

DEPARTMENT OF GEOGRAPHY

Choice Based Credit System

B.A./B.Sc. Geography Syllabus

| B.A./B.Sc. Semester I & B.A./B.Sc. Semester II for the session 2023-24 | | | | | | | | | |
|---|-------------------------|---------------------|--|------------|----------|----------|----------|----------|----------------|
| Semester | Nature of Course | Courses Code | Course Title | MM | L | T | P | S | Credits |
| Semester I | DCC | GEG 501T | Physical Basis of Geography | 100 | 4 | 0 | 0 | 0 | 4 |
| | DCC | GEG 501P | Cartographic Techniques (Practical) | 100 | 0 | 0 | 2 | 0 | 2 |
| Semester II | DCC | GEG 502T | Human Geography | 100 | 4 | 0 | 0 | 0 | 4 |
| | DCC | GEG 502P | Socio Economic Survey (Practical) | 100 | 0 | 0 | 2 | 0 | 2 |
| B.A./B.Sc. Semester III & B.A./B.Sc. Semester IV for the session 2024-25 | | | | | | | | | |
| Semester | Nature of Course | Courses Code | Course Title | MM | L | T | P | S | Credits |
| Semester III | DCC | GEG 503T | Geography of India | 100 | 4 | 0 | 0 | 0 | 4 |
| | DCC | GEG 503P | Thematic Cartography (India) | 100 | 0 | 0 | 2 | 0 | 2 |
| Semester III | SEC | GEG 101S | Introduction to field work in Geography | 100 | | | | 2 | |
| Semester IV | DCC | GEG 504T | Geography of Rajasthan | 100 | 4 | 0 | 0 | 0 | 4 |
| | DCC | GEG 504P | Cartographic Techniques | 100 | 0 | 0 | 2 | 0 | 2 |
| Semester IV | SEC | GEG 102S | Environmental Degradation, Natural Hazards and Their | 100 | | | | 2 | |

| | | | Mitigation | | | | | | |
|---|-------------------------|---------------------|---------------------------------------|------------|----------|----------|----------|----------|----------------|
| B.A./B.Sc. Semester V & B.A./B.Sc. Semester VI for the session 2025-26 | | | | | | | | | |
| Semester | Nature of Course | Courses Code | Course Title | MM | L | T | P | S | Credits |
| Semester V | DSE | GEG 505T (a) | Environmental Geography | 100 | 4 | 0 | 0 | 0 | 4 |
| | DSE | GEG 505T (b) | World Regional Geography | 100 | 4 | 0 | 0 | 0 | 4 |
| | DCC | GEG 505P | Cartography and Environmental Mapping | 100 | 0 | 0 | 2 | 0 | 2 |
| Semester V | SEC | GEG 103S | Remote Sensing & GIS | 100 | | | | 2 | |
| Semester VI | DSE | GEG 506T (a) | Economic Geography | 100 | 4 | 0 | 0 | 0 | 4 |
| | DSE | GEG 506T (b) | Statistical Methods in Geography | 100 | | | | | |
| | DCC | GEG 506P | Cartography and Surveying | 100 | 0 | 0 | 2 | 0 | 2 |
| Semester VI | SEC | GEG 104S | Applied Geography | 100 | | | | 2 | |

Semester I
DISCIPLINE CENTRIC CORE COURSE
GEG501T - Physical Basis of Geography

Course Content

UNIT I: Origin of the earth; Interior of the earth; Theory of Isostasy ; Earth movement : Folds and faults (their types only); Rocks and their classification

UNIT II: Earthquake and Volcanoes; Major landforms: Mountains, plains, Plateaus and Lakes

UNIT III: Weathering and Denudation: Normal cycle of erosion; Work of rivers, glaciers, ground water and winds

UNIT IV: Atmosphere: Composition and Structure; Insolation and Temperature; Atmospheric Pressure and Winds, Humidity and Precipitation; Cyclones

UNIT V: Hydrosphere: Temperature of ocean water ; Salinity of Ocean ; Ocean Deposits; Configuration; Tides and currents

