

DEPARTMENT OF GEOGRAPHY

H.N.B. P.G. COLLEGE KHATIMA

VISION OF THE DEPARTMENT

Geography as a subject is offered at the undergraduate and postgraduate level to Arts, Science, and students so as to enhance and apply their knowledge and skills in multidisciplinary areas. Upon graduation, the students will be able to understand the impact of information and Knowledge change in society. Also, they will be to appreciate the current usage of in various fields of importance in agriculture, business, and industry. Further, the students will be exposed to the current trends in understanding basic physical and Human systems that affect everyday life (e.g. earth-sun relationships, water cycles, wind and ocean currents Population, settlement and transport).

MISSION OF THE DEPARTMENT

- Prepare students to present themselves effectively in a dynamic knowledge and technological, era.
- Promote the understanding and application of the spatial organization of society and see Order in what often appears to be a random scattering of people and places.
- Enable to have sound knowledge of the theory and practical for understanding core subjects
- Facilitate the development and application of problem-solving skills in students.
- After all students are socially responsible citizens.

The programme consists of Six Semesters, each with Two Theory Papers and One Practical Course. In Semester-III the Students have to participate in a compulsory Survey Camp organized normally outside the University Campus. The theory and practical programmes have been designed in such a way that they help students in attaining the holistic knowledge of the subject and in the overall development of the personality that includes physical, intellectual, moral, professional and aesthetic dimensions of human development.

The main objectives of the programme are:

- To acquaint students with the various dimensions of geographical and interdisciplinary knowledge and field realities.
- To develop students' comprehensive understanding of the major concepts, thoughts, and ideas of both conventional and modern streams and branches of Geography and its field applications.
- To expose students to emerging areas of science and technology, such as applications of Remote Sensing [RS], Geographical Information System [GIS], and Global Positioning System [GPS], and help them in building professional competence with in-depth knowledge.
- To sharpen students' critical, creative, liberal, innovative, and scientific thinking in the subject.
- Motivate students involved in self-reflexivity and lifelong learning.
- To inspire students in integrating different aspects of physical, practical, aesthetic, moral and intellectual dimensions of education to develop a holistic personality of each student.
- To help the student in becoming a responsible citizen for the nation and a sensitive and creative human resource for the society's strong value base and ethics.
- To familiarize students with environmental contexts, inclusivity and sustainable development, technology, discussion, professional studies and research.

PROGRAMME OUTCOMES [POs]:

PO1: Enrichment of Intellectual Ability: The programme develops students' comprehensive understanding of the various dimensions of geographical and interdisciplinary knowledge and field realities. It acquaints students with the major concepts, thoughts, and ideas of both conventional and modern branches of Geography and interdisciplinary streams of knowledge, and their field applications. It also enriches their analytical, and critical, creative faculties.

PO2: Inculcation of Planning Abilities: The programme develops effective planning abilities including time management, resource management, delegation skills and organizational skills of students which may develop their leadership qualities.

PO3: Appropriate Application of Knowledge Methodological Tools: The programme makes a sincere attempt of familiarizing students with critical knowledge and methodological tools which help them in making applications of new ideas, thoughts, and concepts in the real world.

PO4: Formation of Professional Identity: The programme intends to develop professional skills among students that would help them in building their professional identity as well becoming professional leaders from local to global levels.

PO5: Developing Communicative Competence: The programme intends to develop grammatical and communicative competence among students and make them aware of the nature, form and function of Hindi and English languages. The programme therefore nurtures listening, writing, speaking and reading skills of students which allow them to communicate effectively and improves their access to new knowledge.

PO6: The knowledge, Knower and Society: The programme disseminates the fact the conception and distribution of knowledge in any form seems meaningless unless it is seen functioning in a society which is defined by the existence of human beings. Thus, the programme intends to integrate knowledge with the human society and nature. This will help in Creating a Sustainable, Flexible, Enduring and Peaceful Global Society.

PO7: Environment and Sustainability: The unprecedented growth and development have disrupted the nature as well as natural resources. In view of this, the programme intends to prepare students to respond to some major issues of environmental conservation and sustainable development.

