

Programme Project Report (PPR)

M.Sc – GEOGRAPHY

(School of Earth and Environmental Sciences)

(Postgraduate)

Programme's mission & objective: The mission of the programme is students will learn through Geographical education to promote global perspective, international understanding and how human, Physical and environmental components of the world interact. Also help students to develop an understanding in the application of Geography that they are solving problems of human, physical and environmental issues.

The objectives of the programme are able to:

- Understanding of course content.
- Geographic terminology.
- Methods of presenting geographic information and theories.
- Apply tools and techniques of geography.
- Classify, interpret and analyze data.
- Students will be familiarized with economic processes such as globalization.
- Students will get an introduction to the main regions of the world in term of their uniqueness and similarities.
- Students will be exposed to cartographic information and will develop map reading and map making skills.
- Students will learn how to use Geographic information system for cartography. GIS is an important tool for apply the geographical methodology.
- Present clear, concise and logical arguments based on specific and relevant examples.

Relevance of the programme with HEI's Mission and Goals:





One of the missions of higher education particularly Open Distance Learning Institutions is to provide greater opportunities of access to higher Education with equity to all the eligible persons and the particular to the vulnerable sections. Uttarakhand is a remote geographical area state and large number of student cannot attend the college due to geographical problem. Thus the master's degree and bachelor degree programme is very useful for the students, particularly in the field of Disaster Geo-morphology, Land use land cover, Watershed Management and Remote Sensing and GIS.

### Nature of prospective target group of learners:

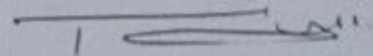
Geography being a multidisciplinary subject has its usefulness and applicability in very sphere of life, society, culture and organization. Those learners who wish to opt career in Geography related Government organization such as urban planner / Community Development, Cartographer, GIS Specialist, Climatologist, Transport Management, Environmental Management, Writer, Science, Teaching faculty, Emergency Management, Demographer, Foreign Service, Librarian / Information Scientist, National Park Service Ranger, Disaster Management Etc, and Non-Government organizations such as International Union for Conservation of Natural Resource, Real Estate Appraisal will be the target group of learners. Also those learners who left their higher education due to some reasons and those who have gaining the knowledge of the subject will be the target group.

### Appropriateness of programme to be conducted in open and Distance mode to acquire specific skills and competence:

This programme is planned to be offered in the mode and by making learning accessible through part time study outside the working hours.

Geography is a discipline that provides students not only with ample career opportunities and it provides students with knowledge about our rapidly-changing world and how human are impacting our planet.

This degree course in Geography development aims at building and strengthening the capabilities of in-service workers as well as new aspirants so that they have necessary knowledge.





### Instructional design:

**Curriculum design:** Before designing the programmes and course in Geography, attempt were made to draw upon the literature produced by other academic and professional institutions in India and abroad. Due attention has been paid in balancing the theoretical knowledge with laboratory study, field survey / studies, and project work. The programme structure is as follow:

## M.Sc I<sup>st</sup> Semester

GEOG-501

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### **COURSE NAME: FUNDAMENTAL OF GEOMORPHOLOGY**

Programme : Master of Science

#### **UNIT SCHEDULE**

#### **BLOCK-1 CONCEPTUAL BASE**

Unit-1 Nature, scope, Trends and Development of Geomorphology

Unit-2 Concepts of Geomorphology

Unit-3 Classical Landscape Evolution/Development Theories: W. M. Devis, L.C. King and Hack.