Books Recommended

1. Monkhouse, F.j. : Principles of physical Geography, Hodder sloughtpn, London, 1984
2. Sing, S. :Bhu-Arti Vigyan, Tara Publications, Varanasi, 1976
3. Daya, P. Bhu-Arti Vigan, Shukla Book Depot, Patna 1982
4. Agarwal, K.M.L. :Bhulik Bhugol, Sahitya Bhawan, Agra, 1988
5. Tikha, R.N. :Bhautik Bhugol, kedarnath Ramnath, Meerut, 1980
6. Dubey, R.N. :Bhautik Bhugol keAdhar, Kitab mahal, Allahabad, 1980
7. Mamoria, C.B. and Nyati, J.N. :Bhuss-Vigyan, Shiblalagarwal& co. , Agra,1983

GEG501P- Cartographic Techniques (Practical)

1. Scales – Concept and application; Graphical Construction of Plain, Comparative and Diagonal Scales.
2. Topographical Map – Interpretation of a Mountain area with the help of Cross and Longitudinal Profiles.
3. Slope Analysis – Wentworth's method.
4. Knowledge and use of meteorological instruments, Climatic graphs showing (i) Maximum, Minimum and Mean Temperature (ii) Monthly rainfall (iii) Monthly temperatures, rainfall and relative humidity (iv) Rainfall Variability (v) Histogram of Rainfall (vi) Hythergraph (vii) Climograph and (viii) Wind rose diagram
5. Chain and Tape Survey

Practical Record: A Practical Record file comprising all unit

Reading List

1. Anson R. and Ormelling F. J., 1994: *International Cartographic Association: Basic Cartographic Vol.* Pregmen Press.
2. Gupta K.K. and Tyagi, V. C., 1992: *Working with Map*, Survey of India, DST, New Delhi.
3. Mishra R.P. and Ramesh, A., 1989: *Fundamentals of Cartography*, Concept, New Delhi.
4. Monkhouse F. J. and Wilkinson H. R., 1973: *Maps and Diagrams*, Methuen, London.
5. Rhind D. W. and Taylor D. R. F., (eds.), 1989: *Cartography: Past, Present and Future*, Elsevier, International Cartographic Association.
6. Robinson A. H., 2009: *Elements of Cartography*, John Wiley and Sons, New York.
7. Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers, Meerut.
8. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers.
9. Sarkar, A. (2015) *Practical geography: A systematic approach*. Orient Black Swan Private Ltd., New Delhi
10. Singh R L & Rana P B Singh (1991) *Prayogtmak Bhugol ke Mool Tatva*, Kalyani Publishers, New Delhi Sharma, J P (2010) *Prayogtmak Bhugol ki Rooprekha*, Rastogi Publications, Meerut
11. Singh, R L & Dutta, P K (2012) *Prayogtmak Bhugol*, Central Book Depot, Allahabad

Semester II
DISCIPLINE CENTRIC CORE COURSE

GEG 502T

Human Geography

UNIT I: Definition, scope and principles of human geography ; its relationship with other Social science; Schools of human geography; Environmentalism, Possibilism and Neo-determinism

UNIT II: Geographic environment and man : Influence of major land forms, climate and water bodies on human activities ; Forms of adaptation to environment; human life in principal environments : Equatorial regions, Tropical deserts, Monsoon lands, Temperate grasslands, Mediterranean lands and Polar region

UNIT III: Races of Mankind : Criteria for classification; Classification schemes of krober, Haddon and G. Taylor; Population: growth, distribution and density in the world

UNIT IV: Human settlements: Site, forms and types ; House types with special reference to India

UNIT V:Urbanization : Meaning, growth and causes of Urbanization; Principal agglomerations of world functional classification of Indian cities; slums and associated problems with reference to India, Problems of urbanization and remedies.