PO8: Lifelong Learning: The programme would motivate and inspire the students to strive on the path of lifelong learning as creation and acquaintance of emerging knowledge and ideas.

PROGRAMME SPECIFIC OUTCOMES [PSOs]

PSO1. Understand the complexities of man and nature relationships.

PSO2. Integration of Geography with various social and natural sciences.

PSO3. Developing geography as an important professional discipline

PSO4. Identifying new areas for the application of Space and Geo-spatial Sciences.

PSO5. Develop capacity to find solutions to new and emerging risks and challenges that the global society is facing currently.

SEMESTER COURSE FRAMEWORK

SEMESTER-I

Geography (B.A/B. Sc)

PAPER I -PHYSICAL GEOGRAPHY (GUGP-101)

Outcomes: On completion of the course, the student will be able to:

- This course will familiarize students with the basic understanding of the constituents of Information Technology.
- The intention is to lay the foundation for the core subjects.
- To polish their practical knowledge in office automation tool.
- Describe, Meaning, Scope and Branches of Physical Geography, Explain the Origin of the earth, Interior of the earth, Rocks: origin and classification.
- Interpret the Origin of continents and ocean basins and related theories, and describe Mountains, Plateaus and Plains, Gradational processes, Weathering and Erosion.
- Analyze Composition and structure of the atmosphere, Insulation, Vertical and Horizontal Distribution of atmospheric temperature Pressure and pressure belts, and Wind: Planetary, Periodic and Local.
- Describe Ocean bottom topography, Ocean deposits, Salinity, Temperature, Ocean currents, Tides and Coral reefs.

PAPER II- GEOGRAPHY OF ASIA (Excluding India) (GUGP-102) Max. Marks: 50

Learning Outcomes: On completion of the course, the student will be able to:

- Describe Structure and relief, Drainage, Climate, Natural vegetation, Soils, Natural regions of Asia
- Analyze Population distribution, Agriculture and agriculture regions, Principal minerals.

- Classify Industries and industrial regions, Transport, Major cities, Sources of power.
- Describe Regions and countries: Japan, China, Pakistan, Indonesia, Iran and Israel.

PAPER III- PRACTICAL (Basic Cartographic Techniques) (GUGP-P-103)

Learning Outcomes: On completion of the course, the student will be able to:

- Draw different types of Scales
- Enlarge, reduce and combine different types of maps
- Describe concept, nature and scope of cartography, Globe and maps, Essentials of maps, History of map making, Types and uses of maps, Elements of map reading
- Learn and practice Cartographic representation of relief: Hachures, Contours, Form-line, Spot height, Bench mark, Trig point, Layer tint; Interpolation of contours

SEMESTER-II

PAPER I- GEOMORPHOLOGY (GUGP-201)

Learning Outcomes: On completion of the course, the student will be able to:

- Describe Nature and scope of Geomorphology, Dominant contemporary methodologies, The role and nature of time in Geomorphology, Space in Geomorphology
- Describe Models of Landscape Evolution: Davis, Penck, King and A time-independent model of Heck, Deterministic modelling of process-response.
- Analyze Isostasy, Seismicity, Vulcanicity, Tectonic and neo-tectonic landforms
- Describe Mass wasting and associated landforms, Landforms associated with geomorphic agents: surface water, underground water, glaciers, sea waves and winds

PAPER II- GEOGRAPHY OF INDIA (GUGP-202)

Learning Outcomes: On completion of the course, the student will be able to:

- Describe Physical features, Geologic structure, Drainage system, Climate, Natural vegetation, Soils, Natural regions
- Describe Agriculture, Crops, Agriculture production, Agriculture regions, Irrigation, Livestock raising and Fishery
- Describe Industries Industrial regions, Minerals and Power resources
- Analyze Population density, distribution and urbanization, Transport, Multipurpose projects, foreign trade, Regional development and planning

PAPER III- PRACTICAL (MAP READING)

Learning Outcomes: On completion of the course, the student will be able to:

- Reading and classifying Indian topographical maps
- Interpretation of topographical maps and preparation of base map, index map, drainage map, orographic map
- Interpretation of topographical maps and preparation of land use map, settlement map and transport network map.
- Reading Indian weather maps: Their interpretation and preparation of weather report

SEMESTER-III

PAPER I- CLIMATOLOGY AND BIOGEOGRAPHY (GUGP-301)

Learning Outcomes: On completion of the course, the student will be able to:

- Describe Nature and scope of climatology, General circulation of the atmosphere, monsoon, Local winds, Humidity, Fog and clouds, Precipitation, Air Masses, Cyclones and anticyclones.

- Classify Climate type and describe their distribution, understand Climate change
- Analyze Biosphere and bio-geography-concept, scope and components, Ecosystem concept, component and functioning, Ecology- some conceptual aspects
- Describe Distribution of plants in different ecosystem and ecological conditions, Distribution of animals in different ecosystem and ecological conditions, Environmental degradation.

PAPER II- HUMAN GEOGRAPHY

Learning Outcomes: On completion of the course, the student will be able to:

- Define concept of Human Geography and describe Nature and scope of Human Geography, Branches of Human Geography, Concept of man-environment relationship: Determinism, Possibilism and Neo-determinism
- Describe Evolution of man: Classification of races, Characteristics of races and their broad distribution, Human adaptation to the environment: Eskimo, Bushman, Masai, Naga and Tharus
- Describe Growth and distribution of population, World pattern: Physical, economic and social factors, Major human agglomerations, Migration: Internal and international
- Describe and Classify Rural settlements: Types and pattern, Urban settlement: Evolution and classification, Rural houses in India, Cultural regions of the world

PAPER III- PRACTICAL – THEMATIC CARTOGRAPHY (GUGP-P-303)

Learning Outcomes: On completion of the course, the student will be able to:

- Represent geographical data by (a) dot method (b) proportional sphere method and circle method.
- Represent climatic data: Climatograph, Climograph and Hythergraph
- Represent economic data: Agriculture land use and production and industrial data, Representation of population data: Growth, distribution and employment

- Describe Drainage ordering, Slope analysis: Wentworth's and Smith's methods

SEMESTER-IV

PAPER I- URBAN GEOGRAPHY (GUGP-P-401)

Learning Outcomes: On completion of the course, the student will be able to:

- Discuss concept of Urban Geography, Urbanism and urbanization, Trends of urbanization in the world
- Describe Towns and culture, Origin and growth of ancient towns, Modern towns and their problems,
 - Site and situation of towns, Urban morphology: Meaning and principles
- Describe Urban areas and the conurbation, Rural-urban fringe, Umland
- Describe Functional classification of towns, Hierarchy of urban settlement, Town planning: Meaning and principles

PAPER II- ENVIRONMENTAL GEOGRAPHY (GUGP-P-402- (a))

Learning Outcomes: On completion of the course, the student will be able to:

- Define Concept, Scope and evolution of Environmental Geography, Environment, Man and environmental processes
- Describe Ecosystem: Food chains, Trophic levels and Productivity, Energy flow, Circulation of element and Geo-biochemical cycle
- Describe Ecosystem services, Biomes, Bio-diversity, Soil system, Man and climate
- Interpret Environmental degradation, Environmental events and hazards, Environmental pollution, Environmental conservation and planning

PAPER II- WORLD REGIONAL GEOGRAPHY (EXCEPT ASIA)

Learning Outcomes: On completion of the course, the student will be able to:

- Explain Meaning and scope of Regional Geography, Regions and regionalism, Globalization and WTO, Population-environment and sustainable development
- Describe Europe: A geographical introduction, Physical structure, Economic and demographic pattern, regional study of United Kingdom
- Describe North America: A geographical introduction, Physical structure, Economic and demographic pattern, regional study of United States of America
- Describe Latin America: A geographical introduction, Physical structure, Economic and demographic pattern, regional study of Brazil.

