**Program Outcomes (PO), M.Sc. Geography**

Programme outcomes of post-graduate in Geography develop understanding, skills and competence among the students to relate geographical knowledge with various paces of life and profession. Programme outcomes of post-graduate in Geography will further enhance interpretative and analytical skills, logical and critical thinking, scientific and research aptitude widen horizons of thinking, problem solving, participative and responsible decision making, experiential learning and many more society and environmental relevant issues.

**PO1:** Understanding and knowledge about the association in the physical and cultural attributes.

**PO2:** Ability to interpret and analyze patterns and processes of different levels of development of societies in the cotemporary world.

**PO3:** Develop scientific and research aptitude among students

**PO4:** Develop communication skills for better sharing of ideas

**PO5:** Promote leadership and team work spirit among the students

**PO6:** Ability to use modern technologies to redress new emerging issues such as climate change, global warming, disaster management, resource management, cropping pattern, landuse and land cover etc

**Program Specific Outcomes (PSO’s):**

• **PSO1:** Philosophical and theoretical **u**nderstanding about the physical and cultural phenomena pertaining to various sub-fields of geography.

• **PSO2:** Ability to use the state of art geospatial knowledge for resolving the geographical, social, economic, environmental problems of the society.

• **PSO3:** Learning the methods and techniques of data acquisition, data processing and interpretation related to the spatial and attribute data.

• **PSO4:** Ability to demonstrate and communicate the geographical knowledge and inculcate analytical ability, research aptitude and relevant skills.

**Course Outcomes**

*M.Sc. Geography Programme*

Semester-I

**Course Name: Climatology-101**

**Course Outcomes (COs):**

 **GEOG-101. 1**: Enhancement of knowledge about atmospheric constituents and structure.

 **GEOG-101.2**: Development of scientific understanding about climatic elements and their ` characteristics.

 **GEOG-101.3**: Sharpens the understanding about atmospheric moisture, stability, instability, and weather systems.

 **GEOG-101.4**: Articulate knowledge about climatic classification, climate change and global warming.

**Course Name: Geography of India-102**

**Course Outcomes (COs):**

 **GEOG-102.**1: Provides understanding and explanation of the physical structure and associated characteristics of India.

