Nehru Gram Bharati (Deemed to be University)
Prayagraj, Uttar Pradesh, India.

FOUR YEAR UNDERGRADUATE PROGRAMME

Syllabus

[As per NEP-2020 Regulations]

[NHEQF 4.5 to 6.0]

B.A./B.A.(Honours)/B.A. (Honours with Research)

in

Geography

[Department of Geography]

[Effective From 2025-26 Onwards]

Board of Studies

Dated: 08-03-2025

1	Dr. Meeta Ratawa Tiwary (Chairperson)	Assistant Professor and Head, Department of Geography, NGB(DU), Prayagraj
2	Dr. Sanjay Kumar Bharati (Member)	Assistant Professor, Department of Geography, NGB(DU), Prayagraj
3	Dr. B.M. Tripathi (Member)	Associate Professor, Department of Ancient History, Culture and Archaeology, NGB(DU), Prayagraj
4	Dr. Ashish Shivam (Member)	Associate Professor, Department of Zoology, NGB(DU), Prayagraj
5	Dr. Ramesh Chandra Mishra (Cognate Member)	Associate Professor, Department of Political Science, NGB(DU), Prayagraj
6	Dr. Himanshu Shekhar Singh (Special Invitee)	Associate Professor and Head, Department of Hindi, NGB(DU), Prayagraj
7	Prof. H. N. Misra (External Member)	Professor & Ex-Head (Retd.), Department of Geography, University of Allahabad, Prayagraj
8	Prof. Ashwajeet Chaudhary (External Member)	Professor & Head, Department of Geography, University of Allahabad, Prayagraj

Minutes of the Board of Studies Meeting

Department of Geography
Nehru Gram Bharati (Deemed to be University)
Kotwa- Jamunipur- Dubawal, Prayagraj

Letter No.: Geog/BOS/2025/01 Date: 12.03.2025

Minutes of Board of Studies Meeting

The meeting of the Board of Studies of the Department of Geography was held on 12.03.2025 (Wednesday), Time 01:30 P.M., at Department of Geography, Jamunipur Campus, Prayagraj, U.P. The Chairperson of the Board of Studies Dr. Meeta Ratawa Tiwary introduced all the members of the Board of Studies. Thereafter, the agenda was taken up for discussion and subsequently taken up for adaptation as under:

1. Confirmation of previous meeting held on 04.11.2024
2. **New structure and syllabus (Major):** A new structure of NEP-2020 has been proposed for the new session of 2025-26. The total credits have been reduced from 180 to 160 as per the UGC norm. The major paper titles and syllabus have been kept unchanged.
3. **Minor electives:** Minor electives have been introduced in semesters Ist to VIIth (Session 2025-26 onwards). The list of minor electives paper titles are as follows:

Semester	Paper Title	Paper Code
I	Earth and Planetary System	MGEO01
II	Human Geography	MGEO02
III	Regional Geography of World	MGEO03
IV	Regional Geography of India	MGEO04
V	Introduction to Maps and Diagram	MGEO05
VI	Applied Geography With Field Study/ Field Trip and Report Writing (Practical)	MGEO06
VII	GIS and its Applications	MGEO07

In semester Vth and VIth of the current session (2024-25), following minor electives have been introduced.

Semester	Paper Title	Paper Code
V	Introduction to Maps and Diagram	MGEO05
VI	Applied Geography With Field Study/ Field Trip and Report Writing (Practical)	MGEO06

4. **Field trip:**

a. Field trip will be organised for Sem VI of U.G. and Sem II of P.G.

b. The field trip is a part of curriculum and is compulsory for all students.

c. A field report will be prepared by the students after the trip and will be submitted by them.

d. If 80% of the students are present in the field trip, the remaining 20% of the students will have to visit any place of their interest and prepare a field report for submission.

5. **Intake:** Intake of students has been decided to be 60 students in U.G. and 30 students in P.G. also

6. **Eligibility criteria of U.G.:** Intermediate in any stream

7. **Eligibility criteria of P.G.:** B.A./B.Sc./B.Com/B.Tech

8. **Internal assessment:** The internal assessment for undergraduate (NEP-2020) will be of 40 marks (5 marks for attendance, 10 marks for assignment/seminar/quiz/debate/poster, 25 marks for internal exam) for U.G. students. For postgraduate, the internal assessment has remained unchanged.

9. P.G. syllabus: The P.G. syllabus have been kept unchanged.

10. Expert panel for U.G. and P.G. practical exam and paper setting has been kept unchanged.

11. Practical exam (20 students in one sitting), 1 external examiner, 1 internal examiner, 1 attendant/peon

12. Attendant renumeration: An attendant is required during the practical exam for whom the renumeration is fixed at Rs. 200/-

13. SEC: Disaster Management (Paper I and II) has been kept as SEC for semester I to IV of the new session (2025-26).

Members:

1.	**Dr. Meeta Ratawa Tiwary** Assistant Professor & Head, Department of Geography, NGB (DU), Prayagraj	Chairperson
2.	**Dr. Sanjay Kumar Bharati**, Assistant Professor, Department of Geography, NGB (DU), Prayagraj	Member
3.	**Prof. H. N. Mishra,** Professor & Ex-Head, Department of Geography, University of Allahabad, Prayagraj	External Member
4.	**Prof. Ashwajeet Chaudhary,** Professor & Head, Department of Geography, University of Allahabad, Prayagraj	External Member
5.	**Dr. B. M. Tripathi,** Associate Professor, Deptt. of Ancient History, Culture and Archaeology) NGB (DU), Prayagraj (U.P.)	Member
6.	**Dr. Asheesh Shivam,** Associate Professor, Department of Zoology, NGB (DU), Prayagraj	Member
7.	**Dr. Ramesh Chandra Mishra,** Associate Professor & Head, Department of Political Science, NGB (DU), Prayagraj	Cognate Member
8.	**Dr. Himanshu Shekhar Singh,** Associate Professor & Head, Deptt. of Hindi	-Special Invitee

Chairman

Meeta Ratawa Tiwary
Assistant Professor & Head
Department of Geography
Nehru Gram Bharati (Deemed to be University),
Kotwa- Jamunipur- Dubawal,
Prayagraj (U.P.) - 221505

Introduction of the Programme:

[a] Introduction:

The NEP-2020 offers an opportunity for a paradigm shift from a teacher-centric to a student- centric higher education system in India. It is based on Outcome Based Education, where the Graduate Attributes are first kept in mind to reverse-design the Programs, Courses and Supplementary activities to attain the graduate attributes and learning outcomes. The learning outcomes-based curriculum framework for a degree in B.A. (Honours/Honours with Research) in Geography is intended to provide a comprehensive foundation to the subject and to help students develop the ability to successfully continue with further studies and research in the subject while they are equipped with required skills at various stages. The framework is designed to equip students with valuable cognitive abilities and skills so that they are successful in meeting diverse needs of professional careers in a developing and knowledge-based society. The curriculum framework takes into account the need to maintain globally competitive standards of achievement in terms of the knowledge and skills, as well as to develop spirit of enquiry, problem solving skills and human and professional values which foster rational and critical thinking in students.

[b] Graduate Attributes:

Type of learning outcomes	**The Learning Outcomes Descriptors**
Learning outcomes that are specific to disciplinary/ interdisciplinary areas of learning	Disciplinary/ interdisciplinary Knowledge & Skills
Generic learning outcomes	***Critical Thinking & problem-solving Capacity***
	Creativity
	Communication Skills: The graduates should be able to demonstrate the skills that enable them to: • listen carefully, read texts and research papers analytically, and present complex informationin a clear and concise manner to different groups/audiences, • express thoughts and ideas effectively in writing and orally and communicate with othersusing appropriate media, • confidently share views and express herself/himself, • construct logical arguments using correct technical language related to a field of learning,work/vocation, or an area of professional practice, • convey ideas, thoughts, and arguments using language that is respectful and sensitive togender and other minority groups.
	Analytical reasoning/thinking: The graduates should be able to demonstrate the capability to: • evaluate the reliability and relevance of evidence; • identify logical flaws in the arguments of others; • analyze and synthesize data from a variety of sources; • draw valid conclusions and support them with evidence and examples, and addressingopposing viewpoints.

	Research-related skills: The graduates should be able to demonstrate: • a keen sense of observation, inquiry, and capability for asking relevant/ appropriate questions, • the ability to problematize, synthesize and articulate issues and design research proposals, • the ability to define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inferences based on the analysis and interpretation ofdata, and predict cause-and-effect relationships, • the capacity to develop appropriate methodology and tools of data collection, • the appropriate use of statistical and other analytical tools and techniques, • the ability to plan, execute and report the results of an experiment or investigation, • the ability to acquire the understanding of basic research ethics and skills in practicing/doing ethics in the field/ in personal research work, regardless of the funding authority or field of study.
	Coordinating/collaborating with others: The graduates should be able to demonstrate the ability to: • work effectively and respectfully with diverse teams, • facilitate cooperative or coordinated effort on the part of a group, • act together as a group or a team in the interests of a common cause and workefficiently as a member of a team.
	Leadership readiness/qualities: The graduates should be able to demonstrate the capability for: • mapping out the tasks of a team or an organization and setting direction. • formulating an inspiring vision and building a team that can help achieve the vision,motivating and inspiring team members to engage with that vision. • using management skills to guide people to the right destination.
	'Learning how to learn' skills: The graduates should be able to demonstrate the ability to: • acquire new knowledge and skills, including 'learning how to learn' skills, that are necessary for pursuing learning activities throughout life, through self-paced and self- directed learning aimed at personal development, meeting economic, social, and cultural objectives, and adapting to changing tradesand demands of the workplace, including adapting to the changes in work processes in the context of the fourth industrial revolution,through knowledge/ skill development/reskilling,
	• work independently, identify appropriate resources required for further learning, • acquire organizational skills and time management to set self-defined goals and targets withtimelines. • inculcate a healthy attitude to be a lifelong learner,
	Digital and technological skills: The graduates should be able to demonstrate the capability to: • use ICT in a variety of learning and work situations, • access, evaluate, and use a variety of relevant information sources, • use appropriate software for analysis of data.
	• ***National & International Perspective considering the current perspective of a Global Village.***
	Value inculcation: The graduates should be able to demonstrate the acquisition of knowledge and attitude that are required to: • embrace and practice constitutional, humanistic, ethical, and moral values in life, including universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values, • practice responsible global citizenship required for responding to contemporary

	global challenges, enabling learners to become aware of and understand global issuesand to become active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies, • formulate a position/argument about an ethical issue from multiple perspectives • identify ethical issues related to work, and follow ethical practices, including avoiding unethical behaviour such as fabrication, falsification or misrepresentation of data, or committing plagiarism, and adhering to intellectual property rights, • recognize environmental and sustainability issues, and participate in actions to promote sustainable development.
	Autonomy, responsibility, and accountability: The graduates should be able to demonstrate the ability to: • apply knowledge, understanding, and/or skills with an appropriate degree of independence relevant to the level of the qualification, • work independently, identify appropriate resources required for a project, and manage a project through to completion,
	Environmental awareness and action: The graduates should be able to demonstrate the acquisition of and ability to apply the knowledge, skills, attitudes, and values required to take appropriate actions for: • mitigating the effects of environmental degradation, climate change, and pollution, effective waste management, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living.
	Community engagement and service: The graduates should be able to demonstrate the capabilityto participate in community-engaged services/ activities for promoting the well-being of society.
	Empathy: The graduates should be able to demonstrate the ability to identify with or understand the perspective, experiences, or points of view of another individual or group, and to identify and understand other people's emotions.

