

**M.A. / M.Sc. (Previous) Geography**  
**Paper - II: Advanced Physical Geography**

**Unit - I**

- a) Earth's interior: seismological evidences of the structure and zoning of the earth's interior.
- b) Revival of the continental drift theory.
- c) Plate tectonic theory: division of the crust in plates; plate boundaries and plate margins, mechanism of plate movements; plate tectonics and associated structures.
- d) Process of denudation; mass wasting: types and results.
- e) Development of slopes: approaches to the study of slopes; views of W. Penck, A. Wood and A.N. Strahler.

**Unit - II**

- a) Fluvial morphometry:
  - i. Linear properties: stream orders, bifurcation ratio, stream numbers and stream lengths.
  - ii. Areal properties: basin area, drainage density and texture of topography;
  - iii. Relief properties; channel slope and valley side slope.
- b) Cycle of erosion: views of W.M. Davis.
- c) Cycle of erosion: views of W. Penck.
- d) Fluvial landforms:
  - i. Erosional landforms.
  - ii. Depositional landforms.
  - iii. Fluvial cycle of erosion and interruptions in it.

**Unit - III**

- a) Land form of arid and semi-arid lands.
- b) Arid cycle of erosion.
- c) Glacial topography: erosional and depositional landforms; fluvo-glacial landforms.
- d) Coastal landforms.
- e) Karst cycle.

**Unit - IV**

- a) Atmospheric heat: insolation, heat budget; horizontal and vertical distribution of temperature.
- b) Motions in the atmosphere: atmospheric pressure and its thermal and dynamic controls.
- c) General atmospheric circulation; forces controlling the atmospheric circulation; uni-cell and tri-cell model of atmospheric circulation.
- d) Jet streams: characteristics, types and origin.
- e) Air masses: source region, modifications in air masses and their classification; Fronts and their types.

**Unit - V**

- a) Tropical and extra tropical cyclones: origin, areas and weather association with them.
- b) Atmospheric humidity: sources and types.

- c) Condensation, Sublimation and their forms.
- d) Submarine topography.
- e) Relief features of the Indian and Atlantic Ocean floors.

### **Suggested Readings:**

1. Barry, R.G. and R.J. Chorley, Atmosphere, Weather and Climate, Routledge, 1998.
2. Critchfield, H., General Climatology, Prentice-Hall, New York, 1975.
3. Dayal, P., A Text Book of Geomorphology, Shukla Book Depot, Patna, 1996.
4. Garrison, T., Oceanography, Wadsworth Co., USA, 1998.
5. Kale, V., and A. Gupta, Elements of Geomorphology, Oxford University Press, Calcutta, 2001.
6. Mather, J.R., Climatology, McGraw Hill, New York, 1974.
7. Monkhouse, F.J., Principles of Physical Geography, Hodder and Stoughton, London, 1960.
8. Pitty, A., Introduction to Geomorphology, Methuen, London, 1974.
9. Sharma, H.S., Tropical Geomorphology, Concept, New Delhi, 1987.
10. Singh, S., Geomorphology, Prayag Pustakalaya, Allahabad, 1998.
11. Sparks, B.W., Geomorphology, Longmans, London, 1960.
12. Strahler, A.N. and A.H. Strahler, Modern Physical Geography, John Wiley & Sons, 1992.
13. Trewartha, G.T., An Introduction to Climate, International Students Edition, McGraw Hill, New York, 1980.
- 14<sup>प</sup> सिंह, सविन्द्र :भौतिक भूगोल, वसुन्धरा प्रकाशन, गोरखपुर, 1997
- 15<sup>प</sup> चतुर्भुज मामोरिया एवं जैन :भौतिक भूगोल एवं जीव मण्डल, साहित्य भवन, आगरा, 1996
- 16<sup>प</sup> वीरेन्द्र सिंह चौहान :भौतिक भूगोल, रस्तोगी पब्लिकेशन्स, मेरठ, 1996
- 17<sup>प</sup> उपाध्याय एल.एन. :भौतिक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
- 18<sup>प</sup> तिवारी, ए.के. :जलवायु विज्ञान के मूल तत्व, राज. हिन्दी ग्रन्थ अकादमी, जयपुर
- 19<sup>प</sup> तिक्खा, रामनाथ :भौतिक भूगोल, केदारनाथ रामनाथ, मेरठ
- 20<sup>प</sup> नेगी, बी.सी. :जलवायु विज्ञान तथा समुद्र विज्ञान, केदारनाथ रामनाथ, मेरठ
- 21<sup>प</sup> कौशिक, एस.डी. :मौसम विज्ञान (राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर)
- 22<sup>प</sup> सिंह, सविन्द्र :भू-आकृति विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर, 1997