

19. Risley, H., The People of India, Reprint Corporation.
20. Schwartzberg, Joseph, An Historical Atlas of South Asia, University of Chicago Press, Chicago, 1978.
21. Sen, Amartya and Dreze Jean, Indian Development: Selected Regional Perspectives, Oxford University Press, London, 1996.
22. Singh, K. S., Tribal Situation in India, IAS, Shimla.
23. Smith, David, Geography: A Welfare Approach, Edward Arnold, London, 1977.
24. Sopher, David., An Exploration of India, Cornell University Press, 1980.

**M. A. / M. Sc. (Final) Geography**  
**Paper – IV (A): Environmental Geography**

**Unit – I**

- a) Environmental geography: definition scope and concepts.
- b) Ecology: meaning, scope and concepts.
- c) Environment: meaning, elements, and types.
- d) Principles of environmental geography.
- e) Man-environment relationship: review of different perspectives.

**Unit – II**

- a) Ecosystem: concept, definitions, characteristics and types.
- b) Components and functioning of ecosystem.
- c) Trophic level, food chain and ecological pyramids.
- d) Energy flow in ecosystem.
- e) Geo-chemical cycles and circulation of element in the ecosystem: carbon cycle, nitrogen cycle and oxygen cycle.

**Unit – III**

- a) Fresh water ecosystems: meaning, types and their properties.
- b) Marine ecosystems: meaning, types and their properties.
- c) Terrestrial ecosystems: meaning, types and their properties
- d) Biomes: concept, types, characteristics and distribution.
- e) Detail study of alpine and tropical desert biomes.

#### Unit - IV

- a) Environmental hazards and disasters: meaning, types and impacts.
- b) Environmental degradation: meaning, process, causes, types and impacts.
- c) Environmental pollution: meaning, causes, types and impact.
- d) Environmental planning and management: concept, objectives and strategies.
- e) Sustainable development: concept, need, problems and strategies.

#### Unit - V

Case studies of man induced environmental and ecological changes:

- a) Ecology of tropical farming systems.
- b) Mountain ecosystem with special reference to Aravalli hills.
- c) Big dams with reference to Sardar Sarovar. Environmental legislation:
- d) The Stockholm Conference and the Earth Summit.
- e) Environmental laws in India related to: wild life, water, forest and environment.

#### Suggested Readings:

1. Ackerman, E.A., Geography as a Fundamental Research Discipline, University of Chicago Research Papers, 1958,
2. Agarwal, A. and S. Sen, The Citizens Fifth Report. Centre for Science and Environment New Delhi 1999.
3. Arwill, R., Man and Environment, Pelican.

5. Bertalanffy, L., General Systems Theory, George Bragiller New York, 1958.
6. Bodkin, E., Environmental Studies, Charles E. Merrill Publishing Co., Columbus, Ohio, 1982.
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8. Chorley, R. J., Geomorphology and General Systems Theory, U.S.G.S. Professional Paper, 500 B, 1962.
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11. Haggett, R. J., Geo-ecology: An Evolutionary Approach, Routledge, London, 1995.
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17. Nobel and Wright, Environmental Science, Prentice Hall, New York 1996.
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20. Ramade Francois, Ecology of Natural Resource, John Wiley & Sons, New York, 1984.

21. Russwurm, L.H. and E. Sommerville (eds.), Man's Natural Environment: A Systems Approach, Duxbury, Massachusetts, 1985.
22. Sharma, H.S., Ranthambhore Sanctuary: Dilemma of Eco-Development, Concept Publishing Company, New Delhi, 2000.
23. Sharma, P. D., Elements of Ecology, Rastogi Publication.
24. Simmons, I. G., Ecology of Natural Resources, Edward Arnold, London, 1981.
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26. Singh, Savinder, Environmental Geography, Prayag Pustak Bhavan, Allahabad, 2000.
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32. Tiwari, Vijai Kumar, Environment and Ecology, Himalaya Publishing House, Mumbai, 1998, (Hindi).
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34. Verma, P. S., and V. K. Agrawal, Principles of Ecology, S. Chand & Company, New Delhi, 1996.
35. World Resources Institute, World Resources 2000-01, People and Ecosystems, Washington, 2001.
  - a. Use of clinometer as an instrument of levelling.
36. World Watch Institute, State of the World, (Latest Report), Washington, D. C.
37. सक्सेना, एच. एम. : पर्यावरण एवं पारिस्थितिकी भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर।
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