



EWING CHRISTIAN COLLEGE, ALLAHABAD
(An Autonomous Constituent College of Allahabad University)

Lecture List of
B.A.
First and Second Semesters
Geography Department

B.A. Geography (First Semester)

Paper I

Physical Geography : Lithosphere

Unit 1

Physical Geography : Definition, Nature and Scope; Development of Physical Geography; Geological History of Earth, Structure of the Earth

Unit 2

Origin of Continents and Ocean Basins: Continental Drift Theory of Wegner; Plate Tectonics; Distribution of Continents and Oceans, Mountain Building: Plate Tectonics, Isostasy

Unit 3

The Earth's Crust; Rocks; Diastrophism : Folding; Fold types; Faulting; Types of Faults; Vulcanicity and Earthquakes

Unit 4

Weathering and Mass movements, Fluvial Land forms: Drainage Systems and Patterns; Arid and Semiarid Land forms, Karst Land forms, Coastal Land forms

Recommended Books

1. A. N. Strahler and A. H. Strahler: *Modern Physical Geography*, John Wiley. New York.
2. Alka Gautam: *Geomorphology*, Sharda Pustak Bhawan, Allahabad
3. F. Press and R. Siever : *The Earth*, Freeman San Francisco.
4. J. S. Gardner: *Physical Geography*, Harper Row.

5. M. J. Bradshaw *et al.*: *The Earth's Changing Surface*, ELBS
6. Majid Husain: *Fundamentals of Physical Geography*, Rawat Publications, New Delhi
7. Savindra Singh : *Physical Geography*, Prayag Pustak Bhawan, Allahabad.
8. Savindra Singh: *Bhautik Bhoogol*, Vasundhara Prakashan,
9. Savindra Singh: *Bhooakriti Vigyan*, Prayag Pustak Bhawan, Allahabad.
10. Savindra Singh: *Geomorphology*, Prayag Pustak Bhawan, Allahabad

Paper II (First Semester)

Human Geography : Human Populations and Social Organisations

Unit 1

Definition, Nature and Scope of Human Geography, Schools of Thoughts : Traditional, Landscape, Ecological, Behavioural, Locational and Welfare, Man-Nature Relationships: Determinism and Possibilism

Unit 2

Man and his Origin, Human Races: Origin and Dispersal, Distribution of Human Population, Population Growth, Structure and Composition of Human Population, Migration, Demographic Transition.

Unit 3

Origin of Societies, Urban and Rural Societies, Social Interactions, Social Stratification : Religion and Class; Caste and Class; Caste-Class Inequalities, Social Pathologies and Social Malaise

Unit 4

Tribal Societies: Definitions, Characteristics, Habitat, Economy and Society : Pygmies, Masai, Eskimos, Bhil, Nagas and Gaddis

Recommended Books :

1. B. N. Singh : *Manav Bhoogol*, Prayag Pustak Bhawan, Allahabad
2. B. N. Singh : *Samajik Bhoogol*, Prayag Pustak Bhawan, Allahabad
3. B. N. Singh : *Manav evam Arthik Bhoogol*, Prayag Pustak Bhawan, Allahabad
4. B. P. Rao, and V. K. Srivastava: *Arthik Bhoogol ke Mool Tatwa*, Vasundhara Prakashan
5. C. W. Hammond: *Elements of Human Geography*, Allen and Unwin
6. Can Michael : *New Patterns: Process and Change in Human Geography*, Nelson
7. J. L. Fellman : *Human Geography-Landscape of Human Activities*, Brown and Bechman
8. Kashinath Singh, and Jagdish Singh: *Arthik Bhoogol ke Mool Tatwa*, Gyanoday Prakashan
9. M. Chisholm : *Human Geography: Evolution or Revolution*, Penguin Series in Geography.
10. Majid Husain : *Manav Bhoogol*, Rawat Prakashan
11. Majid, Husain : *Human Geography*, Rawat Publications
12. S. D. Kaushik : *Manav tatha Arthik Bhoogol*, Rastogi Publication.

Paper III (First Semester)

Practical

Unit 1

Quantity : Magnitude; Numbers, Non-Spatial Attribute Data, Spatial Attribute Data, Measurement Scales, Types of Data: Absolute Data; Derived Data: Ratios, Rates, Proportions, Density.

