

**New Education Policy (NEP) 2020 and
Learning Outcome-Based Curriculum Framework (LOCF)
For**

**Scheme PG A1:
Postgraduate Programme: GEOGRAPHY (Course Work only)**

GEOGRAPHY SUBJECT



(To be effective from the Academic Session 2024-25)

**GURUGRAM UNIVERSITY, GURUGRAM (HARYANA)
(A State University established by Govt. of Haryana Act No. 17 of 2017)**

**BASED ON THE SCHEME FOR THE POSTGRADUATE PROGRAMME-COURSE
WORK ONLY**

M.A. PROGRAMME IN GEOGRAPHY

General Instructions

Programme	: M.A. Geography
Duration	: Two year full time (Four Semesters)
Medium	: English and Hindi
Minimum Required Attendance	: 75%
Total Credits	: 102
Total Maximum Marks	: 2550

Instructions and Minimum Requirement for PG Degree:

To qualify the course, a student is required to secure a minimum of 40% marks in aggregate including the End Semester Examination and Internal Evaluation. The student must obtain at least 40% marks in each paper of Odd Semester and Even Semester in End Semester Examination and Internal Evaluation separately to qualify the semester.

- **Academic Year:** Two consecutive (one odd and one even) semester will constitute one academic year.
- **Semester:** Each Semester shall consist of 15-18 weeks of academic work equivalent to 90 actual teaching days excluding admission and examinations days.
- **Summer Term:** A summer term is for eight weeks during summer break. Internship/apprenticeship/work-based vocational education and training can be carried out during the summer term.
- **Tutorial:** Component of a course which involves problem-solving, learning through discussions and remedial teaching related to the contents and periphery of a course with the direct involvement of a teacher.
- **Core Courses:** The core courses are those courses whose knowledge is deemed essential for the students registered for a particular programme of study. The core courses shall be mandatory for all the students registered for that particular programme.
- **Elective Courses:** The elective courses can be chosen from a pool of papers. The courses may - be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provide an extended scope

- offer an exposure to some other discipline/subject/domain
- be aimed to nurture the candidate's proficiency/skill/values.

These courses are intended to:

- allow the student to specialize in one or more branches of the broad subject area;
 - help the student to acquire knowledge and skills in a related area that may have applications in the broad subject area;
 - help the student to bridge any gap in the curriculum and enable acquisition of essential skills (e.g. statistical, computational, language, communication skills, etc.); and
 - help the student to pursue an area of interest.
 - The student may also choose additional elective courses offered by the University to enable him/her to acquire extra credits from the discipline, or across the discipline.
- **Discipline Specific Elective (DSE) Course:** Elective course offered under the main discipline/subject of study is referred to as Discipline Specific Elective Course. The respective department may offer various DSE courses based on the requirements, scope and need of the programme. The department may also offer discipline related Elective courses of interdisciplinary nature.
 - **Discipline Skill Enhancement Course (DSEC):** A discipline skill enhancement course is a course aimed to provide knowledge, skills, training and competencies in a discipline/subject.
 - **Multidisciplinary Course (MDC):** A Multidisciplinary Course is an option to explore disciplines of interest beyond the choices of learners made in their major disciplines. These courses are based on introductory knowledge in a subject other than the discipline of Major subjects to gain knowledge across the discipline.
 - **Ability Enhancement Course (AEC):** The Ability Enhancement (AE) Courses are based upon the content that leads to Knowledge enhancement; Environmental Science, English/Hindi/MIL Communication, etc. These courses are mandatory for all disciplines particularly at undergraduate level.
 - **Skill Enhancement Course (SEC):** These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge and should contain both theory and lab/hands-on/training/field work. The main purpose of these courses is to provide students life-skills in hands-on mode so as to increase their employability.
 - **Value added Courses (VAC):** These courses aim at enabling the students to acquire and demonstrate the acquisition of knowledge and understanding of human values, Indian Traditional Knowledge System (IKS), contemporary India, digital and technical solutions, health and wellness, yoga education, sports and fitness, etc.
 - **Vocational Courses (VOC):** A vocational course is focused on practical work, preparing students for a particular skilled profession. Such courses develop capacities for sustenance, work, and economic participation and develop values and sensibilities toward physical work and dignity of labour.
 - **Seminar:** A course or a component of a course which makes students to learn a specific topic through in-depth exploration and analysis of facts about the topic in a set-up that involves presentation, interactive discussions and collaborative learning under the supervision of a teacher.

- **Internship:** A course requiring students to participate in professional employment- related activity or work experience or co-operative education activity with an entity external to the educational institution normally under the supervision of an employee of an organization or an individual professional. A key aspect of the internship is induction into actual, formal and organized work situations. Internship involves working with local industry (Government or Private Organizations), business establishments, artists, craft persons, etc. to provide opportunities for students to actively engage in on-site experiential learning.
- **Field Work/Practice/Survey/Project:** A course or a component of course which enables students to participate in field-based learning/project, involving application of knowledge in solving/analyzing/exploring a real-life situation/difficult problem under the supervision of a teacher/mentor.
- **Credit Point:** It is the product of the grade point and the number of credits for a course.
- **Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale.
- **Credit:** A unit by which the course work is measured. A credit defines the quantum of contents/syllabus prescribed for a course and determines the number of hours of instruction required per week. Thus, in each course, credits are assigned on the basis of the number of lectures/tutorials/laboratory work/field work and other forms of learning required for completing the contents in 15- week schedule. Two hours of laboratory work/field work etc. is generally considered equivalent to 1 hour of lecture.