Recommended Readings

1. Brunches, J. : Human Geography
2. Huntington, E ; The principles of Human Geography, John Wiley & Sons, N. Y.
3. Eperillou, A. V. Human Geography, Longmans, 1965
4. Money, D. C. : An Introduction to human Geography, U. I. P. London
5. Karan, M. P. : Manav bhugolkesidhant , kitabghar, Kanpur .
6. Mamoria , C. B. : Principles of Human Geography .
7. Dwivedi, R.L. & Singh R.L. : Manav Bhugol Ki Samiksha
8. Blache Vidal de la : Manav BhugolKe Siddhant (in Hindi)
9. Jain, : J.K. & Bohra, D,M. : Vishwa ka SansKritikBhugol, Academic Publishers, Jaipur, 1983
10. Leong, G.C. & Morgan, G.C. & morgan. G.c. : Human and Economic Geography, O.U.P., Oxford, 1986
11. Husain, Majid : Human Geography, Rawat Publications, Jaipur and Delhi.

GEG 502P

Socio Economic Survey

UNIT I: Field Work In Human Geography – Role, Value, Data and Ethics of Field-Work

UNIT II: Defining the Field and Identifying the Case Study – Rural / Urban / Human /Environmental.

UNIT III: Field Techniques – Merits, Demerits and Selection of the Appropriate Technique; Observation (Participant / Non Participant), Questionnaires (Open/ Closed / Structured / Non-Structured); Interview with Special Focus on Focused Group Discussions; Space Survey

UNIT IV: Use of Field Tools – Collection of Material for Surveys. Social Surveys.

UNIT V: Designing the Field Report – Aims and Objectives, Methodology, Analysis, Interpretation and Writing the Report.

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The duration of the field work should not exceed 10 days.
3. The word count of the report should be about **6000 to 10,000** excluding figures, tables, photographs, maps, references and appendices.
4. One copy of the report on A 4 size paper should be submitted in soft binding.

Recommended Readings

1. Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.
2. Dikshit, R. D. 2003. *The Art and Science of Geography: Integrated Readings*. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: “Participant Observation: The Researcher as Research Tool” in *Qualitative Methods in Human Geography*, eds. J. Eyles and D. Smith, Polity.
4. Mukherjee, Neela 1993. *Participatory Rural Appraisal: Methodology and Application*. Concept Pubs. Co., New Delhi.
5. Mukherjee, Neela 2002. *Participatory Learning and Action: with 100 Field Methods*. Concept Pubs. Co., New Delhi
6. Robinson A., 1998: "*Thinking Straight and Writing That Way*", in *Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences*, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
7. Special Issue on “Doing Fieldwork” *The Geographical Review* 91:1-2 (2001).

8. Stoddard R. H., 1982: *Field Techniques and Research Methods in Geography*, Kendall/Hunt.
9. Wolcott, H. 1995. *The Art of Fieldwork*. Alta Mira Press, Walnut Creek, CA.

Semester III

DISCIPLINE CENTRIC CORE COURSE

GEG 503T- GEOGRAPHY OF INDIA

Unit 1 : A study of India with reference to its Physiography, Drainage, Climate and Climate Divisions; Soils classification , Problems associated with soil and its remedies in India; Natural vegetation: types and distribution; Forest resources its Importance, Deforestation and measures of forest conservation in India.

Unit 2 : Principal Minerals :Iron ore, Manganese, Mica; Power resources: Coal, Petroleum, Natural gas, Uranium, Thorium and Hydroelectric; Major Industries: Iron and Steel, Cotton Textile, Sugar, Cement, Pulp and Paper

Unit 3 : Agriculture : Main characteristics and problem of Indian agriculture; Principal Agriculture crops: wheat, rice, sugarcane, tea and cotton; Irrigation-irrigation sources, Their distribution and major Irrigation Project of India: Bhakra Nangal Project, Damodar Valley corporation

Unit 4 : Population : Growth, Distribution and Density; Transport: Rail, Road, Water and Airways; India's foreign trade composition and trends; Concept of Smart city; SEZ(Special Economic Zone)

Unit 5 : Regional Geography of Kashmir valley, Chhota Nagpur Plateau, Malabar Coastal Region and Middle Ganga Plain

RECOMMENDED READINGS

Chauhan, V.S. : Bharat Vistrit Bhugol, Rastogi & Co., Meerut, 1985

Chaudhuri, M.R. : An Economic Geography of India, Oxford And IBH, Calcutta
Das, Gupta and Kapur : Bharat va Pakistan ka Arthik va Vanijya Bhugol, Premier Publishing, Delhi