Unit 2

Study and Analysis of Topographic Maps

Topographic Map Scales, Indexing, Representation of Relief: Contours and their types, Contour Intervals, Slopes: Types; Slope Profiles, River Valleys, River Valley Profiles Identification, and Representation of Man Made Features

Unit 3

Surveying by Chain and Tape: Surveying along straight chain lines; Triangulation by chain

Recommended Books :

1. B. C. Punamia: *Surveying*, Standard Book House, New Delhi.
2. F. J. Monk House, and H. R Wilkinson: *Maps and Diagrams*, Methuen, London.
3. Hira Lal : *Manchitra evam Prayogik Bhoogol*, Kanpur
4. L. R. Singh : *Fundamentals of Practical Geography*, Sharda Pustak Bhawan, Allahabad
5. R. C. Tiwari : *Abhinav Prayogatamak Bhoogol*, Prayag Pustak Bhawan, Allahabad.
6. R. L. Singh : *Prayogatamak Bhoogol Ke Tatva*, Tara Publication, Varanasi
7. R. Singh and L. R. Singh : *Manchitra Kala evam Prayogatamak Bhoogol*, Allahabad
8. T. P. Kanetkar : *Surveying and Leveling*, Ava Prakashan
9. T. W. Birch: *Maps-Topographical and Statistical*, Oxford University Press

B. A. Geography (Second Semester)

Paper I

Physical Geography: Atmosphere, Oceans and Biosphere

Unit 1

Atmosphere : Composition and Structure, Insolation and Heat Budget, Temperature : Horizontal Distribution, Vertical Distribution, General circulation and Winds, Humidity and Precipitation.

Unit 2

Air Masses, Fronts and Frontogenesis, Monsoon, Atmospheric Disturbances: Tropical and Temperate Cyclones, Climatic Classification: Koeppen; Thornthwaite; Trewartha

Unit 3

Bottom Relief of Oceans, Ocean Deposits, Salinity, Temperature, Currents and Tides, Coral Reefs and Atolls

Unit 4

Abiotic and biotic components of biosphere, Characteristics and types of ecosystems, Biosphere as an ecosystem, Man and biosphere

Books Recommended

1. D. S. Lal : *Climatology*, Chaitanya Publishing, Allahabad.
2. D. S. Lal : *Jalvayu Vigyan evam Samudra Vigyan*, Sharda Pustak Bhawan, Allahabad.
3. D. S. Lal : *Oceanography*, Sharda Pustak Bhawan, Allahabad.
4. G. T. Trewartha and L. A. Horn: *An Introduction to Climate*, McGraw Hill
5. Healey Cox and Moors: *Biogeography*, Blackwell and Co.
6. M. G. Gross : *Oceanography- A View of the Earth*, McGraw Hill.
7. Majid Husain : *Fundamentals of Physical Geography*, Rawat Publications, New Delhi
8. Savindra Singh : *Jalvayu Vigyan* , Prayag Pustak Bhawan, Allahabad

9. Savindra Singh : *Physical Geography*, Prayag Pustak Bhawan, Allahabad.
10. 14. Savindra Singh : *Bhautik Bhoogol*, Vasundhara Prakashan,
11. Savindra Singh : *Paryavaran Bhoogol*, Prayag Pustak Bhawan, Allahabad
12. Savindra Singh : *Climatology*, Prayag Pustak Bhawan, Allahabad
13. Wytts: *Principles of Biogeography*, McGraw Hill & Co.

Paper II (Second Semester)

Human Geography :

Cultural, Political Organisation and Human Welfare

Unit 1

Human Culture, Stages of Cultural Developments, Cultural Hearths, Cultural Realms, Major Religions and their World Distribution, Language Families and World Distribution of Languages.

Unit 2

Political Organisation: State and Society; Development of States; Nation and State; State Organisations: Unitary and Federal, State Interactions and Supra-National Political Organisations, Elections, Plebiscites, Referendums.

Unit 3

Environmental Perception, Diffusion of Innovations, Social Environment: Issues and Challenges; Economic Development and Social Problems and Priorities.

