

H.N.B. Garhwal University, Srinagar (Garhwal)

(A Central University)

B.A./B.Sc. GEOGRAPHY

Core Courses:

Semester I

1. Physical Geography
2. Practical-I

Semester II

1. Human Geography
2. Practical-II

Semester III

5. Geographical Thought
6. Practical-III

Semester IV

7. Environmental Geography
8. Practical-IV

Semester V

9. Practical - V

Semester VI

10. Practical - VI

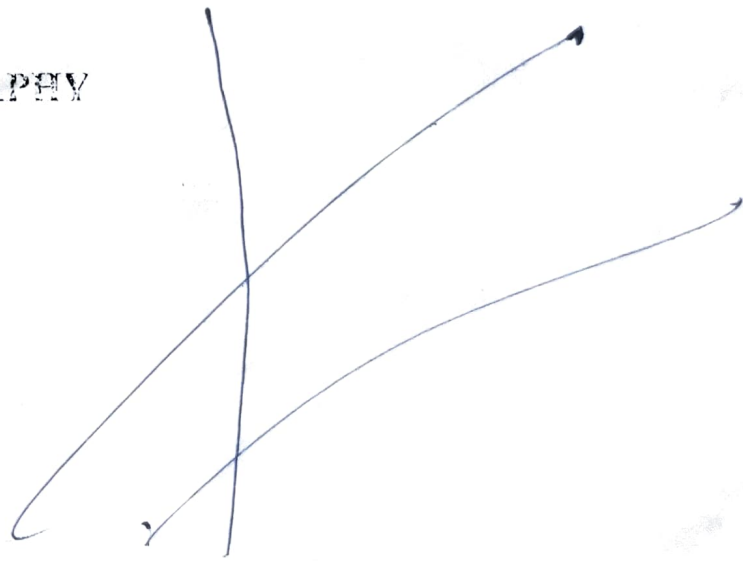
Skill Enhancement Course:(Two Elective Courses)

Semester III

1. Regional Planning and Development

OR

Semester IV



1. Remote Sensing and GPS based Project Report

Semester V

2. GIS based Project Report (Practical) ✓
OR

Semester VI

3. Field Techniques and Survey based Project Report (Practical)

Discipline Specific Elective Papers :(Two Compulsory Courses) ✓

Semester V

1- Geography of India ✓

Or

Disaster Management ✓

Semester VI

2. Economic Geography

Or

Geography of Tourism

Generic Elective (2): ✓

Semester V

1. Disaster Risk Reduction ✓

Or

World Geography

Semester VI

2. Sustainability and Development

Or

Geography of India

BA/ B.Sc GEOGRAPHY

Semester Scheme

Semester I -	Core 1:	Physical Geography (4 Credits) Practical I – Core: (2 Credits)
Semester II-	Core 2:	Human Geography (4 Credits) Practical II – Core: (2 Credits)
Semester III-	Core 3:	Geographical Thought (4 Credits) Practical III - Core: (2 Credits)
Semester IV-	SEC 1 - Core 4:	Regional Planning and Development (2 Credits) or Environmental Geography (4 Credits) Practical IV – Core: (2 Credits)
Semester V-	SEC 1 - DSE 1	Remote Sensing and GPS based project work(2 Credits) Geography of India (4 Credits), Or Disaster Management (4 Credits) Practical V – Core: (2 Credits),
Semester VI-	SEC II - DSE 2-	GIS based project report (2 Credits) or Economic Geography (4 Credits) ✓ Or Geography of Tourism (4 Credits) Practical VI – Core: (2 Credits) — 30+70
	SEC II -	Field Techniques and Survey based Project Report (2 Credits) 1h + cx 30 + 70
Generic Elective Courses		
Semester V -	GE -1	Disaster Risk Reduction Or World Geography
Semester VI --	GE - 2	Sustainability and Development Or Geography of India 30

Abbreviation:

SEC.: Skill Enhancement Course ✓
DSE.: Discipline Specific Elective Course
GE. : Generic Elective Course ✓

B.A./B.Sc. Geography

Core Courses:

1. Physical Geography (Core: 4 Credits)

1. Physical Geography – Definition and Scope, Components of Earth System.
2. Atmosphere – Heat Balance, Global Circulation Pattern, Tropical Cyclones, Monsoon, Climatic Classification (Koppen).
3. Lithosphere – Internal Structure of Earth based on Seismic Evidence, Plate Tectonics and its Associated Features.
4. Fluvial Cycle of Erosion – Davis and Penck.
5. Hydrosphere – Hydrological Cycle, Ocean Bottom Relief Features, Tides and Currents.