[c] Flexibility:

The programmes are flexible enough to allow liberty to students in designing them according to their requirements. The Learner is given freedom of choice in selecting disciplines. Students may select his/her own stream. He/She may select three major disciplines from his her own stream or two major disciplines from his own stream and one major discipline from any other stream . Alongwith major disciplines, a student can select minor disciplines from other streams, languages, generic electives, ability enhancement courses, Vocational/Skill Enhancement Courses (SEC) and Value added Courses including Extra Curricular activities.

Multiple Entry & Exit Options:

ENTRY & EXIT OPTIONS	Credits Required
Certificate upon the Successful Completion of the First Year (Two Semesters) of the multidisciplinary Four-year Undergraduate Programme**.** **+ 04 Credit Mandatory Internship in Case of Exit.**	**44**
Diploma upon the Successful Completion of the Second Year (Four Semesters) of the multidisciplinary Four-year Undergraduate Programme. **+ 04 Credit Mandatory Internship in Case of Exit.** For Entry to NHEQF Level 5.0, must have completed the NHEQF 4.5 Level of Four Year Undergraduate Programme as per NEP-2020.	**84**
Basic Bachelor Degree at the Successful Completion of the Third Year (Six Semesters) of the multidisciplinary Four- year Undergraduate Programme. For Entry to NHEQF Level 5.5, must have completed the NHEQF 5.0 Level of Four Year Undergraduate Programme as per NEP-2020.	**120**

Bachelor Degree with Honours/Honours with Research in a Discipline at the Successful Completion of the Fourth Year (Eight Semesters) of the multidisciplinary Four-year Undergraduate Programme. For Entry to NHEQF Level 6.0, must have completed the NHEQF 5.5 Level of Four Year Undergraduate Programme as per NEP-2020.	**160**

Programme Educational Objectives (PEOs):

PEO1. To provide deep understanding of the principles of geographic ideas.

PEO2. To provide geographical knowledge as applicable in various spheres of life.

PEO3. To foster awareness about economic, social, political, ecological, and spatial interdependences in the physical and human environment.

PEO4. To enable students, acquire the knowledge, values, attitudes, commitment and skills needed to understand the interrelationship between physical and human environment.

PEO5. To provide students with opportunities to acquire the necessary applied skills that will enable them pursue career in varied fields.

PEO6. To create diverse educational experiences fostering a deep understanding of sustainability at all the levels.

Programme Specific Outcomes (PSOs):

PO1. The learning outcome is to prepare the students of B.A./B.Sc. Honors degree in Geography, to understand the development of the subject and delve around issues suited to the needs of the contemporary world. It covers a wide range of papers covering various themes and also maintains uniformity of structure across universities in the country. Geography being interdisciplinary in nature integrates learning derived from all basic and applied sciences/social sciences.

PO2. Students of the B.A./B.Sc. Honors degree in Geography will learn to use geographic understanding of various sub fields such as physiography, resources, global economic systems, socio- cultural aspects, rural and urban milieu, environmental and disaster studies and mapping methods.

PO3. They are trained to read and interpret maps, prepare transect charts and thematic atlas.

PO4. They are also able to read and analyze weather phenomenon through weather maps and charts.

PO5. Students will acquire scientific methodology of data handling, hypothesis generation, testing and analysis.

PO6. After the completion of the course, students will also gain knowledge of various technological applications through the study of Remote Sensing and Geographic Information Science.

PO7. The curriculum also provides an opportunity to digitally produce maps and modelling applications.

PO8. The students also learn hand on skills to prepare building disaster plans, community disaster preparedness and awareness creation.

PO9. They will also develop an understanding of global issues from economic, social, environmental and political perspectives, which has relevance in further studies across the globe.

PO10. They also develop effective communication skills, teamwork, travel exposure and zeal of investigation and exploration.

PO11. The learners can greatly contribute to the subject through teaching, research and field-oriented studies.

PO12. The students will also be able to pursue a career in spatial planning, sustainable practices, environmental and resource management.

PO13. Geography graduates will be well informed citizens who can play an immense role in the civil society too. They will be able to pursue a wide range of careers as planners, administrators, academicians, and managers.

Department of Geography

B.A./B.A.(Honours)/B.A. (Honours with Research) in Geography

SYLLABUS STRUCTURE OVER-All (Based on NEP – 2020)

B.A./B.A.(Honours)/B.A. (Honours with Research) in Geography											
Year	**Semester**	**Nomenclature of the Courses/Title**	**Com/Ele.**	**Credit**	Credit Distribution			Teaching Hours			
					L	T	P	L	T	P	
First Year	I	Physical Geography-Earth System	Compulsory	4	2	0	2	30	0	60	
		Introduction to IKS	Compulsory	2	2	0	0	30	0	0	
		AEC: COMMUNICATION SKILLS & PERSONALITY DEVELOPMENT	Compulsory	2	2	0	0	30	0	0	
		Minor Paper for Other Discipline: Earth and Planetary System	POOL B	3	3	0	0	45	0	0	
		SEC: Paper-I	POOL C	3	1	0	2	15	0	60	
		VAC-1: Understanding India or POOL D	POOL D	2	2	0	0	30	0	0	
		Other Major	POOL A	4	4	0	0	60	0	0	
		Total Semester Credits		**20**							
	II	Physical Geography-Atmospheric System (Major-I)	Compulsory	5	3	0	2	45	0	60	
		AEC: Critical Thinking & Problem Solving	Compulsory	2	2	0	0	30	0	0	
		Minor Paper for Other Discipline: Human Geography	POOL B	3	3	0	0	45	0	0	
		SEC: Paper-II	POOL C	3	1	0	2	15	0	60	
		VAC-2 : Indian Constitution	POOL D	2	1	1	0	15	15	0	
		Other Major (Contd.)	Compulsory	5	5	0	0	75	0	0	
		Total Semester Credits		**20**				0	0	0	
Exit Option: Certificate in Field of Learning/discipline											
Second Year	III	Human Geography	Compulsory	4	2	0	2	30	0	60	
		Applied IKS-I: Geography	Compulsory	2	2	0	0	30	0	0	
		AEC: Soft Skills	Compulsory	2	2	0	0	30	0	0	
		Minor Paper for other discipline: Regional Geography of World	POOL B	3	3	0	0	45	0	0	
		SEC: Paper-I (Other than Opted in Semester-I)	POOL C	3	1	0	2	15	0	60	
		VAC-3: Indian Heritage and Culture/NSS/NCC	POOL D	2	1	1	0	15	15	0	
		Other Major (Contd.)	Compulsory	4	4	0	0	60	0	0	
		Total Semester Credits		**20**							

	IV	Regional Geography of World	Compulsory	5	3	0	2	45	0	60
		Minor Paper for other discipline: Regional Geography Of India	POOL B	3	3	0	0	45	0	0
		AEC: Content Writing & Editing	Compulsory	2	2	0	0	30	0	0
		SEC: Paper-II	POOL C	3	1	0	2	15	0	60
		VAC-4: Food Nutrition & Hygiene	POOL D	2	1	1	0	15	15	0
		Other Major (Contd.)	Compulsory	5	5	0	0	75	0	0
		Total Semester Credits		**20**						
Exit Option: Diploma in Field of Learning/discipline										
Third Year	V	Geography of India-I	Compulsory	4	2	0	2	30	0	60
		Applied IKS-II: Geography	Compulsory	2	2	0	0	30	0	0
		Minor Paper for other discipline: Introduction to Maps & Diagrams	POOL B	3	3	0	0	45	0	0
		AEC: Team Building & Leadership	Compulsory	2	2	0	0	30	0	0
		Note: Choose any one Paper i. Natural Resource Management ii. Regional Study of Developed and Developing Countries: USA & China	Elective	3	3	0	0	45	0	0
		VAC-5 : Environmental Science and sustainability	POOL D	2	1	1	0	15	15	0
		Other Major (Contd.)	Compulsory	4	4	0	0	60	0	0
		Total Semester Credits		**20**						
	VI	Geography of India-II	Compulsory	5	3	0	2	45	0	60
		Note: Choose any one Paper i. Environmental Geography ii. Geography of Health	Core Elective	3	3	0	0	45	0	0
		Minor Paper for other discipline: Applied Geography With field Study/Field Trip & Report Writing (Practical)	POOL B	3	3	0	0	45	0	0
		Internship/Apprenticeship	Compulsory	4	0	0	4	0	0	120
		Other Major (Contd.)	Compulsory	5	5	0	0	75	0	0
		Total Semester Credits		**20**				0	0	0
Exit Option: Basic UG degree in Field of Learning/discipline										
Fourth Year	VII	Urban & Regional Planning	Compulsory	5	3	0	2	45	0	60
		Research Methodology (Hons. with Research)	Compulsory	4	4	0	0	60	0	0

		/History of Geographical Thought (Honours)								
		Note: Choose any Two Paper (4+4) i. Climatology ii. Population Geography iii. Economic Geography	Elective	8	8	0	0	120	0	0
		Minor Paper From other discipline: GIS and Its Application	POOL B	3	3	0	0	45	0	0
		Total Semester Credits		**20**						
	VIII	Remote Sensing and Geographical Information System	Compulsory	5	3	0	2	45	0	60
		Note: Choose any One paper: i. Earths Dynamic System ii. Agricultural Geography iii. Cultural Geography	Elective	3	3	0	0	45	0	0
		Dissertation/Research Project & Viva Voce (Hons. with Research) or Field Survey, Report Writing & Viva-voce (Honours)	Compursory	12	0	0	12	0	0	360
		Total Semester Credits		**20**						
Completion: UG (Hons. /Hons. with Research) degree in Field of Learning/discipline										
		Total Programme Credits		**160**						

AEC Ability Enhancement Course
VAC Value Added Course
SEC Skill Enhancement Course
IKS Indian Knowledge System

Note: Column. No. 6 & 7 is expected to be filled by the departments based on requirement of Course.

