National Education Policy (NEP) 2020 and

Learning Outcome-Based Curriculum Framework (LOCF)

For

Scheme PG A1:

Postgraduate Program: GEOGRAPHY (Course Work)

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

Program	**: 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**
Semesters	**: 3rd Semester & 4th Semester**

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, 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.
- **Programme**: An educational programme leading to the award of a Degree, Diploma or Certificate.
- **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.
- **Course**: Usually referred to as paper, it is a component of a Programme. All courses need not carry the same weightage. A course may be designed to comprise lectures/tutorials/laboratory work/field work/outreach activities/project work/dissertation/ internship/apprentice/practical training/ viva/seminars/term-papers/assignments/presentations/self-study work/ clinical component, etc., or a combination of some of these with objectives and learning outcomes.
- **Lecture:** Component of a course which is taught by a teacher through lectures covering the contents of a course.
- **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.

- **Practicum**: A course or a component of a course which enables students to learn or to attain skills or to get procedural knowledge for the contents of a course through practical/laboratory activity/project and to apply learnt/studied principles/theory/ concepts related to the chosen field of learning, work/vocation, or professional practice in the field of learning, work/vocation under the supervision 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, Computer and GIS application centres, Cartography, Maps and Surveying 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.
- **Project Work:** A course or a component of a course which facilitates students to apply their knowledge, skills and critical thinking ability to complete a specific task in a given time frame through conceptualization, exploration and analysis of research-based activities to suggest tangible solutions for a given problem related to the chosen field of learning.
- **Dissertation:** Dissertation is a comprehensive report of the work done in a research project/field work/survey, based on a systematic and rigorous investigation of the chosen topic utilizing research methods.
- **Community Engagement and Service:** A course or a component of a course which exposes the students to the socio-economic issues prevailing in society so that the theoretical learning can be supplemented by actual life experiences to understand and generate solutions to real-life problems.
- **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 then 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

rse e	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
	Core Course(s)													
A01	Geomorphology and Oceanography (Theory)	241/GEO/CC101	3	1	-	3	1	-	**4**	30	70	-	-	**100**
A02	Climatology (Theory)	241/GEO/CC102	3	1	-	3	1	-	**4**	30	70	-	-	**100**
A03	Advanced Geography of India (Theory)	241/GEO/CC103	3	1	-	3	1	-	**4**	30	70	-	-	**100**
A04	Advanced Cartography (Practical)	241/GEO/CC104	-	-	8	-	-	4	**4**	-	-	30	70	**100**
	Discipline Specific Elective Courses													
-01	i. Geography & Ecosystem (Theory) ii. Urban Geography (Theory) iii. Tropical Climatology (Theory) iv. Geography of Health and Wellbeing (Theory)	241/GEO/DS101 241/GEO/DS102 241/GEO/DS103 241/GEO/DS104	2	1	-	2	1	-	**3**	25	50	-	-	**75**
	Multidisciplinary Course(s)													
-01	One from Pool								**3**					**75**
	Ability Enhancement Course(s)													
-01	One from Pool								**2**					**50**
	Value-added Course(s)													
-01	One from Pool								**2**					**50**
l dits									**26**					**650**

Semester 2

urse de	Course Title	Course ID	L (Hrs)	T (Hrs)	P (Hrs)	L Credits	T Credits	P Credits	Total Credits	MARKS TI	MARKS TE	MARKS PI	MARKS PE	MARKS Total
						Core Course(s)								
-A05	Quantitative Methods in Geography (Theory)	241/GEO/CC201	3	1	-	3	1	-	**4**	30	70	-	-	**100**
-A06	Geographical Thought (Theory)	241/GEO/CC202	3	1	-	3	1	-	**4**	30	70	-	-	**100**
-A07	Regional Development and Planning: with special Reference to India (Theory)	241/GEO/CC203	3	1	-	3	1	-	**4**	30	70	-	-	**100**
-A08	Interpretation of Topographical Sheets and Morphometric Analysis (Practical)	241/GEO/CC204	-	-	8	-	-	4	**4**	-	-	30	70	**100**
						Discipline Specific Elective Courses								
E-02	i. Agriculture Geography (Theory) ii. Political Geography (Theory) iii. Social and Cultural Geography (Theory) iv. Geography of Natural Hazards and Disaster Management (Theory)	241/GEO/DS201 241/GEO/DS202 241/GEO/DS203 241/GEO/DS204	2	1	-	2	1	-	**3**	25	50	-	-	**75**
						Multidisciplinary Course(s)								
)C-02	One from Pool								**3**					**75**
						Ability Enhancement Course(s)								
C-02	One from Pool								**2**					**50**
						Skill Enhancement Course(s)								
C-01	One from Pool								**2**					**50**
tal edits									**26**					**650**

Semester 3

rse e	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
			Core Course(s)											
409	Population and Settlement Geography (Theory)	241/GEO/CC301	3	1	-	3	1	-	**4**	30	70	-	-	**100**
410	Principles of RS, GIS and GPS (Theory)	241/GEO/CC302	3	1	-	3	1	-	**4**	30	70	-	-	**100**
411	Fundamentals of Remote Sensing (Practical)	241/GEO/CC303	-	-	8	-	-	4	**4**	-	-	30	70	**100**
			Discipline Specific Elective Courses											
-03	i. Geography of Tourism (Theory) ii. Economic Geography (Theory) iii. Arid Geomorphology (Theory) iv. Geography of Water Resource (Theory)	241/GEO/DS301 241/GEO/DS302 241/GEO/DS303 241/GEO/DS304	2	1	-	2	1	-	**3**	25	50	-	-	**75**
			Multidisciplinary Course(s)											
-03	One from Pool								**3**					**75**
			Skill Enhancement Course(s)											
-02	One from Pool								**2**					**50**
			Value-added Course(s)											
-02	One from Pool								**2**					**50**
			Seminar											
	Seminar								**2**					**50**
			Internship/Field Activity#											
	Internship /Field Activity#								**4**					**100**
l lits									**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

urse de	Course Title	Course ID	L (Hrs)	T (Hrs)	P (Hrs)	L Credits	T Credits	P Credits	Total Credits	MARKS TI	MARKS TE	MARKS PI	MARKS PE	MARKS Total
						Core Course(s)								
-A12	Research Methodology (Theory)	241/GEO/CC401	3	1	-	3	1	-	**4**	30	70	-	-	**100**
-A13	Applications of Geo-Spatial Techniques (Practical)	241/GEO/CC402	-	-	8	-	-	4	**4**	-	-	30	70	**100**
						Discipline Specific Elective Courses								
E-04	i. Industrial Geography (Theory) ii. Gender Geography (Theory) iii. Crime Geography (Theory) iv. Natural Resource Management (Theory)	241/GEO/DS401 241/GEO/DS402 241/GEO/DS403 241/GEO/DS404	2	1	-	2	1	-	**3**	25	50	-	-	**75**
						Multidisciplinary Course(s)								
C-04	One from Pool								**3**					**75**
						Ability Enhancement Course(s)								
C-03	One from Pool								**2**					**50**
						Community Engagement/Field Work/Survey/Seminar								
	Field Work and Report Writing		-	-	12	-	-	6	**6**	-	-	45	105	**150**
al dits									**22**					**550**

MDC: (Multidisciplinary Course)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-1	Fundamentals of Geography (Theory)	241/GEO/ MD101	2	1	-	2	1	-	3	25	50	-	-	75

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-2	Geography of Haryana (Theory)	241/GEO/ MD201	2	1	-	2	1	-	3	25	50	-	-	75

Semester 3

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-3	Geography in Everyday Life (Theory and Practical)	241/GEO/ MD301	2	-	2	2	-	1	3	15	35	5	20	75

Semester 4

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-4	Urban Environment Challenges (Theory and Practical)	241/GEO/ MD401	2	-	2	2	-	1	3	15	35	5	20	75

Skill Enhancement Course from the department for pool of the Courses in the University

(These courses are offered by each department for students of other departments/same department and is designed to provide value-based and/or skill-based knowledge and should contain both theory and lab/hands-on/training/field work.)

SEC: (Skill Enhancement Course)

Semester 2

Course Code	Course Title	Course ID	L (Hrs)	T (Hrs)	P (Hrs)	L Credits	T Credits	P Credits	Credits	MARKS TI	MARKS TE	MARKS PI	MARKS PE	MARKS Total
SEC-1	Reading and Interpretation of Maps (Theory and Practical)	241/GEO/ SE201	1	-	2	1	-	1	**2**	5	20	5	20	**50**

Semester 3

Course Code	Course Title	Course ID	L (Hrs)	T (Hrs)	P (Hrs)	L Credits	T Credits	P Credits	Credits	MARKS TI	MARKS TE	MARKS PI	MARKS PE	MARKS Total
SEC-2	Computer aided Geographical graphs and diagrams (Practical)	241/GEO/ SE301	-	-	4	-	-	2	**2**	-	-	15	35	**50**

Value Added Course from the department for pool of the Courses in the University

(All the departments will offer value added course for the students of same or different departments.

Semester 1

urse de	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
C-1	Water Conservation Techniques: Geographical Perspective (Theory and Practical)	241/GEO/VA101	1	-	2	1	-	1	**2**	5	20	5	20	**50**

Semester 3

urse de	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
C-2	Green, Energy and Water Crediting Techniques: Geographical Perspectives (Theory and Practical)	241/GEO/VA301	1	-	2	1	-	1	**2**	5	20	5	20	**50**

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)

Program: 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: -

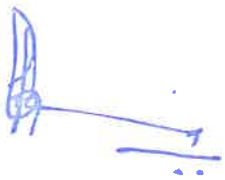
Program Outcomes (POs)

- 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 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.



MA Geography 3rd Semester

Core Paper

CC-A09	Population and Settlement Geography (Theory Paper)	241/GEO/CC301
CC-A10	Principles of RS, GIS and GPS (Theory Paper)	241/GEO/CC302
CC-A11	Fundamentals of Remote Sensing (Practical Paper)	241/GEO/CC303

Gurugram University, Gurugram, Haryana(India)

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

POPULATION AND SETTLEMENT GEOGRAPHY

Paper Code: **CC-A09 (Theory: Core Paper)**
Course Id: **241/GEO/CC301**

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: Attendance Assignment Sessional Exam	30 Marks 5 5 20

Course Outcomes (COs):

CO-01: Students will be able to understand the Meaning, Basic Concepts and Data sources of Population.
CO-02: Students will be able to understand the distribution, dynamics and theories of population.
CO-03: It will help students to gain a better understanding about the Concept, types and Patterns of Rural Settlement.
CO-04: Students will know about the origin, development and types of Urban settlements.

UNIT-I

Population Geography: Concept, Nature, Scope, Approaches and Relationship with Social Sciences. Population Data Sources and their level of reliability. Fertility, Morbidity and Mortality Analysis: Indices, Determinants and World Pattern. Migration.