Reading List

1. Conserva H. T., 2004: Illustrated Dictionary of Physical Geography, Author House, USA.
2. Gabler R. E., Petersen J. F. and Trapasso, L. M., 2007: Essentials of Physical Geography (8th Edition), Thompson, Brooks/Cole, USA.
3. Garrett N., 2000: Advanced Geography, Oxford University Press.
4. Goudie, A., 1984: The Nature of the Environment: An Advanced Physical Geography, Basil Blackwell Publishers, Oxford.
5. Hamblin, W. K., 1995: Earth's Dynamic System, Prentice Hall, N.J.
6. Husain M., 2002: Fundamentals of Physical Geography, Rawat Publications, Jaipur.
7. Monkhouse, F. J. 2009: Principles of Physical Geography, Platinum Publishers, Kolkata.
8. Strahler A. N. and Strahler A. H., 2008: Modern Physical Geography, John Wiley & Sons, New York.

Practical-I (Core 2 Credits)

- a. Scale-Definition and importance, construction of simple, comparative and diagonal scale.
- b. Topo sheets- indexing, scale and conventional signs.
- c. Study and interpretation of one inch/1:50000, Survey of India Toposheets with special reference to landscape features, drainage characteristics, land use, settlements, transport and other routes.
- d. landform features based on contours and profile drawn on them.

Division of Marks (Exam- departmental committee appointed by HOD)

- a. Lab Work-one question from each section with internal choice (duration three hours-50 MM)
- b. Sessional record and viva-voce- 10+10

Reading List

1. Dent B. D., 1999: *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., 1992: *Working with Maps*, Survey of India, DST, New Delhi.
3. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept Publishing.
4. Robinson A., 1953: *Elements of Cartography*, John Wiley.
5. Sharma J. P., 2010: *Pravogic Bhugol*, Rastogi Publishers.

- Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
- Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications
- Steers J. A., 1965: *An Introduction to the Study of Map Projections*, University of London.

3. Human Geography (Core, 4 Credits)

1. Definition, Nature, Major Subfields, Contemporary Relevance.
2. Space and Society: Cultural Regions; Race; Religion and Language
3. Population: Population Growth and Demographic Transition Theory.
4. World Population Distribution and Composition (Age, Gender and Literacy).
5. Settlements: Types and Patterns of Rural Settlements; Classification of Urban Settlements; Trends and Patterns of World Urbanization

Reading List

1. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
2. Daniel, P.A. and Hopkinson, M.F. (1989) The Geography of Settlement. Oliver & Boyd, London.
3. Johnston R; Gregory D. Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
4. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, New York.
5. Kaushik, S.D. (2010) Manav Bhugol, Rastogi Publication, Meerut.
6. Maurya, S.D. (2012) Manav Bhugol, Sharda Pustak Bhawan, Allahabad.
7. Ghosh, S. (2015) Introduction to settlement geography. Orient Black Swan Private Ltd., Kolkata
8. Hussain, Majid (2012) Manav Bhugol. Rawat Publications, Jaipur

Practical II (Core 2 Credits)

- a. Maps- Definition, basic concepts and classification, Map composition.
- b. Map Projections- classification, properties, choice, and merits and demerits.
- c. Construction of Conical projection with one and two standard parallel. Bonne's, cylindrical equal area, Mercator's, and Polar Zenithal Equal Area map projection.
- d. Study and interpretation of Indian Daily Weather Report Maps/reports of January, June and July.

Division of Marks (External & Internal Examiners will be appointed by the university)

- a. Lab Work-One question from each section with internal choice (duration three hours-50 MM)
- b. Sessional record and viva-voce- 10+10

Reading List.