1 Credit = 1 Theory/Tutorial period of one-hour duration, or

In case of practical, 1 Credit = 1 Practical period of two-hour duration

A one-credit of Seminar or Internship or Studio activities or Field practice /projects or Community engagement and service means two-hour engagements per week. Accordingly, in a semester of 15 weeks duration, one credit in these courses is equivalent to 30 hours of engagement, or as specified by the Board of Studies.

- **Internal Marks of Attendance** will be given as under;

Attendance %	Below 55	55-65	65-70	70-75	75-80	More than 80
Marks	0	1	2	3	4	5

PG PROGRAMME (TWO YEARS) AFTER 3 YEAR UG PROGRAMMES)

SCHEME OF PROGRAM

Scheme PG A1: Postgraduate Program (Course work only): (Geography Subject)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS					
			(Hrs)				Credits			TI	TE	PI	PE	Total	
	Core Course(s)														
CC-A01	Geomorphology and Oceanography (Theory)		3	1	-	3	1	-	4	30	70	-	-	100	
CC-A02	Climatology (Theory)	24/GEO/CC102	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A03	Advanced Geography of India (Theory)	24/GEO/CC103	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A04	Advanced Cartography (Practical)	24/GEO/CC104	-	-	8	-	-	4	4	-	-	30	70	100	
	Discipline Specific Elective Courses														
DSE-01	i. Geography & Ecosystem (Theory) ii. Urban Geography (Theory) iii. Tropical Climatology (Theory) iv. Geography of Health and Wellbeing (Theory)	24/GEO/DS101 24/GEO/DS102 24/GEO/DS103 24/GEO/DS104	2	1	-	2	1	-	3	25	50	-	-	75	
	Multidisciplinary Course(s)														
MDC-01	One from Pool								3					75	
	Ability Enhancement Course(s)														
AEC-01	One from Pool								2					50	
	Value-added Course(s)														
VAC-01	One from Pool								2					50	
Total Credits									26					650	

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS					
			(Hrs)			Credits				TI	TE	PI	PE	Total	
Core Course(s)															
CC-A05	Quantitative Methods in Geography (Theory)	24/GEO/CC201	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A06	Geographical Thought (Theory)	24/GEO/CC202	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A07	Regional Development and Planning: with special Reference to India (Theory)	24/GEO/CC203	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A08	Interpretation of Topographical Sheets and Morphometric Analysis (Practical)	24/GEO/CC204	-	-	8	-	-	4	4	-	-	30	70	100	
Discipline Specific Elective Courses															
DSE-02	i. Agriculture Geography (Theory) ii. Political Geography (Theory) iii. Social and Cultural Geography (Theory) iv. Geography of Natural Hazards and Disaster Management (Theory)	24/GEO/DS201 24/GEO/DS202 24/GEO/DS203 24/GEO/DS204	2	1	-	2	1	-	3	25	50	-	-	75	
Multidisciplinary Course(s)															
MDC-02	One from Pool								3					75	
Ability Enhancement Course(s)															
AEC-02	One from Pool								2					50	
Skill Enhancement Course(s)															
SEC-01	One from Pool								2					50	
Total Credits									26					650	

Semester 3

Course Code	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS					
			(Hrs)			Credits				TI	TE	PI	PE	Total	
Core Course(s)															
CC-A09	Population and Settlement Geography (Theory)	24/GEO/CC 301	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A10	Principles of RS, GIS and GPS (Theory)	24/GEO/CC 302	3	1	-	3	1	-	4	30	70	-	-	100	
CC-A11	Fundamentals of Remote Sensing (Practical)	24/GEO/CC 303	-	-	8	-	-	4	4	-	-	30	70	100	
Discipline Specific Elective Courses															
DSE-03	i. Geography of Tourism (Theory) ii. Economic Geography (Theory) iii. Arid Geomorphology (Theory) iv. Geography of Water Resource (Theory)	24/GEO/DS301 24/GEO/DS302 24/GEO/DS303 24/GEO/DS304	2	1	-	2	1	-	3	25	50	-	-	75	
Multidisciplinary Course(s)															
MDC-03	One from Pool								3					75	
Skill Enhancement Course(s)															
SEC-02	One from Pool								2					50	
Value-added Course(s)															
VAC-02	One from Pool								2					50	
Seminar															
	Seminar								2					50	
Internship/Field Activity#															
	Internship /Field Activity#								4					100	
Total Credits									28					700	

Four credits of internship earned by a student during summer internship after 2nd semester will be counted in 3rd semester of a student who pursue 2nd year PG Program without taking exit option.

Semester 4

Course Code	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
Core Course(s)														
CC-A12	Research Methodology (Theory)	24/GEO/CC 401	3	1	-	3	1	-	4	30	70	-	-	100
CC-A13	Applications of Geo-spatial techniques (Practical)	24/GEO/CC 402	-	-	8	-	-	4	4	-	-	30	70	100
Discipline Specific Elective Courses														
DSE-04	i. Industrial Geography (Theory) ii. Gender Geography (Theory) iii. Crime Geography (Theory) iv. Natural Resource Management (Theory)	24/GEO/DS401 24/GEO/DS402 24/GEO/DS403 24/GEO/DS404	2	1	-	2	1	-	3	25	50	-	-	75
Multidisciplinary Course(s)														
MDC-04	One from Pool								3					75
Ability Enhancement Course(s)														
AEC-03	One from Pool								2					50
Community Engagement/Field Work/Survey/Seminar														
	Field Work and Report Writing		-	-	12	-	-	6	6	-	-	45	105	150
Total Credits									22					550

CREDIT HOURS FOR DIFFERENT TYPES OF COURSES AND MARKS DISTRIBUTION

Hours to earn credits will be as follows: Nature of Work	Course Credits	Contact hours per week	Contact hours per semester (15 weeks)
Lecture	01	01	15
Tutorial per paper	01	01	15
Practical, Seminar, Internship, field practice/project, or community engagement, etc.	01	02	30

