  
**UNIVERSITY OF MYSORE**  
Estd. 1916

Vishwavidyalaya Karyasoudha  
Crawford Hall, Mysuru- 570 005

No.AC2(S)/319/2023-24

Dated: 08.11.2023

**Notification**

**Sub:-** Modification in the Syllabus of Geography (PG) programme with effect from the Academic year 2023-24.

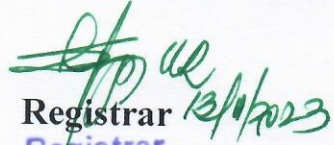
- Ref:-**
1. Decision of Board of Studies in Geography (PG) held on 20-02-2023 & 21.02.2023.
  2. Decision of the Faculty of Science & Technology meeting held on 15-03-2023.
  3. Decision of the Academic Council meeting held on 24-03-2023.

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The Board of Studies in Geography (PG) which met on 20-02-2023 & 21.02.2023 has resolved to recommended and approved the modified syllabus of Geography (PG) Programme with minor modifications with effect from the academic year 2023-24.

The Faculty of Science & Technology and Academic Council at their meetings held on 15-03-2023 and 24-03-2023 respectively has also approved the above said modified syllabus. Hence, it is hereby notified.

The syllabus contents may be downloaded from the University Website i.e., [www.uni-mysore.ac.in](http://www.uni-mysore.ac.in).

  
**Registrar**  
**Registrar**  
University of Mysore  
Mysore 570 005

**To:**

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Chairman, BOS/DOS in Geography, Manasagangothri, Mysuru.
3. The Dean, Faculty of Science & Technology, DoS in Mathematics, MGM.
4. The Director, PMEB, Manasagangothri, Mysuru.
5. Director, College Development Council , Moulya Bhavan, Manasagangothri, Mysuru.
6. The Deputy Registrar/Assistant Registrar/Superintendent, Administrative Branch and Examination Branch, University of Mysore, Mysuru.
7. The PA to Vice-Chancellor/ Registrar/ Registrar (Evaluation), University of Mysore, Mysuru.
8. Office Copy.

**Annexure 1 : PG change of syllabus**

| <b>I Sem M.Sc Geography</b>                |   |  |
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| (4 credits Hard Core) Total 58 Hours Class |   |  |
|  | Existing syllabus   | Modified syllabus  |
| Unit I                                     | <p>Principles of Geomorphology &amp; Geology</p> <p>i. Geological Time Scale</p> <p>ii. Interior of the Earth</p> <p>iii. Age of the Earth theories</p> <p>A. Salt Theory</p> <p>B. Paleo Magnetic Theory</p> <p>C. RadioMetric Dating.</p> <p>1. DendroChronology and Principles of Geology. 2. Importance of Structural geology,</p> <p>2. Geological Time Scale ,</p> <p>4. Interior of the Earth,</p> <p>5. Stratigraphy: Law of stratigraphy,</p> <p>6. Horizontality, superposition, lateral continuity Law of magnetic concentration.</p> <p>7. DendroChronology and DendroClimatology</p> | <p>Principles of geology</p> <ol style="list-style-type: none"> <li>1. Importance of structural geology</li> <li>2. Geological time scae,</li> <li>3. Interior of the earth,</li> <li>4. stratigraphy: Law of stratigraphy, Horizontality, superposition, lateral continuity, law of magnetic concentration,</li> <li>5. Dendro Chronology and Dendro Climatology, Forms of Stratigraphy.</li> <li>6. Chronological stratigraphy</li> <li>7. Litho stratigraphy</li> <li>8. Bio stratigraphy</li> <li>9. Magneto stratigraphy</li> <li>10. Seismic Stratigraphy</li> <li>11. Dendro climatology</li> </ol>       |
| Unit II                                    | <p>II. Stratigraphy</p> <p>Stratigraphy - 1</p> <p>Law of stratigraphy - 3 Horizontality, superposition, lateral continuity Law of magnetic concentration.</p>  | <p>Isostasy: view of Prat, Airy and Bowie, concepts of earth's equilibrium and Gravity Anomaly, Plate tectonics: development of plate tectonic theory, Major and Minor plates, Plate movement and forces, convectional current, inner core current, thermal flumes.</p> <p>Plate Margins and Associated Landforms, Validation of Plate Tectonics</p>   |
| Unit III                                   | <p>Percent, Angle of the slope. Conversion of Slope values, Construction of Slope Maps using Grids, Wentworth Method, Dhurandhar Method and Smith Method, Altimetry frequency analysis, Hypsometric analysis.</p>   | <p>Structural Deformations</p> <ol style="list-style-type: none"> <li>1. Structural Stress, Strain</li> <li>2. Anticline Folds and syncline folds.</li> <li>3. Causes for Sinking and Uplifting of lands.</li> <li>4. Impact of Faults and Lineaments on Fluvial Landforms.</li> <li>5. Impact of Landslides on Geomorphological conditions of a region</li> <li>6. Impact of Earthquakes on the Surrounding Landforms according to the magnitude. 2</li> <li>7. Indicators of Structural Deformation Conformities and unconformities</li> <li>8. Disconformity , Unconformity, Angular Disconformity</li> </ol> |