1. Dent B. D., 1999: *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., 1997: *Working with Maps*, Survey of India, DST, New Delhi.
3. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept Publishing.
4. Robinson A., 1953: *Elements of Cartography*, John Wiley.
5. Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers.
6. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
7. Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
8. Steers J. A., 1965: *An Introduction to the Study of Map Projections*, University of London

Geographical Thought (Core, 4 Credits)

1. Definition, Nature and Scope of Geography, Branches and sub branches of Geography, Basic concepts of Geography
2. Contribution of Greek and Roman Geographers-Ptolemy and Strabo. Arab Geographers. Contribution of Geographical knowledge in ancient and medieval India, Renaissance in Geography, Discoveries and inventions, Contribution of Varenius and Immanuel Kant
3. German and French School of Geography; Humboldt, Ritter, Ratzel, Hattner, Hartshorne, Blache and Brunhes
4. Anglo-American School of Geography- Davis, EC. Semple, Huntington, Isaiah Bowman, Mackinder, Herbertson, and Stamp.

geography in India (after independence); Recent trends in Geography

Selected Readings:

1. Dickenson. R. E. – The Makers of Modern Geography. Rutledge and Kegan London
2. Freeman . T.W. – A Hundred Years of Geography, London.
3. Jones and Martin – All Possible World – A History of Geographical Ideas. Odessey, Indianapolis (USA)
4. Halt Jensen A. – Geography- Its History and Concepts , Harper and Raw London.
5. Dixit R.D. – Geographical Thought – A Contextual History of Ideas .Prentice Hall, New Delhi
6. Kaushik S.D. – Bhaugolik Vichardharayen (Hindi) – Sahitya Bhawan Pub. Agra.
7. Hussain Majid - Evolution of Geographical Thought (English And Hindi)Rawat Publication jaipur.
8. Taylor. G. Geography in Twentieth Century; London.
9. Jagdish Singh - Bhaugolik Chintan ka Kram vikas (Hindi) Gyanodaya . Gorakhpur

Practical-III (Core 2 Credits)

- a. Primary and secondary data and their sources, methods of primary data collection, classification of statistical data and tabulation.
- b. Frequency curve, histogram and polygon, Measures of Central Tendency- Mean, Median, Mode.
- c. Measures of dispersion- Quartile, Standard Deviation and coefficient of Variation.
- d. Coefficient of Correlation- Karl Pearson's and Spearman's methods, Scatter Diagrams.

Division of Marks (Exam- departmental committee appointed by HOD)

- a. Lab Work-one question from each section with internal choice (duration three hours-50 MM)
- b. Sessional record and viva-voce- 20

Reading List

1. Dent B. D., 1999: *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., 1992: *Working with Maps*, Survey of India, DST, New Delhi.
3. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept Publishing.
4. Robinson A., 1953: *Elements of Cartography*, John Wiley.
5. Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers.
6. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
7. Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
8. Steers J. A., 1965: *An Introduction to the Study of Map Projections*, University of London.

4. Environmental Geography (Core, 4 Credits)

1. Environmental Geography: Concepts and Approaches: Ecosystem – Concept and Structure; Ecosystem Functions.
2. Human-Environment Relationship in Equatorial, Desert, Mountain and Coastal Regions.
3. Environmental Problems and Management: Air Pollution; Biodiversity Loss; Solid and Liquid Waste.
4. Environmental Programmes and Policies: Developed Countries; Developing Countries.
5. New Environmental Policy of India: Government Initiatives.

Reading List

1. Casper J.K. (2010) *Changing Ecosystems: Effects of Global Warming*. Infobase Pub. New York.
2. Hudson, T. (2011) *Living with Earth: An Introduction to Environmental Geology*, PHI Learning Private Limited, New Delhi.
3. Miller, G.T. (2007) *Living in the Environment: Principles, Connections, and Solutions*. Brooks/ Cole Cengage Learning, Belmont.
4. Singh, R.B. (1993) *Environmental Geography*, Heritage Publishers, New Delhi.
5. UNEP (2007) *Global Environment Outlook: GEO4: Environment For Development*, United Nations Environment Programme. University Press, Cambridge.
6. Wright R. T. and Boorse, D. F. (2010) *Toward a Sustainable Future*, PHI Learning Pvt Ltd, New Delhi.
7. Singh, R.B. and Hietala, R. (Eds.) (2014) *Livelihood security in North-western Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh*.