Dubey, R.N. : Bharat ka Arthik Bhugol, Kitab Mahal, Allahabad

Jain, P. ; Bharat Mahan, Agra book store, Agra

Mamoria, C.B. : Bharat ka Bhugol, Sahitya Bhawan, Agra, 1988

Publications Division, Government of India Year Book, 1998

Singh, B. : Bharat ka Bhugol, Rajasthan Hindi Granth Academy, Jaipur

Sharma, T.C. and Coutinho, O. : Economic And Commercial Geography of India, Vikas Pub.House New Delhi, 1987

Singh. R.L. (ed.) : India A Regional Geography, National Geographical Society of India, Varanasi, 1981

Singh, U. : Bharat Ka Nawa Arithik Bhugol, Students, Friends, Varanasi

GEG 503P

Thematic Cartography (Practical)

Unit 1: Map filling: Showing geographical features (Mountains, Rivers, National Parks) in the Map of India; Soil distribution Map of India; Rainfall distribution Map Of India; vegetation distribution Map of India.

Unit 2: Distribution Map of India Resource Map (Iron, bauxite, Manganese, Mica, Coal, Petroleum and Natural Gas); Major Industries Map (Cotton Textile, Pulp and Paper and cement); Agriculture Map (Wheat, Rice, Tea, coffee, Sugarcane and Cotton).

Unit 3: Distribution Map and its types; representation of socio-cultural and economic Data by distribution maps: Population Density map of India, Population Distribution Map of India by Dot method.

Unit 4: Isopleth Map of India: Temperature (June and December), Pressure (June and December).

Unit 5: Plane Table Survey: Its Instruments and Methods (Radiation, Intersection and Traversing, Resectioning)

Practical Record: A Practical Record file comprising all unit

Recommended Readings :

Singh, R.L. : Elements of Practical Geography, Students Friends, Varanasi, 1987.

Singh, R. and Kanaujia, L.R.S. : Map Work and Practical Geography, Central Book

Depot, Allahabad.

Monkhouse, F.J. and Wilkinson, H.R. : Map and Liagrams, Methudn, London 1994.

Robinson, A.H.: Elements of Cartography, John Willey & Sons, New Yourk.

Mishra, R.P.: Fundamental of Cartography, Macmillan,

New Delhi. Kellay, Georgep : Map Projections, Mathuen

& Co., London. Steers, J.K. : Map Projections,

University of London Press, London.

Sharma, J.P.: PrayogikBhoogol, Rastogi Prkashan, Meerut.

Jain, S.M.: Prayogatmak, Boogol, Sahitya Bhagwan, Agra.

SKILL ENHANCEMENT COURSE

Semester III

GEG 101S

Introduction To Fieldwork in Geography

Syllabus content-

Unit I: Definition, Need and Objectives of field work in Geography.

Unit II: Methods and Techniques, Stages and Equipments of field work in Geography.

Unit III: Major Problems or Limitations of field work in Geography, Preparation of Project Report

Unit IV: Socio- Economic Field Survey of the Selected Localities

Books recommended

Singh, Gopal . 2012. *Map Work and Practical Geography*. Reprinted. Vikas Publishing House, Ltd. Noida, UP.

Singh, R.L and Rana, P.B. 2002. *Elements of Practical Geography*. Kalayani Publishers, New Delhi.

Khullar, D.R. 2000. *Essentials of Practical Geography*. New Academic Publishing Company Jalandhar. 25

Guha, P.K. 2008. *Remote Sensing for the Beginner*. East West Press Pvt. Ltd. New Delhi.

Lunsbury J.F. and Aldrich, F.T. 1979. *Introduction to Geographic Field Methods and Techniques*.

Charles E. Merrill Publishing Company, Columbus.

Semester IV
DISCIPLINE CENTRIC CORE COURSE
GEG504T
GEOGRAPHY OF RAJASTHAN

SYLLABUS

Unit 1 : Rajasthan – Introduction, Physiography and Physiographic divisions, Geological Structure, Climate, Soils and Natural Vegetation and Forest Resources.