PAPER III- PRACTICAL- SURVEYING

Learning Outcomes: On completion of the course, the student will be able to:

- Describe Fundamentals of Surveying: Objects, Primary divisions of survey, Classification
- Perform Surveying by Prismatic Compass: Radiation, Intersection, Close Traverse, Open Traverse, and Correction of bearing
- Perform Plane Table Surveying: Radiation, Intersection, Close Traverse, Open Traverse, Resection by two point and three-point problems
- Measure height/depth by Indian Pattern Clinometer

SEMESTER-V

PAPER I- EVOLUTION OF GEOGRAPHICAL THOUGHTS (GUGP-501)

Learning Outcomes: On completion of the course, the student will be able to:

- Define and analyze concept and purpose of Geography, Science and philosophy of Geography, The basic concepts of Geography, Techniques and tools in Geography, Different branches of Geography, Aspects of study and Relationship with other Sciences
- Describe Geography in classical times: Greek and Roman Geographers, Contribution by Arab Geographers, Renaissance, Eighteenth century Geography, Classical period of Geography
- Discuss Formulation of scientific Geography, Schools of thought; German, French, Environmental determinism, possibilism, Neo-determinism and probabilism, British, American and former Soviet Union
- Describe Dualism in Geography, Dichotomism of scientific and regional Geography; Unity in Geography, Recent Trends in Geography

PAPER II- OCEANOGRAPHY (GUGP-502(a))

Learning Outcomes: On completion of the course, the student will be able to

- Define concept, scope and development of Oceanography, describe Distribution of water over the globe
- Map Relief of the ocean floor, Continental drift and ocean floor spreading, Composition of sea water
- Discuss Temperature in oceans, Salinity, density and water masses in oceans, Marine deposits
- Map and analyze Coral landforms, Waves and tides, Ocean currents, Marine life

PAPER II- AGRICULTURAL GEOGRAPHY

Learning Outcomes: On completion of the course, the student will be able to

- Define Nature, scope, significance and development of Agriculture Geography, describe Approaches to the study of Agricultural Geography: Commodity, systematic, regional, behavioural and recent approaches etc., Origin and dispersal of agriculture
- Describe Determinants of agricultural land use: Physical, economic, social, and technological, Land holding and land tenure systems, Agricultural efficiency Concepts, Techniques and Methods of measurements; Methods of delimiting crop combination, cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization
- Explain Theories of Agriculture Geography, von Thunen's theory (model) of agricultural location and its recent modifications, Demarcation of Agricultural regions, Whittlesey's classification of agricultural regions; Land use and land capability
- Describe Regional pattern of productivity in India, Green Revolution, White Revolution, Food deficit and food surplus regions; World pattern of Agriculture: Subsistence agriculture, Commercial farming, Plantation agriculture, Mixed agriculture, State, collective and cooperative farming

PAPER II- POPULATION GEOGRAPHY

Learning Outcomes: On completion of the course, the student will be able to

- Describe Nature, Scope and Development of Population Geography; Source and Types of Population Data: Census, Sample Survey and Vital Registration System; Theories of Population: Classical and Modern
- Analyze World Population: Growth, Causes and Consequences; Factors Affecting Population Distribution; Demographic Transition Theory; Migration Types and Determinants
- Discuss Population Characteristics: fertility and Mortality; Age and Sex Structure; Occupational Structure; Human Resource Development and Human Development Index; Urbanization
- Map Population Resource Region of India; Population Growth and Distribution in India;

Density Types; Population Problems and Population Policy in India

PAPER III- PRACTICAL- PROJECTIONS

Learning Outcomes: On completion of the course, the student will be able to:

- Define and understand of map projection, Necessity of map projections, Mathematical method of drawing projection, Classification of map-projections
- Construct map projections: Simple conical projection with one and two standard parallels, Bonne's projection, Polyconic projection
- Construct Cylindrical projections: Equidistant and Equal area cylindrical projections, Mercator's, Gall's stereographic projection
- Construct Zenithal Projections: Polar zenithal equidistant, Equatorial zenithal equidistant, Polar zenithal equal-area, Equatorial zenithal equal area