UNIT-II

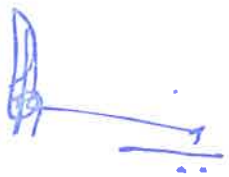
Population: Distribution, Density and Growth. Population Composition: (Age & Sex, Rural-Urban, Literacy and Occupational Structure.). Quality Population. Ackerman's Population Resource Regions. Population and Development. Theories of Population: Malthus, Ricardo, Optimum Population and Demographic Transition.

UNIT-III

Settlement Geography: Concept, Nature, Scope and Historical Development. Settlement: Rural and Urban. Rural settlements: Types, Patterns and Distribution. Problems associated with Rural and Urban Settlements and Planning.

UNIT-IV

Urban Settlements: Concept, Origin and Development, Classification and Morphology. Urbanization in Developed and Developing countries. Concept of Megacities and smart cities.



Recommended Readings:

- Alam, S. M. et. al. (1982). *Settlement System of India*. New Delhi: Oxford and IBH Publication Co.
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- Tripathi, R.D. (2005). *Population Geography*. Gorakhpur: Vasundhara Parkashan.

Gurugram University, Gurugram, Haryana(India)

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

PRINCIPLES OF RS, GIS AND GPS

Paper Code: **CC-A10 (Theory: Core Paper)**
Course Id: **241/GEO/CC302**

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: Attendance Assignment Sessional Exam	30 Marks 5 5 20

Course Outcomes(COs):

CO-01: The students will be familiarized and enhance their knowledge about the fundamentals of Photogrammetry.
CO-02: They will understand the Remote Sensing technique and it's Process of data acquisition.
CO-03: They will aware about the Geographical location, its significance and various Satellites series.
CO-04: They will know the use of GIS technology in Earth Observation and intensive real world study.

UNIT-I

Photogrammetry: Concept, Historic Development, Advantages and Limitations. Aerial Photography: Types, Ground Coverage and Overlapping. Aerial Photographs: Types, Characteristics, Geometry and Scale, Photo mosaic. Stereoscope and Stereo-Vision. Drone Aerial Photography. Image interpretation: Elements; Types of Images: Panchromatic, False Colour and True Colour Composite.

UNIT-II

Remote Sensing: Meaning and Concept, Process, Stages, Historic Development, Platforms and Sensors. Electromagnetic Radiation (EMR): Electromagnetic Spectrum, Interaction of EMR with Surface, Interaction of EMR with Atmosphere. Spectral Reflectance and Atmospheric Window. Scattering: Types and Significance.

UNIT-III

GPS: Introduction to Global Positioning System, Coordinate Systems, GPS Satellite Constellations, GPS Segments; IRNSS location system; Application and Significance of GPS. **Satellite:** Swath, Orbits- Sun Synchronous and Geostationary; Major Satellite Series: India and World. Satellite Imagery and Resolution. Space Programs of India.

UNIT-IV

GIS: Meaning, Functions, Significance, Historic Development, Component of GIS; Remote Sensing and GIS; GIS Data: Spatial and Non Spatial; GIS Data Formats: Raster and Vector. Recent Trends in GIS. Machine Learning and Deep Learning. Application of Geospatial Techniques: LULC, Urban Planning, Agriculture, Hydrology, Networking and Disaster Management.

Suggested Readings:

- Bhatta, B. (2021). *Remote Sensing and GIS*. New Delhi: Oxford University Press.
- Chang, Kang-tsung (2020). *Introduction to Geographic Information Systems*. New Delhi: Tata McGraw Hills Publishing Company Ltd.
- Chauhan, T.S. (2024). *Geospatial Technology fundamentals and applications*. New Delhi: Scientific Publishers.
- Chaunial, D.D. (2021). *Principles of Remote Sensing and Geographical Information System* (Hindi). Allahabad: Sharda Pustak Bhawan.
- Doberstein, Dan (2011). *Fundamentals of GPS Receivers: A Hardware Approach*. New York: Springer.
- Emayavaramban, V. (2017). *Geospatial Technology fundamentals and applications*. New Delhi: New India Publishing Agency.
- Fazal, Shahab (2008). *GIS Basics*. New Delhi: New Age International Publishers.
- Ganesh, A. (2006). *Applications of Geospatial Technology*. Delhi: Satish Serial Publishing House.
- Guha, Pardeep (2013). *Remote Sensing for the Beginner*. New Delhi: East West Press.
- Heywood, lan et. Al. (2002). *Geographical Information Systems*. Delhi: Pearson Education.
- Joseph, George (2018). *Fundamental of Remote Sensing*. Hyderabad: University's Press (India) Pvt. Ltd.
- Lillesand and R.W. Kiefer (2005). *Remote Sensing and Image Interpretation*. New York: John Wiley and Sons.
- Nar, Dharna and Kotecha, R. (2024). *Drone Technology for Beginners*. New Delhi: Ane Books Pvt. Ltd. And Drone School India.
- Panda, B.C. (2008). *Remote Sensing: Principles and Applications*. New Delhi: Viva Books Pvt. Ltd.
- Pritvish Nag, and M. Kudrat (1998). *Digital Remote Sensing*. New Delhi: Concept Publishing Company.
- Rampal, K.K. (1999). *Handbook of Aerial Photography and Interpretation*. New Delhi: Concept Publishing Co.
- Reddy, Anji, M. (2012). *Textbook of Remote Sensing and Geographical Information Systems*. Hyderabad: BSP B.S. Publications.
- Sharma, R.K.(2010). Air Photos Interpretation, Remote Sensing and Geographical Information System. Udaipur: Himanshu Publications.
- Siddiqui, M.A. (2011). *Introduction to Geographical Information Systems*. Allahabad: Sharda Pustak Bhawan.
- Simhachalam, A. (2021). *Application of Geo-Spatial Technologies in Natural Resource Management*. New Delhi: Akansha Publishing House.

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

FUNDAMENTALS OF REMOTE SENSING

Paper Code: **CC-A11 (Practical: Core Paper)**
Course Id: **241/GEO/CC303**

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: Acquisition of skills of functions and measurements on various aerial photographs.
CO-02: Capability of reading and interpreting physical and socio-economic features on photographs.
CO-03: Acquaintance with different digital data products and software for the processing of satellite data.
CO-04: Enhancement of skills about processing and extracting features from satellite imageries.

UNIT-I

1. Aerial Photographs: Types, Scale Determination, Identification of Fiducial Marks, Principal Point, Conjugate Principal Point, ASL, AGL, Flight line and Overlapping.
2. Drone (UAV) Aerial Photography: Types, Structure and Components, Controls.
3. Identification of five Physical and five Cultural features on Aerial Photographs.
4. Land use/ Land cover mapping on Aerial Photographs.
5. Stereo-Vision and Stereographs, Photo mosaic.
6. 3-D terrain Analysis on Stereo-pair Aerial Photographs

UNIT-II

1. Satellite Imagery Types; Annotation of Satellite imagery; Annotation, Data Acquisition/ Downloading from ISRO-Bhuvan/Bhoonidhi, Google Earth, GLOVIS/ USGS etc.
2. GPS and GCP Point Capturing from a GPS device and mobile.
3. Familiarisation with Geo-Spatial Softwares: Arc-GIS, QGIS (Open Source) etc.; Georeferencing by adding GCP's and Projection on Satellite images and Toposheet; Preparation of FCC; Comparison of Features on Panchromatic, True Colour and FCC.
4. Vector Creation from Raster (Toposheet and Satellite Imagery): Point, Line and Polygon; Online Vector Creation on OSM and ISRO-Bhuvan/Bhoonidhi.
5. Total Station Surveying

Note:

1. The students have to prepare two Practical files: One Practical file from Unit-I on Geographical Practical Sheets and the Second will be computer based comprehensive practical file from Unit-II.
2. 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.

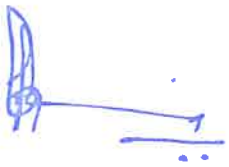
Distribution of Marks: In Practical Paper, the marks would be divided as follows:

Sr	Exam	Type	Marks and no. of questions	Marks	Marks	Total Marks
(1). PE	**Written Examination**	Part-I Part-II	2 Marks x 5 questions 10 marks x 4 Exercise/Questions	10 40	**50**	**70**
	Viva-Voce				**20**	
(2). PI	**Internal Assessment**	File Record	Practical File-I (from Unit-I) Practical File-II (from Unit-II)	10 15	**25**	**30**
		Attendance			**5**	
				Total Marks =		**100**

Suggested Readings:

- Bhatta, B. (2021). *Remote Sensing and GIS*. New Delhi: Oxford University Press.
- Chang, Kang-tsung (2020). *Introduction to Geographic Information Systems*. New Delhi: Tata McGraw Hills Publishing Company Ltd.
- Chauhan, T.S. (2024). *Geospatial Technology fundamentals and applications*. New Delhi: Scientific Publishers.
- Chaunial, D.D. (2021). *Principles of Remote Sensing and Geographical Information System* (Hindi). Allahabad: Sharda Pustak Bhawan.
- Doberstein, Dan (2011). *Fundamentals of GPS Receivers: A Hardware Approach*. New York: Springer.
- Emayavaramban, V. (2017). *Geospatial Technology fundamentals and applications*. New Delhi: New India Publishing Agency.
- Gopi, S., Sathikumar, R. And Madhu, N. (2006). Advanced Surveying: Total Station, GIS and Remote Sensing. Chennai: Pearson Education.
- Heywood, lan et. Al. (2002). *Geographical Information Systems*. Delhi: Pearson Education.
- Lillesand and R.W. Kiefer (2005). *Remote Sensing and Image Interpretation*. New York: John Wiley and Sons.
- Mishra, R.N. and Sharma, P.K. (2019). *Prayogic Bhoogol* (Hindi). Jaipur: Rawat Publicatoins.
- Nar, Dharna and Kotecha, R. (2024). *Drone Technology for Beginners*. New Delhi: Ane Books Pvt. Ltd. And Drone School India.

- Rampal, K.K. (1999). *Handbook of Aerial Photography and Interpretation*. New Delhi: Concept Publishing Co.
- Reddy, Anji, M. (2012). *Textbook of Remote Sensing and Geographical Information Systems*. Hyderabad: BSP B.S. Publications.
- Sharma, R.K.(2010). Air Photos Interpretation, Remote Sensing and Geographical Information System. Udaipur: Himanshu Publications.
- Siddiqui, M.A. (2011). *Introduction to Geographical Information Systems*. Allahabad: Sharda Pustak Bhawan.
- Simhachalam, A. (2021). *Application of Geo-Spatial Technologies in Natural Resource Management*. New Delhi: Akansha Publishing House.
- Yeswanth, I.V.S. and Kumar, A.V.S.S. (2024). Fundamentals of Drone Technology. Bilaspur (CG): Authers Click Publishing.