 **GEOG-102.2:** Enrich skills about patterns of agriculture and irrigation systems.

 **GEOG-102.3:** Acquaintance with geographical distribution and production of major resources.

 **GEOG-102.4:** Ability to explain the patterns of industries and international trade of India.

**Course Name: Economic Geography-103**

**Course Outcomes (COs):**

 **GEOG-103.1**: Provides understanding about economic activities and patterns of economies.

 **GEOG-103.2:** Familiarization with patterns of energy and mineral resources

 **GEOG-103.3:** Acquaintance with the network, structure and localtional models

 **GEOG-103.4:** Ability to explain aspects of globalization and trade relations

**Course Name: Statistical Methods in Geography-104**

**Course Outcomes (COs):**

 **GEOG-104.1**: Familiarization with the methods and practice average and dispersion

 **GEOG-104.2:** Enhancement of knowledge about probability and sampling techniques

 **GEOG-104.3:** Enrichment of knowledge about correlation and regression models.

 **GEOG-104.4:** Acquaintance with bivariate and multivariate analytical techniques.

**Course Name: Cartographic Methods in Geography -105**

**Course Outcomes (COs):**

 **GEOG- 105.1** Develop skills about representation of climatic data through maps and diagrams.

 **GEOG- 105.2** Enhance skills to prepare thematic maps and diagrams.

 **GEOG- 105.3** Skill acquaintance of representation of socio-economic data through charts and diagrams.

 **GEOG- 105.4** Ability to represent and interpret statistical data using diagrams and maps.

**Course Outcomes**

*M.Sc. Geography Programme*

Semester-II

**Course Name: Geomorphology -201**

**Course Outcomes (COs):**

 **GEOG-201.**1: Development of understanding about the fundamental concepts of geomorphology.

 **GEOG-201.**2: Enrichment of knowledge about tectonic activities and hill slope relationship.

 **GEOG-201.**3: Familiarization with the processes and patterns shaping the landforms.

 **GEOG-201.**4: Examine the environmental management using principles of applied geomorphology.

**Course Name: Population Geography-202**

**Course Outcomes (COs):**

 **GEOG-202.1**: Knowledge about population data base, methodological issues and mapping.

 **GEOG-202.2:** Familiarization with the demographic attributes

 **GEOG-202.3:** Enrichment of knowledge about population theories and models.

 **GEOG-202.4:** Formation and implementation of population policies and environment

**Course Name: Regional Development and Planning with Special Reference to India-203**

**Course Outcomes (COs):**

 **GEOG-203.1**: Understanding of basic concepts of regional planning and development.

 **GEOG-203.2:** Acquaintance with models of regional development.

 **GEOG-203.3:** Enrichment of knowledge about regional disparities and challenges in India.

 **GEOG-203.4: P**reparation of developmental plans and strategies in India.

**Course Name: Agriculture Geography- 204**

**Course Outcomes (COs):**

 **GEOG-204.1** Enrichment of knowledge about origin, distribution and significance of agricultural activities.

 **GEOG-204.2** Enhancement of knowledge about cropping pattern and changing land use.

 **GEOG-204.3** Acquaintance with agricultural systems, efficiency and productivity and food security.

 **GEOG-204.4** Examining the impacts of climate change and economic liberalization on agriculture.

**Course Name: Introduction to Toposheets and Morphometric Analysis in Geography-205**

**Course Outcomes (COs):**

 **GEOG-205.1**: Acquisition of skills to extract physical and cultural information from Toposheets

 **GEOG-206.2:** Interpretation and skills of drawing of transverse and longitudinal profiles.

 **GEOG-206.3:** Acquisition of skills and Ability to represent the linear, areal and relief aspects of drainage basin.

 **GEOG-206.4:** Ability andCapability to prepare the slope and relative relief from toposheet.

**Course Outcomes**

*M.Sc. Geography Programme*

Semester-III

**Course Name: Geography and Ecosystem- 301**

**Course Outcomes (COs):**

**GEOG-301.1** Familiarization with the concept, elements and functions of an ecosystem.

**GEOG-301.2** Enrichment of knowledge about distribution and characteristics of different biomes.

**GEOG-301.3** Awareness about the inter-linkages between society and resources.

**GEOG-301.4** Examining the world environmental problems and policy framework.

**Course Name: Field Methods in Geography (Socio-economic) (Theory)- 302A**

**Course Outcomes (COs):**

 **GEO-302A.1**: Ability to identify research problem and formulation of research design.

 **GEO-302A.2:** Capability of collection, analysis and retrieval of data

**Course Name: Field Methods in Geography (Socio-economic) (Practical)- 302B**

**Course Outcomes (COs):**

 **GEOG-302B.:** Capability to explain the data analysis and presentation and report writing.

**Course Name: Urban Geography-303 (i)**

**Course Outcomes (COs):**

**GEOG-303.1** Provides understanding about evolution of towns and pattern of urbanization

**GEOG-303.2** Enrichment of knowledge about classification and characteristics of cities.

**GEOG-303.3** Acquaintance with urban morphology and city land use models.

**GEOG-303.4** Examining and application of functioning and relevance of theories of urban development.

**Course Name: Geography and Disaster Management-304 (iv)**

**Course Outcomes (COs):**

**GEOG-304.1** Understanding and explaining the classification and distribution of disasters

**GEOG-304.2** Enrichment of knowledge about natural and human induced disasters.

**GEOG-304.3** Acquaintance with the concepts of structure of disaster management, vulnerability and mitigation

**GEOG-304.4** Application of role of geospatial technology in disaster management.

**Course Outcomes**

*M.Sc. Geography Programme*

Semester-III

**Course Name: Introduction to Remote Sensing (Theory) -305A**

**Course Outcomes (COs):**

 **GEOG-305A.**1: Acquaintance with the fundamentals of remote sensing and its process.

 **GEOG-305A.**2: Skill enhancement of types and uses of aerial photographs along with fundamental concepts.

 **GEOG-305A.**3: Ability of Understanding about general characteristics of satellites and remote sensing sensors.

 **GEOG-305A.**4: Capability building on digital image processing and its applications in resource monitoring and mapping.