Unit 2 : Drainage System of Rajasthan, Irrigation – Sources and types, Spatial aspects of development of ground water, Principal Irrigation Projects – Indira Gandhi Canal, Chambal Valley Project, Mahi Bajaj Sagar and Narmada Canal Project. Animal Husbandry : Numbers, types, Spatial Pattern and Principal breeds.

Unit 3 : Agriculture – types, Cropping Pattern, Agriculture Land use, Principal crops : Wheat, Maize, Bajra, Oil Seeds and Cotton, Problems of Agriculture, Agriculture regions of Rajasthan. Mineral resources : Distribution and reserves of important minerals. Industries – Textile, Sugar, Cement, Marble, Zinc, Copper and Petroleum. Conventional and non-conventional resources of Energy, Transport and Trade.

Unit 4 : Culture and demography aspects – Population, Number, Growth, Distribution and Density, Literacy, Sex ratio, Occupational structure and Population problems, Tribal population – Distribution, Principal tribes – Bhils, Meena, Garasia and Sahariya. Rural Settlement : Growth, Pattern, Types and Building material, Tourism in Rajasthan – Geographical perspective.

Unit 5 : Geographical Regions of Rajasthan, A detailed study of Marusthali, Aravali Region, Eastern Agro Industrial Region and Hadauti Region. Problem of Drought and Desertification. Special Area development programmes. Hazards management in Rajasthan.

RECOMMENDED READINGS

1. Gupta & Prakash (ed.) : Environmental Analysis of Thar Desert, English Books Depot, Dehradun, 1979

SKILL ENHANCEMENT COURSE

Semester IV GEG 102S

Environmental Degradation, Natural Hazards and Their Mitigation

Syllabus content-

Unit I: Environmental issues: Depletion of ozone Layer, Ecological significance of ozone, protection of ozone layer; Acid rain- causes and effects.

Unit II: Global warming: Concept, Causes and effects of global warming

Unit III: Natural Hazards and their Mitigation: Meaning and Types of hazards- Earthquake, cyclones, cloud Burst, Tsunami, Flood, Avalanches and their mitigation Strategies

Unit IV: Environmental pollution: Air pollution, water pollution, soil pollution, noise pollution.

Books Recommended

Singh, Savindra. 2012. *Environmental Geography. Reprinted.* Prayag Pustak Bhawan, Allahabad

Gautam, Alka. 2010. *Environmental Geography.* Sharda Pustak Bhawan, Allahabad, UP.

Shitole, G.Y. 2012. *Environmental Degradation Issues and Challenges. Serials Publications, NewDelhi*

Khullar, D.R. 2009. *India: A Comprehensive Geography.* Kalyani Publisher, New Delhi.

Discipline Specific Elective Course

Semester V

GEG 505T (a)ENVIRONMENTAL GEOGRAPHY

- Unit 1: Definition and Scope of Environmental Geography: Its Relationship with Other Subjects; Elements of Environment.
- Unit 2: Ecology: Definition, Types; Ecosystem: Meaning, Types, Components, Functioning, Geo-Biochemical Cycles: Carbon, Nitrogen
- Unit 3: Environments Problems: Causes, Environmental Pollution: Air, Water, Soil and Noise, Measure for Control
- Unit 4: Environmental Hazards: Ozone Depletion, Green House Effect, El-Nino, Global Warming, Acid Rain, Health Hazards and Energy Crisis
- Unit 5: Ecological Basis of Environmental Management: Conservation of Natural Resources: Soil, Water, Forests, Minerals and Energy; National and International Efforts on Environmental Management

RECOMMENDED READINGS

Arvilla, R: Man and Environmental: Crisis and Strategy of Choice, Penguin, Hammonds – Worth, 1967.

Botkin, D.B. and E.A. Keller: Environmental Studies, C.F. Merrill Pub. Co. Columbus, Ohio, 1982.

Chandna R. C.: Environmental Geography, Kalyani, Ludhiana, 2002.

Cunningham W. P. and Cunningham M. A.: Principals of Environmental Science: Inquiry and Applications, Tata Macgraw Hill, New Delhi 2004.

Edington J.M. and M.A. Edington: Ecology and Environmental Planning, Champan and Hall, London,1977.