MA 3rd Sem

DSE Paper (Optional)

DSE-03	i. Geography of Tourism (Theory Paper) ii. Economic Geography (Theory Paper) iii. Arid Geomorphology (Theory Paper) iv. Geography of Water Resource (Theory Paper)	241/GEO/DS301 241/GEO/DS302 241/GEO/DS303 241/GEO/DS304

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GEOGRAPHY OF TOURISM

Paper Code: **DSE-03 (i)** (Optional: Theory Paper)
Course Id: **241/GEO/DS301**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper shall have five units. Each of the four units of question paper shall contain two optional essay type questions from each unit of the syllabus (having 10 marks of each question). Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Mid-Sem. Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: The Students will be able to understand the basic concepts of tourism and its types.
CO-02: They will have a closer insight to Tourism Products and associated infrastructure.
CO-03: They will be able to aware about the effectiveness of Tourism on social and cultural phenomenon.
CO-04: They will able to understand and develop skills to decode the role of Tourism in global integration.

UNIT-I

Geography of Tourism: Concept, Nature, Scope, Patterns and Trends; Geographical basis of Tourism; Motivating Factors of Tourism; Types and Classification: Recreational, Religious and Historical; Tourism Circuits.

UNIT-II

Tourism Product & Infrastructure: Transportation, Accommodation, Supplementary Accommodation, Basic Infrastructure; Tourism as an Industry; Tour Agencies and Intermediaries.

UNIT-III

Impact of Tourism: Physical, Economic and Social-Cultural (Positive and Negative); Tourism Paradigms: Ethnic Tourism, Cultural Tourism, Heritage Tourism, Geo-Tourism, Eco-Tourism, Medico-Tourism, Aggro-Tourism, Responsible Tourism and other Recent Trends in Tourism.

UNIT-IV

Regional Dimensions of Tourism in India: The Himalayan Region, The Northern Plains & The Thar Desert, The Deccan Plateau, The Coastal Plains and The Islands; Globalization and Tourism: Tourism Trends and Development- National & International.

Suggested Readings:

- Baghla, S. (2017). *Tourism Geography*. Jaipur: Book Enclave Publishers.
- Bansal, Suresh Chander (2011). *Tourism Geography and Travel Management*. Meerut: Minakshi Publication.
- Bhatia A.K. (2019). *Tourism Development: Principles and Practices*. New Delhi: Sterling Publishers.
- Carter, E and G. Lowman (1994). *Ecotourism*. New York: John Wiley and Sons.
- Chandra R.H. (1998). *Hill Tourism: Planning and Development*. New Delhi: Kanishka Publishers.
- Hunter, C. and Green, H. (1995). *Tourism and the Environment: A Sustainable Relationship*. London: Routledge.
- Kamra K.K. and Mohinder Chand (2007). *Basics of Tourism: Theory, Operation and Practice*. New Delhi: Kanishaka Publishers.
- Kaur J. (1985). *Himalayan Pilgrimages & New Tourism*. New Delhi: Himalayan Books.
- Kapoor, Bimal Kumar (2012). *Tourism Geography*. New Delhi: Visavbharti Publication.
- Lea J. (1988). *Tourism and Development in the Third World*. London: Routledge.
- Maurya, S.D. and Kumar, P. (2022). *Paryatan Bhugol* (Hindi). Paryagraj: Sharda Pustak Bhawan.
- Milton D. (1993). *Geography of World Tourism*. New York: Prentice. Hall.
- Parveen, Noshaba (2019). *Geography of Tourism Ek Adhayan* (Hindi). New Delhi: RK Books.
- Sharma J.K. (2013). Tourism Planning and Development - A New Perspective. New Delhi: Kanishka Publishers.
- Sharma, S.K. (2021). *Geography in Tourism* (Hindi). New Delhi: Takshshila Publication.
- Williams Stephen (1998). *Tourism Geography*. London: Routledge.

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ECONOMIC GEOGRAPHY

Paper Code: **DSE-03 (ii)** (Optional: Theory Paper)
Course Id: **241/GEO/DS302**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Sessional Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: Provides understanding about the meaning and concept of Economic Geography and Classification of economic activities.
CO-02: Familiarization with global agriculture systems and location theories.
CO-03: Acquaintance with the spatial organization of world economies and economic growth models.
CO-04: Knowledge about trade blocs, trends in trade and various processes of Globalization.

UNIT-I

Economic Geography: Concept, Nature, Scope, Approaches and Recent Trends in Economic Geography; Relationship of Economic Geography with other Social Sciences; Economic Activities and their Classification.

UNIT-II

Agriculture Systems of World; Von Thunen's Model of Agricultural Land Use; Industrial Location Theories of Weber and Smith; Major Resources: Renewable and Non-Renewable Resources

UNIT-III

World Economies: Classification, Patterns, Characteristics of Developed and Developing Countries; Friedmann's Core Periphery Model; Rostow's Model of Economic growth; Perroux's Growth Pole Theory.

UNIT-IV

Neo Liberalism, Globalization, International Trade Patterns and Trends; Emerging Global New World Order; Trade war: Tariff and Free Trade; EXIM policy of India; Geographical Configuration of World Trade: GATT, WTO, NAFTA, SAPTA, G-20, BRICS and I2U2.

Suggested Readings:

- Anderson, William P. (2012). *Economic Geography*. New York: Rotledge.
- Broadford, M.G. and Kent, W.A.(1977). *Human Geography: Theories and their Application*. Oxford University Press.
- Gautam, A. (2010). *Advanced Economic Geography*. Allahabad: Sharda Pustak Bhawan.
- Gautam, Alka, (2010). *Aarthik Bhugol Ke Mool Tatav* (Hindi). Allahabad: Sharda Pustak Bhavan.
- Hamilton, I. (1992). *Resources and Industry*. New York: Oxford University Press.
- Haroon, M. (2005). *Economic Geography* (Hindi). Gorakhpur: Vasundhara Prakasan.
- Hartshorne, T. A. and Alexander, J. W. (2001). *Economic Geography*. New Delhi: Prentice Hall of India.
- Hudson, R. (2005). *Economic Geography*. New Delhi: Sage Publication.
- Jones, C. F. and Darkenwald, G. G. (1965). *Economic Geography*. New York: The Macmillan and Company.
- Knox, P. (2003). *The Geography of World Economy*. London: Arnold.
- Losch, A. (1954). ***The Economics of Location***. London: Yale University Press.
- Misra. H.N. (2014). *Managing Natural Resources Focus on Land and Water*. New Delhi: Prentice Hall.
- Rostow, W.W. (1991). ***The Stages of Economic Growth: A Non-Communist Manifesto***. London: Cambridge University Press.
- Saxena, H.M. (2013). Economic Geography. Jaipur: Rawat Publications.
- Wheeler, J.O. and Muller, P.O. (1985). Economic Geography. New York: John Wiley and Sons.

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ARID GEOMORPHOLOGY

Paper Code: **DSE-03 (iii)** (Optional: Theory Paper)
Course Id: **241/GEO/DS303**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Mid-Sem. Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: The Students will be able to understand the concepts of Arid Geomorphology and Arid Regions.
CO-02: They will understand the general Erosional Processes and the formation of arid landforms.
CO-03: They will be able to explain Depositional work and landforms created in arid region.
CO-03: They will be able to analyze the human impact on Arid landforms and regional desertification

UNIT-I

Arid Geomorphology: Meaning, Nature and Historical Development; Age of Aridity on Earth: Causes of Aridity- Climate, Atmospheric Stability and Continentality; Arid Regions: Meaning, Types, Geo-spatial distribution of Arid regions: Inland, Costal, and Mountainous.

UNIT-II

Wind Erosion: Process-Abrasion, Attrition, Deflation and Aerodynamic Erosion; Factors Affecting Erosion; Wind Eroded Arid Landforms: Blow Out, Deflation Hallow, Yardang, Zeugen, Mushroom Rock, Demoiselles, Dreikanter, Inselberg, Rock Lattice, Wind Window etc.; Transportation Work: Saltation, Surface Creep, Suspension; Water Eroded Arid Landforms: Alluvial fans, Stream Terraces, Basins, Rills, Gully, Ravine, Playas, Bajadas, Pediments, Bolsons. Oasis.

UNIT-III

Wind Depositional work: Factors Affecting Deposition; Depositional landforms: Ripples; Sand Dunes: Formation, Structure, Types, Shifting and Significance; Loess Deposits and their Significance; Weathering in arid regions, Mass Wasting: Surface creep, landslides and debris flow, rock falls etc.

UNIT-IV

Changing arid landscapes: Urbanization, Agriculture, Deforestation, Overgrazing, Tourism; Desertification: Natural and Human Processes- Impacts and Controls; Case study: The Thar Desert, The Great Desert of Australia, The Sahara Desert, The Kalahari Desert.

Suggested Readings:

- Andrew, S. G. (2013). *Arid and Semi-Arid Geomorphology*. Cambridge (UK): Cambridge University Press.
- Anhert, F. (1996). *Introduction to Geomorphology*. London: Arnold.
- Bloom, A.L. (2022): *Geomorphology*, Second Edition. Jaipur: Rawat Publications.
- Chorley, R. J., Schumm, S. A. and Sugden, D. E. (1984). *Geomorphology*. London: Methuen.
- David, S.G. Thomas (2011). *Arid Zone Geomorphology: Process, Form and Change in Drylands*. Oxford: John Wiley & Sons Ltd.
- Dayal, P. (2019). *Geomorphology* (Hindi/Eng). New Delhi: Rajesh Publications.
- Donald, O. Doehring (2020). *Geomorphology in Arid Regions*. London: Routledge.
- Kale, V. and Gupta, A. (2001). *Introduction to Geomorphology*. Kolkata: Orient Longman.
- Kaushik S.D. (2010). *Geomorphology* (Hindi). Meerut: Rastogi Publication.
- Ritter, D.F., Kochel, R.C., Miller, J.R. (1995). *Process Geomorphology*. Chicago: Wim. C. Brown Publishers.
- Singh Savindra (2020). *Geomorphology* (Hindi/Eng). Allahabad: Pravalika Publications.
- Strahler, A.N. and Strahler, A.H. (1996). *Introducing Physical Geography*. New York: John Willey and Sons.
- Thornbury, W.D. (2004). *Principles of Geomorphology*. New Delhi: CBS Publishers and Distributers.

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GEOGRAPHY OF WATER RESOURCE

Paper Code: **DSE-03 (iv)** (Optional: Theory Paper)
Course Id: **241/GEO/DS304**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Sessional Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: The students will understand the concepts, significance and distribution of water resource.
CO-02: The students will be able to assess the surface water, estimate stream flow and rainfall.
CO-03: They will be able to understand the concept of underground water, its issues and planning.
CO-04: They will be able to develop IT skill in the study of water problems and their solutions.

UNIT-I

Geography of Water Resource: Concept, Nature, Scope, Approaches, Historical Development and Significance; Relationship with Other Disciplines; Hydrological Cycle; Data Sources; Global water Distribution and Water Crises; Climate and Water Resource.

UNIT-II

Surface Water- Rainfall: Frequency, Intensity, Trends, Measurement, Variability, Patterns and Distribution; **Run Off**: Sources, Affecting Factors, Components-Surface flow, Subsurface flow and Underground Water Flow; Analysis of Hydrograph; Measurement and Estimation of Stream Flow

UNIT-III

Ground Water: Concept, Occurrence, Water level Zones, Aquifer- Meaning and Types; Underground Water Issues: Availability, Quality, Depletion and Salinity. Groundwater Stressed Blocks of India; Groundwater Recharge Techniques: Traditional and Modern, Rainwater Harvesting.