Unit-4 Concept of Morphogenetic Regions

Unit-5 Recent Trends in Geomorphology

#### **BLOCK-2 LANDFORMS AND PROCESSES (WATER, WIND AND KARST)**

Unit 6- Drainage Patterns and system

Unit 7- Periglacial Processes and landforms

Unit 8- Glacial Processes and landforms

Unit 9- Arid Processes and landforms

Unit 10- Water Processes and landforms

Unit 11- Karst Topography

Unit 12- Marine and Coastal landforms

#### **BLOCK 3- LANDFORMS AND THEIR DEVELOPMENT**

Unit 13- Tectonic Processes and Tectonic Landforms both Large and Small Scales

Unit 14- Anthropogenic Geomorphology

Unit 15- Lake: Origin, Types and Distribution



Unit 16- Interruptions in the Evolution of Landform "Polycyclic landforms"

**M.Sc. 1<sup>st</sup> Semester**

GEOG-502

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**COURSE NAME: FUNDAMENTALS OF NATURAL  
RESOURCE MANAGEMENT**

Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- INTRODUCTION TO NATURAL RESOURCE  
MANAGEMENT**

Unit 1-Definition, Nature & Classification of Resources

Unit 2- Concept, Models and Approaches to Natural Resources Management

Unit 3-Problems of Resource Utilization; Population Pressure Development and Resource Use

Unit 4- Natural Hazards and Risk Management

**BLOCK 2- SPATIAL DISTRIBUTION OF RESOURCES**

Unit 5- Global and Indian Scenario; Historical Background

Unit 6- Resources Exploitation, Utilization vs Exploitation

Unit 7- Resource Depletion; Soil, Water, Minerals, Forests

**BLOCK 3- RESOURCE APPRAISAL**

Unit 8- Significance of Resources Appraisal in Resource Management

Unit 9- Appraisal of Land Resources, Geographical, Geochemical Geo-botanical

Unit 10- Use of GIS And Remote Sensing in Resource Appraisal

**BLOCK 4- RESOURCE DEVELOPMENT & POLICY MAKING**

Unit 11- Gender Issue and Livelihood Issues in Natural Resource Management

Unit 12- Community Based Natural Resource Management

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M.Sc. I<sup>st</sup> Semester

GEOG-503

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**COURSE NAME: GEOGRAPHY OF INDIA**

Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- GENERAL & PHYSICAL INTRODUCTION**

- Unit 1- Location & Extent
- Unit 2- Geology and Physiographic Regions
- Unit 3- Drainage System of India
- Unit 4- Climate
- Unit 5- Soils and Natural Vegetation

**BLOCK 2- POPULATION AND OTHER HUMAN ASPECTS**

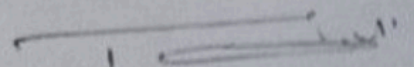
- Unit 6- Population Distribution, Density & Growth, Population Composition: Age, Sex, Literacy & Occupational Structure
- Unit 7- Urbanization & its Trends
- Unit 8- Tribal Areas and their Problems
- Unit 9- Population Problems and Policies

**BLOCK 3- AGRICULTURE AND INDUSTRIAL SCENARIO**

- Unit 10- The Infrastructure development
- Unit 11- Institutional Factors
- Unit 12- Industrial Scenario

**BLOCK 4- REGIONAL DIVISIONS OF INDIA**

- Unit 13- Detailed Study of Kashmir Region, Uttarakhand Himalaya
- Unit 14- Lower Ganga Plain
- Unit 15- Chhota- Nagpur Plateau
- Unit 16- Thar Desert, Aravali uplands, Malabar Coastal Region





M.Sc. I<sup>st</sup> Semester

GEOG-504

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**COURSE NAME: GEOG 504- PRINCIPALS OF  
PHOTOGRAMMETRY AND REMOTE SENSING**

Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- FUNDAMENTALS OF PHOTOGRAMMETRY**

- Unit 1- Photogrammetry
- Unit 2- Arial Photos
- Unit 3- Principals of Stereophotogrammetry
- Unit 4- Measurements and Rectification
- Unit 5- Types of aerial Photography

**BLOCK 2- REMOTE SENSING**

- Unit 6- Fundamentals of Remote Sensing-I
- Unit 7- fundamentals of Remote Sensing-II
- Unit 8- Fundamentals of Remote sensing-III

**BLOCK 3- DIGITAL IMAGE PROCESSING**

- Unit 9- Introduction to Digital Image Processing
- Unit 10- Pre Processing, Image Registration & Image Enhancement Techniques
- Unit 11- Spatial Filtering Techniques & Image Transformation
- Unit 12- Image Classification