Department of Geography
B.A./B.A.(Honours)/B.A. (Honours with Research) in Geography
SYLLABUS (Based on NEP – 2020)
Session 2025 – 26

YEAR	SEMESTER	Course TITLE	Course Code	MAJOR/ MINOR	COM /EL	(L)	(T)	(P)	TOTAL CREDIT	TEACHING HOURS
1ST	I ST	Physical Geography- Earth System	GEO-23101	Major	COM	02	00	00	02	30
		Analysis of Geographical Data and Graphical Representation (Practicals)		Major	COM	00	00	02	02	60
		Minor Paper for Other Discipline: **Earth and Planetary System `**	MGEO01	MIN	ELE	03	00	00	03	45
		Introduction to IKS: Education	GEOIKS-2301	Major	COM	02	00	00	02	30
	II ND	Physical Geography: Atmospheric System	GEO-23102	Major	COM	03	0	00	03	45
		Field Work- Surveying and Mapping [Practicals]		Major	COM	00	00	02	02	60
		Minor Paper for Other Discipline: **Human Geography**	MGEO02	MIN	ELE	03	00	00	03	45
2ND	III RD	Human Geography	GEO-23103	Major	COM	02	00	00	02	30
		Map Projection & Weather Map {Practicals]		Major	COM	00	00	02	02	60
		Applied IKS-I: Economics	GEOIKS-2302	Major	COM	02	00	00	02	30

		Minor Course for other discipline: **Regional Geography Of India**	MGEO03	Min	ELE	03	00	00	03	45
	IVTH	Regional Geography of World	GEO-23104	Major	COM	03	00	00	03	45
		Elementary Statistics {Practicals]		Major	COM	00	00	02	02	60
		Minor Course for other discipline: **Regional Geography Of India**	MGEO04	Mino r	ELE	03	00	00	03	45
3RD	VTH	Geography of India-I	GEO23105	Major	COM	02	00	00	02	30
		Map Information [Practicals]		Major	COM	00	00	02	02	60
		Minor Paper for other discipline: **Introduction to Maps & Diagrams**	MGEO05	MIN	ELE	03	00	00	03	45
		Applied IKS-2: Geography	GEOIKS-2303	Major	COM	02	00	00	02	30
		Note: Choose any one Course i. Natural Resource Management ii. Regional Study of Developed & Developing Countries: USA and China	GEO-23106A/GEO-23106B	Major	Core Electi ve	03	00	00	03	45
	VITH	Geography of India-II	GEO-23107	Major	COM	03	00	00	03	45

		Field Study: Field Trip, Report Writing & Viva-Voce		Major	COM	00	00	02	02	60
		Note: Choose any one Course i. Environmental Geography ii. Geography of Health	GEO-23108A/GEO-108B	Major	ELE	03	00	00	03	45
		Internship/Apprenticeship	GEO-23109	Major	COM	00	00	04	04	120
		Minor Paper for other discipline: **Applied Geography With field Study/Field Trip & Report Writing (Practical)**	MGEO06	Minor	ELE	03	00	00	03	45
4TH	VIITH	Urban & Regional Planning	GEO-23110	Major	Com	03	00	00	03	45
		GIS, Surveying and Computer Assisted Cartography (Practicals)		Major	Com	00	00	02	02	60
		Research Methodology (For Students Hons.with Research)/ History of Geographical Thought (For Students Pursuing Hons. Only)	GEO-23111A/GEO-23111B	Major	Com	04	00	00	04	60
		Note: Choose any Two Paper (4+4) i. Climatology ii. Population Geography iii. Economic Geography	GEO-23112A/ GEO-23112B/ GEO-23112C	Major	Com	08	00	00	08	120

		Minor Paper for other disciplines: **GIS & Its Applications**	MGEO07	MIN	ELE	03	00	00	03	45
	VIII[TH]	Remote Sensing & Geographical Information System	GEO-23113	Major	COM	03	00	02	45	60
		Note: Choose any One Paper i. Earths Dynamic System ii. Agricultural Geography iii. Cultural Geography	GEO-23114A/ GEO-23114B/ GEO-23114C	Major	COM	03	00	00	03	45
		Dissertation/Research Project Viva Voce (Hons. with Research)/ Field Survey, Report Writing & Viva-voce (Honours)	GEO-23115A/GEO-23115B	Major	COM	00	00	12	12	360

B.A./B.A. (Honours/Honours with Research) in Geography

SEMESTER-I

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 1st Year**	**Semester: Ist**
Pedagogy:		
Course Code: GEO-23101	Course/Paper Title:	**Physical Geography-Earth System**

Course Objective & Outcomes:

Course Objectives:

1. To provide a theoretical framework of origin of the earth, it's structure and landform assemblages on its surface.
2. To understand the associations between major landforms, concepts and processes.
3. To provide a theoretical and empirical framework for understanding landscape evolution and the characteristics of individual types of geomorphic landscapes

By the end of the Course, the student will be able to:

CO1. Understand the functioning of Earth systems in real time and analyze how the natural and anthropogenic operating factors affect the development of landforms.
CO2. Distinguish between the mechanisms that control these processes.
CO3. Assess the roles of structure, stage and time in shaping the landforms and applying the knowledge in geographical research.
CO4. Understand the structure and types of oceans continents.
CO5. To understand the characteristics of Atlantic and Indian Oceans.

Credit (L+T+P): 2+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks: 40+60 (30T+30P)	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 30+0+60

Units:	Topics:	No. of Lectures
I	Meaning, scope and development of physical geography; origin of the earth – Theories of Kant, Laplace, Chamberlin, James Jeans.	**6**
II	Geological history of earth; interior of the earth; Rocks; isostasy, earth's movements - endogenetic and exogenetic, volcanic and earthquakes;	**6**
III	Major landforms: mountains, plateaus and plains; weathering; drainage pattern; landforms formed by running water, wind and glacier	**6**
IV	Depth zones of the oceans continental shelf, continental slope, deep sea plains and ocean deeps.	**6**
V	Bottom relief of Atlantic and Indian Oceans; salinity; tides; ocean currents; coral reefs.	**6**

Suggested Readings:

Books Recommended

1. Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company, New Delhi.
3. Bunnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
4. Garrison, T. (1998): Oceanography, Wordsworth Company., Belmont.
5. Lake, P. (1979): Physical Geography (English and Hindi editions), Cambridge University Press, Cambridge.
6. Leong Goh Cheng (2003): Certificate Physical and Human Geography, Oxford University Press, New Delhi.
7. Monkhouse, F.J. (1979): Physical Geography. Methuen, London

8. Singh, S. (2003): Physical Geography. (English and Hindi editions.). Prayag Pustak Bhawan, Allahabad;
9. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York.
10. Strahler, A.N. and Stahler, A.M. (1992): Modern Physical Geography. John Wiley and Sons, New York.
11. Wooldridge, S.W. and Morgan, R.S. (1939): The Physical Basis of Geography- An Outline of Geomorphology. Longman, London. Recent edition and Reprint.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

[Practicals/Lab Activity]

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year:1**	**Semester: I**
Pedagogy:		
Course Code: GEO-23101	Course/Paper Title:	**[Practicals] for Paper-GEO-23101**

Course Objective & Outcome:

1. To understand the concept of quantitative information in general and Geographical data in particular and to understand the importance of data analysis.
2. To impart knowledge of the methods of data collection, classification, tabulation, computation, analysis and presentation using graphical and diagrammatic methods.
3. To impart knowledge of various computation methods to achieve desired results.

Course Outcomes:

CO1. To differentiate between qualitative and quantitative information.
CO2. To know the nature of various data, different sources and methods of data collection.
CO3. To apply different methods for data collection and use the data for a comprehensive understanding of the spatial and non spatial phenomena.
CO4. To present data through graphical and diagrammatic formats.

Credit (L+T+P): 0+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks : 35

Unit	Topics	Practical (Hours)
I	**Analysis of Geographical Data and Graphical Representation** **Section A: Analysis of Geographical Data** Classification of spatial data; geographical data matrices; concept of measurement scales -nominal, ordinal, interval and ratio; concept & Types of variable independent dependent, discrete continuous; map scales - representative fraction (RF).	**12**
II	Statistical methods: (i) frequency distribution - class intervals, frequency, frequency density, cumulative and relative frequency; (ii) measure of central tendencies; mean, weighted mean, median, mode; (iii) measure of dispersion -- range, quartile, mean deviation, standard deviation, variance and coefficient of variation.	**12**

III	Transformation and combination of data- linear scale, standard score(Z score), rank order, Range standardization.	**12**
IV	**Section B: Graphical Representation** Scales and coordinate systems: arithmetic and logarithmic scale, Cartesian coordinates, polar coordinates.	**12**
V	Line graphs, circular graph, logarithmic graphs and scatter graphs; compound line and bar graphs, divided circles, divided rectangles and triangular graphs. Histograms, frequency curves, pyramids, block piles, hythergraph and climograph.	**12**
	Suggested continuous evaluation Methods –	
	Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ; Assignment/Practical/Projects – 05 Marks Internal Class Test – 10 Marks Attendance/Behavior – 05 Marks	

Books Recommended

1. S. Gregory: Statistical Methods and Geographer, Longmans and Co.Londan
2. M.R. Spingel: Theory and Problems of Statistics, McGraw Hill International.
3. N.M. Downie and R.W. Heath: Basic Statistical Methods, Harper Row and Co.
4. F.F. Goxton and L.J. Cowden: Applied General Statistics, Prentice Hall of India.
5. T.P. Kanitkar and S.V. Kulkarni: Surveying and Levelling, Part I, Ava Prakashan.
6. B.C. Punamia: Surveying, Standard Book House.
7. R.L. Singh: Prayogatmak Bhoogol ke Tatwa, Tara Publications, Varanasi.
8. R.C. Tiwari evm S.Tripathi: Abhinav Prayogatmak Bhoogol, Prayag Pustak Bhawan, Allahabad
9. R.L. Singh: Elements of Practical Geography, Kalyani Publication, New Delhi
10. A.K. Sarkar: Practical Geography-A Systematic Approach, Orient Longman, Kolkata, 1997.
11. G.R.P. Lawrence: Cartographic Methods, Methuen, London, 1968.

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Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B.A. 1st Year**	**Semester: I st**
Pedagogy:		
Course Code: GEOIKS – 2301	Course/Paper Title:	**Introduction to Indian Knowledge System**
Course Outcomes: After completing this course, the students will be able to -		
CO 1: explain the the foundational Concepts & Principles of IKS.		
CO 2: explain the historical development and evolution of Indian Intellectual traditions.		
CO 3: explain the knowledge key texts, thinkers, and schools of thought within the IKS.		
CO 4: analyze the interdisciplinary nature of Indian knowledge, integrating philosophy, spirituality, science, arts, and literature though the study of IKS.		
CO 5: explain the holistic and multidimensional nature of Indian Thought.		
Credit: 02	Paper (Core Compulsory / Elective): Core Compulsory	
Max. Marks : 40+60		
Total Number of Lectures (Lecture – Tutorials – Practical): 30+0+0		
Units:	Topics:	No. of Lectures

I	**Introduction to Indian Knowledge System** • Definition, Concepts and Scope of IKS • IKS based approache on Indian Knowledge System & Role of Guru (teacher) • Understanding the concepts of dharma, karma, and the four purusharthas (goals of life)	06
II	**Vedic Knowledge and Philosophy** • Study of the Vedas, including the Rigveda, Yajurveda, Samaveda, and Atharvaveda • Introduction to Upanishads and their metaphysical and philosophical teachings • Analysis of the six orthodox (astika) schools of Indian philosophy (e.g., Nyaya, Vaisheshika, Yoga, Samkhya, Mimamsa, and Vedanta)	06
III	**Unit 3: Spiritual and Mystical Traditions** • Exploration of Hindu spiritual traditions, including Bhakti, Karma, Jnana, and Raja Yoga • Study of Advaita Vedanta and its nondualistic philosophy • Introduction to other spiritual paths like Tantra and Sufism in the Indian context	06
IV	**Scientific and Technological Advancements** • Examination of ancient Indian contributions to mathematics, astronomy, and medicine • Study of scientific treatises such as Aryabhatiya, Sushruta Samhita, and Charaka Samhita • Exploration of the Indian concept of time, measurement, and cosmology	06
V	**Indian Arts, Literature, and Aesthetics** • Analysis of Indian classical music, dance, and theater traditions • Study of classical Sanskrit literature, including the works of Kalidasa and Valmiki • Understanding the concept of rasa (aesthetic experience) and its manifestations in Indian arts • Modern Interpretation and Contemporary Relevance	06

Suggested Readings:

- "Indian Philosophy: A Very Short Introduction" by Sue Hamilton
- "A History of Indian Philosophy" by Surendranath Dasgupta
- "Indian Philosophy: A Critical Survey" by Chandradhar Sharma
- "India: A History" by John Keay
- "The Wonder That Was India" by A.L. Basham
- "Ancient India" by R.S. Sharma
- "The Oxford History of India" edited by Percival Spear
- "A History of Indian Literature" (multiple volumes) by Sisir Kumar Das
- "Indian English Literature" by M. K. Naik
- "The Norton Anthology of World Literature: India, Pakistan, and Bangladesh" edited by Sarah Lawall
- "Indian Art" by Partha Mitter
- "The Art and Architecture of the Indian Subcontinent" by J.C. Harle
- "Indian Architecture: Buddhist and Hindu Period" by Percy Brown
- "The Crest of the Peacock: Non-European Roots of Mathematics" by George Gheverghese Joseph
- "Indian Science and Technology in the Eighteenth Century" by Dharampal
- "Raga Mala: The Autobiography of Ravi Shankar" by Ravi Shankar

- "The Ragas of North India" by Walter Kaufmann
- "The Complete Book of Ayurvedic Home Remedies" by Vasant Lad
- "Ayurveda: The Science of Self-Healing" by Vasant Lad
- "The Heart of Yoga: Developing a Personal Practice" by T.K.V. Desikachar
- "The Yoga Sutras of Patanjali" translated by Swami Satchidananda

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of other Discipline

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 1st Year**	**Semester: Ist**
Pedagogy:		
Course Code: **MGEO01**	Course/Paper Title:	**Earth and Planetary System**

Course Objective & Outcomes:

Course Objectives:

1. To provide a theoretical framework of origin of the earth, its structure and landform assemblages on its surface.
2. To understand the associations between major landforms, concepts and processes.
3. To provide a theoretical and empirical framework for understanding landscape evolution and the characteristics of individual types of geomorphic landscapes

By the end of the Course, the student will be able to:

CO1. Understand the functioning of Earth systems in real time and analyze how the natural and anthropogenic operating factors affect the development of landforms.
CO2. Distinguish between the mechanisms that control these processes.
CO3. Assess the roles of structure, stage and time in shaping the landforms and applying the knowledge in geographical research.
CO4.Understand the distribution of oceans and continents.

Credit: 3+0+0	Paper (Core Compulsory / Elective): **Elective (minor)**
Max. Marks: 40+60	Min. Passing Marks: 20+16

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	Origin of Universe: Stages, Future of universe, Big Bang theory, COBE Project; Structure of the solar system; Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, 'Planet 10'	9
II	Gratitude of Latitude and Longitude: Latitude, important of latitude; Equinox, Solstice and Seasons; Longitude, important of Longitude; Time and Date: GMT and Local Time, Standard Time, International Date Line, Indian Standard Time and IST Line.	9
III	Origin of the earth –Theories of Kant, Laplace, Chamberlin, James Jeans; Meaning, scope and development of physical geography,	9
IV	Geological history of earth; interior of the earth; Rocks; isostasy, earth's movements - endogenetic and exogenetic, volcanic and earthquakes;	9
V	Major landforms: mountains, plateaus and plains; weathering; drainage pattern; landforms formed by running water, wind and glacier	9

Books Recommended

1. Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company, New Delhi.
3. Bunnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
4. Garrison, T. (1998): Oceanography, Wordsworth Company., Belmont.
5. Lake, P. (1979): Physical Geography (English and Hindi editions), Cambridge University Press, Cambridge.
6. Leong Goh Cheng (2003): Certificate Physical and Human Geography, Oxford University Press, New Delhi.
7. Monkhouse, F.J. (1979): Physical Geography. Methuen, London
8. Singh, S. (2003): Physical Geography. (English and Hindi editions.). Prayag Pustak Bhawan, Allahabad;
9. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York.
10. Strahler, A.N. and Stahler, A.M. (1992): Modern Physical Geography. John Wiley and Sons, New York.

11. Wooldridge, S.W. and Morgan, R.S. (1939): The Physical Basis of Geography- An Outline of Geomorphology. Longman, London. Recent edition and Reprint.
12. Ojha, S.S., (2005), *Astronomy (in Hindi),* Bhaugolic Adhayan Sansthan, 50 C/ 3 F Govindpur, Teleargunj, Allahabad

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Other Courses to Choose:

Minor Course: To be Chosen From POOL B for the Semester (Other than Major Subjects)
Skill Enhancement Course (SEC): To be Chosen from POOL C
Value Added Course: To be Chosen from POOL D
Ability Enhancement Course: To be chosen from POOL E

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SEMESTER-II

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 1st Year**	**Semester: IInd**
Pedagogy:		
Course Code: GEO-23102	Course/Paper Title:	**Physical Geography: Atmospheric System**

Course Objectives:
1. Understand the elements of weather and climate.
2. Understand the interaction between the atmosphere and the earth's surface.
3. Learn to associate climate with other environmental and human issues.
4. Understand the importance of atmospheric pressure and wind systems and its influence on human life and activities.

By the end of the Course, the student will be able to:

CO1. To understand the different atmospheric phenomena and climate change.
CO2. Assessing the role of air pressure and Winds of the earth.
CO3. To analyze the dynamics of the Earth's atmosphere and global climate.
CO4. To understand the significance of the biosphere.
CO5. Assessing the role of man in global climate change.

Credit:3+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks: 40+60 (30T+30P)	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical):45+0+60

Units:	Topics:	No. of Lectures
I	Composition and structure of the atmosphere; Insolation; Temperature: vertical and horizontal distribution	**9**
II	Pressure and pressure belts; Winds: planetary, periodic and local	**9**
III	Monsoons; humidity and rainfall; Koeppen & Thonthwaite classification of world climates; Major climatic types-equatorial, monsoon, Mediterranean, west European and Savanna types	**9**

IV	Abiotic and biotic components of the biosphere; characteristics and types of ecosystem; biosphere as an ecosystem; biotic succession	**9**
V	Man and biosphere, distribution and dispersal of plants; biome types– equatorial rainforest, monsoon, savanna and temperate grassland biomes	**9**

Suggested Readings:

Books Recommended

1. A. Holmes and D.L. Holmes: Principles of Physical Geology, ELBS.
2. A.N. Strahler and A.H. Strahler: Modern Physical Geography, John Wiley and Sons, New York.
3. F. Press and R. Siever: The Earth, W. H. Freeman and Co., San Francisco.
4. M.J. Bradshaw et.al.: The Earth's Changing Surface, ELBS.
5. J.S. Gardner: Physical Geography, Harper Row and Co.
6. R.H. Bryant: Physical Geography, W.H. Allen and Co.
7. Savindra Singh: Physical Geography, Prayag Pustak Bhawan, Allahabad.
8. Savindra Singh: Bhautik Bhoogol,Vasundhara Prakashan, Gorakhpur
9. G.T. Trewartha and L.A. Horn: An Introduction to Climate, McGraw Hill and Co.
10. H.J. Critchfield: General Climatology, Prentice Hall of India, New Delhi.
11. D.S. Lal: Climatology, Sharda Pustak Bhawan, Allahabad.
12. Savindra Singh: Climatology, Prayag Pustak Bhawan, Allahabad
13. M.G. Gross: Oceanography, A View of the Earth, McGraw Hill and Co.
14. R.C. Sharma and M.Vatal: Oceanography for Geographers, Chaitanya Publishing House, Allahabad.
15. Healey Cox and Moors: Biogeography, Blackwell and Co.
16. Wytts: Principles of Biogeography, McGraw Hill & Co.
17. Savindra Singh: Environmental Geography, Prayag Pustak Bhawan, Allahabad.
18. Savindra Singh: Paryavarana Bhoogol, Prayag Pustak Bhawan, Allahabad
19. Savindra Singh: Jalvayu Vigyan , Prayag Pustak Bhawan, Allahabad
20. Daya Shankar Lal: Jalvayu Vigyan avam Samudra Vigyan, Sharda Pustak Bhawan, Allahabad

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

[Practicals/Lab Activity]

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 1st Year**	**Semester: IInd**
Pedagogy:		
Course Code: GEO-23102	Course/Paper Title:	**Practicals/Lab Activity for GEO-23102**

Course Objectives:

1. This course shall introduce the basic concepts in field work and methods of map making in geographical studies.
2. This paper shall elucidate about defining the field and identifying the case studies and field techniques.

3. This course shall provide detailed understanding related to questionnaire development, mapping and preparation of the field report.
Buy the end of the Course, the student will be able to:

Course Outcomes:

1. This paper shall enable the students to understand fundamental concepts and issues related to field work and mapping in geographical studies.
2. This course shall enable the students to comprehend about field work and field techniques.
3. Students shall be well-versed with the development of questionnaire and writing the field report.

Credit: 0+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks: 40+60	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 0+0+60

Units:	Topics:	No. of Lectures
I	Plane Table Survey: (i) Preparation of map by radial and intersection methods	**12**
II	(ii) Resection (Three-point problem) (a) Tracing paper or mechanical method, (b) Geometrical method, (c) Trial and error method (inside and outside the triangle)	**12**
III	Map Scales –RF, construction of plain, comparative diagonal scale	**12**
IV	Prismatic Compass Survey: (i) Preparation of map by open traverse (field book)	**12**
V	(ii) Preparation of map by closed traverse (field book, correction of bearing and removal of closing error).	**12**

Suggested Readings:

Books Recommended

1. T.P. Kanitkar and S.V. Kulkarni: Surveying and Levelling, Part I, Avad Prakashan.
2. B.C. Punamia: Surveying, Standard Book House.
3. R.L. Singh: Prayogatmak Bhoogol ke Tatwa , Tara Publications, Varanasi.
4. R.C. Tiwari evm S. Tripathi: Abhinav Prayogatmak Bhoogol, Prayag Pustak Bhawan, Allahabad.
5. R.L. Singh: Elements of Practical Geography, Kalyani Publication, New Delhi
6. A.K. Sarkar: Practical Geography-A Systematic Approach, Orient Longman, Kolkata, 1997.
7. G.R.P. Lawrence: Cartographic Methods, Methuen, London, 1968.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of other Discipline

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. Ist Year**	**Semester: IInd**
Pedagogy:		
Course Code: **MGEO02**	Course/Paper Title: **Human Geography**	

Course Objective & Outcomes:

Course Objectives:

1. Various dimensions of human geography and cultural landscape.
2. Detailed analysis of population growth and distribution.
3. Understanding of the relationship between population and resources.

By the end of the Course, the student will be able to:
CO1. Detailed exposure of contemporary relevance of cultural landscape.

CO2. In-depth knowledge of space and society of cultural regions.
CO3. Understand human adaptation to the environment.
CO4. Role of population in our society.
CO5. Understanding the settlement pattern and population resource relationship.

Credit: 3+0+0	Paper (Core Compulsory / Elective): **Elective (minor)**
Max. Marks: 40+60	Min. Passing Marks: 20+16

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics	No. of Lectures
I	Nature, scope and development of human geography; Branches of human geography; man and environment relationship - determinism, possibilism Neo determinism and probabilism.	9
II	Approaches - ecological, spatial, behavioral and welfare; Evolution of man; Classification of races; Characteristics of races and their broad distribution	9
III	Human adaptation to environment: Eskimo, Masai and Bushman; Primitive people of India: Tharu, Naga and Bhil.	9
IV	Growth of population; Distribution of population; Major human agglomerations; Types of Migration; migration problems and planning Trends of Urbanization.	9
V	Rural settlements: characteristics and types; Urban settlements: functional types, morphology; Rural houses in India: types and classification.	9

Books Recommended

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. De Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10th edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
6. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
7. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
8. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
9. Singh, K. N. and Singh, J. (2001): Manav Bhugol. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
10. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
11. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd., London

This course can be opted as an elective by the students of other discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Other Courses to Choose:

Minor Course : To be Chosen From POOL B (Other than Major Subjects)
Skill Enhancement Course (SEC): To be Chosen from POOL C
Value Added Course: To be Chosen from POOL D
Ability Enhancement Course

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Exit Option: Undergraduate Certificate (in the field of learning/discipline) for those who exit after the first year (two semesters) of the undergraduate programme. (Programme duration: first year or two semesters of the undergraduate programme + Mandatory Internship) **[NHEQF Level 4.5]**

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SEMESTER-III

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 2nd Year**	**Semester: IIIrd**
Pedagogy:		
Course Code: GEO-23103	Course/Paper Title:	**Human Geography**

Course Objectives:

1. Various dimensions of human geography and cultural landscape.
2. Detailed analysis of population growth and distribution.
3. Understanding of the relationship between population and resource.