UNIT-IV

Water Balance: Water Demand, Water Use and Water Balance in different sectors (Agriculture, Industrial and Domestic) of India; Water Conflict among states of India; **Water Issues:** Water Deficiency; Degradation of Water Quality-Physical, Chemical and Biological; Water logging; Application of GIS in Water Resource. Water Policy of India.

Suggested Readings:

- Aggarwal, Anil and Sunita Narain (1997). *Dying Wisdom: Rise, Fall and Potential of India's Traditional Water Harvesting System*. New Delhi: Centre of Science and Environment.
- Chorley, R.J. (1979). *Water, Earth and Man*. London: Methuen.
- Digman, L.S. (2002). *Physical Hydrology*. New Jersey: Prentice Hall.
- Garg, S.K. (1988). *Hydrology and Water Resources Engineering*. Delhi: Khanna Publishers.
- Gurjar RK and Jat B.C. (2013). *Geography of Water Resources*. Jaipur: Rawat Publications.
- Jones, J.A.(1997). *Global Hydrology, Processes, Resources and Environmental management*. New York: Longman.
- Manning, J.C. (1997). *Applied Principals of Hydrology*. New Jersey: Prentice Hall.
- Patra K.C. (2010). *Hydrology and Water Resource Engineering*. New Delhi: Norsa Publishing House.
- Mishra, S.P. (2007). *Jal Sansadhan Prabandhan Evm Sanrakshan* (Hindi). Jaipur: Awishkar Publishers and Distributers.
- Mather, J.R. (1984).*Water Resources Distribution, Use and Management*. New York: John Wiley.
- Raghunath, H.M. (2015). *Hydrology*, New Delhi: New Age International Pvt Ltd.
- Reddy, J. P. (2016). *A Textbook of Hydrology*. New Delhi: Laxmi Publication., New Delhi.
- Singh, M. B. (1999). *Climatology and Hydrology* (Hindi). Varanasi: Tara Book Agency.
- Subramanya K. (2017). *Engineering Hydrology*. New Delhi: Tata McGraw-Hill Publishing Co. Ltd.
- Tideman, E.M. (1996). *Watershed Management, Guidelines for Indian Conditions*. New Delhi: Omega Scientific Publishers.
- Ward, R.C. and Robinson, M. (2000). *Principles of Hydrology*. NewYork: McGraw Hill.

MA 4th Sem

Core Paper

CC-A12	Research Methodology (Theory Paper)	241/GEO/CC401
CC-A13	Applications of Geo-Spatial Techniques (Practical Paper)	241/GEO/CC402

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

RESEARCH METHODOLOGY

Paper Code: **CC-A12 (Theory: Core Paper)**
Course Id: **241/GEO/CC401**

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: Attendance Assignment Sessional Exam	30 Marks 5 5 20

Course Outcomes (COs):

CO-01: The students will be able to understand the concept, types of Research and Research problem identification.

CO-02: They will develop the skill of literature review, Hypothesis formation and selection of Methodology.

CO-03: They will know about various data sources and their collection methods for the research.

CO-04: They will aware about Research process, Report writing and publication in a scientific way.

UNIT-I

Research: Concept, Purpose, Types and Approaches. Scientific Research in Geography. Identification of Research Problem: Aims, Objectives, Formulation of Research Question. Limitations of Research.

UNIT-II

Review of Literature: Meaning, Significance, Sources, Process, Web Based Searching, Research Gaps; Hypothesis: Meaning, Significance, Formulation, Types and Testing. Methodology: Inductive and Deductive, Qualitative and Quantitative.

UNIT-III

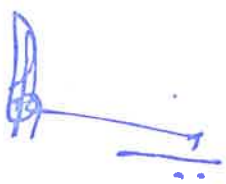
Data Sources and Methods of Data Collection: Types of data-(Primary and Secondary); Secondary Data Sources; Primary Data Sources: Field Survey Data Collection Techniques- Observation, Interview, Questionnaire, Schedule, PRA. Data Processing and Analysis: Tabulation and Graphic/Map Representation. Application of GIS in Research.

UNIT-IV

Research Report Writing: Structure-(Preliminary, Main Body of Text and Conclusion); Referencing and Bibliography: Style and Writing- APA, Chicago, Harvard; Ethics in Research; Publication in Research Journals; Plagiarism in Research.

Suggested Readings:

- Ahuja, Ram (2003). *Social Survey and Research* (Hindi). Jaipur: Rawat Publications.
- Basotia, G. R. and Sharma, K. K. (2002). *Research Methodology*. Jaipur: Mangal Deep Publications.
- Creswell J. (2018). Research Design: Qualitative and Quantitative Approaches. New Delhi: Sage Publications.
- Eyles, John and David M. Smith (1988). Qualitative Methods in Human Geography. Oxford: Polity Press.
- Flowerdew, R. and Martin, D. (1997). *Methods in Human Geography. A Guide for Students Doing a Research Project*. New Jersey: Prentice Hall.
- Gupta, S.P. (2021). *Statistical Methods*. New Delhi: Sultan Chand and Sons.
- Harvey, David (1969). *Explanation in Geography*. London: Edward Arnold.
- Limb, M. (2001). *Qualitative Methodologies for Geographers. Issue and Debates*. London: Edward Arnold.
- Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: New Age International Publishers.
- Kumar, Ranjit (2005). *Research Methodology: Step by Step Guide for Beginners*. Pearson, Australia.
- Limb, Melanie and Claire Dwyer (2001). *Qualitative Methodologies for Geographers*. London: Arnold.
- Mahmood, A. (2020). *Statistical Methods in Geographical Studies*. New Delhi: Rajesh Publications.
- Misra, H.N. and Singh, Vijai P. (2002). *Research Methodology in Geography: Social, Spatial and Policy Dimensions*. Jaipur: Rawat Publications.
- Misra, R.P. (2015). *Research Methodology: A handbook*. New Delhi: Concept Publishing Company.
- Paul Oliver (2004). *Writing your Thesis*. New Delhi: Vistar Publication.
- Robinson, Guy M. (1998). *Methods and Techniques in Human Geography*. New York: John Wiley.
- Somekh, Bridget and Cathy Lewin (2005). *Research Methods in the Social Sciences*. New Delhi: Vistar Publications.
- Stoddard, R. H. (1982). *Field Techniques and Research Methods in Geography*. Kendall/Hunt.
- Wolcott, H. (1995). The Art of Fieldwork. California: Alta Mira Press.



Gurugram University, Gurugram, Haryana(India)

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

APPLICATIONS OF GEO-SPATIAL TECHNIQUES

Paper Code: **CC-A13 (Practical: Core Paper)**
Course Id: **241/GEO/CC402**

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: The students will be able to understand the Geospatial Technology, GIS and types of GIS Data.
CO-02: They will develop the Capability of Mapping through Satellite Images.
CO-03: Acquaintance with different digital data products and software for the processing of satellite data.
CO-04: Enhancement of skills about processing, extracting features and functions on satellite images.

UNIT-I

1. Geo-Spatial Technology: Concept and Significance;
2. GIS: Components, Data Types- Spatial and Non-Spatial, Data Formats- Raster and Vector;
3. Satellite Images: Meaning, Types, Acquisition, Classification and Significance in Various Fields;
4. Digitization: Point, Line and Polygon; Vector Creation on Raster: Toposheet and Satellite Image;
5. Map Layout through GIS Software: QGIS (Open Source) or Arc-GIS Software etc.; Map Components; Key Map Creation of Study Area;
6. Attribute Data Integration with Vector Data; Diagrammatically Presentation of Attribute Data: Dot map, Choropleth map, Isopleths map, Contour, Pie Diagram, Sphere Diagram, Bar graph and Line graph;

UNIT-II

1. Digital Classification of Satellite Data: Supervised and Unsupervised;
2. Application of Geospatial Techniques: in LULC, Urban, Agriculture, Water Bodies study, Networking, Disaster Management;
3. Area Calculation;
4. Buffer Analysis: Single and Multiple.
5. Overlay analysis;
6. DEM creation and Terrain Analysis.

Total Minimum **(25 Exercises)**

Note:

1. The students have to prepare a comprehensive computer based practical file covering all the topics of entire syllabus.
2. 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:

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

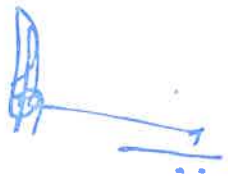
Suggested Readings:

- Bhatta, B. (2021). *Remote Sensing and GIS*. New Delhi: Oxford University Press.
- Chang, Kang-tsung (2020). *Introduction to Geographic Information Systems*. New Delhi: Tata McGraw Hills Publishing Company Ltd.
- Chauhan, T.S. (2024). *Geospatial Technology fundamentals and applications*. New Delhi: Scientific Publishers.
- Chaunial, D.D. (2021). *Principles of Remote Sensing and Geographical Information System* (Hindi). Allahabad: Sharda Pustak Bhawan.
- Emayavaramban, V. (2017). *Geospatial Technology fundamentals and applications*. New Delhi: New India Publishing Agency.
- Graser, Anita (2016). Learning QGIS. Birmingham: Packt Publishing Ltd.
- Heywood, Ian et. Al. (2002). *Geographical Information Systems.* Delhi: Pearson Education.
- Ian, allan (2024). *QGIS 3 For Beginners*. Kindle Edition, Amazon.
- Lillesand and R.W. Kiefer (2005). *Remote Sensing and Image Interpretation*. New York: John Wiley and Sons.
- Reddy, Anji, M. (2012). *Textbook of Remote Sensing and Geographical Information Systems*. Hyderabad: BSP B.S. Publications.
- Sharma, R.K.(2010). *Air Photos Interpretation, Remote Sensing and Geographical Information System.* Udaipur: Himanshu Publications.
- Siddiqui, M.A. (2011). *Introduction to Geographical Information Systems*. Allahabad: Sharda Pustak Bhawan.
- Simhachalam, A. (2021). *Application of Geo-Spatial Technologies in Natural Resource Management.* New Delhi: Akansha Publishing House.
- Sreekanth, P.D., Soam, S.K. and Srinivasa Rao (2020). Practical Manual for GIS. New Delhi: Bio-Green Books.

MA 4th Sem

DSE Paper (Optional)

DSE-04	i. Industrial Geography (Theory Paper) ii. Gender Geography (Theory Paper) iii. Crime Geography (Theory Paper) iv. Natural Resource Management (Theory Paper)	241/GEO/DS401 241/GEO/DS402 241/GEO/DS403 241/GEO/DS404



Gurugram University, Gurugram, Haryana(India)

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

INDUSTRIAL GEOGRAPHY

Paper Code: **DSE-04 (i)** (Optional: Theory Paper)
Course Id: **241/GEO/DS401**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Sessional Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: The students will gain a better understanding of the process of industrial localization and Industrial Development.
CO-02: They will be able to know the global and national scenario of specific industry development.
CO-03: They will develop skill to identify and assess the industrial regions in futuristic way.
CO-04: They will better study and evaluate the industrial policies and their impact on regional development.