Courses	Total Credits	L (Credits)	T (Credits)	P (Credits)	Marks			
					TI	TE	PI	PE
Only Theory	4	3	1	-	30	70	-	-
	3	2	1	-	25	50	-	-
	2	1	1	-	15	35	-	-
Theory and Practicum	4	3	-	1 (2 hrs)	25	50	5	20
	4 (Where Practical is dominant)	2	-	2 (4 hrs)	15	35	15	35
	3	2	-	1 (2 hrs)	15	35	5	20
	2	1	-	1 (2 hrs)	5	20	5	20
When Practicum is separate course	2	-	-	2 (4 hrs)	-	-	15	35
	3	-	-	3 (6 hrs)	-	-	25	50
	4	-	-	4 (8 hrs)	-	-	30	70
AEC/VAC	2	2			15	35	-	-
SEC	3	2		1 (2 hrs)	15	35	5	20
	2	1		1 (2 hrs)	5	20	5	20
DSEC	4	3		1 (2 hrs)	25	50	5	20
Minor/VOC	4	2		2 (4 hrs)	15	35	15	35
Internship	4			4 (8 hrs)			30	70

L= Lecture; T= Tutorial, P= Practicum; Ti= Theory Internal Assessment; TE= Theory End Semester Examination; PI= Practicum Internal; PE= Practicum End Semester examination

Note: Tutorial batch size (PG Programme: 12-15 students) Practical Group size (PG Programme: 12-15 students)

Based on the scheme for the Postgraduate program-Course Work only (GEOGRAPHY)

Programme: M.A. Geography

Program outcomes (POs) and Program Specific Outcomes (PSO) are specific types of knowledge and skills that students are expected to acquire in the program and to be able to demonstrate upon completion in the field of Geography. Upon completion of the **Master of Arts in Geography**, students will be able to demonstrate the following PO and PSO under the new Education Policy (NEP) 2020: -

Program Outcomes (POs)

- Understand the theoretical and applied aspects of geography as a branch of Knowledge and demonstrate an advanced understanding of and ability to differentiate among the various methodologies used in geography.
- Compare and contrast the theories, philosophies, and concepts in the discipline of geography, including unifying themes of spatial patterns and structures, the interrelationship between people and places, and the interactions between nature and society. Comprehend key methodological and different approaches to interpret geographical facts.
- Capable to learn and work efficiently as an individual, and as a member of group in multidisciplinary settings.
- Develop a strong sense of environmental values, being well-informed about sustainable development goals, as well as various cross-cutting issues affecting our planet.
- Physical field surveys will enable the students to understand the landforms, geomorphic process and associated hazards. They will be able to develop their field observations, data gathering and interpretations skill.
- To develop the skills of using geographical instruments, drawing the map and making models with help of advance professional software(s). Enhance their practical skill through field visits and firsthand experience of tools/equipment.
- To provide a conceptually and practically sophisticated understanding of spatial issues and their association with the environment, socio-economic, political, and cultural realm. To develop ability to communicate efficiently on scientific issues with the society for proper learning and understanding.
- Capability of applying knowledge, critical thinking, analytical reasoning to solve scientific and other problems. Ability to apply reasoning to assess the different issues related to society and the consequent responsibilities relevant to the professional scientific practices.
- Be proficient in research writing, preparing manuscripts, and designing research projects. Identify frontier area of research and sub-branches of geography for further research.
- Broaden their job prospects in qualifying various competitive examinations and join various industries and research institutes. The Course is oriented towards emerging job opportunities and future prospects for the students. The students will be assisted in preparing for various competitive exams.

Program Specific Outcomes (PSOs)

- To understand the human and physical phenomena using specialized knowledge pertaining to various sub-fields of geography.
- To develop an understanding of the Settlements, transport network, spatial interaction through various mode of transportation and location models to investigate economic development.
- To understand the climatic phenomena and its impact on different activities performed by human in different regions.
- Recognize the significance of resource management, regional planning, and sustainable development, ensuring responsible and informed decision-making.
- To apply geographical knowledge, tools and techniques to address various geo-spatial issues.
- Learning the techniques of data acquisition, processing and interpretation of spatio-temporal information.
- Demonstrate knowledge and expertise in field excursions, advanced surveying techniques and digital map-making to aid them and interpret to represent geographical data effectively.
- Computer-based techniques Remote Sensing (RS) and Geographic Information System (GIS) are incorporated in the syllabus which prepares the students for further Information Communication Technology (ICT) based analytical studies.

Semester-1

Gurugram University, Gurugram, Haryana(India)
M.A. Geography-I (Semester-I) Syllabus (as per NEP 2020 w.e.f session 2024-25)
GEOMORPHOLOGY AND OCEANOGRAPHY

Paper Code: CC-A01 (Theory: Core Paper)

Course Id: 24/GEO/CC101

Course Id: 241/GEO/CC101

Credit: 04 (3+1+0) L+T+P Hrs/Week	Total Marks	100
Time: 3 Hours	End Semester Exam:	70 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 14 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain seven short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	30 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	20

Course Outcomes (COs):

CO-01: The Students will be able to identify different concepts of landform formation and associated agents.

CO-02: They will understand the general de-gradational Processes and the formation of shape of the landforms around us.

CO-03: They will be able to explain different types of landforms created by various agents and they will know the applications of Geomorphology in various sectors of life.

CO-04: The course will aware the students about Oceans, their relief and various action associated with Oceanic water circulation.