Unit 4

Human Welfare : Quality of Life; Economic Health; Social Well-being; Inequality and conflict; Poverty, Gender Inequalities

Recommended Books :

1. B. N. Singh: *Manav Bhoogol*, Prayag Pustak Bhawan, Allahabad

2. B. N. Singh: *Manav evam Arthik Bhoogol*, Prayag Pustak Bhawan, Allahabad
3. C. W. Hammond: *Elements of Human Geography*, Allen and Unwin
4. David M. Smith: *Human Geography: A Welfare Approach*, Edward Arnold, London
5. E. Jones and J. J. Eyles: *Introduction to Social Geography*, Edward Arnold, London
6. Edward E. Bergman: *Human Geography; Culture Connections and Landscape*, Prentice Hall
7. Kashinath Singh and Jagdish Singh: *Arthik Bhoogol ke Mool Tatwa*, Gyanoday Prakashan.
8. M. Sinha & A. Ray: *Political Geography*, Horizon Publishers, Allahabad
9. Majid Husain : *Manav Bhoogol*, Rawat Prakashan
10. Majid Husain : *Human Geography*, Rawat Publications
11. R. L. Dwivedi : *Fundamentals of Political Geography*, Chaitanya, Allahabad
12. S. D. Kaushik : *Manav tatha Arthik Bhoogol*, Rastogi publication.
13. Sudipta Adhikari : *Rajnaitic Bhoogol*, Sharda Pustak Bhawan, Allahabad

Paper III (Second Semester)

Practical

Unit 1: Representation of Non Spatial Data

Scatter Graph. Compound Line and Bar Graph, Divided Circles, and Divided Rectangles, Hythergraph, Climograph.

Unit 2

Analysis and Study of Geological Maps: Types of Geological Structures; Strike Lines; Angle of Dip and Drawing of Geological Cross-sections

Unit 3 Field Work

Prismatic compass Survey : Closed and Open Traversing, Removal of Closing Error

RECOMMENDED BOOKS

1. B. C. Punamia : *Surveying*, Standard Book House, New Delhi.
2. J. Singh and V. K. Srivastava: *An outline of Geological Maps*, Gorakhpur
3. J. Singh, V K. Srivastava and B. P. Rao: *Bhaumikiya Manchitron ki Roop Rekha*, Chetan Agencies, Gorakhpur
4. F. J. Monk House and H. R. Wilkinson: *Maps and Diagrams*, Methuen, London.
5. R. C. Tiwari: *Abhinav Prayogatamak Bhoogol*, Prayag Pustak Shawan, Allahabad.
6. R. L. Singh: *Prayogatamak Bhoogol Ke Tatva*, Tara Publication, Varanasi
7. R. Singh and L. R. Singh: *Manchitra Kala Evam Prayogatamak Bhoogol*, Allahabad
8. T. P. Kanetkar : *Surveying and Leveling*, Ava Prakashan



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Lecture List of
B.A.
Third and Fourth Semester
Geography Department

B.A. GEOGRAPHY

THIRD SEMESTER

Paper - 1

**Introduction to Economic Geography: Agriculture and
Natural Resources**

Unit I

Economic Geography: Definition; Nature, Scope and Approaches ;
Development of Economic Geography, Economic Development and
Types of Economies, Models of Spatial Distribution of Economic
Development.

Unit 2

Origin and Development of Agriculture, Influences on Agricultural
Production and Distribution: Physical Factors; Human Factors; Social
and Economic Factors, Agricultural Systems: Subsistence Farming;
Commercial Mixed Farming; Commercial Grain Farming; Commercial
Plantation Agriculture; Mixed Fruit and Grain Farming; Commercial
Livestock and Dairy Farming; Collective Farming

Unit 3

Concept of Natural Resources, Classification of Natural Resources, Problems of Resource Utilisation, Use and Misuse of Resources, Sustainable development and Conservation of Resources

Unit 4

Mineral Resources and Mining Industry; Distribution, Reserves and Production of Minerals, Mineral Fuels: Coal; Petroleum, Metallic and Non-Metallic Minerals: Iron; Manganese; Copper; Bauxite; Mica, Atomic Minerals: Uranium; Thorium.

Recommended Books :

1. R.C.Tiwari and B.N.Singh:Krishi Bhoogol,Prayag Pustak Bhawan, Allahabad
2. Kashinath Singh & Jagdish Singh : Arthik Bhoogo1 ke Moo1 Tatwa,Gyanoday Prakashan.
3. B.P.Rao, and V.K.Srivastava : Arthik Bhoogol ke Mool Tatwa,Vasundhara Prakashan
4. Pramila Kumar and Sharma:Krishi Bhoogol,Hindi Granth Akadami
5. M.Hussain:Agricultural Geography,Concept,New Delhi
6. J. Singh and S.S. Dhillon:Agricultural Geography, Tata McGraw-Hill
7. Wheeler, J. O. et al: Economic Geography, John Wiley
8. Hartshorne, T. A. and Alexander, J. W. : Economic Geography, Prentice Hall of India
9. Alexander, J. W.: *Economic Geography*, Prentice Hall of India,
10. Leong and G.C. Morgan: Human and Economic Geography, Oxford University Press
11. Alka Gautam: Krishi Bhoogol,Sharda Pustak Bhawan, Allahabad

