

**PH. D. IN ENVIRONMENTAL
SCIENCE (PHDEV)**

**Term-End Examination
December, 2025**

**REVE-004 : ENVIRONMENTAL
GEOMICROBIOLOGY**

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any **five** questions out of eight questions. All questions carry equal marks.

1. How are microorganisms important in shaping of the earth's environment ? Discuss lithosphere as a microbial habitat. 10+10
2. Discuss hydrosphere as a microbial habitat. Explain the importance of geomicrobiology in rock weathering. 10+10

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3. Discuss biomineralization with an example. Explain biologically induced and biologically controlled biomineralization. 10+10
4. Discuss the various types of industrial pollutants and their impacts on human health. 20
5. Describe the working of a Scanning Electron Microscope (SEM) with a neatly labelled diagram. 20
6. Explain the importance of geomicrobiology in the biomining and bioenergy sectors. 20
7. Define rocks and minerals. Describe the carbon cycle with the help of a flowchart and microbes involved in the processes. 4+16
8. Explain the importance of geomicrobiology in the agricultural sector with suitable examples. 20

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