**Course Name: Introduction to Remote Sensing (Practical)-305B**

**Course Outcomes (COs):**

 **GEOG-305B.**1: Acquisition of skills of measurements on aerial photographs and identification and interpretation of physical and socio-economic features on aerial photographs.

 **GEOG-305B.**2. Capability to prepare the thematic map on land use /land cover.

 **GEOG-305B.**3: Acquaintance with different digital data products and software for the processing of satellite data.

 **GEOG-305B.**4: Capability about techniques like image rectification, creating subset, merging image of various resolution, to make remote sensing data ready for interpretation.

**Course Outcomes**

*M.Sc. Geography Programme*

Semester-IV

**Course Name: Geographic Thought-401**

**Course Outcomes (COs):**

**GEOG-401.1** Cognizance of nature and philosophy of geography.

**GEOG-401.2** Contextualization of development of geographic knowledge in different time periods.

**GEOG-401.3** Understanding of philosophy and themes in modern geography

**GEOG-401.4** Ability to explain the positivist, QM and alternative explanations in geography.

**Course Name: Hydrology and Oceanogarphy-402**

**Course Outcomes (COs):**

**GEOG-402.1** Knowledge about the basic concepts and applications of hydrology.

**GEOG-402.2** Acquaintance with techniques of rainfall estimation and runoff processes.

**GEOG-402.3** Ability to understand about topographic features of oceanic floor and deposits.

**GEOG-402.4** Capability to explain the movement and circulation in oceanic water.

**Course Name: Regional Geography of India with Special Reference to Haryana-403(i)**

**Course Outcomes (COs):**

**GEOG-403.1** Familiarization with the concept of region and regionalization.

**GEOG-403.2** Awareness about classification and patterns of regions in India

**GEOG-403.3** Ability to explain the patterns of physical and economic diversities in Haryana.

**GEOG-403.4** Application of demographic characteristics and socio-economic development in Haryana.

**Course Name: - Urbanization in India- 404 (v)**

**Course Outcomes (COs):**

**GEOG-404.1** Understanding about the history, processes and patterns of urbanization in India.

**GEOG-404.2** Acquaintance with contemporary urban issues and problems.

**GEOG-404.3** Augmentation of knowledge about urbanization and socio-economic changes.

**GEOG-404.4** Ability to explain the metropolitan regions of India and urban policies.

**Course Outcomes**

*M.Sc. Geography Programme*

Semester-IV

**Course Name: Fundamentals of Geographical Information Systems (Theory)-405A**

**Course Outcomes (COs):**

 **GEOG-405A.**1: Acquaintance with the fundamentals of Geographical Information Systems.

 **GEOG-405A.**12: Capability to differentiate the data types in geographical information systems.

 **GEOG-405A.**13: Ability to Understand about different fundamentals concepts which are essential for understanding of geographical information system are based such as DBMS, projection systems etc.

 **GEOG-405A.**14: Articulate the applications of geographical information systems in resource mapping.

**Course Name: Fundamentals of Geographical Information Systems (Practical)-405B**

**Course Outcomes (COs):**

 **GEOG-405B.1**: Acquisition of skills to handle geographical information systems software.

 **GEOG-405B.2:** Enhancement of skills in processing of digital imageries using techniques of GIS.

 **GEOG-405B.3:** Ability of creation of geo-data base and shape file.

 **GEOG-405B.4:** Capability to apply the techniques of displaying attribute data on map by various methods and printing of theme map.