Jonathan T : Introduction to Environmental Studies Sunders College Publishing, Philadilphia Holt-Saunders, Japan, 1985.

M.I.T. : Study of Critical Environmental Problems, The M.I. T. Press, Cambridge, Massachusetts, 1970.

Mal, Suraj., and Singh, R.B. (Eds.) (2009) Biogeography and Biodiversity. Rawat Publication, Jaipur

Miller G. T.: Environmental Science: Working with the Earth, Thomson Brooks Cole, Singapore 2004.

MoEF: National Environmental Policy-2006, Ministry of Environment and Forests, Government of India 2006.

Odum, E. P. et al: Fundamentals of Ecology, Ceneage Learning India 2005.

Park C. C.: Ecology and Environmental Management, Butterworths, London, 1980.

Singh, P. : Environmental Pollution and Management, Chugh Publication, Allahabad, 1985.

Singh, R.B. Ecological Techniques and Approaches to Vulnerable Environment, New Delhi, Oxford & IBH Pub. (1998).

Singh, R.B. and Hietala, R. (Eds.) Livelihood security in Northwestern Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh, India. Advances in Geographical and Environmental Studies, Springer (2014)

UNEP: Global Environment Outlook: GEO4: Environment For Development, United Nations Environment Programme reports.

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GEG 505T (b)

World Regional Geography

Unit 1: Introduction to World Regional Geography Physiography,vegetation and soils

Unit 2: Europe Economic, Agriculture,Population Distribution Special Study- Eastern and Western European Economic Region

Unit 3: North and South Americas Economic, Agriculture,Population Distribution Special Study- Regional Economic Development of USA and , Brazil

Unit 4: Africa, Oceania Economic, Agriculture, Population Distribution Special Study: Australia, Desert and Tribes of Africa, Egypt

Unit 5: Asia Economic, Agriculture, Population Distribution, Agriculture, Special Study: Indian Subcontinent, Japan

Reference Books:

1. Cole, J., A Geography of the World's Major Regions, Routledge, London, 1996.
2. Cole, J. P., Latin America - Economic and Social Geography, Butterworth, USA, 1975.
3. Cole, M. M., South Africa, Dutton, New York, 1961.
4. de Blij, H. J., Geography: Regions and Concepts, John Wiley & Sons Inc., New York, 1994.
5. Dickenson, J. P. et al., The Geography of the Third World, Routledge, London, 1996.
6. Gourou, R., The Tropical World, Longman, London, 1980.
7. Jackson, R. H. and L. E. Hudman, World Regional Geography: Issues for Today, John
8. Kolb, A., East Asia: Geography of a Cultural Region, Methuen, London, 1977.
9. Minshull, G. N., Western Europe, Hodder & Stoughton, New York, 1984.
10. Patterson, J. H., Geography of Canada and the United States, Oxford University Press, 1985.
11. Songquiao, Z., Geography of China, John Wiley & Sons Inc., New York, 1994.
12. Ward, R. W. and A. Miller, World Regional Geography: A Question of Place, John Wiley & Sons Inc., New York, 1989.
13. Majid Hussain - Fundamentals of Physical Geography, Rawat Publications, New Delhi
14. Goh Cheng Leong - Certificate Physical and Human Geography, Oxford University Press New Delhi
15. Khanna K K, Gupta VK - Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi.
16. Renu Bala - Text book of Geography, Ankit Publishing House, New Delhi.
17. Qazi S A, Navaid Shabir Qazi - Geography of the World, APH Publishing Corporation, New Delhi.
18. Alka Gautam (2007) - World Geography, Sharda Pustak Bhawan, Allahabad.
19. Christopher L Satter, Joseph J Hobbs - Essentials of World Regional Geography, Thompson Books.
20. Lal DS - Climatology, Sharda Pustak Bhawan, Allahabad pp. 340-375.

21. Robinson H - World Regional Geography.
22. Tikka, Bali, Sekhon (2007) - World Regional Geography, New Academic Publishing Co., Jalandhar.