Course Outcome: By the end of the Course, the student will be able to:

CO1.	Detailed exposure of contemporary relevance of cultural landscape.
CO2.	In-depth knowledge of space and society of cultural regions.
CO3.	Understand the human adaptation to environment.
CO4.	Role of population in our society.
CO5.	Understanding the settlement pattern and population resource relationship.

Credit: 2+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical):30+0+60

Units:	Topics:	No. of Lectures
I	Nature, scope and development of human geography; Branches of human geography; man and environment relationship - determinism, possibilism Neo determinism and probabilism.	**6**
II	Approaches - ecological, spatial, behavioural and welfare; Evolution of man; Classification of races; Characteristics of races and their broad distribution.	**6**
III	Human adaptation to environment: Eskimo, Masai and Bushman; Primitive people of India: Tharu, Naga and Bhil.	**6**
IV	Growth of population; Distribution of population; Major human agglomerations; Types of Migration; migration problems and planning Trends of Urbanization.	**6**
V	Rural settlements: characteristics, types and regional pattern; Urban settlements: evolution, functional types, patterns, classification; and morphology; Rural houses in India: types, classification and regional pattern.	**6**

Suggested Readings:

Books Recommended

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. De Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10th edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
6. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
7. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
8. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
9. Singh, K. N. and Singh, J. (2001): Manav Bhugol. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
10. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
11. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd., London
12. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography. Prentice-Hall, Englewood Cliffs, New Jersey.

Suggested continuous evaluation Methods –
Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ; Assignment/Practical/Projects – 05 Marks Internal Class Test – 10 Marks Attendance/Behavior – 05 Marks

[Practicals/Lab Activity]

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 2nd Year**	**Semester: IIIrd**
Pedagogy:		
Course Code: GEO-23103	Course/Paper Title:	**Practicals/Lab Activity for GEO-23103**

Course Objectives:

1. Create professional and aesthetically pleasing maps through thoughtful application of cartographic conventions;
2. Develop an understanding of the concepts regarding scale, map projections to suit map purposes;
3. To understand the elements of weather and techniques of interpretation of weather maps.

Course Outcome: By the end of the Course, the student will be able to:

CO1. Explain how maps work, conceptually and technically and will be able to understand science and art of cartography.
CO2. Recognize the benefits and limitations of some common map projections and their use.
CO3. Understand and perform interpretation of weather maps.

Credit: 0+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)=100	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 0+0+60

Units:	Topics:	Practical Hrs.
	Map Projection and Weather Map	
I	**Map Projection:** Conical: simple conic with one and two standard parallels,	**12**
II	Bonne's; Cylindrical: simple and equal area;	**12**
III	Zenithal (Polar case): equidistant and equal area.	**12**
IV	**Weather Map:** Weather symbols,	**12**
V	Representation of atmospheric features, Interpretation of Indian daily weather maps (July, October and January)	**12**

Suggested Readings:

Books Recommended

1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London.
2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
3. Robinson, A., Sale, R. Morrison, J. and Muehrcke, P. C. (1984): Elements of Cartography, John Wiley and Sons, New York
4. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
5. Sharma, J. P. (2001): Prayogik Bhugol. Rastogi Publication, Meerut 3rd edition.
6. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.

Suggested continuous evaluation Methods –
Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ; Assignment/Practical/Projects – 05 Marks Internal Class Test – 10 Marks Attendance/Behavior – 05 Marks

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Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B.A. 2nd Year**	**Semester: IIIrd**
Pedagogy:		
Course Code: GEOIKS – 2302	Course/Paper Title:	**Applied IKS-1: Geography**

Course Outcomes: After completing this course, the students will be able to -

CO 1: Explain the the foundational Concepts & Principles of IKS.
CO 2: Explain the historical development and evolution of Indian Intellectual traditions.
CO 3: Explain the knowledge key texts, thinkers, and schools of thought within the IKS.
CO 4: Analyze the interdisciplinary nature of Indian knowledge, integrating philosophy, spirituality, science, arts, and literature though the study of IKS.
CO 5: Explain the holistic and multidimensional nature of Indian Thought.

Credit: 02	Paper (Core Compulsory / Elective): Core Compulsory
Max. Marks: 40+60	Minimum Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 30 + 0 + 0

Units:	Topics:	No. of Lectures
I	**Introduction to Indian Knowledge System and Geography** • Definition and components of Indian Knowledge System (IKS) • Relevance of IKS in geographical analysis	06
II	**Indian Philosophical Framework and Natural Environment** • Exploration of Indian philosophical schools and their views on nature • Connection between Dharma, Karma, and environmental ethics	06
III	**Traditional Resource Management and Biodiversity** • Indigenous methods of resource management: water, forests, land • Influence of Ayurveda on ecological understanding and biodiversity	06
IV	**Indian Cosmology and Spatial Concepts** • Vedic cosmology and its implications for understanding space • Application of Vastu Shastra in urban planning and architecture	06
V	**Mapping Techniques and Modern Relevance** • Ancient Indian mapping techniques and their applicability today • Integrating traditional and modern mapping methodologies	06

Suggested Readings:

- "Indian Geography" by Majid Husain: This comprehensive textbook covers various aspects of Indian geography, including the application of traditional knowledge systems in understanding the country's geographical features.
- "Geographical Thought: A Contextual History of Ideas" by Daya Nath Tripathi: This book delves into the historical development of geographical thought in India, shedding light on how indigenous knowledge systems influenced the understanding of geography.
- "Traditional Ecological Knowledge and Natural Resource Management" edited by R. S. Rana and M. S. Rawat: This edited volume explores the role of traditional ecological knowledge in natural resource management, with a focus on Indian contexts.
- "Geographical Thought: An Introduction to Ideas in Human Geography" by Anoop Nayak and Alex Jeffrey: While not solely focused on India, this book provides valuable insights into how geographical thought has evolved globally and how Indian knowledge systems fit into the broader context of human geography.
- "Indian Knowledge Systems" by Shiv Nath Kak: This book discusses the various knowledge systems in India, including their relevance to geography and environmental studies."The Oxford History of India" edited by Percival Spear

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of Other Discipline

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. IInd Year**	**Semester: IIIrd**
Pedagogy:		
Course Code: **MGEO03**	Course/Paper Title: **Regional Geography of World**	

Course Objective & Outcomes:

Course Objectives:

1. To understand the location of Asian, European, North American and Australian countries.
2. To understand the physical, social and economic characteristics of the regions.

By the end of the Course, the student will be able to:

CO1. To understand the concept and criteria of regionalization.
CO2. To locate countries within the regions.
CO3. To understand the socio-economic and cultural background of development of countries.
CO4. To understand the physical and socio-economic characteristics of Asia.
CO5. To understand the physical and socio-economic characteristics of Europe.
CO6. To understand the physical, demography and economic characteristics of North America, Africa and Australia.

Credit: 3+0+0	Paper (Core Compulsory / Elective): **Elective (minor)**
Max. Marks: 40+60	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	Concept of region in geography; systematic vs regional geography, types andclassification of regions (formal and functional); Criteria of delimitation and characteristics of natural, cultural, economic and political regions.	9
II	**Asia: R**elief; drainage; climate; natural vegetation and soils; spatial distribution of population; economic base.	9
III	**Europe:** Physical, economic and demographic characteristics; Regional studies of British Isles, Eastern, Western and Mediterranean realm.	9
IV	**North America:** Physical, economic and demographic set up; Regional studies of North America.	9
V	**Africa:** Physical, economic and demographic set up; Regional studies of Africa **Australia:** Physical, economic and demographic set up; Regional studies of Australia	9

Books Recommended:

1. R. Hartshorne : Perspective on Nature of Geography.
2. R. Minshull : Regional Geography - Theory and Practice.
3. G.B. Cressey : Asia's Land and People.
4. W.G. Lant, O.H.K. Spate and C. Fisher: Changing map of Asia.
5. N. Ginsberg (ed.) : The Pattern of Asia.
6. J Kole: A Geography of the World's Major Regions, Routledge, London, 1996.
7. H.J. Deblij: Geography: Regions and Concepts, John Wiley, New York, 1994
8. R.H. Jakson & L.E. Hudman: World Regional Geography :Issues for Today, John Wiley New York, 1991.
9. G.H. Minshull: Western Europe, odd and & Stoughton, NY. 1984.
10. J.H. Patterson: Geography of Canada and the United States, Oxford University Press, 1985.
11. J.P. Kole: Latin America-Economic and Social Geography, Poutter worth, USA, 1975
12. S.P. Dickonson et al: The Geography of the Third World, Routledge, London, 1996
13. P. Gourow: The Terrified World: Longman, London, 1980
14. P.W. Ward & A Miller World Regional Geography: A Question of Place John Willey, NY, 1989.

This course can be opted as an elective by the students of other discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Other Courses:

Minor Course : To be Chosen From POOL B (Other than Major Subjects)
Skill Enhancement Course (SEC): To be Chosen from POOL C
Value Added Course: To be Chosen from POOL D
Ability Enhancement Course

SEMESTER-IV

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 2nd Year**	**Semester: IVth**
Pedagogy:		
Course Code: GEO-23104	Course/Paper Title: **Regional Geography of the World**	

Course Objective & Outcomes:

1. To understand the location of Asian, European, North American and Australian countries.
2. To understand the physical, social and economic characteristics of the regions.

By the end of the Course, the student will be able to:

CO1. To understand the concept and criteria of regionalisation.
CO2. To locate countries within the regions.
CO3. To understand the socio-economic and cultural background of development of the countries.
CO4. To understand the physical and socio-economic characteristics of Asia.
CO5. To understand the physical and socio-economic characteristics of Europe.
CO6. To understand the physical, demography and economic characteristics of North America, Africa and Australia.