Third Semester

Paper II

Settlement Geography : Rural Settlement

Unit 1

Definition, Nature and Scope of Settlement Geography, Approaches and Development of Settlement Geography, Origin and Development of Human Settlements, Classification of Human Settlements

Unit 2

Rural Settlement: Defining Criteria, Site and Situation of Rural Settlements, Factors Affecting the Location of Rural Settlements, Distribution of Rural Settlements, Typology and Patterns, Rural Settlement Size and Spacing.

Unit 3

Evolution of Rural Settlements, Rural Dwellings and House Types, Morphology of Rural Settlements: Morphological Components, Intra-settlement Spacing, Settlement Patterns, Land ownership and Patterns of Settlement.

Unit 4

Rural Central Functions, Rural Service Centers, Functional Hierarchy of Rural Service Centers, Distribution and spacing, Spatial Organisation of Rural Service Centers, Planning and Development of Rural Service Centers

Books Recommended

1. R.C.Tiwari: Adhivas Bhoogol ,Prayag Pustak Bhawan, Allahabad
2. S.D.Maurya: Adhivas Bhoogol, Sharda Pustak Bhawan, Alld
3. R. L. Singh: Readings in Rural Settlement Geography, National

Geographical Society of India

4. D.A. Oyeleye: Settlement Geography, University of Lagos Press
5. D. C. Money: Patterns of Settlement: Human Geography in Colour, Evans Bros.
6. R. B. Mandal: Rural settlement, Concept
7. Brian K. Roberts: Rural Settlement, Macmillan Education

Third Semester

Paper III

Practical

Unit I

Frequency distribution, Measures of Central Tendency and Dispersion,

Unit II

Statistical Tests: Students t test; Chi-square test, Correlation: Rank order and Pearson

Unit III Field Work

Telescopic Alidade Surveying

Recommended Books:

1. R.C.Tiwari: Abhinav Prayogatamak Bhoogal, Prayag Pustak Bhawan, Allahabad.
2. B.C.Punamia: Surveying, Standard Book House, New Delhi.
3. F.F.Coxton and L.J.Cowden: Applied General Statistics, Prentice Hall, New Delhi.
4. T.P.Kanetkar: Surveying and Levelling, Ava Prakashan
5. V.K.Srivastava: Bhoogol Ki Sankhakiye Vidhyain, Vasundhra Prakashan, Gorakhpur
6. S. Gregory: Statistical Methods and the Geographer, Longmans, London

B.A.
GEOGRAPHY
FOURTH SEMESTER

Paper I

Economic Geography: Industrial Location, Regionalisation, and Trade and Transport

Unit 1

Factors of Localisation of Industries, Location and Distribution: Iron and Steel Industry; Textile Industries; Sugar Industry; Heavy Engineering Industries, Concept of Industrial Development, Industrialisation in Developing Countries.

Unit 2

Crop Combination Regions, World Agricultural Regions, Major Industrial Regions of the World, Von- Thunen's Model of Agricultural Location, Model of Industrial Location: Weber; Losch; Hoover and Isard.

Unit 3

Evolution of World Trade, International Trade and World Economies, Free Trade and Trade Barriers, World Trade Theories, World Trade Patterns, Recent Trends in International Trade.

Unit 4

Bases of Transport, Means of Transport and their Relative Importance, Patterns of International Transport, Factors Related to development of transport systems, Economic Organisations and Patterns of Transport, Transport Policy and Planning

Recommended Books:

1. Kashinath Singh, and Jagdish Singh: Arthik Bhoogol ke Mool Tatwa, Gyanoday Prakashan.

2. B.P.Rao, and V.K.Srivastava: Arthik Bhoogol ke Mool Tatwa, Vasundhara Prakashan
3. Pramila Kumar and Sharma: Audyogik Bhoogol, Hindi Granth Akadami
4. H.Lal: Audyogik Bhoogol, Vasundhara Prakashan, Gorakhpur
5. Boyce, R. D. : Bases of Economic Geography, Holt Rinehart and Winston
6. Hodder, B. W. and Lee, R.: Economic Geography, *Field of Geography Series*, Methuen
7. Smith, D. M. : Industrial Geography: An Economic Geographic Analysis, John Wiley
8. Wheeler, J. O. et al: Economic Geography, John Wiley
9. Hartshorne, T. A. and Alexander, J. W. : Economic Geography, Prentice Hall of India
10. Alexander, J. W.: Economic Geography, Prentice Hall of India
11. Leong and G.C.Morgan : Human and Economic Geography, Oxford University Press
12. R.C.Riley : Industrial Location, Methuen, London.
13. Alka Gautam : Arthik Bhoogol ke Mool Tatwa, Sharda Pustak Bhawan, Alld.

Fourth Semester

Paper II

Settlement Geography: Urban Settlements

Unit 1

Urban Settlements: Criteria of Definition, Origin, and Evolution, Changing Approaches of Urban Geography, Urban origin and Early Urban Hearths, Forms of Industrial and Modern Urban Settlements, Typology of Urban Settlements

Unit 2

Growth of Urbanisation and City Systems; City Size Distributions, Urban Hierarchy and Central Place Theory, Urban Economic Base, City and Region Linkages, Functional Town Classification

Unit 3

Social Space and Structure of Cities: Burgess' Model; Homer Hoyt's Sector Model; Multiple Nuclei Model, Urban Land use Patterns and City Morphology: Central Business Districts Urban Population Distributions: Models of Population Density, Rural Urban Fringe,

Unit 4

Residential Problems: Problems of Housing Quality in Urban Settlements; Substandard and Overcrowded Housing in Cities, Urban Blight and Slums, Problems of Drinking Water Supply, Problems of Urban Sprawl, Urban Growth and Environmental Degradation, City Planning and Elements of City Plans

Recommended Books:

1. Ram Chandra Tiwari: Adhivas Bhoogol ,Prayag Pustak Bhawan, Allahabad
2. Ramachandran, R.: Urbanization and Urban Systems of India, Oxford University Press
3. Singh, O. P.: Nagriya Bhoogol, Tara Prakash an
4. Singh, R. L. Urban Geography in Developing Countries, National Geographical Society of India, Varanasi.
5. Carter, Harold: The Study of Urban Geography, Edward Arnold,
6. Mayer, H. M. and Kohn, C. F.: Readings in Urban Geography, Chicago University Press,
7. Misra, H. N. (ed.): Urban Geography, Heritage Publications.
8. Northam, R. M.: *Urban Geography*, John Wiley, New York.

9. Johnson, J. H. : Urban Geography: An Introductory Analysis, Pergamon Press,
10. R. N. Singh & S. D. Maurya : Nagreay Bhoogol, Sharda Pustak Bhawan, Alld.

Fourth Semester

Paper III

Practicals

Unit I

Point Pattern Analysis- Distance Based Methods, Quadrat Counts; Measures of Average Spacings,

Unit II

Measures of Distance to Breaking Point, Coefficient of Concentration, Coefficient of Localisation

Unit III

Plane Table Surveying : Graphic Triangulation

Recommended Books :

1. R.C.Tiwari : Abhinav Prayogatamak Bhoogol, Prayag Pustak Bhawan, Allahabad.
2. R. L. Singh : Prayogatmak Bhoogol Ke Tatva, Tara Publication, Varanasi
3. B. C. Punamia : Surveying , Standard Book House, New Delhi.
4. T. P. Kanetkar : Surveying and Levelling, Ava Prakashan
5. R. Singh and L. R. Singh : Manchitra Kala Evam Prayogatmak Bhoogol, Alld
6. D. M. Simth : Patterns in Human Geography, Methuen
7. V. K. Srivastava : Bhoogol Ki Sankhakiye Vidhyain, Vasundhra Prakashan, Gorakhpur



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Lecture List of

B.A.

Fifth and Sixth Semesters
Geography Department

Geography

(Fifth Semester)

Paper - 1

Introduction to Geographical Thought

Unit 1

Meaning and Definition of Geographic thought, Definition, Meaning and Scope of Geography, Fundamental Concepts in Geography, Interactions and Relations with other Sciences, Branches of Geography.

Unit 2

Ancient Classical Geography : Greek Geography- Contributions of Hecataeus, Herodotus and Aristotle, Contribution of Eratosthenes; Roman Geography : Contributions of Strabo and Ptolemy, Arab Geography, Ancient Indian Geography.