GEG 505P Cartography and Environmental Mapping

1. Study and interpretation of topographical sheets of typical areas of India;
2. Scheme of Indian topographical sheets with a complete knowledge of their latest version
3. Profile drawing: serial, super-imposed, composite and projected; Knowledge of vertical exaggeration
4. Geographical construction of following map projections: cylindrical projection; Simple Cylindrical (Equidistant), Cylindrical Equal Area, Mercator
5. Reports: IPCC, MoEF, State of India's Environment reports with vulnerability area mapping

Practical Record: A Practical Record file comprising all unit with report

RECOMMENDED READINGS

Sing, R.L. : Elements of Practical Geography, Students Friends, Varanasi, 1987.

Singh, R. and Kanaujia, L.R.S. : Map work and Practical Geography, Central Book Depot, Allahabad.

Monkhouse, F.J. and Wilkinson, H.R. Map and Diagrams, Methuen, London 1994.

Robinson, A.H. : Elements of Cartography, John Wiley & Sons, New York.

Mishra, R.P.: Fundamental of cartography, Macmillan, New Delhi.

Kellay, George : Map Projections, Methuen & Co., London.

Steers, J.K. : Map Projections, University of London Press, London.

Sharma, J.P. :PrayogikBhoogol, Rastogi Prakashan, Meerut.

Jain, S.M.: Prayogatmak, Bhoogol, Sahitya Bhawan, Agra.
Reports: IPCC Assessment Reports, MoEF India's Reports

SKILL ENHANCEMENT COURSE

Semester V

GEG 103S

Remote Sensing and GIS

Syllabus content-

Unit I: Electromagnetic Spectrum ,Aerial Photographic And Satellite Image Interpretation, Digital Cartography.

Unit II: Meaning, Components and Importance of GIS; Meaning and Concept of Remote Sensing (RS) ;Data models:Raster and Vector.

Unit III:Geological time scale, Highland and Lowland Regions , Tropical Deserts, Rainfall and its Types ,Western Disturbances, Social Forestry ,Temperate Grasslands

Unit IV: Shape & Size of Earth: Geoid, Spheroid and Ellipsoid , Concept of Coordinate System Albedo, Green House Effect, ENSO

Recommended Readings:

Singh, R.L and Rana, P.B. 2002. *Elements of Practical Geography*. Kalayani Publishers, New Delhi.

Khullar, D.R. 2000. *Essentials of Practical Geography*. New Academic Publishing Company, Jalandhar.25

Guha, P.K. 2008. *Remote Sensing for the Beginner*. East West Press Pvt. Ltd. New Delhi.

Panda, B.C. 2005. *Remote Sensing – Principles and Applications*. Viva Books Pvt. Ltd., New Delhi

Compbell, J. 1989. *Introduction to Remote Sensing*. Guilford, New York.

Semester VI

Discipline Specific Elective Course

GEG 506T (a) ECONOMIC GEOGRAPHY

- Unit 1 : Nature, scope and methods of economic geography ; economic resources; their classification and conservation; fundamental occupations of man: fishing and livestock raising
- Unit 2 : Agriculture : subsistence, intensive commercial grain farming, plantation agriculture and mixed farming, dairying; principal agricultural crops: wheat, rice, maize, tea, coffee, rubber, cotton, sugarcane and sugar beet
- Unit 3 : Minerals : Iron ore, Manganese and Copper ore; Sources of power: Coal, Petroleum, Hydroelectricity and Nuclear
- Unit 4 : Industries : Iron and Steel, Cotton Textile, Pulp and Paper, Major Industrial Regions: The Lake region of U.S.A., Ruhr basin of Germany and Manufacturing belts of Japan.
- Unit5 : Transportation : Rail, Water-major ocean routes and inland waterways of Europe, former USSR; Air-factors affecting air transportation, Principal air-routes of the world; International trade: Bases of international trade; barriers to trade and pattern of world trade

GEG 506T (b) Statistical Methods in Geography

Unit1. Use of Data in Geography: Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio).

Unit 2. Tabulation and Descriptive Statistics: Frequencies (Deciles, Quartiles), Cross Tabulation,

Unit 3. Central Tendency (Mean, Median and Mode,

Unit 4. Dispersion (Standard Deviation, Variance and Coefficient of Variation).