Credit (L+T+P): 3+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical):45+0+60

Units:	Topics:	No. of Lectures
I	Concept of region in geography; systematic vs regional geography, types and classification of regions (formal and functional); Criteria of delimitation and characteristics of natural, cultural, economic and political regions.	**9**
II	**Asia** in the context of world; structure; relief; drainage; climate; natural vegetation and soils; spatial distribution of population; economic base; Regional studies of south, south–east, east and west Asia.	**9**
III	**Europe:** Physical, economic and demographic characteristics; Regional studies of British Isles, Eastern, Western and Mediterranean realm.	**9**
IV	**North America:** Physical, economic and demographic set up; Regional studies of North America.	**9**
V	**Africa:** Physical, economic and demographic set up; Regional studies of Africa **Australia:** Physical, economic and demographic set up; Regional studies of Australia	**9**

Suggested Readings:

Books Recommended

1. R. Hartshorne : Perspective on Nature of Geography.
2. R. Minshull : Regional Geography - Theory and Practice.
3. G.B. Cressey : Asia's Land and People.
4. W.G. Lant, O.H.K. Spate and C. Fisher: Changing map of Asia.
5. N. Ginsberg (ed.) : The Pattern of Asia.
6. J Kole: A Geography of the World's Major Regions, Routledge, London, 1996.
7. H.J. Deblij: Geography: Regions and Concepts, John Wiley, New York, 1994
8. R.H. Jakson & L.E. Hudman: World Regional Geography :Issues for Today, John Wiley New York, 1991.
9. G.H. Minshull: Western Europe, odd and & Stoughton, NY. 1984.
10. J.H. Patterson: Geography of Canada and the United States, Oxford University Press, 1985.
11. J.P. Kole: Latin America-Economic and Social Geography, Poutter worth, USA, 1975
12. S.P. Dickonson et al: The Geography of the Third World, Routledge, London, 1996
13. P. Gourow: The Terrified World: Longman, London, 1980

14 P.W. Ward & A Miller World Regional Geography: A Question of Place John Willey, NY, 1989.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

[Practicals /Lab Activity]

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 2nd Year**	**Semester: IVth**
Pedagogy:		
Course Code: GEO-23104	Course/Paper Title: **[Practicals/Lab Activity for GEO-23104**	

Course Objective & Outcomes:

1. Understanding the application of statistical data in the spatial analysis.
2. Detailed analysis of statistical techniques in geographical study.
3. Understanding of statistical applications to analyse both spatial and non-spatial data.

By the end of the Course, the student will be able to:

CO1. In depth understanding about the sources and use of quantitative and qualitative data in geographical studies.

CO2. To understand measures of central tendencies, dispersion and correlation to analyse the data and desired results.

CO3. Understand the use of basic statistical techniques to make available data more comprehensive.

Credit (L+T+P): 0+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical):45+0+60

Units:	Topics:	Practical Hrs
	Elementary Statistics	
I	Sources of data; classification and Tabulation of data	**12**
II	Frequency Distribution, Frequency Table, Relative Frequency, Cumulative Frequency	**12**
III	Measures of central tendency: mean, median and mode, and quartile	**12**
IV	Measures of dispersion: mean deviation, standard deviation	**12**
V	Correlation (Karl Pearson and Spearman)	**12**

Suggested Readings:

Books Recommended

1. Bhagwathi, V. and Pillai, R.S.N. (2003): Practical Statistics, Sultan Chand and Company, New Delhi
2. Ebdon, D. (1977): Statistics in Geography: A Practical Approach, Blackwell Publishers Inc., Massachusetts
3. Gregory, S. (1973): Statistical Methods and the Geographer, Longman, London.
4. Gupta, S.P. (1998): Advanced Practical Statistics, Sultan Chand and Company, New Delhi
5. Mahmood, A. (1986): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi
6. Zamir, A. (2002): Statistical Geography: Methods and Applications, Rawat Publications, Jaipur.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of Other Discipline

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. IInd Year**	**Semester: IVth**
Pedagogy:		
Course Code: **MGEO04**	Course/Paper Title:	**Regional Geography of India**

Course Objective & Outcomes:

Course Objectives:

1. Understanding of regional divisions of India in terms of their uniqueness and similarities.

2. Understand the various dimensions of the geographical features of India and their spatial distribution.
3. Understand the spatial distribution of economic resources of India.

Course Outcome: By the end of the Course, the student will be able to:
CO1. Understand the spatial distribution of physical resources of India.
CO2. Understand the regional division of India based on its physical resources.
CO3. To develop an understanding on how regional development is related to the availability and use of physical resources.
CO4. To Understand the crops production, properties and spatial distribution in India.
CO5. To Understand the characteristics of Meso-regions of India.

Credit: 3+0+0	Paper (Core Compulsory / Elective): **Elective (minor)**
Max. Marks: 40+60	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	Geology; Physiographic divisions; Drainage systems; Climate and climatic regions,	9
II	Soil types and distribution; soil erosion and conservation; forests - types and their economic utilization.	9
III	Minerals and power resources (iron ore, and coal); Multipurpose projects: Damodar Valley and Bhakhra Nangal; Irrigation	9
IV	Crops (rice, wheat, cotton, sugarcane, and tea); Agricultural regions; Green revolution and its consequences.	9
V	Meso-regions of India (Karnataka plateau, and Uttarakhand) and their characteristics	9

Books Recommended:

1. R.L. Singh (ed.): India: A Regional Geography, NGSI, B.H.U., Varanasi 1971.
2. T.C. Sharma and O. Coutinho: Economic and Commercial Geography of India.
3. B.N. Sinha: Industrial Geography of India.
4. O.H.K. Spate and A.T.A. Learmonth: India and Pakistan.
5. D.N. Wadia : Geology of India.
6. R.C. Tiwari, Geography of India, Prayag Pustak Bhawan, Allahabad.
7 D.R. Khullar : India : A Comprehensive Geography, Kalyani Publishers, Ludhiana.
8. India Reference Annual 2006, Publication Division, Govt. of India, New Delhi
9. Ram Chandra Tiwari: Bharat Ka Bhoogol, Prayag Pustak Bhawan, Allahabad
10. C.B. Mamoria: Bharat ka Bhoogol, Sahitya Bhawan, Agra
11. Alka Gautam:Bharat Ka Bhoogol Sharda Pustak Bhawan, Allahabad

Bharat 2006: Publication Division, Bharat Sarkar, New Delhi

This course can be opted as an elective by the students of other discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Other Courses:

Minor Courses: To be Chosen From POOL B (Other than Major Subjects)
Skill Enhancement Course (SEC): To be Chosen from POOL C
Value Added Course: To be Chosen from POOL D
Ability Enhancement Course

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Exit Option: Undergraduate Diploma (in the field of learning/discipline)for those who exit after two years (four semesters) of the undergraduate programme (Programme duration: First twoyears or four semesters of the undergraduate programme + Mandatory Internship) **[NHEQF Level 5.0]**

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SEMESTER-V

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 3rd Year**	**Semester: Vth**
Pedagogy:		
Course Code: GEO-23105	Course/Paper Title: **Geography of India-I**	

Course Objective & Outcomes:

Course Objectives:

1. Understanding of regional divisions of India in terms of their uniqueness and similarities.
2. Understand the various dimensions of the geographical features of India and their spatial distribution.
3. Understand the spatial distribution of economic resources of India.

Course Outcome: By the end of the Course, the student will be able to:

CO1. Understand the spatial distribution of physical resources of India.

CO2. Understand the regional division of India on the basis of its physical resources.

CO3. To develop an understanding on how regional development is related to the availability and use of physical resources.

CO4. To Understand the crops production, properties and spatial distribution in India.

CO5. To Understand the characteristics of Meso-regions of India.

Credit: 2+0+0	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 30+0+60

Units:	Topics:	No. of Lectures
I	Geology; Physiographic divisions; Drainage systems; Climate and climatic regions,	**9**
II	Soil types and distribution; soil erosion and conservation; forests - types and their economic utilization.	**9**
III	Minerals and power resources (iron ore, and coal); Multipurpose projects: Damodar Valley and Bhakhra Nangal; Irrigation	**9**
IV	Crops (rice, wheat, cotton, sugarcane, and tea); Agricultural regions; Green revolution and its consequences.	**9**
V	Meso-regions of India (Karnataka plateau, and Uttarakhand) and their characteristics	**9**

Suggested Readings:

Books Recommended

1. R.L. Singh (ed.): India : A Regional Geography, NGSI, B.H.U., Varanasi 1971.
2. T.C. Sharma and O. Coutinho: Economic and Commercial Geography of India.
3. B.N. Sinha: Industrial Geography of India.
4. O.H.K. Spate and A.T.A. Learmonth: India and Pakistan.
5. D.N. Wadia : Geology of India.
6. R.C. Tiwari, Geography of India, Prayag Pustak Bhawan, Allahabad.
7 D.R. Khullar : India : A Comprehensive Geography, Kalyani Publishers, Ludhiana.
8. India Reference Annual 2006, Publication Division, Govt. of India, New Delhi
9. Ram Chandra Tiwari: Bharat Ka Bhoogol, Prayag Pustak Bhawan, Allahabad
10. C.B. Mamoria: Bharat ka Bhoogol, Sahitya Bhawan, Agra
11. Alka Gautam:Bharat Ka Bhoogol Sharda Pustak Bhawan, Allahabad
12. Bharat 2006: Publication Division, Bharat Sarkar, New Delhi

This course can be opted as an elective by the students of following subjects –

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

[Practical Activity/Lab Activity]

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 3rd Year**	**Semester: Vth**
Pedagogy:		
Course Code: GEO-23105	Course/Paper Title: **{Practical Activity/Lab Activity]**	

Course Objective & Outcomes:

Course Objectives:

1. To understand the importance of thematic maps.
2. To interpret the various thematic maps.
3. To understand the use of computer in map and spatial data analysis.

Course Outcome: By the end of the Course, the student will be able to:

CO1. Comprehend the concept of scales and representation of spatial data through maps.
CO2. Interpret topographical, geological and weather maps.
CO3. Apply various techniques to interpret the map information.
CO4. To learn computer awareness for computer cartography.

Credit: 0+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical):0+0+60

Units:	Topics:	Practical Hrs.
I	**Map Information** **Section A: Primary and Special Purpose** **1. Topographical maps** (a) Scales of different topographical maps (b) Representation of reliefs: contours - types, intervals, slopes, characteristics and Patterns representation of important landforms by contours and their cross sections. (c) Representation of physical and man-made features by conventional symbols. Description of topographical maps of different physical regions of India.	**12**
II	**2. Weather Maps** (a) Representation of weather elements (b) Reading of weather maps © Preparation of weather map through given weather summaries. 3. Geological Map (a) Representation of rock outcrops, bedding planes, dips and strikes, unconformity and faults. (b) Drawing of cross sections and determination of dip angles and bed thickness. © Interpretation of Geological Features.	**12**
III	**Section B: Processing of mapped information** 1. Analysis of Settlement- mean centre, standard distance, quadrate count method nearest neighbour method. 2. Analysis of Transport and Drainage network- measurement of length, Transport network, cyclometric number, B India and connectivity, matrix. Drainage network ordering, bifucation ration and length ratio, drainage density and drainagged district.	**12**
IV	3. Analysis of Areas-Slope Indices and contract number measurement of area, 4. Analysis relief, profiles, areas height diagram, relative relief, slope analysis, altimetric and hypsometric analysis. 5. Inferential statistics-parametric and non parametric lists-population and sample, the null hypothesis, level of significance, one and two tailed tests, by type I and Type II errors procedure for conducting a statistical test, chi-square test, student's T test, variance test (F test).	**12**
V	**Section C: Basics of Computer System** Starting word, creating, serving and inserting files; formatting pages, paragraphs and sections; Editing texts; Tabs and tables; Working with charts and graphs; Printing; Application in geographical mapping.	**12**

Suggested Readings:

Books Recommended

1. A.H. Robinson et.al. : Elements of Cartography, John Wiley.
2. G.M. Bennison : An Introduction to Geological Structures and Maps, Edward Arnold, London.
3. G.C. Dickinson : Maps and Air Photographs, Edward Arnold, London.
4. J.S. Keates : Cartographic Design and Production, Longman, London.
5. M.S. David : Patterns in Human Geography, David Charles, Penguin.
6. N.M. Downie and R.W. Heath : Basic Statistical Methods, Harper Row and Co.
7. S. Gregory : Statistical Methods and Geographer, Longman, London.
8. T.W. Birch : Maps - Topographical and Statistical, Oxford University Press.
9. J.P. Sharma: Prayogatmak Bhoogol,Rastogi & Co. Meerut.
10. J. Singh,V.K. Srivastava & B.P. Rao: Baumikiya Manchitron ki Ruprekha,Vasundhara Prakashan, Gorakhpur.
11.R.C. Tiwari and Sudhaker Tripathi: Abhinav Prayogatmak Bhoogol, Pryag Pustak Bhawan, Allahabad.
12. R.L.Singh: Prayogatmak Bhoogol ke Mool Tatwa,Tara Publication,Varanasi.
13. Russel A.Stulz: Learn Microsoft Word 6.0 for Windows in a day BPB Publications, New Delhi.

