

**2007**

**GEOGRAPHY AND ENVIRONMENT  
MANAGEMENT**

**PAPER-I**

**Full Marks :100**

**Time : 4 hours**

**Answer any four questions, taking two from each Group**

*The Figures in the right-hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers whenever necessary*

**Write the answers Questions of each Module in separate books**

**MODULE -I**

*( Geotectonics and Geomorphology )I*

*[Marks : 50]*

**GROUP-A**

1. Define the concept of uniformitarianism. Describe the major ideas involved in Plate Tectonics. **5+10**

*(Turn Over)*

2. Describe, briefly the 'Non-cyclic concepts' of Hack, Chorlyand Schumm to explain the evolution of various landforms. 5+5+5
3. 'Limestone is not a very resistant rock ; yet under certain conditions, it may develop, into a prominent escarpment or a ridge.' Under which conditions might this happen ? Discuss the role of water in the weathering of feldspars: Why is a sandstone not very likely to produce a spheroidally weathered boulder? 7+3+5
4. Discuss the significance of base level in controlling a Stream's activity. 'Streams are trying to attain equilibrium with their environment.' What evidence would you use to support this view? 10+5

GROUP---B

5. **Explain how the geomorphic knowledge can be applied in planning and development of a mountain belt and a low-lying coastal belt.** 5+5
6. Describe the development of the following landforms : 5+5
- (a) Alluvial fans.
- ( b ) Erosional and aggradational features of floodplains.

7. **Explain the development of various landforms resulted from interruptions of the Fluvial cycle. Identify the different conditions favourable for development of karst topography.** 7+3
8. **Distinguish between rapid, moderate and slow mass movements. Explain why mass movement plays such a significant role in altering the landscape.** 6+4

MODULE -11

( *Oceanography and Hydrology* )

[ *Marks 50* ]

GROUP-A

1. **Define Shore-normal current How does the intensity of long shore current depend on angle of wave approach? Explain the concept of amphidromal point.** 2+8+5
2. **How does the hard water react with soap to produce the precipitate of calcium stearate ? Discuss the disadvantages of hard water . Explain the procedures for removal of hardness of water.** 3+5+7
3. **Explain the mechanisms in which coastal dunes and coral reefs act as barriers to wind and wave energy. Evaluate their significance in protecting the coast.** 6+6+3

- 4.. **How do the coastal configuration , waves and tidal energy interact with each other in an integrated system ? Classify marine sediments.** **10+5**

**GROUP-B**

5. **How does the amount of Dissolved Oxygen depend on temperature of water ? How does an aquiclude differ from an aquifer?** **6+4**
6. **Briefly discuss how the different qualities of water are affected by the variation of salinity. Explain the procedures for determination of salinity of ocean water.** **5+5**
7. **Explain the processes of base flow separation from a hydrograph. How do you calculate the lag time from a unit hydrograph ?** **5+5**
8. **Define Wetland. Discuss the environmental significance of wetlands with reference to any one wetland of West Bengal.** **2+8**