UNIT-I

Industrial Geography: Definition, Nature, Scope and Relevance in Current Scenario. Classification of Industries, Factors of Industrial Location.

UNIT-II

Theories of Industrial Location: A. Weber, E. M. Hoover, August Losch and D. M. Smith;
Major Industrial Regions of World

UNIT-III

Industrial Regions of India: Major and Minor;
Major Industries of India: Iron and Steel, Cotton Textile, Petrochemical, Automobile, Meat and IT.

UNIT-IV

Impact of Globalization on Manufacturing Sector in Less Developed Countries; Tourism Industry: National and International; Industrial Corridor in India; Industrial impact on Environment and Society; Industrial Policy of India.

Suggested Readings:

- Alexanderson, C. (1967). *Geography of Manufacturing. New Delhi:* Prentice-Hall of India.
- Banerjee-Guha, S. (1997). *Spatial Dimensions of International Capital: Study of Multinational Corporations in India*. New Delhi: Orient Longman.
- Chaudhuri, M. R. (1976). *Indian Industries Development and Location*. Chicago: Oxford Book House.
- Hamilton, I. (1992). *Resources and Industry*. New York: Oxford University Press.
- Hamilton, F.E.I. & Lingo, G.J.R. (1979). *Spatial Analysis, Industry and Industrial Environment*. New Jersey: John Wiley.
- Hoover, E. M. (1948): *Location and Space Economy,* McGraw Hill, New York.
- Lloyd, P. E. and Dicken, P. (1972). *Location in Space-A Theoretical Approach to Economic Geography*. New York: Harper and Row.
- Losch, A. (1954). ***The Economics of Location***. London: Yale University Press.
- Kulkarni, M.R. (2018). *Industrial Development. New Delhi:* National Book Trust.
- Lodha, R.M.(2021). *Audyogika Bhoogol* (Hindi). Jaipur: Rajasthan Hindi Granth Academy.
- Miller, E. (1962). *A Geography of Manufacturing.* New Jersey: Prentice-Hall.
- Misra. H.N. (2014). *Managing Natural Resources Focus on Land and Water*. New Delhi: Prentice Hall.
- Pacione, M. (1985). *Progress in Industrial Geography*. New York: Routledge.
- Riley, R. C. (1973). *Industrial Geography. London:* Chatto and Windus Ltd.
- Rostow, W.W. (1991). ***The Stages of Economic Growth: A Non-Communist Manifesto***. London: Cambridge University Press.
- Smith, D. M. (1982). *Industrial Location - An Economic Geographic Analysis*. New Jersey: John Wiley and Sons.
- Seth, V.K (1987). *Industrialization in India - Spatial Perspective*. Delhi: Commonwealth Publications.
- Saxena, A. N, (1985). *Planning and Promotion of Production - The Indian Experience*, Vol.-I and II. New Delhi: National Productivity Council.
- Singh, M. B. (1990). *New Perspectives in Industrial Geography.* Varanasi: Lotus Publication.
- Watts, H. D. (1980). *Large Industrial Enterprise; Some Spatial Perspectives*. New York: Routledge.

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

GENDER GEOGRAPHY

Paper Code: **DSE-04 (ii)** (Optional: Theory Paper)
Course Id: **241/GEO/DS402**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Mid-Sem. Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: Understanding about growth and evolution of gender geography.
CO-02: Awareness about Demographic variables and spatial patterns of Female health and Literacy.
CO-03: Acquaintance with gender gaps and empowerment of women in spatial context.
CO-04: Enhancement of knowledge about gender sensitive issues and policies in India.

UNIT-I

Gender Geography: Growth and Evolution, Nature and Scope, Significance and Approaches, Connotation; Men-Women Relationship: Ancient to Modern Time; Emergence of Patriarchy; Post-Modern Feminist Movement.

UNIT-II

Demographic variables – Spatial Dynamics of Age and Sex-Ratio, Fertility, Fecundity; Mortality: Gender Gaps in Infant Mortality Rates; Maternal Mortality Rate; Female Infanticide and Feticide; Reproductive Health and Poverty; Female Literacy: Spatial Patterns in World and India.

UNIT-III

Gender Challenges: Gender Gap- Empowerment of Women and Education; Women Trafficking and Prostitution; Domestic Violence: Men against Women and Vice-Versa; Sexual Harassment and Discrimination of Women at Workplace; Heinous Crime against Women Scenario in World and India.

UNIT-IV

Regional imbalances- Women's Rights and Feminist Movements in India; Critical Evaluation of Case Studies of Gender Empowerment Projects in India: Regional / Cultural Variations, Rural-Urban, Caste-Tribe, Religious Groups; Initiatives, Planning and Policies in India.

Books Recommended :

- Banerjee, N. (1985). *Women Workers in the Unorganized Sector*. Hyderabad: Sangam Books.
- Boserup, E. (1989). *Women's Role in Economic Development*. London: Earthscan.
- Desai, N. and Krishnaraj (1987). *Women and Society in India*. New Delhi: Ajanta Publications.
- Harison, S. and Pratt, G. (1995). *Gender, Work and Space*. New York: Routledge.
- Hayford, A. (1974). *The Geography of Women: An Historical Introduction*. Antipode *Vol.*-6, 1-19.28.
- Lee, D. (1988). *Women in Geography-A Comprehensive Bibliography*. Florida: Boca Raton.
- Mcdowell Linda (1999). *Gender, Identity and Place*. London: Polity Press.
- Momsen Janet (2010). *Gender and Development*. New York: Routledge.
- Momsen, JH. and Townsend, J. (1987). *Geography of Gender in the Third World.* New York: Albany.
- Rege, Sharmila (2000). *Real Feminism' and Dalit Women*. EPW, Vol – XXXV No. 06, February 05, 2000.
- Rege, Sharmila (1998). *Dalit Women Talk Differently-A Critique of Difference and Towards a Dalit Feminist Standpoint Position*. Spl. Issue, EPW, Vol – XXXIII No. 44, October 31, 1998.
- Reagent, A.C.and Monk J.J. (1982). Women and Spatial Change. Dubuque(USA): Kendall & Hunt.
- Rege Sharmila (2006). *Writing Caste, Writing Gender: Reading Dalit Women's Testimonios*. New Delhi: Zubaan Books.
- Raju, J. et. al. (1999). *Atlas on Men and Women in India*. New Delhi: Kali for Women.
- Rege Sharmila, Devika J., Kannabiran Kalpana, John Mary E., Swaminathan Padmini and Sen Samita, (2013). *Intersections of Gender and Caste- Review of Women's Studies*. EPW Spl. Vol. XLVIII No. 18.
- Raju, Saraswati. and Bagchi, Dipika (1998). *Women and Work in South Asia: Regional Patterns and Perspectives*. New York: Routledge.
- Seager, J. and Olson (1986). A.Women in the world – An International Atlas. London: Pluto Press.
- Sivard, R.L (1985). *Women-A World Survey*. Washington: World Priorities.
- Sharmila Rege (2003). *More than Just Tacking Women on to the 'Macropicture: Review of Women's Studies*, EPW, Vol - XXXVIII No. 43.
- Skjelsback, I. and Smith, D. (2001). *Gender, Peace and Conflict*. London: Sage.
- Sowell, T. (1994). *Race and culture-A world View*. New York: Basic Books.
- Visvanathan, Nalini. et. al. (2011). *The Women, Gender and Development Reader*. London: Zed Books Ltd.
- Zelinsky, W., Monk, J. and Hanson, S. (1982). *Women and Geography: A Review and Prospectus*. Progress in Human Geography Journal, Vol.- 6, 357-66.

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

CRIME GEOGRAPHY

Paper Code: **DSE-04 (iii)** (Optional: Theory Paper)
Course Id: **241/GEO/DS403**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Sessional Exam	25 Marks 5 5 15

Course Outcomes (COs):

CO-01: They will able to understand the meaning, concept and Nature of crime Geography and Crime.

CO-01: They will able to identify the crime places with their Geographical knowledge.

CO-02: They will able to understand the Patterns, Targets and Areas of crime in India and World.

CO-03: They will able to describe the implementation of regulations and role of modern Geographical techniques (GIS) in crime control.

UNIT-I

Crime Geography: Meaning, Nature, Scope, Approaches, Concepts and Typologies of Crimes; Theological and Ideological Bases: Role of Value System, Ethics and Institutional in Crime; Nature of Crime; Place of Crime.

UNIT-II

Dynamics and Spatial Dimensions of Crime; Theories of Crime and Space: Anomie, Cultural Transmission, Crowding; Labeling and Conflict Theory.

UNIT-III

Crime Target and Criminal: Patterns of Crime in World and India; Target Group: Caste, Gender, Religion, Literacy and Poverty in Crime; Areas of Crime: Locales of Crime: Open, Built and Deserted Environment; Cyber Crime.

UNIT-IV

Crime and Regulations: Crime and Role of International Organizations; Crime, Justice and the State; Crime and Societal Regulations; Spatial Gaps in Regulation of Crimes; GIS and Crime Control.

Recommended Readings:

- Ahmad, A. (2002). *Social Geography*. Jaipur: Rawat Books Publishers.
- Banerjee, N. (1985). *Women Workers in the Unorganized Sector*. Hyderabad: Sangam Books.
- Bhushan, P.S. (1997). Crime, Criminals and Society. Delhi: Manisha Publications.
- Chainey, Spencer (2021). *Understanding Crime: Analyzing the Geography of Crime*. New York: Environmental Systems Research Institute Inc.
- David, J. Evans and David, T. ( ). The Geography of Crime. New York: Routledge
- Clinard Marshall B. and Abbott, D. J. (1973). *Crime in Developing Countries: A Comparative Perspective*. New Jersey: Wiley International.
- Dear, M.J. and Flusty, S. (2000). *The Spaces of Postmodernity*. Oxford: Blackwell Publishing.
- Humpheries, D. and Wallace, Don (1980). *Capital Accumulation and Urban Crime*. Social Problems, Vol. 28, No. 2, pp. 179-193.
- Herbert, D. (1982). *The Geography of Urban Crime*. London: Longman.
- Newman, O. (1973). *Defensible Space, Crime Prevention through Urban Design*. London: Architectural Press.
- Pain Rachel, Barke Michael, Fuller Duncan, et. al. (2001). *Introducing Social Geographies*. London: Arnold.
- Raju, J. et. al. (1999). *Atlas on Men and Women in India*. New Delhi: Kali for Women.
- Raju, Saraswati. and Bagchi, Dipika (1998). *Women and Work in South Asia: Regional Patterns and Perspectives*. New York: Routledge.
- Rege Sharmila (2006). *Writing Caste, Writing Gender: Reading Dalit Women's Testimonios*. New Delhi: Zubaan Books.
- Seager, J. and Olson (1986). A.Women in the world – An International Atlas. London: Pluto Press.
- Shaban Abdul (2010). *Mumbai Political Economy of Crime and Space*. Hyderabad: Orient Blackswan.
- Sharmila Rege (2003). *More than Just Tacking Women on to the 'Macropicture: Review of Women's Studies*, EPW, Vol - XXXVIII No. 43.
- Sivard, R.L (1985). *Women-A World Survey*. Washington: World Priorities.
- Sowell, T. (1994). *Race and culture-A world View*. New York: Basic Books.
- Vincent J. Del Casino (2009). *Social Geography- Critical Introduction to Geography*. New Jersey: Wiley Blackwell.