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| Unit IV | <p>Fluvial Analysis:</p> <p>1. Morphometric analysis: Stream Order analysis, Bifurcation ratio analysis, Sinuosity Index, Drainage Density analysis, Drainage Frequency analysis, River Flow analysis, Rainfall discharge relationship.</p> <p>2. Geological Maps: Meaning Importance, Important Concepts like, Dip, Direction and angle. Plunge Lines, Strike Lines, Folds, : Cylindrical and Non Cylindrical Folds, Geometrical Features of folds, Faults: Fault Planes, Slip and Separation, Classification of fault based on slip</p> <p>3. Unconformity: Types of Conformity - Overstep and Overlap Unconformity.</p> | <ol style="list-style-type: none"> <li>1. Major Geological Structures.</li> <li>2. Major Geological Structures of India - 6 Himalayan Geology- Greater, Middle and Lower, Indo Gangetic Plains, Peninsular India</li> <li>3. Major Geological Structures of Karnataka.</li> <li>4. Geological Structures of Cauvery Basin</li> </ol> |
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| <b>CONCEPTS OF GEOMORPHOLOGY</b><br><b>II Sem</b><br><b>Soft Core 3 Credits</b> |  |   |
|---|--|---|
| Unit I  | <p>Fundamental Concepts of Geomorphology<br/>Ten Concepts of Thornbury</p> <p>Principle of Uniformitarianism<br/>Cycle concepts, Views of W.M. Davis, Penk and L C King</p>  | <ol style="list-style-type: none"> <li>1. Evolution of Geomorphology -2</li> <li>2. Fundamental Concepts of Geomorphology - Ten Concepts of Thornbury 10</li> <li>3. Cycle concepts, Views of W.M. Davis, Penk</li> </ol>   |
| Unit II   | <p>Isostasy: Views of Prat, Airy and Bowie<br/>Concepts of Earth's Equilibrium and Gravity Anomaly</p>   | <p>Climate Regions and Geomorphology</p> <ol style="list-style-type: none"> <li>1. Glacio Fluvial Geomorphology of Himalayan region</li> <li>2. Fluvial Geomorphology of Indo Gangetic Plains</li> <li>3. Arid Geomorphology of Thar Region</li> <li>4. Fluvial Geomorphology of Seasonal rivers of Peninsular Region</li> <li>5. Oceanic Geomorphology of Coastal Region-2VI Karst (Limestone) Geomorphology of Himalayas and Ajantha, Elora and Bora Regions</li> </ol> |
| Unit III  | <p>Crustal Deformation Theories and Principles<br/>Tetrahedron, Wegner's Continental Drift Theory<br/>Holmes Convection current Theory Joly's Radio Activity Theory<br/>Daly's subsidence Hypothesis</p>                           | <ol style="list-style-type: none"> <li>1. Weathering Process and Mass Wasting Process of Formation of Slopes and Forms of slopes</li> <li>2. Soil Formation Process<br/>Soil Profile</li> <li>3. Zonal, Azonal and Intra zonal Soil. Origin of Epeirogenic and Endogenic landforms</li> </ol>   |
| Unit IV   | <p>Plate tectonics: Development of plate tectonic theory, Major and Minor plates, plate movement and forces, convectional current, inner core current, thermal flumes, Paleo Magnetism, plate Margins and associated landforms</p> | <p>Application of GIS and Remote Sensing In Study Geomorphology Applications of Geomorphology in Planning: Geomorphology and Regional Planning, Geomorphology and Urban Planning, Geomorphology and Disaster Management.</p>  |

