

**Semester: VIII**

**21. MAJOR COURSE- MJ 20: GEOMORPHOLOGY**

**Allotted:72 Lectures**

**Course Objective:**

1. To familiarise students about geomorphic environment, landform development.
2. To make student learn and apply geomorphic ideas for water management and environmental degradation.

Sl.	Unit	Topics	Methodology	Assessment	Outcome
1	<b>Unit 1: 10 Lectures</b>	Defining the field, nature and scope of geomorphology, fundamental concepts, landform evolution, Slope Development and theory	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Digital Classes</li> <li>• Group Discussion</li> <li>• Self-study</li> <li>• Ex-situ Examples.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz on basic concepts</li> <li>• Class Test</li> <li>• Assignments</li> <li>• Presentation</li> </ul>	<ol style="list-style-type: none"> <li>1. Learn the geomorphic/ physical environment of the area. It will help in the understanding of geomorphic analysis of landform development</li> <li>2. Have sound knowledge of geomorphic features which will enable the students in application of geomorphic ideas for water management and environmental degradation</li> <li>3. It will help the understanding of natural hazard management and various geomorphic applicability</li> </ol>
2	<b>Unit 2: 12 Lectures</b>	Earth movements- epirogenic, orogenic and symatogenic, climatogenic, plate tectonic and anthropogenic evolution of landforms	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Digital Classes</li> <li>• Group Discussion</li> <li>• Self-study</li> <li>• Ex-situ Examples.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz on basic concepts and Theories</li> <li>• Class Test</li> <li>• Assignments</li> <li>• Presentation</li> </ul>	<ol style="list-style-type: none"> <li>1. Learn the geomorphic/ physical environment of the area. It will help in the understanding of geomorphic analysis of landform development</li> <li>2. Have sound knowledge of geomorphic features which will enable the students in application of geomorphic ideas for water management and environmental degradation</li> <li>3. It will help the understanding of natural hazard management and various geomorphic applicability</li> </ol>
3	<b>Unit 3: 15 Lectures</b>	Process of landform evolution – concept of gradation, drainage system analysis, morphometric analysis, drainage basin, and channel morphology,	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Digital Classes</li> <li>• Group Discussion.</li> <li>• Ex-situ Examples.</li> <li>• Self-study</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz on basic concepts and Theories</li> <li>• Class Test</li> <li>• Assignments</li> <li>• Presentation</li> </ul>	<ol style="list-style-type: none"> <li>1. Learn the geomorphic/ physical environment of the area. It will help in the understanding of geomorphic analysis of landform development</li> <li>2. Have sound knowledge of geomorphic features which will enable the students in application of geomorphic ideas for water management and environmental degradation</li> </ol>

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4	<b>Unit 4: 15 Lectures</b>	Regional geomorphology of Chotanagpur plateau, Palamu upland, Rajmahal upland, Kolhan Region and denudation chronology	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Digital Classes</li> <li>• Group Discussion</li> <li>• Self-study</li> <li>• Ex-situ Examples.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz on basic concepts and Theories</li> <li>• Class Test</li> <li>• Assignments</li> <li>• Presentation</li> </ul>	<p>1. Learn the geomorphic/ physical environment of the area. It will help in the understanding of geomorphic analysis of landform development</p> <p>2. Have sound knowledge of geomorphic features which will enable the students in application of geomorphic ideas for water management and environmental degradation</p> <p>3. It will help the understanding of natural hazard management and various geomorphic applicability</p>
5	<b>Unit 5 20 Lectures</b>	Applied Geomorphology- application of geomorphology to urbanization, agriculture, water resource management, watershed planning and development forestry, regional planning and development, Geomorphic hazard	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Digital Classes</li> <li>• Group Discussion</li> <li>• Self-study</li> <li>• Ex-situ Examples.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz on basic concepts and Theories</li> <li>• Class Test</li> <li>• Assignments</li> <li>• Presentation</li> </ul>	<p>1. Learn the geomorphic/ physical environment of the area. It will help in the understanding of geomorphic analysis of landform development</p> <p>2. Have sound knowledge of geomorphic features which will enable the students in application of geomorphic ideas for water management and environmental degradation</p> <p>3. It will help the understanding of natural hazard management and various geomorphic applicability</p>

#### Suggested Readings:

1. Ahmad, E (1985) Geomorphology, Kalyani Publishers, New Delhi
2. Bloom, A. L., (2003): Geomorphology: A Systematic Analysis of Late Cenozoic Landforms, Prentice-Hall of India, New Delhi.
3. Christopherson, R. W. and Birkeland, G. H., (2012) Geosystems: An Introduction to Physical Geography (8th edition), Pearson Education, New Jersey.