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

NATURAL RESOURCE MANAGEMENT

Paper Code: **DSE-04 (iv)** (Optional: Theory Paper)
Course Id: **241/GEO/DS404**

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
Note: The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 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 five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment: Attendance Assignment Mid-Sem. Exam	25 Marks 5 5 15

Course Outcomes:

CO-01: The students will familiar with concept of Natural Resources and their classification.

CO-02: They will study the resource models and their significance in the present time.

CO-03: They will be able to study and assess the distribution and utilization of natural resources.

CO-04: They will better understand the challenges and mitigation towards conservation and management of natural resources.

UNIT-I

Natural Resource: Meaning and Concept, Classification; Factors Affecting Distribution. Natural Resource Management: Concept, Scope and Significance. Ecology and Ecosystems: Moving Towards Sustainability.

UNIT-II

Models of Natural Resources: Zimmerman's Primitive and Advance Model of Natural Resource Process, Kirk's Decision Model and Brookfield System Model; Environmental Impact Assessment (EIA) and Auditing.

UNIT-III

Distribution and Utilization of Natural Resources: Soil Resource, Water Resource, Energy resource, Forest Resource, and Marine Resources. Future Prospects of Natural Resources: Environment, Energy and Technology.

UNIT-IV

Resource Conservation and Management Methods of Soil Resource, Mineral Resource, Water Resource, Forest Resource. Integrated Resource Management: Indian Case Studies- Plains, Mountains, Plateau, Costal and Deserts. Biodiversity: Conservation & Significance. Natural Resource Conservation Management: Programs and Policies.

Books Recommended:

- Barbier, Edward B. (2005). *Natural Resources and Economic Development*. Cambridge (UK): Cambridge University Press.
- Borton, I and R W Kates (1984). *Readings in Resource Management and Conservation*. Chicago: University of Chicago Press.
- Bruce, Mitchell (1989). *Geography and Resource Analysis*. New York: John Wiley and Son.
- Das Gupta, Biplab (1979). *The Environmental Debate*. Economic and Political Weekly, Vol. 13, No. 6/7, Annual Number (Feb., 1978).
- Francois Ramade (1984). Ecology of Natural Resources. New York: John Wiley and Son.
- Goel, B.K. (2022). *Resource Geography* (Hindi). New Delhi: Laxmi Publications Pvt. Ltd.
- Guha, J L and P R Chattroj (1994). *Economic Geography- A Study of Resources*. Calcutta: The World Press Pvt. Ltd.
- Gurjar, R.K. and Jat, B.C. (2010). *Resource Geography*. Jaipur: Panchsheel Prakashan.
- Martino, R L (1969). *Resource Management*. London: Mc Graw Hill Book Co.
- Negi, B S (2000). *Geography of Resources*. Meerut: Kedar Nath and Ram Nath Publisher.
- Owen, Oliver, S. (1971). *Natural Resource Conservation:A Ecological Approach*. NewDelhi: McMillion.
- Pati, R.N. and Mitra, M. (2024). *Natural Resource Management*. New Delhi: Abhijeet Publications
- Raja, M (1989). *Renewable Resources, Development*. New Delhi: Concept Publishing Co. Pvt. Ltd.
- Ramesh, A. (1984). *Resource Geography*. New Delhi: Heritage Publishers.
- Saikia, Debajit and Baaruah, Pradip Kumar (2023). *Natural Resource Management*. Dibrugarh: Mahaveer Publications.
- Zimmermann, E. W. (1951). *World Resources and Industries*. New Delhi: Harper and Brothers.

MDC

Semester-3

Course Code	Course Title	Course ID
MDC-3	Geography in Everyday Life (Theory and Practical)	241/GEO/ MD301

Semester-4

Course Code	Course Title	Course ID
MDC-4	Urban Environment Challenges (Theory and Practical)	241/GEO/MD401

Gurugram University Gurugram, Haryana(India)

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

GEOGRAPHY IN EVERYDAY LIFE

Paper Code: **MDC-03 (Theory and Practical Paper)**
Course Id: **241/GEO/MD301**

Credit: 03 (2+0+2) L+T+P Hrs/Week	**Total Marks**	**75**
Time: 3 Hours Theory	End Semester Exam:	35 Marks
	Internal Assessment:	15 Marks
	(Attendance)	5
	(Assignment)	5
	(Mid-Sem. Exam)	5
Note: Theory Exam: as the instructions mentioned under **Practical Exam:** as the instructions mentioned under Practical Exam Time: 4 Hours	Practical Exam: Internal Assessment: (Attendance)	20 Marks 5 Marks

Course Outcomes:

CO-01: The Students will be able to know about mother earth and identify the Earth's Coordinate system, Their significance, location of India and its impact.
CO-02: They will understand the General Physical Geography fundamentals and the Population features.
CO-03: They will apply Geographical knowledge to study climatic issues/problems present in their Surrounded Environment day to day life.
CO-04: They will learn the use of climatic/Population data diagrammatically, Navigation and Basics of Cartography in Practical way.

Theory

UNIT-I

Mother Earth: Movements- Rotation and Revolution; Major Oceans and Continents; Latitudes: Major Latitudes and their Significance, Heat Zones of Earth; Longitude: Major Longitudes and their Significance, International Date Line. India: Location and Extent, States and Capitals, Neighbouring Countries, Natural Vegetation.

UNIT-II

Major Relief Features of India: Mountains, Plateau, Plains, Rivers, Lakes, and Desert: Cold and Hot desert. Earth's Movements: Volcano, Earthquake, Flood, Drought, Landslides India Specific. Major Population Features of India.

UNIT-III

Climate and Weather: Affecting Factors, Elements and Types. Seasonal and Local winds of India: Monsoon, Loo. Rainfall: Types; Distribution in India. Cyclone: Nomenclature, Impact; Tornado, Typhoon, Hurricane, Willy willies, Taifu, Tropical Cyclone. Oceans: Future Storehouse of Resources, Tsunami.

Practical

UNIT-IV

Data Presentation: Bar Graphs, Line Graphs and Pie Diagrams (Climatic and Population data). Understanding Location System: GPS and IRNSS. Navigation and Rout Management on google map. Exploring ISRO-Bhuvan/ Bhoonidhi and google earth/Map. Maps: Major Conventional Signs, Map scale. Classification of Maps. Identification of Physical and Cultural Features on map.

Note: Theory Exam

1. **Part-I:** The Question one of paper is compulsory. Question one of paper will contain short answer type of questions having one (1) mark each and total five (5) marks covering entire course.
2. **Part-II:** The question paper will comprise two questions from each Unit (Unit-1,2 & 3) total six question in all. Candidates are required to attempt one question from each unit having ten (10) marks each, which will be of total thirty (30) marks.

Note: Practical Exam

1. The question paper of unit four will comprise Practical part only. Candidates (s) are required to prepare one comprehensive Practical Record from the unit IV only.
2. File record will be of Maximum 15 Marks.
3. Viva Voce will be of Maximum 5 Marks.

Recommended Readings:

- Anand, D.M. (2006). *Fundamentals of Geography*. Delhi: Sublime Publications.
- Barry, R. G. and Chorley, R. J. (1998). *Atmosphere, Weather and Climate*. London: Routledge.
- Lake, P. (1979): *Physical Geography* (Eng./Hindi). Cambridge: Cambridge University Press.
- Bunnett, R.B. (2003). *Physical Geography in Diagrams*. Fourth GCSE edition, Singapore: Pearson Education Pvt. Ltd.
- McKinney, Kevin (2003). *Everyday Geography of World: An Entertaining Review of the Land, Climate, People & History of Our World*. New York: Black Dog & Leventhal Publisher.
- Negi, B.S.(1993). *Physical Geography*. Meerut: S.J. Publication.
- Kelton, Gabriel (2014). Geography of Everyday Life. London: LAP Lambert Academic Publishing.
- Lal, D.S.(1998). Climatology. Allahabad: Chaitnya Publishing House.
- Siddhartha, K. (2013). *Basic Physical Geography*. New Delhi: Kitab Mahal Publisher.
- Strahler, A.H. (2013). *Introducing Physical Geography*. New York: John Wiley & sons.
- Tikka, R.N.(2002). *Physical Geography*. Meerut: Kedarnath Ramnath & Co.
- Doberstein, Dan (2011). *Fundamentals of GPS Receivers: A Hardware Approach*. New York: Springer.
- Mishra, R.N. and Sharma, P.K. (2019). *Prayogic Bhoogol* (Hindi). Jaipur: Rawat Publicatoins.

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

URBAN ENVIRONMENT CHALLENGES

Paper Code: **MDC-04** (Optional: Theory and Practical Paper)
Course Id: **241/GEO/MD401**

Credit: 03 (2+0+2) L+T+P Hrs/Week	**Total Marks**	**75**
Time: 3 Hours Theory	End Semester Exam:	35 Marks
	Internal Assessment: (Attendance) (Assignment) (Mid-Sem. Exam)	15 Marks 5 5 5
Note: Theory Exam: as the instructions mentioned under **Practical Exam:** as the instructions mentioned under Practical Exam Time: 4 Hours	Practical Exam: Internal Assessment: (Attendance)	20 Marks 5 Marks

Course Outcomes:

CO-01: The students will understand the Urban environment and ecology properly.
CO-01: They will be able to understand with systems of city and rural-urban interaction.
CO-01: They will develop the skill to expose the latest trend and patterns of urbanization.
CO-01: They will able to assess urban issues, their planning and management.

Theory

UNIT-I

Urban Environment: Concept, Nature, Scope, Types and Dynamics; Land Use Pattern; Urban Ecology and Ecosystem; Environmentally Sensitive Areas; Urban Heritage Conservation; Concepts of Eco Cities, Healthy Cities and Sustainable Cities.

UNIT-II

Urban infrastructure: Blue-Green Infrastructure (BGI); Basic Services: Roads, Drainage, Electricity, Telecommunication, Educational, Medical and Recreational Facilities; Urban Development and Natural Resources; Urban Water Management; Urban Forestry.

UNIT-III

Sustainable Urban Management: Issues and Strategies in Air, Water, Sold Waste, Slums, Disaster Management; Concept and Mitigation: Smog, Acid Rain, Floods, Droughts, Flash Flood; Urban Heat Island; Sustainable Development Goals (SDGs).

Practical

UNIT-IV

Urban environmental planning and management: Urban Governance, Major Issues and Management: Air Quality, Water availability, Sanitation, Transport, Housing, Solid Waste, e-Waste; Pollution: Water, Air, Soil, Noise, Thermal, Nuclear; Urban Heat Island: Case Studies from any part of India.