SEMESTER-VI

PAPER I- ECONOMIC GEOGRAPHY

Learning Outcomes: On completion of the course, the student will be able to

- Define concept, aim and scope of economic geography, Resources, classify resources, describe conservation and concepts, Economic landscapes
- Analyze Primary production, Vegetation & forest economy, Soil resources, Mineral resources, Power resources, describe Resource conservation
- Define and map Agricultural regions, describe Principle crops, Theory of agriculture location, Theory of industrial location and industrial regions, Major industries
- Describe World transportation, International trade, patterns and trends, Major trade blocks, Globalization and developing countries

PAPER II- REGIONAL PLANNING AND DEVELOPMENT (GUGP-602(a))

Learning Outcomes: On completion of the course, the student will be able to

- Define Regional concept in geography; Concept, Scope and purpose of Regional planning, classify regions
- Describe Regional Planning: Planning process - sectoral, temporal and spatial dimensions; short term and long-term perspective planning, Indicators of development and their data sources, measuring levels of regional development and disparities, Planning for a region's development and multi-regional planning in a national context
- Describe Regional development strategies: Concentration vs. dispersal, Case studies for plans of developed and developing countries, Regional planning in India, Regional development in India: problems and prospects, Regional disparities: causes and consequences
- Analyze Concept of Multi-level planning: Decentralized planning; people's participation in the planning process, Concept and approaches of urban development, Landscape ecology and sustainable urban development, Application of remote sensing and Geographic Information systems in Development Planning

PAPER-II- POLITICAL GEOGRAPHY

Learning Outcomes: On completion of the course, the student will be able to

- Define basic concepts and scope of Political Geography; Describe Politics, Geopolitics; History and Development, Approaches of Political Geography.
- Discuss Concept of Nation, State and Nation-State; Geographic Characteristics of States: Size, Shape, Location, Cores and Capitals; Nation Building/Nationalism; Define Frontier and Boundaries; Differentiate Between Frontier and Boundaries; classify Boundaries and describe their Role and Importance in States Functioning.
- Describe Global Geo-politics; Interpret Mahan, Mackinder, Spykman and Seversky with Other Views Related to Heartland and Rimland.
- Describe Political Geography of India; Resource Development and Power Politics; Geopolitical Study of Indian Ocean; Political Geography of SAARC Region; Electoral

Geography.

PAPER II- GEOGRAPHY OF TOURISM (GUGP-602(c))

Learning Outcomes: On completion of the course, the student will be able to

- Define fundamental Concepts, classify Tourism; Describe Resources and Infrastructure for Tourism
- Assess Physical, Economic, Social and Cultural Impacts of Tourism; Describe Concept of Ecotourism, and New Emerging Trends in Tourism
- Discuss Tourism Marketing; Describe the Tourist Product, Tourism Circuits, Tour Agencies Describe Globalization and Tourism; Tourism in India; Resource and Growth; National Tourism Policy in India; Tourism Organizations. Tourism in Uttarakhand: Policies and Planning.

PAPER III- PRACTICAL- STATISTICAL TECHNIQUES AND GEOINFORMATICS

Learning Outcomes: On completion of the course, the student will be able to:

- Elucidate Types of data, Collection of data, Methods of sampling, Measures of central tendency
- Analyze Measures of dispersion, Correlation Coefficient
- Explain Components of remote sensing, Platform and sensors Ground truth, Elements of image interpretation; Image processing techniques: Visual and digital, Geometric and Radiometric corrections, Restoration; Enhancement and Classification: supervised and unsupervised
- Perform Geo-referencing, explain Spatial and Non-spatial data; Raster and Vector models for geographic data representation, Linkages and Matching, Principal Functions of GIS; Data Capture; Geographic Analysis; Scanning System; Data Conversion, Data Base

Management System (DBMS); Geo-Relational Data Model; Topological Data Structure;
Attribute Data Management; Relational Database - Concepts and Model, Digital Elevation
Model (DEM)

Manoj K. Singh

Department of Geography