GDC Memorial College, Bahal (Bhiwani)

NAAC Accredited Grade 'B'

Department of Geography

Programme Outcomes, Programme Specific Outcomes and Course Outcomes

M.Sc. Geography (Two year program)

Programme Outcomes (PO)

A geography degree will provide you with the knowledge and skills you need to begin a variety of rewarding careers. Geographers work as urban planners, GIS technicians and analysts, disaster preparedness planners, teachers, environmental scientists, remote sensing analysts, transportation planners, demographers, hydrologists and in a variety of other areas. After successful completion of two year degree program in physics a student should be able to;

PO.1. Ability of Problem Analysis: Student will be able to analyses the problems of physical as well as cultural environments of both rural and urban areas. Moreover, they will try to find out the possible measures to solve those problems.

PO.2.Conduct Social Survey Project: They will be eligible for conducting social survey project, which is needed for measuring the status of development of a particular group or section of the society.

PO.3. Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO.4. Application of modern instruments: Students will be able to learn the application of various modern instruments and by these; they will be able to collect primary data.

PO.5. Application of GIS and modern Geographical Map Making Techniques: They will learn how to prepare map based on GIS by using the modern geographical map-making techniques.

PO.6. Development of Observation Power: As a student of Geography Course, they will be capable to develop their observation power through field experience and in future, they will be able to identify the socio-environmental problems of a locality.

PO.7. Development of Communication Skill and Interaction Power: After the completion of the course, they will be efficient in their communication skill as well as power of social interaction. Some of the students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.

PO.8. Effective Citizenship: Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

Programme Specific Outcomes (PSO)

After completion of these courses students will able to:
The M.Sc. in geography program offers students the opportunity to advance their career aspirations through advanced study in the classroom and in the field. The programme in geography is tailored to meet the students' specific educational, research and professional goals in mind. It focuses on spatial studies, qualitative as well as quantitative, and emphasizes on human-environment relationship.

PSO.1. Design and conduct independent research in their chosen field in the discipline.

PSO.2. Demonstrate knowledge of concepts, methods, and theories designed to enhance understanding of the natural world and human society.

PSO.3. Communicate the results and significance of their research in both written and oral form
PSO.4. Evaluate how historical events have been influenced by, and have influenced, physical and human geographic factors in local, regional, national, and global settings.

PSO.5. Examine social and environmental processes, with a particular focus on space and place, critical theory, practical application, analysis and intervention in chosen field within the discipline of Geography.

PSO.6. Evaluate causes, consequences, and possible solutions to persistent, contemporary, and emerging global issues.

PSO.7. Follow established ethical guidelines for research and teaching.

PSO.8. Have an in-depth understanding of and mastery of the literature in, at least one particular geographic subfield.

PSO.9. Classify processes of environmental change and evaluate the relationship between human beings and their surroundings, bringing to bear knowledge from many disciplines.

PSO.10. A geographer has better job opportunities in government departments, Cartographer, Researcher, Teacher/Professor, Competitive Examinations, Government employer, GIS specialist, Climatologist, Transportation Manager, Surveyor, GPS Surveyors.

Course Outcomes (CO)

M.Sc. (Geography) 1st Semester

Subject: Geomorphology **Subject Code: 19GEO-101**

Course Outcomes (CO)
After successful completion of the course, the student is expected to:

1. Describing human-environment, and nature-society interactions as well as global human and environmental issues.
2. Identifying and explaining the planet's human and physical characteristics and processes, from global to local scales.
3. Evaluating the impacts of human activities on natural environments.
4. Applying knowledge of global issues to local circumstances to evaluate the local effects of the issues.
5. Showing an awareness and responsibility for the environment.

Subject: Economic Geography ` **Subject Code: 19GEO-102**

Course Outcomes (CO)
After the completion of the course, Students will be able to

1. Students will become sensitized to concept of resources.
2. Students will become sensitized the classification of resources.
3. Learn about use and misuse of resources.
4. Will learn conservation methods and techniques.
5. Showing an awareness and responsibility for the environment.

Subject: Geography of India **Subject Code: 19GEO-103**

Course Outcomes (CO)
After the completion of the course, Students will be able to

1. Identifying and explaining the Indian Geographical Environment, from global to local scales.
2. Applying geographical knowledge to everyday living.
3. Applying knowledge of global issues to a unique scientific problem.
4. Showing an awareness and responsibility for the environment and India.

5. Evaluating the impacts of human activities on natural environments special reference to India.

Subject: Statistical Methods in Geography **Subject Code: 19GEO-104**

Course Outcomes (CO)

After the completion of the course, Students will be able to

1. Keeping in view the nature of data and purpose of study, students would be able to make a rational choice amongst listed various statistical methods.
2. Demonstrate understanding of basic concepts of probability and statistics embedded in their courses.
3. Show proficiency in basic statistical skills embedded in their courses.
4. Students shall know how to organize, manage, and present data.
5. Students shall know how to organize, manage, and present data.
6. Demonstrate ability to write reports of the results of statistical analyses giving summaries and conclusions using nontechnical language.