Unit 3

Contributions of Immanuel Kant, Alexander von Humboldt and Carl Ritter : German Geographers, French Geographers, Rise of Dualism in Geography: Determinism vs. Possibilism, Physical Geography vs. Human Geography, Systematic vs Regional Geography.

Unit 4

Chorology and Areal differentiation, Geography as Landscape Science, Quantitative Revolution : Geography as a Science of Spatial

Analysis, Concept of Ecology and Ecosystems, Man-Nature Relationships.

Books Recommended .

1. Majid Hussain: Bhaugolik Vichardharaon ka Itihas, Rawat Publication.
2. R.D.Dixit : Bhaugolik Vichardhara, Prentice Hall of India.
3. R.D. Dixit : Geographical Thought, Prentice Hall of India.
4. S.D. Maurya : Bhoogolic Chintan Ka Itihas, Prayag Pustak Bhavan, Alld.
5. Sudeepta Adhikari: Fundamentals of Geographical Thought, Chaitanya Publishing House
6. Minshull : The Changing Nature of Geography
7. M. Hussain : Evolution of Geographical Thought, Rawat Publication.
8. R. Hartshrone : Perspective on the Nature of Geography, Rawat Publication.
9. P. E. James : All Possible World, Rawat Publications
10. Milton E. Harvey and Blian P. Holly : Themes in Geographical Thought, Rawat Publications.

Geography (Fifth Semester)

Paper - II

Bases of Thematic Cartography

Unit 1

Definition, Nature and Scope of Cartography, Historical Development of Cartography, Technological Impacts on the

Development of Cartography, Forms of Representation and Nature of Maps, Functional Classification of Maps, Approaches of Cartographic Representation.

Unit 2

Earth Map Relations, Maps as a Reduced Scale Representation: Map Scale; Basic Transformation : First Transformation and Second Transformation, Earth's Coordinate System and its Transformation: Map Projections; Developable Surfaces; Arrangement and Orientation, Scale Factor. Deformations and its Patterns, Choice of Map Projections.

Unit 3.

Nature of Geographical Data, Measurement Levels, Types of Geographical Data, Sources of Geographic Data : Archival Sources and Digital Data Bases, Nature of Cartographic Data, Sources of Cartographic Data, Maps and Cartographic Data Bases .

Unit 4

Cartographic Data : Generalisation and Simplification, Geographic Data : Data Smoothing routines; Data Filtering; Classification Routines : Constant Series or Equal Step classes; Systematically unequally Stepped Classes: Arithmetic progression; Geometric Progression, Irregularly Stepped Classes : Natural Breaks

Recommended Books :

1. R. P. Misra, A. Ramesh : *Fundamentals of Cartography*, Concept Publishing.
2. Robinson, Arthur H., Joel L. Morrison, Phillip C. Muehrcke, A. Jon Kimerling, and. Stephen C. Guptill.: *Elements of Cartography*, John Wiley.
3. Melita Kennedy: *Understanding Map Projections*, Arc Info Environmental Systems Research Institute, Inc.
4. P. Nag; *Thematic cartography and Remote Sensing*, Concept Publications

5. R. Singh and L. R. Singh: Manchitra Kala, Central Book Depot, Allahabad.
6. R.C.Tiwari and S.Tripathi : Abhinav Prayogatmak Bhoogol, Prayag Pustak Bhawan

Geography
(Fifth Semester)
Paper III
Environmental Geography :
Environment and Ecology

Unit 1

Definition, Nature, and Scope and Approaches of Environmental Geography, Environmental Geography : Internal Relations with Geography : External Relations with other Disciplines, Fundamental Concepts in Environmental Geography.

Unit 2

Environment : Meaning; Structure and Divisions; Components of Environment, Man as a Component of Environment, Environment and Society- perception and Awareness, Environment and Resources.

Unit 3

Ecology : Concepts and Principles; Energy flows and Ecological Production; Ecosystems: Types of Ecosystem, Components of Ecosystem; Functioning of Ecosystem; Ecosystem Stability, Biosphere as an Ecosystem.