M.Sc. I<sup>st</sup> Semester

GEOG-505

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**COURSE NAME: FUNDAMENTAL OF CARTOGRAPHY**

Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- FUNDAMENTAL OF CARTOGRAPHY**

Unit 1- Cartography, Nature, Scope & Development, Maps: Types & Their Function, Map as a Tool of Analysis and Synthesis

Unit 2- Relief Maps and Diagrams: Depiction of Relief, Slope and Gradient, Profiles, Methods of Slope Analysis (e.g. Wentworth, Smith) and Altimetry Frequency Curve

Unit 3- Climatic Maps & Diagrams: Climate Maps and Diagrams, Representation of Climate Data: Isopleths, Columnar Diagrams, Wind Rose Diagrams, Rainfall Dispersal Diagrams, Hythergraph & Climographs

Unit 4- Cartographic Representation of Socio-Economic Data: Dots, Proportional Squares, Circles, Spheres, Choropleths, Star and Scatter Diagrams, Ergographs, flow Line Diagrams

Lab Work           60-Marks

Practical work   40-Marks

**Distribution of Marks of Practical Work**

1-Record work.....20 Marks

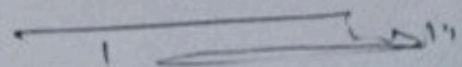
2-Viva-voice.....20 Marks

M.Sc. II<sup>nd</sup> Semester

GEOG-506

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**COURSE NAME: EVOLUTION OF GEOGRAPHICAL  
THOUGHT**





Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- BASIS CONCEPT**

- Unit 1- Meaning, Definition, Aims & Purpose of Geography
- Unit 2- Signification Measurement in Geography
- Unit 3- Development of Geography & its Branches
- Unit 4- Approaches of Geography

**BLOCK 2- DEVELOPMENTS OF GEOGRAPHICAL THOUGHTS**

- Unit 5- Geography as a Scientific Discipline
- Unit 6- Geographers Contribution
- Unit 7- Contributions of Geographers
- Unit 8- Exploration, Discoveries and Impact

**BLOCK 3- RECENT TRENDS IN GEOGRAPHY**

- Unit 8- Techniques and Concepts in Geography
- Unit 9- Laws, Theories and Models in Explanations in Geography
- Unit 10- Latest Technology and Geography

M.Sc II<sup>nd</sup> Semester

GEOG-507

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**COURSE NAME: DISASTER MANAGEMENT AND PLANNING  
"CONCEPTS AND STRATEGIES"**

Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- FUNDAMENTALS OF DISASTER MANAGEMENT**

- Unit 1- Disaster Management- Concepts & Philosophy
- Unit 2- Significance of Disaster Management & Disaster Threat
- Unit 3- Disaster & Disaster Management Cycle

**BLOCK 2- LONG TERM MEASURES**

- Unit 4- Prevention & Mitigation





- Unit 5- Preparedness
- Unit 6- Disaster & Development
- Unit 7- Disaster Managements Plans

**BLOCK 3- RESPONSE TO DISASTER IMPACT**

- Unit 8- Response & Search
- Unit 9- Rescue & Evacuation
- Unit -10 Logistics & Incident Command System (ICS)

**BLOCK 4- MAJOR POST IMPACT FACTORS**

- Unit 11- Recovery, Relief & Rehabilitation
- Unit 12- Post disaster review & Damage Assessment
- Unit 13- Restructuring

**BLOCK 5- REGIONAL PATTERN OF DISASTER MANAGEMENT**

- Unit 14- International Disaster Assistance (IDA)
- Unit 15- Leadership in Disaster Management
- Unit 16- Disaster Scenario & Disaster Management System of Uttarakhand

**M.Sc. II<sup>nd</sup> Semester**

GEOG-508

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**COURSE NAME: WATERSHED MANAGEMENT**