| <b>Monsoon Climate and Fluvial Geomorphology</b> |   |  |
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| <b>III sem</b>                                   |   |  |
| <b>(Soft Core) 3 Credits</b>                     |   |  |
|  | Existing syllabus   | Modified syllabus  |
| Unit I   | <p>Climatic Impact on Fluvial Geomorphology</p> <p>a. Direct Control and Indirect Control.</p> <p>b. Morphogenetic Regions – Torrid, Temperate and Frigid</p> <p>Mechanism of Indian Monsoon Quaternary Geomorphological Regimes of India: Himalayan, Indo Gangetic, Deccan Traps, and Coastal</p>  | <p>Monsoon Climate and Fluvial Geomorphology Characteristics of Indian Monsoon- Mechanism of Indian Monsoon. 3</p> <p>Impact of Monsoon on Fluvial Geomorphology in India 3</p> <p>Comparative Study of Various types of Geomorphological Landforms of India.</p> <p>I. Glaciated Topography of Himalayan region- Drainage Pattern, Stream Orders, Density, Relief and Gradient</p> <p>ii. Fluvial Landforms of Indo Gangetic Plains- Drainage Pattern, Stream Orders, Density, Relief and Gradient</p> <p>iii. Arid Geomorphology of Thar Region</p> <p>iv. Fluvial Geomorphology of undulating landforms of Peninsular Region- Drainage Pattern, Stream Orders, Density, Relief and Gradient</p> <p>V. Geomorphology of Coastal Region- Drainage Pattern, Stream Orders, Density, Relief and Gradient</p> <p>Erosional feature of River: Geological Braided Streams 2</p> <p>Depositional features of river: Depositional Braided Streams 2</p> <p>Fluvial Cycle of Erosion and soil formation. 2</p> <p>Development of Slope and Types of slope</p> |
| Unit II  | <p>Ground Fluvial Hydrology</p> <p>A. Drainage Network : Mountainous Network, Semi Mountain Network, Hill Network, Undulating Terrain Network, Plain Land Network</p> <p>B. Drainage pattern: Dendritic, Trellis, Rectangular, Radial, Centripetal, Centrifugal, Pinnate, Barbed, Contorted, Herringbone and Parallel</p> <p>C. Valley Profile Sequent Valley Profiles: Consequent, Subsequent, Obsequent and Resequent.</p> <p>Insequent Valley Profiles: Antecedent and Superimposed.</p>   | <p>Hydrogeology of a fluvial system</p> <p>River Basin : 1</p> <p>Watershed 1</p> <p>Drainage Pattern 2</p> <p>Valley profile 2</p> <p>Stream Orders and Its Significance 2</p> <p>Stream Density and its importance 2</p> <p>Water Holes, Perineal lakes, Non Perennial lakes, Vanishing lakes. 2</p> <p>Check dams, Points of Ground water recharging 2</p>  |
| Unit III   | <p>Structural Deformations and Fluvial Responses with special reference to Cauvery Basin</p> <p>Diastrophic Deformation and Signatures</p> <p>Sudden Deformation and Signatures</p> <p>Paleo Climatic Deformation and Signatures</p> <p>A. Channel hydraulics: Open Channel, Prismatic and Non Prismatic Channels (Rectangle, Trapezoid, Triangle and Circle.)</p> <p>Channel Types: Alluvial and Bed Rock Channel.</p> <p>Channel Pattern : Straight, Meandering, Braided, Anastomosing and Anabranching Channels.</p> <p>B. Stream density : I order Stream Density, II</p> | <p><b>Fluvial Morphometry</b></p> <p>Significance of morphometry and its applications 2</p> <p>Elements of Morphometry :</p> <p>Linear Aspects: Stream ordering, bifurcation ratio, law of stream numbers, length ratio, law of stream length, Sinuosity indices, Stream junction angles,</p> <p>Areal Aspects: Geometric of basin shape, law of basin perimeter, basin length and basin area, area ratio, law of basin area, law of allometric growth, stream frequency, drainage density, drainage</p>   |