Note:-

- The students shall visit content & research objectives based Field survey of the out campus study area/place, Industry, institution situated in urban area and collect data for the comprehensive study under guidance and supervision of supervisor/teacher incharge, along with supporting accompanying staff Viz. Lab Attendant etc. There shall be a teacher in-charge on a group of 12 students. They shall be paid TA/ DA as per Govt. /university rules. Duration of the urban study based field survey will not be exceeding 4 days in normal circumstances.
- The students are required to prepare a typed report on any topic and fields of syllabus on his /her interest area in consultation with the supervisor/teacher incharge (practical group wise). They shall collect the data by Observation, Interview and Questionnaire methods, Lab Testing, Secondary Sources etc.
- In survey report writing the components will be as follows: Introduction, Problem Statement, Aim and Objectives, Study Area with Key Map, Data Collection and Methodology, Results (with graphs, diagrams, maps & images) and Analysis, Conclusion and Suggestions, Annexure and References(Harvard style) etc.
- The students shall submit two typed, duly signed copies of Survey Report (should not exceed 8,000 words) in Article/Research Paper format in the department. Page Size A-4, 1.5 Spacing between lines, Font- Times New Roman, Font Size 12 main body typing.

Note: Theory Exam

1. **Part-I:** The Question one of paper is compulsory. Question one of paper will contain short answer type of questions having one (1) mark each and total five (5) marks covering entire course.
2. **Part-II:** The question paper will comprise two questions from each Unit (Unit-1,2 & 3) total six question in all. Candidates are required to attempt one question from each unit having ten (10) marks each, which will be of total thirty (30) marks.

Note: Practical Exam

1. The question paper unit four will comprise practical part. Candidates (s) are required to prepare one comprehensive analytical **Practical Field Survey Report** any of topic from the unit IV only.
2. Field survey report file will be of Maximum 15 Marks.
3. Viva Voce will be of Maximum 5 Marks.

Books Recommended:

- Ahuja, Ram (2003). *Social Survey and Research* (Hindi). Jaipur: Rawat Publications.
- Allan, S., et. al.(2000). *Environmental Risks and the Media*. London: Routledge.
- Bansal, S.C. (2017). *Urban Geography*. Meerut: Meenakshi Prakashan.
- Bhattacharya, B. (1979). *Urban Development in India*. New Delhi: Shree Publishing House.
- Creswell J. (2018). Research Design: Qualitative and Quantitative Approaches. New Delhi: Sage Publications
- Dodman, D., McGranahan, G. and Dalal-Clayton, B. (2013). *Integrating the Environment in Urban Planning and Management: key principles and applications in the 21st century*. UNEP, Nairobi.
- Gupta, S.P. (2021). *Statistical Methods*. New Delhi: Sultan Chand and Sons.
- Hall P. (1992). *Urban and Regional Planning*. London: Routledge.
- Hanaki, K. (2008). *Urban Environmental Management and Technology*. Tokyo: Springer.
- Josef, L. (1999). *Sustaining Cities: Environmental Planning and Management in Urban Design*. New York: McGraw Hill.
- Siddharth, K. and Mukherji S. (2019). *Cities, Urbanizations and Urban Systems*. New Delhi: Kitab Mahal.
- Singh. K. and Steinberg. F. (1998). *Urban India in Crisis*. Delhi: New Age International.
- Stoddard, R. H. (1982). *Field Techniques and Research Methods in Geography*. Kendall/Hunt.Subhash Anand (2010). *Solid Waste Management*. New Delhi: Mittal Publication.
- Verma, L.N. (2008). *Urban Geography*. Jaipur: Rawat Publications.
- Van Bueren, E.M., Van Bohemen, H., Itard, L.and Visscher, H. (Ed) (2012). *Sustainable Urban Environments: An Ecosystems Approach*. New York: Springer.
- Yadav, Vinita. (2011). *Urban Poverty: Issues and Remedies for Inclusive Development*. Spatio-Economic Development Record. 18. 96-100.

SEC

Semester-3

Course Code	Course Title	Course ID
SEC-2	Computer Aided Geographical Graphs and Diagrams (Practical Only)	241/GEO/ SE301

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COMPUTER AIDED GEOGRAPHICAL GRAPHS AND DIAGRAMS

Paper Code: **SEC-02** (Practical Paper)
Course Id: **241/GEO/SE301**

Credit: 02 (0+0+4) L+T+P Hrs/Week	Total Marks	50
Time: 4 Hours	End Semester Practical Exam:	35 Marks
Note: **Practical Exam:** as the instructions mentioned under	Internal Assessment:	15 Marks
	Attendance	5
	Practical Assignment/Practical File	10

Course Outcomes:

CO-01: They will be able to understand the applicability of computer in Geographical study.

CO-02: Students will develop the ability to prepare, classify and organise data on computer.

CO-03: They will better understand the different types of data, visualize and analyse the statistical graphs and diagram properly through computer.

UNIT-I

Introduction to Computer: Introduction; Components of Computer: Hardware and Software, System software and application software, Input and Output devices; Microsoft office and Functioning of Ms Components; Significance of Computer in Geography; Statistical Diagrams and Computer; Research and Computer.

UNIT-II

Microsoft Excel: Spreadsheet- Row and Column, Cell Address; Data handling in Excel: Input, Organization and Tabulation, Ascending and Descending Arrangement, Auto Completion; Basic Functions and use of Basic Formulas in Ms Excel; Bar Graphs, Line Graphs, Pie Diagrams, Area and Scatter Diagrams in 2-D and 3-D;

Placement and Editing of Heading: Sub-Heading, Legend; Font Style, Size and Colour Change; Porting of Graphs and Diagrams in Ms Word, Paint or any other Software; Printing of Graphs and Diagrams.

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 Five (5) short answer type questions carrying one (1) mark each.

Part-II will consist of eight (8) Choice based descriptive questions/exercises from both units and carrying Five (5) marks each by selecting equal questions from each unit. Students will have to answer the four questions/exercises by selecting one 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	Marks	Total Marks
(1). PE	**Written Examination**	Part-I Part-II	1 Marks of 5 questions 5 marks of 4 questions	**5** **20**	**35**
	Viva-Voce			**10**	
(2). PI	**Internal Assessment**	File Record		**10**	**15**
		Attendance		**5**	
				Total Marks =	**50**

Books Recommended:

- Abbott, Martin Lee (2014). *Understanding Educational Statistics using Microsoft Excel and SPSS.* New Jersey: John Wiley & Sons.
- Gupta, S.P. (2021). *Statistical Methods*. New Delhi: Sultan Chand and Sons.
- Jain, Riyanka (2018). *Statistical Analysis in Microsoft Excel*. New Delhi: Universal Academic Books Publishers & distributers.
- Jelen, B. (2010). *Charts and Graphs: Microsoft Excel 2010*. Boston: Que Publishing.
- Lalwani, L. (2019). *Excel 2019 All-in-one: Master the new features of Excel 2019/ office 365*. New Delhi: BPB Publications.
- Mahmood, A. (1993). *Statistical Methods in Geographical Studies*. New Delhi: Rajesh Publications.
- Monkhouse, F.J. and Wilkinson, H.R. (1971). *Maps and Diagrams*. London: Methuen.
- Mishra, R.N. and Sharma, P.K. (2020). Prayogik Bhoogol, (Hindi). Jaipur: Rawat Publications.
- Singh, M. Et. al. (2021). *Excel in Geography*. Durban: Tess Publishing.
- Sharma, J. P. (2020). *Prayogtmak Bhugol ki Rooprekha* (Hindi), Meerut: Rastogi Publications.

VAC

Semester-3

Course Code	Course Title	Course ID
VAC-2	Green, Energy and Water Crediting Techniques: Geographical Perspective (Theory and Practical Paper)	241/GEO/VA301

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GREEN, ENERGY AND WATER CREDITING TECHNIQUES: GEOGRAPHICAL PERSPECTIVE

Paper Code: **VAC-02 (Theory and Practical Paper)**
Course Id: **241/GEO/VA301**

Credit: 02 (1+0+2) L+T+P Hrs/Week	**Total Marks**	**50**
Time: 3 Hours Theory	End Semester Exam: Internal Assessment: Attendance	20 Marks 5 Marks
Note: Theory Exam: as the instructions mentioned under **Practical Exam:** as the instructions mentioned under Practical Exam Time: 3 Hours	Practical Exam: Internal Assessment: Attendance	20 Marks 5 Marks

Course Outcomes:

CO-1: It will create a better understanding and draw conclusions based on a green practices learning.
CO-2: Students will be able to understand the Water availability, issues and conservation for long-term Development and Growth.
CO-3: They will understand the impact assessment and mitigation of Energy resources on environment.
CO-4: The course focuses on enhancing the potential of students to visualize the Green, Water and Energy crediting and auditing reality through empirical field survey based study.

Theory

UNIT-I

Green, Water and Energy Crediting and Auditing: Concept, Relevance and Significance in Geographical Study. Emerging issues of Green, Water and Energy; Sustainability and Development.
Green crediting and auditing: Concept, Audit Preparation: Criterion for Green Audit: Green Practice; General Steps in Green Auditing; Recent Trends of Green Management laws and Awareness Program.

UNIT-II

Water Crediting and Auditing: Concept, Process, Criterion and Significance in Geography; Sources of Water; Water availability, Uses and Water Balance; Water Quality and Water pollution; Rain water Harvesting Practices: Ancient and Modern; Recent trends of Water Management laws and Awareness Program.

UNIT-III

Energy crediting and auditing: Concept, Process, Criterion and Significance in Geography; Energy: Sources; Renewable and Non-Renewable Energy Resources; Carbon Footprint; Recent Trends of Energy Management laws and Awareness Program.

Practical

UNIT-IV

Preparation of Auditing Survey Report: Green Audit/ Water Audit/ Energy Audit and survey Report writing (Any One).

Note:-

- The students shall visit content & research objectives based Field survey of the out campus study area/place, Industry, institution and collect data for the comprehensive Green/Water/Energy study under guidance and supervision of supervisor/teacher incharge, along with supporting accompanying staff Viz. Lab Attendant etc. There shall be a teacher in-charge on a group of 12 students. They shall be paid TA/ DA as per Govt. /university rules. Duration of the Green/Water/Energy based field survey study will not be exceeding 4 days in normal circumstances.
- The students are required to prepare a typed report on any topic and fields of syllabus on his /her interest area in consultation with the supervisor/teacher incharge (practical group wise). They shall collect the data by Observation, Interview and Questionnaire methods, Lab Testing, Secondary Sources etc.
- In audit survey report writing the components will be as follows: Introduction, Problem Statement, Aim and Objectives, Study Area with Key Map, Data Collection and Methodology, Results (with graphs, diagrams, maps & images) and Analysis, Conclusion and Suggestions, Annexure and References(Harvard style) etc.
- The students shall submit two typed, duly signed copies of Survey Report (should not exceed 8,000 words) in Article/Research Paper format in the department. Page Size A-4, 1.5 Spacing between lines, Font- Times New Roman, Font Size 12 main body typing.