Unit 5. Association and Correlation: Rank Correlation, Product Moment Correlation, and Simple Regression.

Reading List

1. Berry B. J. L. And Marble D. F. (eds.): Spatial Analysis – A Reader in Geography.
2. Ebdon D., 1977: Statistics in Geography: A Practical Approach.
3. Hammond P. And McCullagh P. S., 1978: Quantitative Techniques in Geography: An Introduction, Oxford University Press.
4. King L. S., 1969: Statistical Analysis in Geography, Prentice-Hall.
5. Mahmood A., 1977: Statistical Methods in Geographical Studies, Concept.
6. Pal S. K., 1998: Statistics for Geoscientists, Tata McGraw Hill, New Delhi.
7. Sarkar, A. (2013) Quantitative geography: techniques and presentations. Orient Black Swan Private Ltd., New Delhi
8. Silk J., 1979: Statistical Concepts in Geography, Allen and Unwin, London.
9. Spiegel M. R.: Statistics, Schaum's Outline Series.
10. Yeates M., 1974: An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.
11. Shinha, Indira (2007) Sankhyikibhugol. Discovery Publishing House, New Delhi

GEG 506P

Cartography and Surveying

Syllabus:

1. Geographical construction of following map projections: Conical Projection: One standard parallel, Two standard parallel, Bonne, Poly-Conic,

2. Geographical construction of following map projections: Zenithal Projection (Polar (Case only): Equidistant, equal area, Gnomonic, Stereographic, Orthographic
3. Measure of Central Tendency: Mean, Median Mode and Standard Deviation
4. Prismatic Compass Survey: Corrections of Bearings and Closing of errors by Bowditch method
5. Socio Economic survey report of Village/Panchayat/Block

Practical Record: A Practical Record file comprising all unit with report

RECOMMENDED READINGS

Sing, R.L. : Elements of Practical Geography, Students Friends, Varanasi, 1987.

Singh, R. and Kanaujia, L.R.S. : Map work and Practical Geography, Central Book Depot, Allahabad.

Monkhouse, F.J. and Wilkinson, H.R. Map and Liagrams, Methudn, London 1994.

Robinson, A.H. : Elements of Cartography, Jonh Willy & Sons, New York.

Mishra, R.P.: Fundamental of cartography, Macmillan, New Delhi.

Kellay, Geogrp : Map Projections, Methuen & Co., London.

Steers, J.K. : Map Projections, University of London Press, London.

Sharma, J.P. :PrayogikBhoogol, Rastogi Prkashan, Meerut.

Jain, S.M.: Prayogatmak, Bhoogol, Sahitya Bhawan, Agra.

SKILL ENHANCEMENT COURSE

Semester VI

GEG 104S

Applied Geography

Syllabus Content-

Unit I: Elementary knowledge of Remote Sensing, GIS, GPS and Satellite Imagery, Directions: Cardinal Directions, Primary Inter-Cardinal, and Secondary Inter-Cardinal.

Unit II: Geographic Locations: Continents and Oceans; Nation-State Capitals, Metropolitan Cities of the World, Mountains and Rivers.

Unit III: Motions of Earth: Rotation and Revolution of Earth and their effects, Dimension of Earth, Shape & Size, Geoids, Spheroid and Ellipsoid.

Unit IV: Locational system, dates and time: Latitude, Longitude and Graticule; Time Zones and International Date Line

Books recommended

Gautam, Alka. 2004. *Climatology and Oceanography*. Rastogi Publication-Meerut, UP.

Singh, Savindera. 2009. *Physical Geography*. Vasundhra Publications, Gorkhpur, UP.

Goh Cheng Leong. 1995. *Certificate Physical and Human Geography*, Oxford University press, New Delhi

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester I, II, III, IV, V, VI

CA and EoSE will be as per University NEP ordinance

In each Practical Group the number of student will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 70

Duration :03 Hrs.

1. Lab Work (Written paper) : 01.30 Hours 40 Marks
2. Record Work & Viva :30Minutes 10+5 = 15 Marks
3. Field Survey & Viva Voce :01 Hours 10+5=15 Marks

Total Marks: 70 Marks