1. Advances in Geographical and Environmental Studies, Springer
2. Singh, Savindra 2001. *Paryavaran Bhugol*, Prayag Pustak Bhawan, Allahabad. (in Hindi)
3. Teli, BL, 2005, Paryavaraniya Adhayan. College Book Depot, Jaipur

Practical-IV(Core 2 Credits)

- a. Statistical Diagrams- Simple, Compound and Multiple Bar Diagram, Ring or Circle diagram, Simple and polyline graph, Hyther graph and Climograph.
- b. Distribution maps- Isopleths, Choropleth, Layer Tint and Dot method.
- c. Identification of rock outcrops, bedding planes, determinants of dip and thickness- simple and folded (Geological cross section drawing)

Division of Marks - (External & Internal Examiners will be appointed by the university)

- a. Lab Work-one question from each section with internal choice (duration three hours-50 Marks)
- b. Sessional record and viva-voce- 10+10 Marks

Reading List

1. Dent B. D., 1999: *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., 1992: *Working with Maps*, Survey of India, DST, NewDelhi.
3. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept Publishing.
4. Robinson A., 1953: *Elements of Cartography*, John Wiley.
5. Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers.
6. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
7. Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
8. Steers J. A., 1965: *An Introduction to the Study of Map Projections*, University of London.

Practical V (Core 2 Credits)

- a. Surveying- Meaning, Types and Methods
- b. Prismatic Compass Survey- open and close traverse.
- c. Use and handling of GPS.

Division of Marks (Exam- departmental committee appointed by HOD)

- a. Two field survey Exercises -duration Four hours-(40 marks)
- b. GPS, Sessional record and viva-voce- 10+10+10

Reading List

1. Dent B. D., 1999: *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., 1992: *Working with Maps*, Survey of India, DST, New Delhi.
3. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept Publishing.
4. Robinson A., 1953: *Elements of Cartography*, John Wiley.
5. Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers.
6. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
7. Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
8. Steers J. A., 1965: *An Introduction to the Study of Map Projections*, University of London.

Practical-VI Core 2 Credits)

- a. Plane Table Survey- Radiation and Intersection Methods.
- b. Use and handling of Indian Clinometers.
- c. GIS and Remote Sensing Definition, Use and Application in Geography

Division of Marks (External & Internal Examiners will be appointed by the university)

One field survey exercises with clinometers) (duration: four hours-a.20 and b. 10 marks) $20+10=30$

GIS and Remote Sensing exercise-20 Marks

Sessional record and viva-voce- 10+10 marks.

Reading List

1. Dent B. D., 1999: *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., 1992: *Working with Maps*, Survey of India, DST, NewDelhi.
3. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept Publishing.

- Robinson A., 1953: *Elements of Cartography*, John Wiley.
- Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers.
- Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
7. Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
8. Steers J. A., 1965: *An Introduction to the Study of Map Projections*, University of London.

Skill Enhancement Course (2 Compulsory Papers):

1. Regional Planning and Development (2 Credits)

1. Concept, Need and Types of regional Planning.
2. Characteristics and Delineation of Planning Region.
3. Regionalization of India for Planning (Agro Ecological Zones).
4. Models for Regional Planning: Growth Pole Theory; Core Periphery Model and Growth Foci Concept in Indian Context.
5. Backward Regions and Regional Plans- Special Area Development Plans in India; DVC-The Success Story and the Failures; NITI Aayog.

Reading List

1. Blij H. J. De, 1971: *Geography: Regions and Concepts*, John Wiley and Sons.
2. Claval P.I, 1998: *An Introduction to Regional Geography*, Blackwell Publishers, Oxford and Massachusetts.
3. Friedmann J. and Alonso W. (1975): *Regional Policy - Readings in Theory and Applications*, MIT Press, Massachusetts.
4. Gore C. G., 1984: *Regions in Question: Space, Development Theory and Regional Policy*, Methuen, London.
5. Gore C. G., Köhler G., Reich U-P. and Ziesemer T., 1996: *Questioning Development: Essays on the Theory, Policies and Practice of Development Intervention*, Metropolis- Verlag, Marburg.
6. Haynes J., 2008: *Development Studies*, Polity Short Introduction Series.
7. Johnson E. A. J., 1970: *The Organization of Space in Developing Countries*, MIT Press, Massachusetts.
8. Peet R., 1999: *Theories of Development*, The Guilford Press, New York.
9. UNDP 2001-04: *Human Development Report*, Oxford University Press.
10. World Bank 2001-05: *World Development Report*, Oxford University Press, New

Or

2. Remote Sensing and GPS based Project Report (Practical) (2 Credits)

1. Remote Sensing: Definition, Development, Platforms and Types.
 2. Aerial Photography: Principles, Types and Geometry.
 3. Satellite Remote Sensing: Principles, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.
 4. Interpretation and Application of Remote Sensing: Land use/ Land Cover.
 5. Global Positioning System (GPS) – Principles and Uses
- Practical Record:** A project file consisting of five exercises will be done from aerial photos, satellite images (scale, orientation and interpretation) and GPS field survey.