UNIT-I

Introduction to Geomorphology: Meaning, Nature and Scope, Fundamental concepts; Interior of Earth. Continental Drift theory, Plate Tectonics- Plate margins and boundaries, movement and distribution of plates, tectonic activities along boundaries.

UNIT-II

Endogenetic Processes: Faulting, Folding and their Geomorphic expressions. Earthquake- causes, classification, intensity, magnitude and global distribution; Volcanism- mechanism, causes, classification, global distribution and associated landforms.

Exogenetic Processes: Degradation; Weathering: Processes, causes, Types of Weathering; Mass Wasting: causes, Types of mass movement. Geomorphic Cycle: Devis and Penk.

UNIT-III

Geomorphic Process and resulting landforms: Fluvial, Glacial, Aeolian, Coastal and Karst Topography.

Applied Geomorphology: Applications of Geomorphology in Regional Planning, Mineral Exploration, Hydrology, Engineering and Geomorphic Hazards.

UNIT-IV

Relief of Oceans: Pacific, Atlantic and Indian Ocean, **Composition:** Temperature and Salinity, Oceanic water circulation: Tides, Waves, **Ocean Currents:** Origin, Types-cold and warm and dynamics, Current of Pacific, Atlantic and Indian Ocean. Tsunami. **Coral Reefs:** Types, origin and distribution.

Recommended Readings:

- Bloom, A.L. (1992): Geomorphology, Second Edition, Prentice Hall of India, New Delhi.

- Bhatt, J.J. (1978): Oceanography- Exploring the Planet Ocean, D. van Nostrand Company, New York.
- Bhutani, Smita, (2000) Our Atmosphere, Kalyanai Publishers, New Delhi.
- Chorley, R. J., Schumm, S. A. and Sugden, D. E. (1984): Geomorphology, Methuen, London.
- Dayal, P. (2019): Geomorphology, (in Hindi/Eng), Rajesh Publications, New Delhi.
- Garrison, T., (2001): Oceanography-An invitation to Marine Science, Wadsworth Publishing Company, Belmont.
- Husain Majid (2002), Fundamentals of Physical Geography, Second Edition, Rawat Publications, Jaipur and New Delhi.
- Kale, V. and Gupta, A. (2001): Introduction to Geomorphology, Orient Longman, Kolkata.
- Kennel, J.P. (1982): Marine Geology, Prentice Hall, Englewood Cliff, New Jersey.
- King, C.A. M. (1966): Techniques in Geomorphology : London : Edward Arnold.
- Lal, D.S. (2017): Oceanography, Sharda Pustak Bhawan, Allahabad
- Singh Savindra (2020): Geomorphology, (in Hindi/Eng), Pravalika Publications, Allahabad.
- Sharma, R.C. (1985): The Oceans, Rajesh Publications, New Delhi.
- Strahler, A.N. and Strahler, A.H.(1996): Introducing Physical Geography, John Willey and Sons, New York.
- Thornbury, W.D. (1991): Principles of Geomorphology, John Wiley, New Delhi.
- Wooldridge, S. W and Morgan, R.S. (1991): An Outline of Geomorphology, Orient Longmans, Calcutta.

Gurugram University, Gurugram, Haryana(India)

M.A. Geography-I (Semester-I) Syllabus (as per NEP 2020 w.e.f session 2024-25)

CLIMATOLOGY

Paper Code: CC-A02 (Theory: Core Paper)

Course Id: 24/GEO/CC102

Course Id: 241/GEO/CC102

Credit: 04 (3+1+0) L+T+P Hrs/Week	Total Marks	100
Time: 3 Hours	End Semester Exam:	70 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 14 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain seven short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	30 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	20

Course Outcomes(COs):

CO-01: Students will be able to understand the fundamentals of atmospheric phenomena, Climate, Weather and Temperature.

CO-02: They will be able to understand the atmospheric Pressure and wind circulation system.

CO-03: To understand and analyse the role of moisture and Temperature in atmospheric instability, cloud Formation and Precipitation system on Earth.

CO-04: They will enrich their knowledge about disturbances of Atmosphere, climatic classification, Climate change and global warming system.

UNIT-I

Climatology: Meaning, Nature and Scope, Climatic Elements; **Atmosphere:** Origin, Structure and Composition of Atmosphere. **Insolation and Temperature:** Process of heating and cooling of atmosphere, Horizontal and Vertical distribution of Temperature, Heat budget. Heat and Cold Waves.

UNIT-II

Atmospheric Pressure: Factors, distribution pattern- Vertical, horizontal and seasonal; **Circulation of Winds:** Types of winds- Planetary, Seasonal, Local; Walker Circulation- ENSO: El Nino and La Nina, **Origin of Monsoons:** modern concepts and Jet Streams; **Weather Disturbances:** Cyclones, Anti Cyclones.

UNIT-III

Air masses: Meaning, Characteristics, modification and Classification; **Fronts:** Frontogenesis, Frontolysis; **Atmospheric Moisture:** Evaporation- Factors affecting Evaporation, Condensation- Factors affecting Condensation; Humidity- Sources, Types and distribution of Humidity; Adiabatic change of Temperature; **Clouds:** formation and Types of clouds. Precipitation and its Types.

UNIT-IV

Classification of Climatic: Approaches, classification of Koppen and Thornthwaite. **Climate Change:** Evidences, Possible cause and effects. **Global Warming** and its impact on Earth; Acid Rain. Ozone Depletion, Green house effect, Glacial Lake outburst (GLOF).