Unit 4

Man Environment Relationships, Resource Use and Ecological Imbalance, Human activities and Disruption of Ecosystems, Human impact on Vegetation and Animal Populations, Preservation and Conservation of Ecosystems

Books Recommended

1. Singh, Savindra : Environmental Geography, Prayag Pustak Bhavan
2. Singh, Savindra : Paryavaran Bhoogol, Prayag Pustak Bhawan.
3. Strahler, A.N. and Strahler, A. H. : Geography and Man's Environment, John Wiley and Sons, 'New York.
4. Park, C.C.: Ecology and Environmental Management, Butterworth
5. Odum, E.P. : Fundamentals of Ecology, W. B. Saunders
6. R.N.Kotpal and N.P.Bali : Concept of Ecology, Vishal publication, Jalundhar
7. P. S. Negi : Parasthitiki Vikas evam Paryavaran Bhoogol, Rastogi Publications Meerut.

Geography

(Fifth Semester)

Paper IV

Practical

Max. Marks 75

The contents for the practical examination are divided in 3 units. The paper carries 75 marks. Forty marks are allotted to unit 1 and 2, fifteen marks are allotted to unit 3 and twenty marks are allotted for Sessional Record of Work from all units, and viva-voce examination.

Unit 1

Conic with Two Standard Parallels, Polyconic, Cylindrical Equal Area projection.

Unit 2

Zenithal Equal Area (Polar Aspect), Zenithal Stereographic (Polar Aspect), Mercator's Projection, Mollweide's Projection

Unit 3 Surveying

Differential Leveling and Determination of Spot Heights by Level

Recommended Books :

1. R. C. Tiwari : Abhinav Prayogatamak Bhoogal, Prayag Pustak Bhawan, Allahabad.
2. R. L. Singh : Prayogatmak Bhoogol Ke Tatva, Tara Publication, Varanasi
3. B. C. Punamia : Surveying, Standard Book House, New Delhi.
4. Robinson, A. H. et al : Elements of Cartography, Jo Wiley and Sons, New York.
5. T. P. Kanetkar : Surveying and Levelling, Ava Prakashan
6. R. Singh and L.R.Singh: Manchitra Kala Evam Prayogatmak Bhoogol, Alld.
7. G. P. Kellaway : Map Projection, Methuen London
8. J. A. Steers: An Introduction to Map Projections: Rawat Publicastions

Geography
(Sixth Semester)
Paper I
Geography of India

Unit 1

Structure and Physiography, Drainage, Climate and Climatic Regions, Soil : Types and Distribution; Soil Conservation, Vegetation. Regional Disparities in Economic Developments, Planning Regions.

Unit 2

Population : Distribution, Growth, Age and Sex Composition, Occupational Structure, Migration, and Population Problems; Rural Settlements: Types and Distribution; Urban Settlements: Urbanisation; City Size Distribution; Urban Problems.

Unit 3

Agricultural Systems, Agro-climatic Regions, Distribution of Crops and Crop Combination Regions, Problems of Agriculture, Industries: Iron steel, Cotton Textile and Sugar, Industrial Regions; International Trade

Unit 4

Distribution, Production of Minerals: Iron ore, Bauxite, Manganese, Mica; Power Resources : Coal, Petroleum, Hydro-electricity.

Books Recommended

1. R. C. Tiwari; Geography of India, Prayag Pustak Bhawan
2. R. L .Singh (ed.): *India : A Regional Geography*, NGS, B.H.U., Varanasi 1971.
3. Ram Chandra Tiwari: *Bharat Ka Bhoogol* , Prayag Pustak Bhawan
4. C. B. Mamoria : *Bharat ka Bhoogol*, Sahitya Bhawan
5. Alka Gautam : *Bharat Ka Bhoogol* Sharda Pustak Bhawan
6. T. C. Sharma and O. Coutinho: *Economic and Commercial Geography of India*.

7. D. N. Wadia : *Geology of India*.
8. D. R. Khullar : *India: A Comprehensive Geography*, Kalyani Publishers.
9. Alka Gautam: *Advanced geography of India*, Sharda Pustak Bhawan, Alld.

Geography

(Sixth Semester)

Paper II

Cartographic Design and Mapping

Unit 1

Mapping of Area and Volume Distributions: Statistical Surface and its Representation : Choropleth Mapping; Size and Shape of Unit Areas; Size and Number of Classes; Isarithmic Mapping, Control Points, and Interpolation, Errors in Isarithmic Mapping.