This course can be opted as an elective by the students of following subjects –

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

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Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B.A. 3rd Year**	**Semester: Vth**
Pedagogy:		
Course Code: GEOIKS – 2303	Course/Paper Title:	**Applied IKS-2: Geography**

Course Outcomes: After completing this course, the students will be able to -

CO1. **Understanding of Indian Knowledge Systems:** Students will develop a deep understanding of various Indian knowledge systems, including but not limited to Ayurveda, Vastu Shastra, Jyotisha, and indigenous ecological wisdom, and their historical, cultural, and philosophical foundations.

CO2. **Application of Traditional Wisdom:** Students will be able to apply Indian knowledge systems to analyze and address contemporary geographical issues, demonstrating the relevance and applicability of these systems in modern geographic contexts.

CO3. **Critical Evaluation Skills:** Through critical analysis of case studies and primary sources, students will develop the ability to evaluate the strengths and limitations of Indian knowledge systems in addressing geographical challenges, considering factors such as cultural context and environmental sustainability.

CO4. **Interdisciplinary Perspective:** Students will recognize the interdisciplinary nature of Indian knowledge systems and their connections to geography, philosophy, science, and other fields, fostering a holistic approach to problem-solving and research.

CO5. **Ethical and Cultural Sensitivity:** Students will gain awareness of ethical considerations and cultural sensitivities when working with Indian knowledge systems, promoting respectful engagement with diverse cultural perspectives and practices in the field of geography.

Credit: 02	Paper (Core Compulsory / Elective): Core Compulsory
Max. Marks : 100	Minimum Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 30+0+0

Units:	Topics:	No. of Lectures
I	**Indian Geographical Texts and Regional Analysis** • Analysis of geographical descriptions in ancient texts • Interpreting regional variations and sacred landscapes	06
II	**Traditional Agricultural Practices and Land Use** • Study of ancient agroecological practices and their sustainability • Indigenous soil fertility techniques and their contemporary relevance	06
III	**Traditional Weather Prediction and Climate Knowledge**	06

IV	• Understanding traditional weather prediction methods • Integrating indigenous climate knowledge with modern meteorology **Indigenous Mapping and Resource Management** • Case studies of successful integration of IKS in modern geographical practices • Community-based resource management informed by traditional wisdom	06
V	**Contemporary Challenges and Opportunities** • Exploring challenges of applying IKS in modern contexts • Identifying opportunities for further research and practical applications	06

Suggested Readings:

- "Indian Geography" by Majid Husain: This comprehensive textbook covers various aspects of Indian geography, including the application of traditional knowledge systems in understanding the country's geographical features.
- "Geographical Thought: A Contextual History of Ideas" by Daya Nath Tripathi: This book delves into the historical development of geographical thought in India, shedding light on how indigenous knowledge systems influenced the understanding of geography.
- "Traditional Ecological Knowledge and Natural Resource Management" edited by R. S. Rana and M. S. Rawat: This edited volume explores the role of traditional ecological knowledge in natural resource management, with a focus on Indian contexts.
- "Geographical Thought: An Introduction to Ideas in Human Geography" by Anoop Nayak and Alex Jeffrey: While not solely focused on India, this book provides valuable insights into how geographical thought has evolved globally and how Indian knowledge systems fit into the broader context of human geography.
- "Indian Knowledge Systems" by Shiv Nath Kak: This book discusses the various knowledge systems in India, including their relevance to geography and environmental studies."The Oxford History of India" edited by Percival Spear

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Major (Elective): Choose any one Course

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A.3rd Year**	**Semester: Vth**
Pedagogy:		
Course Code: GEO-23106A	Course/Paper Title:	**Natural Resource Management**

Course Objective & Outcomes:

Course Objectives:

1. Awareness about resource availability, accessibility, utilization, its use and misuse.
2. To know about spatial distribution of natural resources.
3. To understand resource management and governance.

By the end of the Course, the student will be able to:

CO1. At the end the course student should learn importance of natural resources.
CO2. Conservation methods and awareness about community participation.
CO3. Assessment of role of national and international efforts to mitigate resource problems.
CO4. To understand the sustainable development and conservation, planning, strategies of resources.
CO5. To understand the community participation and governance in development of resources.

Credit: 3+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0		
Units:	Topics:	No. of Lectures
I	Concept of natural resources; classification of natural resources; Dynamic theory of resources; Problems of resource utilization; Development and resources; resource regionalization.	**9**
II	Use and Misuse of resources--global and Indian scenario; Imbalance in resource distribution and utilization; Resource and economic development; Globalization and resources; Future prospects of soil, water mineral and forest resources.	**9**
III	Resource appraisal; use of GIS and Remote Sensing in resource appraisal; resource depletion and emerging issues-desertification, deforestation less of bio diversity, energy crisis, water scarcity and conflicts.	**9**
IV	Sustainable development and conservation of resources; concept of resource planning and resource conservation; Conservation strategies.	**9**
V	Resource planning and economic development; Community participation and governance; Integrated resource development.	**9**

Suggested Readings:

Books Recommended

1. J.L. Holechek et al: Natural resources: Eulogy Economics and Policy, Prentice Hall, New Jersey, 2000.
2. R.W. Kates and I. Burton (Eds): Geography, Resources and Environment, Vol. II, University of Chicago Press, Chicago, 1986.
3. D.J. Mc Laren and B.J. Skinnet (Eds): Resources and World Development, John Wiley & Sons, New York, 1986.
4. M.D. Newson: Land, Water and Development: River Basin Systems and Management, Routledge London, 1991.
5. S. Owen, PL Owens: Environment, Resources and Conservation, Cambridge University Press, New York, 1991.
6. J. Rees: Natural Resources: Allocation, Economics and Policy Methwan, London, 1988.
7. M. Redclift: Sustainable Development: Exploring the Contraction, Methuen London, 1987.
8. I.G. Simmons: Earth, Air and Water Resources and Environment in Late 20th Century, Edward Arnold, 1991.
9. Alan Thomas et al: Environmental Policies & NGO Influence, Rutledge, London, 1995.
10. A.S. Mather and K. Chapman: Environmental Resources, Longman Scientific and Technical, London, 1995
11. C.L. Harper: Environment and Society Human Perspectives on Environment Issues, Prentice Hall, New Jersey.
12. I Burton and R.W. Kates (Ed): Readings in Resource Management and Conservation,1965.
13. S.W. Allen and J.W. Leonard: Conserving Natural Resources, McGraw Hill, New York.
14. G.H. Smith (Ed.): Conservation of Natural Resources, John Wiley, New York.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Or

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A.3rd Year**	**Semester: Vth**
Pedagogy:		
Course Code: GEO-23106B	Course/Paper Title:	**Regional Study of Developed & Developing Countries: USA and China**

Course Objective & Outcomes:

Course Objectives:

1. To understand the concept of developed and developing nations.
2. To understand the basic criteria of demarcating developed and developing nations.
3. To understand the physical, social and economic characteristics of developed and developing nations.

Course Outcome: By the end of the Course, the student will be able to:

CO1. To understand the concept and criteria of regionalisation of developed and developing nations.
CO2. To understand the socio-economic and cultural factors responsible for the development of USA and China.
CO3. To understand the socio-economic and cultural differences between USA and China.
CO4. To understand the physical and cultural resources of the USA.
CO5. To understand the physical and cultural resources of the China.

Credit: 3+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	Concepts, bases and characteristics of developed and developing countries; Indicators and Levels of development: Developed, Developing, Under-developed, and Least-developed worlds.	**9**
II	**USA:** Physical resource base: landforms, climate, soils, vegetation, power and mineral resources.	**9**
III	**USA:** Cultural resource base: population, agriculture, industries, Agricultural and industrial regions of USA.	**9**
IV	**China:** Physical resource base: landforms, climate, soils, vegetation, power and mineral resources.	**9**
V	**China:** Cultural resource base: population, agriculture, industries, Agricultural and industrial regions of China.	**9**

Suggested Readings:

Books Recommended

1. di Blij, H. and Muller, O. (1993): Geography: Regions and Concepts. John Wiley and Sons, New York..
2. Jackson, R. H. and Husman, L. E. (1991): World Regional Geography: Issues for Today. John Wiley and Sons, New York.
3. Jones, P. and Bryan, P. (1954): North America: An Historical, Economic and Regional Geography, Methuen and Company. Ltd, London.
4. Kolb, A. (1971): East Asia, China, Japan, Korea, Vietnam, Methuen, London.
5. Rai, Gayatri (2007): Vishwa Ka Pradeshik Bhugol, Mishra Trading Corporation, Varanasi
6. Sharma, P. R. (ed.) (1991): Perspectives on Third World Development. Rishi Publication, Varanasi.
7. Stamp, L. D. (1976): Asia: A Regional and Economic Geography, Methuen, London.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of Other Discipline

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	Year: B. A. IIIrd Year	Semester: Vth
Pedagogy:		
Course Code: MGEO05	Course/Paper Title: **Introduction to Maps and Diagram**	

Course Objective & Outcomes:

Course Objectives

1. Understand the basic concepts of cartography and map reading

2. Identify and describe different types of maps and diagrams

3. Apply diagrammatic techniques to present geographic data

4. Analyze and interpret maps and diagrams for effective decision-making

By the end of the Course, the student will be able to:

CO1: Demonstrate understanding of cartographic concepts: Explain the basic principles of cartography, including map types, projections, scales, and coordinate systems.

CO2: Identify and describe various map types and diagrams: Recognize and describe different types of maps (e.g., physical, political, thematic) and diagrams (e.g., bar, pie, line graphs).

CO3: Create effective diagrams to present geographic data: Apply diagrammatic techniques to present geographic data in a clear and concise manner.

CO4: Analyze and interpret maps and diagrams for informed decision-making: Critically analyze and interpret maps and diagrams to extract relevant information, identify patterns and trends, and make informed decisions.