Suggested Readings:

- Aggarwal, S.K. (1972): Fundaments of Ecology, Ashish Publishers, New Delhi.
- Barry, R.G. and Chorely, R.J., Atmosphere, Weather and Climate, ELBS, Methuen & Co. Ltd. London.
- Collins, J.M. (2014): Climatology, Oxford Press.
- Critchfield, H.J. (Rp.2010): Climatology, Prentice Hall of India, New Delhi.
- Critchfield, H.J. (1987) Samanya Jalvayu Vigyan (Translated in Hindi by Yashwant Govind Joshi), Madhya Pradesh Hindi Grantha Acadmy, Bhopal, India.
- Das, P.K. (1984): The Monsoons, National Book Trust, New Delhi.
- Griffith, J.F. and Driscell, D.M. (1982) Survey of Climatology, Charles Merrill.
- Lal, D.S. (2016) Climatology (in Hindi/Eng), Sharda Pustak Bhawan, Allahabad.
- Oliver, J. E. &Hidore, J. J. (2003): Climatology: An Atmospheric Science, Pearson Education, Delhi.
- Riehl, H. (1968), Introduction to Atmosphere, McGraw Hill, New York.
- Robinson, P.J. and Henderson Sellers (1986) Contemporary Climatology, Longman, London
- Singh Savindra (2005): Climatology, Prayag Pustak Bhawan, Allahabad.
- Trewartha, G.T. (1980): Introduction to Climate, McGraw Hill, New York.

Gurugram University, Gurugram, Haryana(India)
M.A. Geography-I (Semester-I) Syllabus (as per NEP 2020 w.e.f session 2024-25)
ADVANCED GEOGRAPHY OF INDIA

Paper Code: **CC-A03 (Theory: Core Paper)**
 Course Id: 24/GEO/CC103 Course Id: 241/GEO/CC103

Credit: 04 (3+1+0) L+T+P Hrs/Week	Total Marks	100
Time: 3 Hours	End Semester Exam:	70 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 14 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain seven short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	30 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	20

Course Outcomes (COs):

- CO-01: After completion of this course students will have in-depth knowledge of the Physical Geological diversity of India.
- CO-02: They will be able to understand the diversification and issues of Indian Agriculture.
- CO-03: They will know the distribution of resources and assessment of economic development of India.
- CO-04: They will be able to understand and correlate the Geographical aspects of Land, Climate, People and Economy of Indian sub continent.

UNIT-I

India: Location setting and Extent; **Geologic** structure and **Physiographic divisions** of India; **Drainage** System (Himalayan and Peninsular) ; **Climate:** Seasonal Weather characteristics, Climatic regions of India (Koeppen).; **Monsoon** in special context to India: Modern theories. Jet Stream, El-Nino and La-Nina, ITCZ.

UNIT-II

Natural Vegetation and **Soils** of India; **Indian Agriculture:** its characteristics, regional variation; Green revolution in India: Problems and Prospects of Indian Agriculture. **Major crops:** Production, Productivity and distribution of – Food Crops, Cash Crops and Plantation Crops. **Agro-Climatic zones** of India.

UNIT-III

Minerals of India: Iron, Mica, Coal, Petroleum, Natural Gas; **Major industries:** Cotton-textile, Iron and steel; Industrial development since Independence of India; **Major industrial regions** of India; **Trade:** Domestic and international- Trends, Composition and direction; **Transportation** Network: Railways, Roadways, Airways, Waterways and Pipeline.

UNIT-IV

Population: Distribution, Growth, Density of Population; **Demographic Attributes:** Sex-Ratio, Literacy; **Urbanisation** in India-Trends and Pattern; Population policies; Food Security and Right to Food. **Globalisation** and its impact of Indian Economy; Salient Features of **India's Five year Plans**.

Suggested Readings:

- Bindra, S.S. (1989): India and Her Neighbours, Deep and Deep Publications, New Delhi.
- Chandna, R.C. (1998): Geography of Population, Kalyani Publishers, New Delhi.

- Chatterjee, Rupali. (2015): “Geography of India”, Global Academic Publishers, New Delhi.
- Deshpande, C.D (1992): India- A Regional Interpretation, Northern Book Centre, New Delhi.
- Gautam A. (2009): Advanced Geography of India, Sharda Pustak bhawan, Allahabad.
- Gopal Krishan (2017): The Vitality of India: A Regional Perspective, Rawat Publication, Jaipur.
- Johnson, B.L.C. (1980): India: Resources and Development, Arnord-Hinemann, London.
- Khullar, D.R. (2000): India: A Comprehensive Geography, Kalyani Publishers, New Delhi.
- Mamoria, C. B. and Mishra, J. P. (2021): Bharat ka Bhugol. Sahitya Bhawan Publication, Agra.
- Majid, H. (2020): Geography of India. McGraw Hill Education (India) Private Ltd.
- Sharma,T.C. and Coutinho, O (1988): Economical and commercial Geography of India,Vikas publishing house Pvt. Ltd. New Delhi.
- Singh, G. (1995): A Geography of India, Atma Ram & Sons, New Delhi.
- Singh, R.L. (1971): India: A Regional Geography, National Geographical Society of India, Varanasi.
- Spare, O.H.K. and A.T.A. learmonth (1967): Geography of India and Pakistan, Methuen London (first Indian Edition, 1984, Munshiram Manoharlal, New Delhi).
- Spate, O.H.K. & Learmonth, India and Pakistan: Land, People and Economy, Methuen, London.
- Tirtha, R. (2004): Geography of India, Rawat Publications, Jaipur
- Tiwari, R.C. (2010): Geography of India, Prayag Pustak Bhawan, Allahabad.