Unit 2

Mapping of Point Distributions: Dot Mapping; Size and Value of the Dots; Locating Dots; Graduated Symbol and Range Graded Symbol Mapping; Mapping of Linear Distributions: Graduated Lines

Unit 3

Cartographic Design : Objectives and Process of Map Design; Perceptual Considerations, Graphic Variables; Colour: Nature of Colour, Colour Models; Colour and Pattern Use, Controls and Planning of Design.

Unit 4

Map Compilation; Compilation Processes; Compilation Materials; Map Production: Image types; Image Forming Systems; Image Form and Position, Map Reproduction : Multiple Reproduction Processes; Non-photographic Systems.

Recommended Books

1. J. S. Keates : *Cartographic Design and Production*, Longman
2. Judith A. Tyner : *Introduction to Thematic Cartography*, Prentice Hall

3. Borden Dent, Jeff Torguson, Thomas Hodler, Cartography : Thematic Map Design, McGraw-Hill
4. Cuff and Mattson : Thematic Maps: Their Design and Production. New York: Methuen
5. Robinson, Arthur H., Joel L. Morrison, et,al.; Elements of Cartography, John Wiley
6. K. K. Ram Pal : Mapping and Compilation, Concept publishing
7. R. Singh and L.R.Singh: Manchitra Kala, Central Book Depot, Allahabad.
8. R.C.Tiwari and S.Tripathi: Abhinav Prayogatmak Bhoogol, Prayag Pustak Bhawan

Geography

(Sixth Semester)

Paper III

Environmental Geography:

Environmental Degradation and Management

Unit 1

Environmental Degradation: Types of Environmental Degradation; Processes of Environmental Degradation; Causes of Environmental Degradation: Deforestation; Population Growth; Industrial Development; Urbanization

Unit 2

Pollution : Definition, Pollutants and their Classification: Air Pollution- Sources and Types; Effects of Air Pollution, Water Pollution: Sources of Water Pollutants; Nature and Types of Water Pollution, Solid waste Pollution; Noise Pollution.

Unit 3

Environmental Hazards and Disasters: Natural Hazards and Disasters: Volcanic and Tectonic; Cyclones; Floods and Tsunamis, Man Induced Hazards, Distribution of Hazards and Hazard Prone Areas of the World.

Unit 4

Concept of Natural disaster Management, Approaches to Environmental Management, Ecological Basis of Environmental Management, Control of Environmental degradation, Efforts towards Reduction of Natural Disasters

Books Recommended.

1. Singh, Savindra : Disaster Management, Pravalika Publication Alld.
2. Singh, Savindra : Environmental Geography, Prayag Pustak Bhavan
3. Singh, Savindra : Paryavaran Bhoogol, Prayag Pustak Bhawan.
4. Strahler, and Strahler, A. H. : Geography and Man's Environment, John Wiley and Sons, New York.
5. Park. C.C.: Ecology and Environmental Management, Butterworth
6. Detwter. T. R. : Man's Impact on the Environment, McGrawHill
7. Smith, K. Environmental Hazards; Assessing Risk and Reducing Disaster, Routledge
8. P. S. Negi: Parasthitiki Vikas evam Paryavaran Bhoogol, Rastogi Publications Meerut.

Geography

(Sixth Semester)

Paper IV

Practical

Max. Marks 75

The contents for the practical examination are divided in 3 units. The paper carries 75 marks. Forty marks are allotted to unit 1 and 2, fifteen marks are allotted to unit 3 and twenty marks are allotted for Sessional Record of Work from all units, and viva-voce examination.

Unit 1

Premap Data Processing: Smoothing, Filtering and Classification Routines

Unit 2

Mapping of Statistical Surface: Choropleth Mapping; Isopleth Mapping, Mapping of Point Distributions: Dot Mapping; Graduated Symbol Mapping

Unit 3 Surveying

Contouring by Indian Clinometer

Recommended Books :

1. R.C.Tiwari : Abhinav Prayogatamak Bhoogal, Prayag Pustak Bhawan, Allahabad.
2. R.L.Singh: Prayogatmak Bhoogol Ke Tatva, Tara Publication, Varanasi
3. B.C.Punamia : Surveying, Standard Book House, New Delhi.
4. Robinson, A. H. et al : Elements of Cartography, John Wiley and Sons, New York.
5. T. P. Kanetkar : Surveying and Levelling, Ava Prakashan
6. R. Singh and L.R.Singh: Manchitra Kala Evam Prayogatmak Bhoogol, Alld.
7. Cuff, David J. and Mattson, Mark T. : Thematic Maps: Their Design and Production. New York : Methuen