Subject: Cartography & Morphometric Analysis **Subject Code: 19GEO-105**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1. The basic aim of this course is to provide basic understanding of Cartography, Thematic mapping & to provide the training for spatial Data Analysis.

CO.2. The Morphometric analysis of the drainage basin and channel network play an important role in understanding the geo-hydrological behavior of drainage basin and expresses the prevailing climate, geology, geomorphology, structural antecedents of the catchment.

CO.3. Students should be able to understand the importance and uses of maps and the relationship and juxtaposition of features therein.

M.SC. (Geography) 2nd Semester

Subject: Geographical Thought **Subject Code: 19GEO-201**

Course Outcomes (CO)

After the completion of the course, Students will be able to

1. This should enable the student to critically look at the contents of other courses at Postgraduate level as logically integrated with the broad currents of thought the subject has witnessed in the distant and recent past
2. Students will demonstrate an advanced understanding of the historical development of geographical thought.
3. They can understand the major current philosophical and theoretical debates in geography.
4. Students will demonstrate an understanding of current research within the breadth of geography, as well as more in depth knowledge of research in their specialty areas.
5. Students will develop a solid understanding of the concepts of “space," “place” and “region” and their importance in explaining world affairs.

Subject: Climatology **Subject Code: 19GEO-202**

Course Outcomes (CO)

After the completion of the course, Students will be able to

1. Understand the physical basis of the natural greenhouse effect, including the meaning of the term radioactive forcing.
2. Know something of the way various human activities are increasing emissions of the natural greenhouse gases, and are also contributing to sulphate aerosols in the troposphere.
3. Demonstrate an awareness of the difficulties involved in the detection of any unusual global warming ‘signal’ above the ‘background noise’ of natural variability in the Earth’s climate and of attributing (in whole or in part) any such signal to human activity.
4. Understand that although a growing scientific consensus has become established through the IPCC, the complexities and uncertainties of the science provide opportunity for climate sceptics to challenge the Panel's findings.
5. On successful completion of this course, students should be able to understand the mean global atmospheric circulations and disturbances, world climate systems, climatic variability and change.

Subject: Agricultural Geography **Subject Code: 19GEO-203**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1. Provide fundamental understanding about concept, origin and development of agriculture.

CO.2. Understand the contemporary issues and challenges faced by the agrigarian system and communities.

CO3. Develop ideas of the basic characteristics of Indian economy, its potential on natural resources.

CO3. Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.

CO4. Demonstrate the importance of agricultural geography in the overall understanding of man and environment relationship.

CO5. Understand the determinants of agricultural activities that lead to spatial variation.

CO6. Demonstrate an understanding of the concept, principles and theories in the field of agricultural systems.

CO7. Identify agricultural regions with special reference to India and understand the evolution and development of these regions.

CO8. Evaluate the significance of science and technology in the development of agriculture and the implications on society and ecology

Subject: Population & Settlement Geography **Subject Code: 19GEO-204**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO1. Demonstrate the importance of population studies in the overall understanding of man and environment relationship.

CO2. Understand the dynamics in population studies that lead to variation from place to place.

CO3. Demonstrate an understanding of the concept, principles and theories in the field of population studies.

CO4. Explain how population composition and characteristics influence man and determines human activities.

CO5. Gain awareness in contemporary population issues faced at local, regional, national and global levels.

CO7. Greater understanding of origin and distribution of settlements; its classifications settlement

structure and settlement hierarchy; models and theories explaining morphology of rural and urban centres

Subject: Physical & Socio Economic Landscapes **Subject Code: 19GEO-205**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1 Learn about the character, quality, availability, sustainability, and integrity of the materials that are commonly used in landscape construction in the Mid-Atlantic Region.

CO.2 Understand how materials are best used for their architectural quality, structural integrity, and durability;

CO.3Understand the character of materials and how they are assembled for construction, using drawing and sketching as a means of analyzing existing landscapes, speculating about how they were built, and proposing how they might have been built better;

CO.4 Gain an understanding of the layers of information presented within construction documents and understand the types of information conveyed on each sheet;

CO.5 Evaluate professional construction documents with a critical eye and critical thinking skills; integrate your understanding of landscape materials and construction from prior coursework.

CO.6 Prepare design development and construction drawings, construction details, and cost estimates.

CO7. Expand your understanding of the site physical and cultural context, the specificity of each site's condition and surrounding influences on it, and how to improve the process and product of landscape design and construction.

M.SC. Geography 3rd Semester

Subject: Oceanography **Subject Code: 19GEO-301**

Course Outcomes (CO)
After the completion of the course, Students will be able to

CO.1 Understanding of the basic concepts, processes, and analytic tools as they are currently understood in the science of oceanography.

CO.2 These include fundamental scientific theories such as plate tectonics and the origin and evolution of planet Earth including the oceans and students to a diversity of topics within the realm of oceanography and explore the relationships among other scientific disciplines.(ex: chemistry of water in oceanography; principles of motion of waves, tides and currents, biological diversity and evolution of life in the ocean)

CO.3 Through inquiry-based, hands-on laboratory activities and field experiences students will develop specific experimental skills and knowledge leading to the ability to identify, implement,

CO.4 Students will be able to evaluate and articulate the application and relevance of specific oceanographic topics to the world around them at a personal, community, and global level.