Programme : Master of Science

**UNIT SCHEDULE**

**BLOCK 1- CONCEPTUAL BASE**

- Unit 1- Introduction of Watershed Management
- Unit 2- Watershed as a Natural Unit
- Unit 3- Approaches of Watershed Management

**BLOCK 2- ECOSYSTEM & ENERGY ENVIRONMENT**





- Unit 4- Natural Resource Appraisal & Development
- Unit 5- Ecological Process & Ecosystem
- Unit 6- Hydrological Cycle, Energy Analyses & Energy Budget

### **BLOCK 3- ENVIRONMENTAL STATUS & HAZARDS**

- Unit 7- Environmental Health Status of the Watershed
- Unit 8- Impact of Environmental & Anthropogenic Interferences on the Status & Quality of Watershed
- Unit 9- Impact of Natural & Anthropogenic Activities on Ecosystem

### **BLOCK 4- FUNCTIONING OF ECOSYSTEM**

- Unit 10- Functioning of Watershed with Particular Reference to Uttarakhand Himalaya
- Unit 11- Environment Impact Assessment & Strategic Environment

### **BLOCK 5- WATERSHED MANAGEMENT**

- Unit 12- Watershed Management- Techniques & Methods
- Unit 13- Planning of Watershed Management Activities, Peoples Participation, Preparation of Action Plan
- Unit 14- Watershed Management in Uttarakhand

## M.Sc. II<sup>nd</sup> Semester

GEOG-509

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### **COURSE NAME: WORLD REGIONAL GEOGRAPHY**

Programme : Master of Science

#### **UNIT SCHEDULE**

#### **BLOCK-1 CONCEPTUAL BASES**

- Unit 1- Regional Geography, Concepts, Approaches, Methods & Significance
- Unit 2- Major World Regions & Blocks on Various Delimitation Bases
- Unit 3- Trade & Development Regionalization





## **BLOCK 2- REGIONS OF THE WORLD**

- Unit 4- Physical & Climatic Regions
- Unit 5- Vegetation & Bio-Geographical Regions
- Unit 6- Population & Cultural Regions
- Unit 7- Agricultural & Industrial Regions

## **BLOCK 3- TRADING BLOCKS, REGIONAL DEVELOPMENT AND PLANNING**

- Unit 8- Concepts Evolution of Trading Blocks
- Unit 9- Continental Trading: OPEC, EEC, USA
- Unit 10- Global Trading Blocks
- Unit 11- Importance Concepts, Approaches & Methods of Regional Development
- Unit 12- Planning Regions of India & Uttarakhand

### M.Sc. II<sup>nd</sup> Semester

GEOG-510

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## **COURSE NAME: GEOG 510-PRACTICAL GEOGRAPHY**

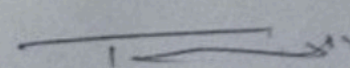
Programme : Master of Science

### **UNIT SCHEDULE**

#### **BLOCK 1- STATISTICAL METHODS**

- Unit 1- Sampling Theory: Basic Concepts Of Probability, Test & Significance 'T' Test & 'Chi Square' Test
- Unit 2- Measure of Dispersion: Variability, Range, Mean Deviation, Quartile Deviation, Standard Deviation
- Unit 3- Correlation: Karl Pearson & Spearman's Regression Analyses
- Unit 4- Cartography & Representation of Socio-Economic Data: Dots, Proportional Squares, Circles, Spheres, Coropleth, Star & Scatter Diagrams, Ergographs, Flow Line Diagrams.

#### **BLOCK 2- SURVEYING**

- Unit 5- Nature, Principles and Types of Surveying
  - Unit 6- Survey with Plane Table and Prismatic Compass
  - Unit 7- Contouring and Determination of Heights with Indian Pattern Clinometer
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### Cost estimate of the programme and the provisions:

Writing of 119 units in English: Rs. 6000x 119 = Rs. 714,000

Editing of 119 units: 3000x119 = 357,000

Typing of 2,618 pages (per unit approx. 22 pages): 2,618 x 20= 52360

Postal charges (Approx.) Rs. 5000

Total amount: 1,128,360 (Approx.)