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M.A. Geography-I (Semester-I) Syllabus (as per NEP 2020 w.e.f session 2024-25)

ADVANCED CARTOGRAPHY

Paper Code: **CC-A04 (Practical: Core Paper)**

Course Id: 24/GEO/CC104

Course Id: 241/GEO/CC104

Credit: 04 (0+0+8) L+T+P Hrs/Week	Total Marks	100
Time: 4 Hours	End Semester Practical Exam:	70 Marks
Note: Practical Exam: as the instructions mentioned under	Internal Assessment: Attendance Practical Assignment/Practical File	30 Marks 5 25

Course Outcomes (COs):

CO-01: Students will be able to understand the meaning of Cartography, its essentials and different types of Distribution Maps with their importance.

CO-02: They will develop the skill of draw the Cartograms and be able to analyze the Weather maps with the help of Weather Elements reading and interpretation for Weather forecasting.

UNIT-I

Cartography: Meaning, Nature and History of Cartography; Map Essentials and Classification of Maps; Symbolization- Nominal, Ordinal and Interval/Ratio; Colour Theory in Cartography.

Distribution Maps: Qualitative methods- Colour-Patch, Simple Shade, Pictorial, Choroscopic, Naming Methods; and Quantitative methods-Choropleth, Isopleths, Dot and Diagrammatic methods.

UNIT-II

Cartogram: Rectangular, Traffic Flow, Spatial Accessibility and Isochronic Cartogram

Weather Maps: importance, Weather Instruments, Recording of Weather Elements, Representation of Weather Elements on the Map, Weather Symbolization, and Interpretation of Indian daily Weather Maps (December-January and July-August months)

Total Minimum **(25 Exercises)**

Note: The question paper would be set from the syllabus covering the full content. The question paper for the written examination (4 hours duration) shall be made by the external examiner in assistance with the internal examiner. The answer books would be evaluated by the external examiner on the day of examination. The question paper in this course will be divided into two parts.

Part-I will consist of 5 short answer type questions carrying 2 marks each.

Part-II will consist of 8 Choice based descriptive (long answer type) questions/exercises from all units and carrying 10 marks each by selecting equal questions from each unit. Students will have to answer 4 questions/exercises by selecting 1 from each unit on mandatory basis.

Distribution of Marks: In Practical Paper, the marks would be divided as follows:

		Type	Marks and no. of questions			Total Marks
(a).	Written Examination	Part-I	2 Marks 5 questions	10	50	70
		Part-II	10 marks 4 questions	40		
	Viva-Voce				20	
(b).	Internal Assessment	File Record			25	30
		Attendance			5	
Total Marks =						100

Suggested Readings:

- Khullar, D.R. (2015): Practical Geography, Kalyani Publishers, Ludhiana.
- Mishra, R.N. and Sharma, P.K. (2020): Prayogik Bhoogol, (in Hindi), Rawat Publications, Jaipur.
- Monkhouse, F.J. and Wilkinson, H.R. (1971); maps and Diagrams, Methuen, London.
- Robinson A. H. (2009): Elements of Cartography, John Wiley and Sons, New York.
- Sarkar, A. (2015): Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd., New Delhi.
- Sharma, J. P. (2020): Prayogtmak Bhugol ki Rooprekha (in Hindi), Rastogi Publications, Meerut.
- Singh, R. L. and P. K. Dutta, (2012): Prayogtmak Bhugol (in Hindi),, Central Book Depot, Allahabad.
- Singh R. L. and Rana P. B. Singh (1999): Elements of Practical Geography(in Hindi), Kalyani Publishers, New Delhi.
- Taylor, D.R.F.(1985): Education and Training in Contemporary Cartography, John Willey.

Semester-2

Gurugram University, Gurugram, Haryana(India)
M.A. Geography-I (Semester-II) Syllabus (as per NEP 2020 w.e.f session 2024-25)
QUANTATIVE METHODS IN GEOGRAPHY

Paper Code: **CC-A05 (Theory: Core Paper)**
 Course Id: 24/GEO/CC201

Credit: 04 (3+1+0) L+T+P Hrs/Week	Total Marks	100
Time: 3 Hours	End Semester Exam:	70 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 14 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain seven short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	30 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	20

Course Outcomes (COs):

- CO-01: After completion of this course students will have in-depth knowledge of the Physical Geological diversity of India.
- CO-02: They will be able to understand the diversification and issues of Indian Agriculture.
- CO-03: They will know the distribution of resources and assessment of economic development of India.
- CO-04: They will be able to understand and correlate the Geographical aspects of Land, Climate, People and Economy of Indian sub continent.

UNIT-I

Statistics: Meaning, nature and scope of Statistics; Geography and Statistics, Statistical Data: Organization and classification of Data, Data series; Graphic representation of frequency distribution, Histograms and Frequency curve, Sampling: Different Methods, signification of Sampling in Geographical study.

UNIT-II

Measures of Central Tendency: Arithmetic Mean, Median, Mode

Centrographic techniques: Mean Centre, Median Centre and Standard Distance.

UNIT-III

Measures of dispersion: Mean deviation, Standard Deviation; Coefficient of Variation, Skewness,

Measures of Inequality: Lorenz Curve and Gini's Coefficient; Location Quotient. Crop combination.

UNIT-IV

Correlation and regression: Scatter diagram; correlation by Spearman's Rank Difference and Karl Pearson's; Significance testing of Correlation; Regression analysis, regression equations construction of regression line, computation of residuals and mapping.

Suggested Readings:

- David M. Smith (1975): Patterns in Human Geography, Penguin, Harmondsworth.
- Ebdon, D (1983): Statistics in Geography : A Practical Approach, Blackwell, London.