Note- Project Report will be evaluated by the internal examiner appointed by HOD

Reading List

1. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
3. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
5. Nag P. and Kudra. M., 1998: *Digital Remote Sensing*, Concept, New Delhi.

- Jeon W. G., 2001: *Physical Principles of Remote Sensing*. Cambridge University Press.
- Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry With Applications in GIS*, McGraw-Hill.

3. GIS based Project Report (2 Credits)

1. Geographical Information System (GIS): Definition and Components.
2. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure
3. GIS Data Analysis: Input, Geo-Referencing, Editing and Output, Overlays.
4. Application of GIS in Land Use/Land Cover Mapping.
5. Application of GIS in Urban Sprawl and Forests Monitoring

Practical Record A project file consisting of 5 exercises on using any GIS Software on above mentioned themes.

Note- Project Report will be evaluated by the internal examiner appointed by HOD

Reading List

1. Bhatta, B. (2010) *Analysis of Urban Growth and Sprawl from Remote Sensing*, Springer, Berlin Heidelberg, 41
2. Burrough, P.A., and McDonnell, R.A. (2000) *Principles of Geographical Information System-Spatial Information System and Geo-statistics*. Oxford University Press
3. Chauniyal, D.D. (2010) *Sudur Samvedan evam Bhogolik Suchana Pranali*, Sharda Pustak Bhawan, Allahabad
4. Heywoods, I., Cornelius, S and Carver, S. (2006) *An Introduction to Geographical Information system*. Prentice Hall.
5. Jha, M.M. and Singh, R.B. (2008) *Land Use: Reflection on Spatial Informatics Agriculture and Development*. New Delhi: Concept.
6. Nag, P. (2008) *Introduction to GIS*. Concept India, New Delhi.
7. Sarkar, A. (2015) *Practical geography: A systematic approach*. Orient Black Swan Private Ltd., New Delhi
8. Singh, R.B. and Murai, S. (1998) *Space Informatics for Sustainable Development*, Oxford and IBH, New Delhi.

Or

4. Field Techniques and Survey based Project Report (2 Credits)

1. Field Work in Geographical Studies – Role, Value and Ethics of Field-Work.
2. Defining the Field and Identifying the Case Study – Rural / Urban / Physical / Human / Environmental.
3. Field Techniques – Merits, Demerits and Selection of the Appropriate Technique; Observation (Participant / Non Participant).
4. Questionnaires (Open/ Closed / Structured / Non-Structured); Interview with Special Focus on Focused Group Discussions; Space Survey (Transects and Quadrants, Constructing a Sketch).
5. 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 8000 to 12,000 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

Note- The Field Work Report will be evaluated by the external examiner appointed by the University
Marks Distribution: Report Evaluation-50 Marks , Viva-voce- 20 Marks

Reading List

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.

Discipline Specific Elective Papers (2 Compulsory Papers)

1. Geography of India (4 Credits)

1. Physical Setting – Location, Structure and Relief, Drainage, Climate.
2. Population – Size and Growth since 1901, Population Distribution, Literacy, Sex Ratio.
3. Settlement System - Rural Settlement Types and Patterns, Urban Pattern.
4. Resource Base – Livestock (cattle and fisheries), Power (coal and hydroelectricity), Minerals (iron ore, petroleum and bauxite).
5. Economy – Agriculture (Rice, Wheat, Sugarcane, Tea, Cotton); Industries (Cotton Textile, Iron-Steel, Automobile), Transportation Modes (Road and Rail).

Reading List

1. Hussain M., 1992: *Geography of India*, Tata McGraw Hill Education.
2. Mamoria C. B., 1980: *Economic and Commercial Geography of India*, Shiva Lal Agarwala.
3. Miller F. P., Vandome A. F. and McBrewster J., 2009: *Geography of India: Indo- Gangetic Plain, Thar Desert, Major Rivers of India, Climate of India, Geology of India*, Alpha script Publishing.
4. Nag P. and Sengupta S., 1992: *Geography of India*, Concept Publishing.
5. Pichamuthu C. S., 1967: *Physical Geography of India*, National Book Trust.
6. Sharma T. C. and Coutinho O., 1997: *Economic and Commercial Geography of India*, Vikas Publishing.
7. Singh Gopal, 1976: *A Geography of India*, Atma Ram.
8. Spate O. H. K. and Learmonth A. T. A., 1967: *India and Pakistan: A General and Regional Geography*, Methuen.
1. Rana, Tejbir Singh, 2015. *Diversity of India*, R.K. Books, Delhi.