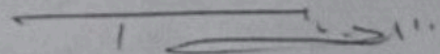
### Quality assurance mechanism and expected programme outcomes:

The programme will help in the development of professionally skilled, in general, and in corporate sector, in particular.

The programme will be implemented through only those Government degree colleges/ universities/ Institution which have facilities for conducting laboratory counseling in addition to this University will organize Laboratory workshop in designated places once (year/semester) for additional back up to the students so that competent and skilled human resource in produced. Further, the programme and SLM developed will be continuously upgraded and necessarily be revised after a period of 5 years.

#### **Programme outcomes:**

Bridge the flow of information between civil societies, professional, corporate, policy and decision-makers.







# DEPARTMENT OF GEOGRAPHY & NRM UTTARAKHAND OPEN UNIVERSITY

## Proceedings of Board of Studies

A Board of Studies (BOS) meeting was held on dated 27/03/2023 & 28/03/2023 (Offline Mode) in order to revise/restructure course curriculum/syllabus for Bachelors & Masters, programme/s in Geography. The meeting started with welcome address by the Director, School of Earth and Environmental Sciences and brief introduction of the programme was laid down by Programme Co-ordinator. Following members were present in the meeting:

- 1- Dr. P.D. Pant, Professor & Director, School of Earth and Environment Science, Uttarakhand Open University, Haldwani - **Chairperson**
- 2- Dr. R. K. Pande, Retd. Professor & Dean of Arts, Department of Geography, DSB Campus, Kumaun University, Nainital - **Member**
- 3- Dr. Simrit Kahlon, Professor, Department of Geography, Punjab University, Chandigarh - **Member**
- 4- Dr. Subhakanta Mohapatra, Professor, Department of Geography, IGNOU, New Delhi - **Member**
- 5- Dr. Ranju Joshi Pandey, Assistant Professor and Programme Co-ordinator, Department of Geography & NRM, Uttarakhand Open University, Haldwani - **Member**
- 6- Dr. Pradeep Pant, Department of Geography & NRM, Uttarakhand Open University, Haldwani - **Special Invitee**
- 7- Mr. Sudhanshu Verma, Department of Geography & NRM, Uttarakhand Open University, Haldwani - **Special Invitee**

The following decisions were taken unanimously with regard to implementation of Geography programme:

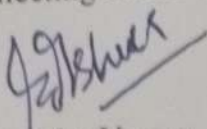
1. The syllabus of B.Sc. Geography & B.A. Geography is restructured according to NEP and approved by members.
2. The syllabus of M.Sc. Geography & M.A. Geography is restructured as per UGC guidelines and approved by members.
3. Expert list of Geography was finalized and approved by the members.
4. Admission eligibility for M.Sc. Geography programme will be Graduation with science stream and for M.A. Geography programme will be graduation with arts/commerce stream.
5. If any modification is urgently required regarding the Programme/Course/Contents etc., then the programme coordinator, with the endorsement of the higher authority (Director/ Director Academics) can make some minor changes (not more than 10% of the total syllabus). The modifications should be compulsorily placed in the next BOS meeting for approval.

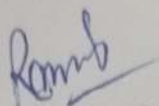
The meeting ended with vote of thanks to the Chair and all members.

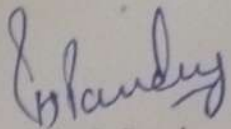
*Sudhanshu Verma*

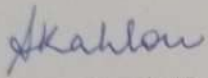



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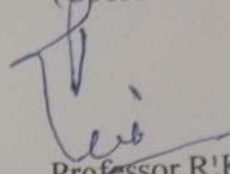
  
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(Special Invitee)


  
Dr. Pradeep Kumar Pant  
(Special Invitee)

  
Dr Ranju J. Pandey  
(Coordinator & Member)

  
Professor Simrit Kahlon  
(Member)

  
Professor Subhakant Mohapatra  
(Member)

  
Professor R.K. Pande  
(Member)

  
Professor P. D. Pant  
(Director & Chairperson)