Subject: Urban Geography **Subject Code: 19GEO-302**

Course Outcomes (CO)
After the completion of the course, Students will be able to

CO1. Demonstrate an understanding of the concept, principles and theories in the field of Urban Geography.

CO2. Identify and explain the patterns of urbanization in developed and developing countries.

CO3. Acquaint themselves with quantitative and qualitative methods of classifying urban areas based on functionality.

CO4. Demonstrate awareness of qualitative and quantitative issues in urban areas arising due to population dynamics.

CO5. Analyze the problems and prospects of urbanization in selected urban areas through case studies.

Subject: Environmental Geography **Subject Code: 19GEO-305**

Course Outcomes (CO)

After the completion of the course, Students will be able to

1. Students will get familiarized with interface between biology & ecology.
2. Able to Geography converging and forming our biosphere.
3. Students will be able to discuss about ecosystem services.
4. Able to apply interaction of biotic and abiotic resources.
5. They can identify ecological aspects of environment.

Subject: Geography & Disaster Management **Subject Code: 19GEO-308**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1 Understand the nature of hazards and disasters.

CO.2 Assess risk, perception and vulnerability with respect to hazards.

CO.3 Prepare hazard zonation maps.

CO.4 Assessing the nature, impact and management of major natural and man-made hazards affecting the Indian subcontinen

Subject: Remote Sensing **Subject Code: 19GEO-309**

Course Outcomes (CO)

After the completion of the course, Students will be able to

1. Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and use the tools and methods of GIS.
2. Students will demonstrate their knowledge of physical geography and the methods and techniques for observing, measuring, recording and reporting on geographic phenomena.
3. Students will demonstrate their competence to work individually and as a team to develop and present a client-driven GIS solution.
4. Student will be familiar with modern techniques in Geography.
5. Students will be prepared to apply their skills in professional careers.

M.SC. (Geography) 4th Semester

Subject: Regional Development & Planning **Subject Code: 19GEO-401**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1 Understand and identify regions as an integral part of geographical study.

CO.2 Appreciate the varied aspects of development and regional disparity, in order to formulate measures of balanced development.

CO.3Analyzing the concept of regions and regionalization and Studying typical physiographic, planning, arid and biotic regions of India.

CO.4 Gain knowledge about definition of region, evolution and types of regional planning. Develop an idea about choice of a region for planning.

CO.5 Build an idea about theories and models for regional planning. Know about measuring development indicators.

CO.6They can know about delineation of formal regions by weighted index method and also delineation of functional regions by breaking point analysis.

Subject: Geography of Haryana **Subject Code: 19GEO-402**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1 The basic aim of this course is to introduce the students with the glorious past of the state of Haryana.

CO.2 Understood the Physiography, Climate, People, Society, resource base and Economic structure.

CO.3 Gain knowledge about definition of region, evolution and types of regional planning. Develop an idea about choice of a region for planning.

CO.3 Agriculture: Agro-climatic Region, Traditional agriculture system, Cropping Pattern, Green Revolution and Agricultural development in Haryana and problems related to agriculture.

Subject: Biogeography **Subject Code: 19GEO-404**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1 Students will get familiarized with interface between biology & ecology.

CO.2 Able to Geography converging and forming our biosphere.

CO.3 Students will be able to discuss about ecosystem services.

CO.4 Able to apply interaction of biotic and abiotic resources.

CO.5 They can identify ecological aspects of environment.

Subject: Settlement Geography **Subject Code: 19GEO-407**

Course Outcomes (CO)

After the completion of the course, Students will be able to

CO.1 Acquire knowledge about Rural settlements- Definition, nature and characteristics

CO.2 Analyze the morphology of rural settlements and learn the rural house types, census categories of rural settlements and idea of social segregation

CO.3 Learn the census definition and categories of urban settlements • Analyze the urban morphology models of Burgess, Hoyt, Harris and Ullman

CO.4 Differentiate between city-region and conurbation • Analyze the functional classification of cities

CO.5 develops the skill of mapping language distribution of India and learns to plot proportional squares to illustrate housing distribution and acquire the skill of identifying rural settlement types from topographical sheet

CO.6 Understand Social Area Analysis of a city based on Shevky and Bell

Subject: Principles of GIS & Navigation System **Subject Code: 19GEO-409**

Course Outcomes (CO)

After the completion of the course, Students will be able to familiarize and enhance the student's knowledge about the Remote Sensing and GIS techniques along with their application value in the Earth observation.

CO.1 Training in the use Geographic Information System (GIS) software for contemporary mapping skills.

CO.2 Analyzing and interpreting remotely sensed satellite images and aerial photographs in order to understand topographical and cultural variations on the Earth's surface.

CO.3 Conducting field excursions and preparation of field report on research on problem in

different areas of India
CO.4 Apply GIS to the preparation of thematic maps. • Use GNSS.