- Gregory, S. (1978): Statistical Methods and the Geographer (4th Edition), Longman, London.
- Gupta, S.P.(2021): Statistical Methods, Sultan Chand and Sons, New Delhi.
- Mahmood, A.(1993): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
- Mathews, J.A. (1987): Quantitative and Statistical Approaches to Geography, Practical Manual, Pergmon, Oxford.
- Pal, S.K. (1998): Statistics for Geoscientists; Techniques and Applications, Concept Publishing Company. New Delhi.
- Peter, J. Taylor (1977): Quantitative Methods in Geography, Houghton Mifflin Company, Boston.
- Robert Hammond and Patrik Mc. Cullagh (1974): Quantitative Methods in Geography, Clarendon Press, Oxford.
- Yeates, Mauris (1974): An Introduction to Quantitative Analysis in Human Geography, McGraw Hill , New York.

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GEOGRAPHICAL THOUGHT
 Paper Code: **CC-A06 (Theory: Core Paper)**
 Course Id: 24/GEO/CC 202

Credit: 04 (3+1+0) L+T+P Hrs/Week	Total Marks	100
Time: 3 Hours	End Semester Exam:	70 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 14 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain seven short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	30 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	20

Course Outcomes (COs):

CO-01: This course is to acquaint the students with the philosophy, methodology and historical development of geography as a professional field during different periods.

CO-02: Students will acquire knowledge on the contribution made by geographers of different schools.

CO-03: They will logically integrate with the broad currents of thought of dualism in Geography in the historical and recent period.

CO-04: They will understand the development of concepts of geography in Modern time.

UNIT-I

Geography: Geography as a discipline, its Nature and Scope; Place of Geography in relation to other Natural and Social Sciences.

Nature of geographic knowledge during ancient (Greek, Roman and Indian) and Medieval (Arab) periods, Dark age, during Discovery age. Impact of Explorations and Discoveries,

UNIT-II

Development of Geography: Modern Period: Foundations of modern geography, German, French, British and American schools of thought.

Contributions of Kant, Humboldt, Ritter, W. M. Davis, Retzel and Blache in Geography.

UNIT-III

Dualism in Geography: Physical & Human Geography, Descriptive & Analytical, Systematic & Regional Geography; myth and the reality about Dualisms.

Environmental Determinism, Possibilism, Neo-determinism, Positivism.

UNIT-IV

Development of Geography in 21st Century: Conceptual and methodological developments and changing paradigms: Quantitative revolution, Radical, Behavioral, Post modernism.

Development of Geography in India: Early Development of Geography in India, Developmental Initiatives during Colonial Period and Post-Independence, Contributions of Indian Geographers.

Suggested Readings:

- Adhikari, S. (2015): Fundamentals of Geographical Thought, Orient Blackswan, New Delhi.
- Dickinson, R.E. (1969): Makers of Modern Geography. London: Routledge and Kegan Paul.

- Dikshit, R. D. (2018): Geographical Thought: A Contextual History of Ideas, Prentice Hall of India Pvt. M 97, New Delhi.
- Dubey, B. (1967): Geographical Concept in Ancient India – NGSI, Varanasi
- Gosal, Singh Gurdev (2015): History of Geographic Thought. Chandigarh: Panjab University.
- Hartshorne, R. (1959): Perspective on the Nature of Geography. Chicago: Rand McNally.
- Holt-Jensen, A. (2009): Geography: History and Concepts- A Student's Guide. London: Sage. (3rd edition).
- Hussain, M. (1995): Evolution of Geographical Thought, Rawat Pub., Jaipur, India.
- James, P.E. (1972): All Possible Worlds: A History of Geographical Ideas. Indianapolis: Odyssey Press. (Latest Edition 2005 is authored by Geoffrey J Martin).
- Jha, A.K. (2021): Bhaugolik Chintan ke Vividh Aayam, Bihhar Hindi Granth Academy, Patna.
- Johnston, R.J. (2005): Geography & Geographers: Anglo-American Human Geography since 1945. London: Arnold
- Misra, R.P. (1983): Contributions to Indian Geography Concepts and Approaches, Heritage Publication, New Delhi.
- Peet, Richard (1978): Radical Geography. London: Methuen.
- Peet, Richard (1998): Modern Geographical Thought. London: Blackwell.
- Stoddart, D.R. (1981): Geography, Science and Social Concern. Oxford: Blackwell.
- Taylor, G (1953): Geography in the 20th Century, Methuen, London
- Tripathi, M.P: Development of Geographic Knowledge in Ancient India, Bharatiya Vidya Prakashan, Varanasi.

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M.A. Geography-I (Semester-II) Syllabus (as per NEP 2020 w.e.f session 2024-25)

REGIONAL DEVELOPMENT AND PLANNING

Paper Code: CC-A07 (Theory: Core Paper)

Course Id: 24/GEO/CC 203

Credit: 04 (3+1+0) L+T+P Hrs/Week	Total Marks	100
Time: 3 Hours	End Semester Exam:	70 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 14 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain seven short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	30 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	20

Course Outcomes (COs):

- CO-01: The student will get familiarized with the theoretical foundations and conceptual grounding of Regional Planning and Development.
- CO-02: They will understand the relationship between Regional Planning and Geography through different concepts.
- CO-03: They will understand the concept of region in geography and objectives of Planning a region.
- CO-04: They will understand the importance and the practical approach of planning in India.

UNIT-I

Regional Planning: Basic Concepts, Nature, Scope and Historical development.

Selection of indicators and measures of regional disparities.

Conceptual and theoretical framework: Concept of development, regional development;

Regional planning in the Developed World and Regional Planning in Less Developed World.

UNIT-II

Geography and Regional Planning: Role of Geography in Regional development and planning.

Methodology: Design Method, Regional Method. Techniques: Analytical and Procedure.

Regional Growth Theories: Friedman's core-periphery theory; polarization and trickle-down effect theory of Hirschman; growth pole theory of Perroux.