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|         | Order Density, III Order Stream Density   | texture, 4<br>Relief Aspects: Hypometric analysis, clinographic analysis, altimetric analysis, average slope, relative relief, dissection index, law of channel slope, Profile analysis.  |
| Unit IV | Application of GIS and Remote Sensing In Study of Fluvial Geomorphology<br>Fluvial Geomorphology and Regional Planning,<br>Fluvial Geomorphology and Urban Planning,<br>Fluvial Geomorphology and Disaster Management.<br>Fluvial Geomorphology and Agriculture Planning<br>Fluvial Geomorphology and Reforestation and Forest Management | <b>Structural Deformations and Fluvial Responses with special reference to Cauvery Basin</b><br>Tectonic and Fluvial Geomorphology 2<br>Geological Structure controlled channel Paths : Narrow streams, Gorges Canyons, wide streams, Marshy and Swampy Landform. 2<br>Non Geological Controlled Channel Paths<br>Meandering streams Interlocking spurs. 2<br>Causes for the formation River capture 2<br>River meanders, Waterfalls, Gorges, Meandering loops, |

|          | <b>Applied Geomorphology<br/>IV Sem<br/>Soft Core 3 Credits</b>  | <b>Applied Geomorphology and River Basin Planning<br/>IV Sem<br/>Soft Core 4 Credits</b>   |
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|          | <b>Existing</b>  | <b>Modified</b>  |
| Unit I   | Applications of Geomorphology in Ground Water Assessment:<br><br>Drainage pattern, Stream Order, Stream Density, Bifurcation Index, Micro Basins, Water Sharing problems, causes and Sharing Solution  | Inter relationship of Geomorphology with Climate and Geology:<br><br>Sources of Geomorphological Data: Topographical Maps, Aerial Photos, Satellite Images.<br>Geomorphological signatures and deriving inferences on Relief, slope, Climate : temperature and rainfall, Geology, Ground Water Level, Level of Agriculture.  |
| Unit II  | <b>Applications of Geomorphology in Urban Planning:</b><br><br>Techniques of Demarcation of Urban Boundary<br>Geomorphological Implications on Urban Land Use and Land Cover<br>Geomorphological Classification of Urban Land and its importance<br><br>Drainage Network oriented urban Planning<br>Importance of Mapping Lineaments and Fractured zones | <b>Groundwater Resources and Water Management:</b><br><br>1. Concept of River Basin, Watershed and sub watersheds. Demarcation of Watershed and its importance<br>2. Significance of Stream Orders and stream Density in the assessment of Ground water scenario. Geomorphic factors determining the Identification of Sites of Check Dams and Groundwater recharge Points.<br>3. Surface Water resources conservation and Management (Lakes, Tanks, Pools, and Stream Path). 15 |
| Unit III | Applications of Geomorphology in Agriculture Planning<br>Techniques of Mapping Climatic zones<br>Techniques of Mapping Soil zone<br>Importance of Agro Climatic  | Part A<br><b>Introduction Agriculture Land Use Planning :</b><br>Categorization of agriculture zones based on geomorphic aspects. Land use and Agriculture planning in Undulating Topography, Mountain area, Piedmont Regions, Flood   |

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|         | <p>Classification Land Suitability Techniques.<br/>Methods of Classifying Crop Regions</p>  | <p>Plains Mid Valley Topography.<br/>Part B<br/><b>Flood disaster Management and Planning.</b> Pre Flood Disaster Onsite and offsite research inventories.<br/>Parameters determining the flood zone. Identification of high Moderate and Low flood risk zones,<br/>Methods of Proposing appropriate and feasible Measures to check flood at micro level.</p> |
| Unit IV | <p>Application of Geomorphology in Regional Planning and Disaster Management<br/>Concept of a Region<br/>GIS assisted Regional Planning Techniques Role of Geomorphology in Regional Planning<br/>GIS and Geomorphology Assisted Flood and Earthquake Susceptible regions</p> | <p><b>Urban Planning</b> - Significance of Urban Land use planning based on Geomorphological Landforms. Examining the Compatibility of Different Urban Land Use Model with Geomorphological Landforms.:</p>   |