Note: Theory Exam:

1. The Question no. 1 of the question paper is compulsory. It will contain five short answer type of questions having one mark each (Total 5 marks) covering entire theory units (i.e. Unit-1, 2 & 3).
2. The question paper will comprise two essay type questions from each theory Unit (Unit-1, 2 & 3) total six (06) question in all. Candidates are required to attempt total three (03) essay type questions by selecting one question from each theory unit, having five marks each.

Note: Practical Exam:

1. The question paper unit no.04 will comprise practical part only. Candidates (s) are required to prepare audit report on any of one topic i.e. Green Audit/ Water Audit/ Energy Audit. The audit Report will be of 15 marks. Candidates will be required to prepare Audit Report Precisely on the specified analysis of Green Practice (on any out campus area of their interest or any institution).
2. This Field work Survey report will be of total 15 marks.
3. Viva-Voce on this Field Survey report will be of Maximum 5 Marks

Books Recommended:

- Ahuja, Ram (2003). *Social Survey and Research* (Hindi). Jaipur: Rawat Publications.
- Allan, S., et. al. (2000). *Environmental Risks and the Media*. London: Routledge.
- *Green Audit/Energy Audit/Environment Audit report* (2021-22), Uttrakhand open University ,Behind Transport Nagar, University Road Haldwani, Nanital Uttrakhand
- *Green Audit Audit report* (2022-23), Miranda House, University of Delhi.
- *Green & Environmental Audit Report* (2020-21), Vidyasagar University, Midnapore, West Bengal.
- Gupta, S.P. (2021). *Statistical Methods*. New Delhi: Sultan Chand and Sons.
- Pathak, Hemant (2015). *A Hand Book of Environmental Audit*. Amazon Kindle Edition.
- Singh, M. Et. al. (2021). Excel in Geography. Durban: Tess Publishing.
- S., Langi, B., Gurav, M. (2019). *Green Audit in Academic Institutes*. International Journal of Multidisciplinary Educational Research, Vol. 8, Issue 6, pp. 97-107.
- Shrivastava,A.K. (2003). *Environment Auditing*. Delhi: APH Publishing Corporation.
- Stoddard, R. H. (1982). *Field Techniques and Research Methods in Geography*. Kendall/Hunt.
- Wolcott, H. (1995). *The Art of Fieldwork.* California: Alta Mira Press.

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

SEMINAR

Paper Code: (Seminar: Practical only)
Course Id:

Credit: 02 (0+0+4) L+T+P Hrs/Week	**Total Marks**	**50**
Time: 4 Hours	End Semester Evaluation and Practical Exam:	35 Marks
Note: **Practical Exam:** as the instructions mentioned under	Internal Assessment: Attendance Practical/PPT Presentation	15 Marks 5 10

Course Outcomes:

CO-01: The course is to impart practical training to students on the any topic of their interest on the sub-field of Geography through use of ICT.

CO-02: The course is helpful to know the methods of collecting and analyzing data as well as presenting in the form of seminar PowerPoint (ppt) presentation.

Guidelines

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.

1. The students are required to prepare a typed report in form of Article/Research Paper on topics and fields of syllabus or any research on his /her interest area in consultation with the supervisor/teacher incharge and it will be presented through PowerPoint presentation (PPT) in the seminar.
2. The students shall submit two, typed, duly signed copies of Report (should not exceed 8,000 words) in Article/Research Paper format in the department.
3. Page Size A-4, 1.5 Spacing between lines, Font- Times New Roman, Font Size 12 main body typing.

Evaluation Note:-

(a) The students shall be assessed on the basis of PowerPoint (PPT) Preparation, and

(b) Interactive Discussion on PPT Presentation in presence of Examiner, Supervisor/Teacher In charge, senior faculty/ Head of Department.

Evaluation	PI (Marks)	PE (Marks)
Preparation of Report and PPT (Marks)	10	---
Attendance (Marks)	5	---
Evaluation: **PowerPoint (PPT) Presentation and Interactive Discussion in presence of Examiner, Supervisor/Teacher Incharge, Senior faculty/Head of Department etc.**		35
Total Marks	**15**	**35**

Recommended Readings:

- Ahuja, Ram (2003). *Social Survey and Research* (Hindi). Jaipur: Rawat Publications.
- Basotia, G. R. and Sharma, K. K. (2002). *Research Methodology*. Jaipur: Mangal Deep Publications.
- Creswell J. (2018). Research Design: Qualitative and Quantitative Approaches. New Delhi: Sage Publications..
- Gupta, S.P. (2021). *Statistical Methods*. New Delhi: Sultan Chand and Sons.
- Harvey, David (1969). *Explanation in Geography*. London: Edward Arnold.
- Limb, M. (2001). *Qualitative Methodologies for Geographers. Issue and Debates*. London: Edward Arnold.
- Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: New Age International Publishers.
- Kumar, Ranjit (2005). *Research Methodology: Step by Step Guide for Beginners*. Pearson, Australia.
- Limb, Melanie and Claire Dwyer (2001). *Qualitative Methodologies for Geographers*. London: Arnold.
- Mahmood, A. (2020). *Statistical Methods in Geographical Studies*. New Delhi: Rajesh Publications.
- Misra, H.N. and Singh, Vijai P. (2002). *Research Methodology in Geography: Social, Spatial and Policy Dimensions*. Jaipur: Rawat Publications.
- Misra, R.P. (2015). *Research Methodology: A handbook*. New Delhi: Concept Publishing Company.
- Paul Oliver (2004). *Writing your Thesis*. New Delhi: Vistar Publication.
- Robinson, Guy M. (1998). *Methods and Techniques in Human Geography*. New York: John Wiley.
- Singh, M. Et. al. (2021). Excel in Geography. Durban: Tess Publishing.

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FIELD WORK AND REPORT WRITING

Under the Community Engagement/Field Work/Survey/Seminar of NEP 2020

(Field Survey/Dissertation: Practical only)

Paper Code:

Course Id:

Credit: 06 (0+0+12) L+T+P Hrs/Week	**Total Marks**	**150**
Time: 4 Hours	End Semester Evaluation and Practical Exam:	105 Marks
Note: **Practical Exam:** as the instructions mentioned under	Internal Assessment: Attendance Practical Assignment/Practical File	45 Marks 5 40

Course Outcomes:

CO-01: The course is to impart practical training to students on the field survey study.

CO-02: The course aims at developing the skill of observing Physical, Socio-Economic and Environmental Phenomenon in the field survey.

CO-03: The course is helpful to know the methods of collecting and analyzing data as well as presenting in the form of a field survey report/dissertation.

CO-04: The course focuses on enhancing the potential of students to visualize the geographical reality through Empirical field based study.

Guidelines

1. At the Commencement of fourth Semester students are required to conduct a field survey on any Physical-Mountains, Glaciers, Plains, Plateau, Deserts and Costal; Social, Cultural, Economical, Industrial, Environmental study of his /her interest area in consultation with the supervisor/teacher incharge to conduct FIELD VISIT SURVEY.
2. The students shall visit content & research objectives based out-campus Field survey of the study area/place and collect data for the comprehensive Geographical study under guidance and supervision of supervisor, along with supporting accompanying staff Viz. Lab Attendant etc.
3. There shall be a teacher in-charge on a group of 12 students. They shall be paid TA/ DA as per Govt. /university rules. Duration of the field survey study will not be exceeding 10 days in normal circumstances.
4. The data collection may be through Observation, Interview and Questionnaire methods; Lab Testing etc. In the report writing the components will be as follows: Introduction, Statement of the Problem, aims and objectives, Significance of study, Study Area with Key Map, Literature Review, Data Collection and Methodology, Results (with graphs, diagrams, maps & images) and Analysis, Conclusion and Suggestions, Annexure and References/Bibliography (Harvard style) etc.
5. Submission: The students shall submit three typed copies (after the Plagiarism checking) of Supervised Field Survey Report (15,000 to 25,000 words) in dissertation format in the department after the signing of concerned supervisor and authorities.
6. Page size A-4, 1.5 spacing between lines, font- Times New Roman, font size 12 main body typing.

Evaluation Note:-

Evaluation: (a) Supervised field visit survey research report/dissertation will be evaluated by the external examiner. (b) The students shall be assessed on the basis of PowerPoint (PPT) Presentation in presence of external examiner, Supervisor, senior faculty/Head of Department etc.

Evaluation	PI (Marks)	PE (Marks)
Field Survey Report/dissertation	**40**	---
Attendance (Marks)	**5**	---
Viva-Voce (interactive discussion with External Examiner)	---	**60**
Power Point (PPT) Presentation in presence of the external examiner, Supervisor, senior faculty/Head of Department etc.		**45**
Total Marks	**45**	**105**

Recommended Readings:

- Ahuja, Ram (2003). *Social Survey and Research* (Hindi). Jaipur: Rawat Publications.
- Basotia, G. R. and Sharma, K. K. (2002). *Research Methodology*. Jaipur: Mangal Deep Publications.
- Creswell J. (2018). Research Design: Qualitative and Quantitative Approaches. New Delhi: Sage Publications.
- Eyles, John and David M. Smith (1988). Qualitative Methods in Human Geography. Oxford: Polity Press.
- Flowerdew, R. and Martin, D. (1997). *Methods in Human Geography. A Guide for Students Doing a Research Project*. New Jersey: Prentice Hall.
- Gideon Sjoberg and Roger Nett (1992). A Methodology for Social Research. Jaipur: Rawat Publications.
- Gupta, S.P. (2021). *Statistical Methods*. New Delhi: Sultan Chand and Sons.
- Harvey, David (1969). *Explanation in Geography*. London: Edward Arnold.
- Limb, M. (2001). *Qualitative Methodologies for Geographers. Issue and Debates*. London: Edward Arnold.
- Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: New Age International Publishers.
- Kumar, Ranjit (2005). *Research Methodology: Step by Step Guide for Beginners*. Pearson, Australia.
- Mahmood, A. (2020). *Statistical Methods in Geographical Studies*. New Delhi: Rajesh Publications.
- Misra, H.N. and Singh, Vijai P. (2002). *Research Methodology in Geography: Social, Spatial and Policy Dimensions*. Jaipur: Rawat Publications.
- Misra, R.P. (2015). *Research Methodology: A handbook*. New Delhi: Concept Publishing Company.
- Paul Oliver (2004). *Writing your Thesis*. New Delhi: Vistar Publication.
- Robinson, Guy M. (1998). *Methods and Techniques in Human Geography*. New York: John Wiley.
- Singh, M. Et. al. (2021). Excel in Geography. Durban: Tess Publishing.
- Somekh, Bridget and Cathy Lewin (2005). *Research Methods in the Social Sciences*. New Delhi: Vistar Publications.
- Stoddard, R. H. (1982). *Field Techniques and Research Methods in Geography*. Kendall/Hunt.
- Wolcott, H. (1995). *The Art of Fieldwork.* California: Alta Mira Press.