I, II, III, IV, V, VI and VII | | | |
| 3 Question each of 30 marks i.e. 30 marks X 3 question | | 90 | |
| Journal 10 marks | | 10 | |

For Paper VIII scheme of marking is given in the syllabus itself.