UNIT-III

Regions for Planning: Concept of Regions: Delineation and Variables, Types of Regions,

Planning Region: Concept and Characteristics, Need and importance of Planning Region.

Principles and objectives of Regional Planning. Planning Regions of India given by Town and Country Planning department; Problems and Prospects of Regional Planning in India.

UNIT-IV

Regional development and planning in India: Multi level planning (state, district, block and Panchayat level planning);

Regional Policies in the Indian Five Year Plans; Planning policies for regional development;

Regional backwardness: criteria, strategy and programs for backward area development.

Suggested Readings:

- Bhatt, L.S. (1972): Regional Planning in India, Statistical Publishing Society, Calcutta.

- Chand, M and V.K. Puri (1985): Regional Planning in India, Allied Pub. Pvt. Ltd., New Delhi.
- Coates, B.R. and R.J. Johnston (1977): Geography and Inequality, Oxford University Press, Oxford.
- Friedmann, J. and William Alonso (1967): Regional Development and Planning: a Reader, MIT Press, Cambridge Massachesetts.
- Kant, Surya et al. (2004): Reinventing Regional Development, Rawat Publications, Jaipur.
- Kuklinski, A.R.(1972): Growth Poles and Growth Centres in Regional Planning, Monton, The Hague.
- Misra R.P. et al. (1974): Regional Development Planning in India, Vikas, New Delhi.
- Mohan, Krishna (2005): Addressing Regional Backwardness: An Analysis of Area Development Programmes in India, Manak Publications, New Delhi.
- Raza, Moonis (1988): Regional Development, Heritage, New Delhi.
- Singh, Nina (2015): “Regional Backwardness in India: An Exploration of Demographic Indicators,” Population Geography, vol.37.
- Sundram, K. V. (1977): Urban and Regional Planning in India, Vikas Publishig House Pvt Ltd., New Delhi.

Gurugram University, Gurugram, Haryana(India)
M.A. Geography-I (Semester-II) Syllabus (as per NEP 2020 w.e.f session 2024-25)

**Interpretation of Topographical sheets
and Morphometric Analysis**

Paper Code: **CC-A08 (Practical: Core Paper)**

Course Id: 24/GEO/CC204

Credit: 04 (0+0+8) L+T+P Hrs/Week	Total Marks	100
Time: 4 Hours	End Semester Practical Exam:	70 Marks
Note: Practical Exam: as the instructions mentioned under	Internal Assessment: Attendance Practical Assignment/Practical File	30 Marks 5 25

Course Outcomes (COs):

CO-01: Students will be able to understand the different types of Map and will develop the skill of map interpretation through identification of physical and cultural features on Topographical sheets using conventional signs.

CO-02: Students would be able to understand the usefulness of morphometric techniques in the case of a drainage basin.

UNIT-I

Introduction to Maps: Definition and Types of Maps, Map scale, Conventional Symbols, Importance and different Uses of maps.

Interpretation of Topographical maps: Topographical maps and their types, Basic information on Topographical sheets, Conventional Signs, Identification of Physical and Cultural details on Survey of India Toposheets.

UNIT-II

Morphometric Analysis of Drainage Basin- Types and its Geographical Significance,

Linear Aspects: Stream Ordering Based on Horton and Strahler,

Areal Aspects: Stream Frequency and Drainage Density.

Relief Aspects: Hypsometric Curve and Integral Hypsometric Curve, Clinographic Curve, **Slope Analysis-** Average Slope (Wentworth's method), Relative Relief (Smith's method), **Profile Analysis** –Serial, Superimposed, Projected, Composite, Cross and Longitudinal profile.

Total Minimum (25 Exercises)

Note: The question paper would be set from the syllabus covering the full content. The question paper for the written examination (4 hours duration) shall be made by the two external examiners in assistance with the internal examiner (who generally would be the course teacher). The answer books would be evaluated by the external and internal examiner on the day of examination. The question paper in this course will be divided into two parts.

Part-I will consist of 5 short answer type questions carrying 2 marks each.

Part-II will consist of 8 Choice based descriptive (long answer type) questions/exercises from all units and carrying 10 marks each by selecting equal questions from each unit. Students will have to answer 4 questions/exercises by selecting 1 from each unit on mandatory basis.

Distribution of Marks: In Practical Paper, the marks would be divided as follows:

		Type	Marks and no. of questions			Total Marks
(a).	Written Examination	Part-I	2 Marks 5 questions	10	50	70
		Part-II	10 marks 4 questions	40		
	Viva-Voce				20	
(b).	Internal Assessment	File Record			25	30
		Attendance			5	
Total Marks =						100

Suggested Readings:

- Khullar, D.R. (2015): Practical Geography, Kalyani Publishers, Ludhiana.
- Mishra, R.N. and Sharma, P.K. (2020): Prayogik Bhoogol, (in Hindi), Rawat Publications, Jaipur.
- Monkhouse, F.J. and Wilkinson, H.R. (1971); maps and Diagrams, Methuen, London.
- Robinson A. H. (2009): Elements of Cartography, John Wiley and Sons, New York.
- Sarkar, A. (2015): Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd., New Delhi.
- Sharma, J. P. (2020): Prayogtmak Bhugol ki Rooprekha (in Hindi), Rastogi Publications, Meerut.
- Singh, R. L. and P. K. Dutta, (2012): Prayogtmak Bhugol (in Hindi), Central Book Depot, Allahabad.
- Singh R. L. and Rana P. B. Singh (1999): Elements of Practical Geography(in Hindi), Kalyani Publishers, New Delhi.
- Taylor, D.R.F.(1985): Education and Training in Contemporary Cartography, John Willey.
- Yadav, H.L. (2000): Fundamentals of Practical Geography (in Hindi), Radha Publication, New Delhi.