OR

Disaster Management (4 Credits)

1. Hazards, Risk, Vulnerability and Disasters: Definition and Concepts.
2. Disasters in India: (a) Causes, Impact, Distribution and Mapping: Flood, Landslide, Drought.
3. Disasters in India: (b) Causes, Impact, Distribution and Mapping: Earthquake, Tsunami and Cyclone.
4. Human induced disasters: Causes, Impact, Distribution and Mapping.

5. Response and Mitigation to Disasters; Mitigation and Preparedness, NDMA and NIDM; Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts During Disasters

Reading List

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi. Chapter 1, 2 and 3
5. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
7. Stoltman, J.P. et al. (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.
8. Singh Jagbir (2007) "Disaster Management Future Challenges and Opportunities", 2007. Publisher- I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India .

2. Economic Geography(4 Credits)

1. Definition, Approaches and Fundamental Concepts of Economic Geography: Patterns of Development.
2. Locational Theories – Agriculture (Von Thunen) and Industrial (Weber).
3. Primary Activities – Intensive Subsistence Farming, Commercial Grain Farming, Plantation, Commercial Dairy Farming, Commercial Fishing, and Mining (iron ore, coal and petroleum).
4. Secondary Activities – Cotton Textile Industry, Petro-Chemical Industry, Major Manufacturing Regions.
5. Tertiary and Quaternary Activities – Modes of Transportation, Patterns of International Trade, and Information and Communication Technology Industry.

Reading List

1. Alexander J. W., 1963: *Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Bagchi-Sen S. and Smith H. L., 2006: *Economic Geography: Past, Present and Future*, Taylor and Francis.
3. Coe N. M., Kelly P. F. and Yeung H. W., 2007: *Economic Geography: A Contemporary Introduction*, Wiley-Blackwell.
4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.
5. Durand L., 1961: *Economic Geography*, Crowell.
6. Hodder B. W. and Lee R., 1974: *Economic Geography*, Taylor and Francis.
7. Wheeler J. O., 1998: *Economic Geography*, Wiley.
8. Willington D. E., 2008: *Economic Geography*, Husband Press.

OR

Geography of Tourism (4 Credits)

1. Concepts, Nature and Scope; Inter-Relationships of Tourism, Recreation and Leisure; Geographical Parameters of Tourism by Robinson.
2. Type of Tourism: Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage
3. Recent Trends of Tourism: International and Regional; Domestic (India): Eco-Tourism, Sustainable Tourism, Meetings, Incentives, Conventions and Exhibitions (MICE)
4. Impact of Tourism: Economy; Environment; Society
5. Tourism in India: Tourism Infrastructure; Case Studies of Himalaya, Desert and Coastal and Heritage; National Tourism Policy

Reading List

1. Dhar, P.N. (2006) *International Tourism: Emerging Challenges and Future Prospects*. Kanishka, New Delhi.
2. Hall, M. and Stephen, P. (2006) *Geography of Tourism and Recreation: Environment, Place and Space*, Routledge, London.
3. Kamra, K. K. and Chand, M. (2007) *Basics of Tourism: Theory, Operation and Practise*, Kanishka Publishers, Pune.
4. Page, S. J. (2011) *Tourism Management: An Introduction*, Butterworth-Heinemann- USA, Chapter 2.
5. Raj, R. and Nigel, D. (2007) *Morpeth Religious Tourism and Pilgrimage Festivals Management: An International perspective* by, CABI, Cambridge, USA, www.cabi.org.
6. *Tourism Recreation and Research Journal*, Center for Tourism Research and Development, Lucknow
7. Singh Jagbir (2014) "Eco-Tourism" Published by - I.K. International Pvt. Ltd.

Generic Elective (2)

1. Disaster Risk Reduction (4 Credits)

1. Disaster; Hazards, Risk, Vulnerability and Disasters: Definition and Concepts.
2. Disasters in India: (a) Causes Impact, Distribution and Mapping: Flood and Drought.
3. Disasters in India: (b) Causes, Impact, Distribution and Mapping: Earthquake and Cyclone.
4. Human induced disasters: Causes, Impact, Distribution and Mapping.
5. Disaster Risk Reduction: Mitigation and Preparedness, NDMA and NIDM
Community-Based Disaster Management: Do's and Don'ts During Disasters

Reading List

1. Government of India. (1997) *Vulnerability Atlas of India*. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) *Vulnerable India: A Geographical Study of Disasters*, Sage Publication, New Delhi.
3. Modh, S. (2010) *Managing Natural Disaster: Hydrological, Marine and Geological Disasters*, Macmillan, Delhi.
4. Singh, R.B. (2005) *Risk Assessment and Vulnerability Analysis*, IGNOU, New Delhi, Chapter 1, 2 and 3
5. Singh, R. B. (ed.), (2006) *Natural Hazards and Disaster Management: Vulnerability and Mitigation*, Rawat Publications, New Delhi.
6. Sinha, A. (2001). *Disaster Management: Lessons Drawn and Strategies for Future*, New United Press, New Delhi.
7. Stoltman, J.P. et al. (2004) *International Perspectives on Natural Disasters*, Kluwer Academic Publications, Dordrecht.
8. Singh Jagbir (2007) "Disaster Management Future Challenges and Opportunities", 2007, Publisher- I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

OR

World Geography (4 Credits)

1. Earth and Solar System; Rotation and Revolution of Earth: Latitude, Longitude and Time.
2. Major Landforms, Climates, Soils and Vegetation Zones.
3. Major Natural Regions.
4. Population Distribution and Growth, Races and Tribes.
5. Agriculture (major crops and agricultural regions); Forestry, sheep Rearing and Fishing.
6. Minerals, Energy and Water resources and major industries.

7. Industries (Iron & Steel, Textiles, Petro-chemicals, Automobiles, Ship building and light industries) 8. Trade and Transport.

2. Sustainability and Development (4 Credits)

1. Sustainability: Definition, Components and Sustainability for Development
2. The Millennium Development Goals: National Strategies and International Experiences
3. Sustainable Development: Need and examples from different Ecosystems.
4. Inclusive Development: Education, Health, Climate Change: The role of higher education in sustainability; The human right to health; Poverty and Disease; Sustainable Livelihood Model; Policies and Global Cooperation for Climate Change
5. Sustainable Development Policies and Programmes: Rio+20; Goal-Based Development; Financing for Sustainable Development; Principles of Good Governance; National Environmental Policy, CDM.

Reading List

1. Agyeman, Julian, Robert D. Bullard and Bob Evans (Eds.) (2003) Just Sustainabilities: Development in an Unequal World. London: Earthscan. (Introduction and conclusion.)
2. Ayers, Jessica and David Dodman (2010) "Climate change adaptation and development I: the state of the debate". *Progress in Development Studies* 10 (2): 161-168.
3. Baker, Susan (2006) Sustainable Development. Milton Park, Abingdon, Oxon; New York, N.Y.: Routledge. (Chapter 2, "The concept of sustainable development").
4. Brosius, Peter (1997) "Endangered forest, endangered people: Environmentalist representations of indigenous knowledge", *Human Ecology* 25: 47-69.
5. Lohman, Larry (2003) "Re-imagining the population debate". Corner House Briefing 28.
6. Martínez-Alier, Joan et al (2010) "Sustainable de-growth: Mapping the context, criticisms and future prospects of an emergent paradigm" *Ecological Economics* 69: 1741-1747.
7. Merchant, Carolyn (Ed.) (1994) *Ecology*. Atlantic Highlands, N.J: Humanities Press. (Introduction, pp 1-25.)
8. Osorio, Leonardo et al (2005) "Debates on sustainable development: towards a holistic view of reality". *Environment, Development and Sustainability* 7: 501-518.
9. Robbins, Paul (2004) *Political Ecology: A Critical introduction*. Blackwell Publishing

OR

GEOGRAPHY OF INDIA (4 Credits)

1. Structure, Relief, Drainage, Climate, Soils and Vegetation, Broad Natural Regions.
2. Irrigation and Agriculture, Forestry and Fishing
3. Minerals, Energy and water resources; Utilization and conservation.
4. Industries and Industrial Development. Small scale industries.
5. Population and Tribal communities.
6. Transport and Foreign Trade