Credit: 3+0+0	Paper (Core Compulsory / Elective): **Elective** (**minor**)
Max. Marks: 40+60	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	**Introduction to Cartography and Map Reading:** Definition and importance of cartography, Brief history of cartography, Map types (physical, political, thematic), Map elements (title, legend, scale, orientation), Basic map reading skills	9
II	**Map Projections and Coordinate Systems:** Principles of map projections (shape, size, distance), Types of map projections (cylindrical, conic, azimuthal), Coordinate systems (latitude, longitude, UTM), Map scale and resolution	9
III	**Diagrammatic Data Presentation Techniques:** Introduction to diagrammatic representation, Types of diagrams (bar, pie, line, scatter), Data visualization techniques, Effective communication of geographic data through diagrams	9
IV	**Thematic Mapping and Geographic Information Systems (GIS):** Introduction to thematic mapping, Types of thematic maps (isoline maps, choropleth maps, graduated symbol maps, dot-density maps, and flow-line definition maps.), Basic GIS concepts (layers, attributes, spatial analysis), Applications of thematic mapping and GIS.	9
V	**Map Analysis and Interpretation:** Map analysis techniques (visual, statistical, spatial), Case studies of map analysis and interpretation in various fields (urban planning, environmental management, emergency response)	9

Books Recommended:

1. R.L. Singh: Prayogatmak Bhoogol ke Tatwa, Tara Publications, Varanasi.
2. C. Tiwari evm S.Tripathi: Abhinav Prayogatmak Bhoogol, Prayag Pustak Bhawan, Allahabad
3. R.L. Singh: Elements of Practical Geography, Kalyani Publication, New Delhi
4. A.K. Sarkar: Practical Geography-A Systematic Approach, Orient Longman, Kolkata, 1997.
5. G.R.P. Lawrence: Cartographic Methods, Methuen, London, 1968.
6. Maps and Diagrams" by A. W. G. Lowenthal
7. Thematic Cartography and Geovisualization

This course can be opted as an elective by the students of other discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Other Courses:

Skill Enhancement Course (SEC): To be Chosen from POOL C
Value Added Course: To be Chosen from POOL D
Ability Enhancement Course: To be chosen from POOL E

SEMESTER-VI

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 3rd Year**	**Semester: VIth**
Pedagogy:		
Course Code: **GEO-23107**	Course/Paper Title: **Geography of India-II**	

Course Objective & Outcomes:
Course Objectives:
1. Understand the demographic, social and cultural attributes such as migration, social relations and cultural identity.
2. To impart the knowledge of human resources of India.
3. To understand the economic development of India in terms of industrialisation and urbanisation.

By the end of the course, the student will attain the following:

CO1. Understand the spatial distribution of human resources of India.
CO2. To understand the regional growth in terms of population, industrialisation and urban expansion.
CO3. To become concerned about the environmental problems generating due to changing trends in population characteristics, industrialization and urbanization.
CO4. To understand the characteristics of urban and planning regions of India.
CO5. To understand the characteristics of Environment of India.

Credit: 3+0+0	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+60

Units:	Topics:	No. of Lectures
I	Irrigation, agriculture - trends and problems, dry land agriculture, agricultural regions, green and white revolution and agro-climatic regions.	**9**
II	Population – distribution, growth, density, trends and problems; Road, rail and air transport; inland waterways, foreign trade.	**9**
III	Industrial growth and development; industrial localization with reference to iron and steel, cotton textile, sugar, cement and chemical, and paper industries, Industrial regions.	**9**
IV	Trends of Urbanization, urban problems, urban slums, urban policy, regional disparities in economic development, planning regions, multi-level planning bases of India federalism.	**9**
V	Environmental pollution in India, Geography of Uttar Pradesh.	**9**

Suggested Readings:

Books Recommended

1. R.L. Singh (ed.): India : A Regional Geography, NGSI, B.H.U., Varanasi 1971.
2. T.C. Sharma and O. Coutinho: Economic and Commercial Geography of India.
3. B.N. Sinha: Industrial Geography of India.
4. O.H.K. Spate and A.T.A. Learmonth: India and Pakistan.
5. D.N. Wadia : Geology of India.
6. R.C. Tiwari, Geography of India, Prayag Pustak Bhawan, Allahabad.
7 D.R. Khullar : India : A Comprehensive Geography, Kalyani Publishers, Ludhiana.
8. India Reference Annual 2006, Publication Division, Govt. of India, New Delhi
9. Ram Chandra Tiwari: Bharat Ka Bhoogol, Prayag Pustak Bhawan, Allahabad
10. C.B. Mamoria: Bharat ka Bhoogol, Sahitya Bhawan, Agra
11. Alka Gautam: Bharat Ka Bhoogol Sharda Pustak Bhawan, Allahabad
12. Bharat 2006: Publication Division, Bharat Sarkar, New Delhi

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ; Assignment/Practical/Projects – 05 Marks Internal Class Test – 10 Marks Attendance/Behavior – 05 Marks

[Practical Activity/Field Activity]

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 3rd Year**	**Semester: VIth**
Pedagogy:		
Course Code: **GEO-23107**	Course/Paper Title: **[Practical Activity/Field Activity]**	

Course Objective & Outcomes:

Course Objectives:

1. To orient the students towards identification and analysis of various geographical features and processes (both physical and human).
2. To develop students' aptitude for acquiring basic skills of carrying out field work.

By the end of the course, the student will attain the following:

Course Outcomes:

CO1. To learn to write a report through direct observation.
CO2. To extract relevant information from secondary sources of data and analyse them while report writing.
CO3. To make the report presentable and comprehensive through maps, tables and diagrams.

Credit: 0+0+2	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60 (30T+30P)	Min. Passing Marks :

Total Number of Lectures (Lecture – Tutorials – **Practical**): 0+0+60

Units:	Topics:	Activity Hrs.
	Field Study: Field Trip, Report Writing& Viva – Voce	
I	Fieldwork: Meaning, types and objectives of field work;	**6**
II	Field work methods and techniques;	**6**
III	Importance of field work in geography	**6**
IV	Field work-based report writing.	**6**
V	Field Trip: Uttarakhand, Vindhyan Plateau, Thar Desert, Coastal area & Punchmarhi (MP)	**6**

Suggested Readings:

Books Recommended

1. R.L. Singh (ed.): India : A Regional Geography, NGSI, B.H.U., Varanasi 1971.
2. T.C. Sharma and O. Coutinho: Economic and Commercial Geography of India.
3. B.N. Sinha: Industrial Geography of India.
4. O.H.K. Spate and A.T.A. Learmonth: India and Pakistan.
5. D.N. Wadia : Geology of India.
6. R.C. Tiwari, Geography of India, Prayag Pustak Bhawan, Allahabad.
7 D.R. Khullar : India : A Comprehensive Geography, Kalyani Publishers, Ludhiana.
8. India Reference Annual 2006, Publication Division, Govt. of India, New Delhi
9. Ram Chandra Tiwari: Bharat Ka Bhoogol, Prayag Pustak Bhawan, Allahabad
10. C.B. Mamoria: Bharat ka Bhoogol, Sahitya Bhawan, Agra
11. Alka Gautam: Bharat Ka Bhoogol Sharda Pustak Bhawan, Allahabad
12. Bharat 2006: Publication Division, Bharat Sarkar, New Delhi

<u>Suggested continuous evaluation Methods –</u>

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

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Major (Elective) : Choose any one Course

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 3rd Year**	**Semester: VIth**
Pedagogy:		
Course Code: GEO-23108A	Course/Paper Title:	**Environmental Geography**

Course Objective & Outcomes:

To understand the concept of environment and man environment relationship.

To understand man's role in changing the environmental quality and its consequences.

By the end of the Course, the student will attain the following:

CO1. To understand the composition and types of environments.
CO2. To understand the concept of ecosystem, energy flow and functioning of ecosystem.
CO3. To understand the causes and effect of environmental degradation.
CO4. To know the environmental legislations and laws and to understand the concept of environmental management to check environmental degradation.
CO5. The students will be able to understand environmental policy and planning.

Credit: 3+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	Meaning and Scope of environmental geography; basic principles of environmental geography; composition and types of environment; ecological principles; man–environment relationship.	**9**
II	Ecosystem: concept and components; trophic levels; food chains and food webs; energy flow in the ecosystem; circulation of matter in the ecosystem, geo-biochemical cycle, ecosystem productivity, ecosystem stability.	**9**
III	Environmental degradation; Extreme events, hazards and disasters (earthquake, volcanoes, cyclones, floods); Environmental pollution (air, water, solid waste, soil and noise pollution)	**9**
IV	Environmental pollution in India; Environmental Problems: global warming, ozone depletion, land degradation and reduction in biodiversity.	**9**
V	Environmental management: concept and approaches; environmental dimension, in planning sustainable development; environmental consciousness, environmental policy; environmental legislation; environmental impact assessment; disaster management.	**9**

Suggested Readings:

Books Recommended

1. Association American Geographers: Perspectives on Environment, Washington D.C.
2. A.N. Strahler and A.H. Strahler: Geography and Man's Environment, John Wiley and Sons, New York.
3. C.C. Park: Ecology and Environmental Management, Butter worths, London.
4. D.B. Botkin and E.A. Keller: Environmental Studies, C.E. Mernill Pub. Co. Columbus.
5. J.B. Easts and L.W. Senger: Remote Sensing Techniques for Environmental Analysis, Hamilton Pub. Co. New York.
6. J.B. Hobbs: Applied Climatology, Butterworths, London.
7. L.R. Singh et al: Environmental Management, Allahabad Geographical Society, Allahabad.
8. National Academy of Sciences: Understanding Climatic Changes, Washington D.C.
9. P.A. Furley and W.W. Neway: Man and the Biosphere, Butterworths, London.
10. R. Arvil: Man and Environment, Pnguin.
11. R.J. Bennet and R.J. Chorley: Environmental System- Philosophy, Analysis and Control, Methuen, London.
12. Savindra Singh: Environmental Geography, Prayag Pustak Bhawan,Allahabad
13. T.R. Detwler: Man's Impact on the Environment, Mc Graw Hill, New York.
14. T.R. Detwyler and M.G. Marcus:Urbanization and Environment, Duxburg Press, California.
15. Savindra Singh: Paryavaran Bhoogol, Prayag Pustak Bhawan, Allahabad.
16. W.M. Adans: Green Development: Environment and Sustainability in the Third World, Routledge, London, 2001.

17. E.P. Odum: Fundamental of Ecology, W.B. Sounders Co. Philadelfia, 1971.
18. A.S. Mather and K. Chapman: Environmental Resources, Longman Group Ltd. U.K., 1995.
19. A. Goudie: The Nature of the Environment, Oxford, Basil Black Well, 1989.
20. K. Smith: Environmental Hazards: Assessing Risk and Reducing Disaster, Routledge London, 1996.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Or

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIth**
Pedagogy:		
Course Code: GEO-23108B	Course/Paper Title: **Geography of Health**	

Course Objective & Outcomes:

Objective:

1. This course intends to reorient the students towards interdisciplinary perspectives on population health issues at different geographical scales.
2. It will acquaint the candidate to appreciate the role of spatial perspectives towards showcasing drivers of population health transition and major approaches used to explain it.
3. Students shall be able to understand the interplay of social environment, global environmental changes and its association with population health.

By the end of the Course, the student will be able to:

CO1. Students would be acquainted with the basic concepts of population health from geographical perspectives.
CO2. Students would get clear understanding about the process of population health transition and its major drivers. In addition, students should recognize the mechanism of how social and economic environment shapes population health.
CO3. Further, the linkages between global environmental changes and population health should be well understood.
CO4. To be able to understand aetiology and transmission of major diseases like cholera, malaria, tuberculosis, hepatitis, leprosy, cardiovascular, cancer, AIDS and STDS.
CO5. To be able to understand healthcare Planning like (i) International level-WHO, UNICEF, Red Cross and (ii) National Level- Government and NGOS.

Credit: 3+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 45+0+0

Units:	Topics:	No. of Lectures
I	Nature, Scope and development of Geography of Health; Distinction between Geography of Health and medical science; Geographical factor affecting human health and diseases –Physical factors (relief, climate, soil and vegetation)	**9**
II	Social factors (population density, literacy, social customs and poverty), economic factors (food and nutrition, occupation, standard of living), environmental factors (urbanization and congestion, water, air, and noise pollution and solid waste).	**9**

III	Classification of diseases: genetic, communicable and non-communicable; occupational and deficiency diseases; WHO classification of diseases; pattern of world distribution of major diseases-malaria, tuberculosis, cardiovascular, cancer and AIDS	**9**
IV	Ecology, aetiology and transmission of major diseases: cholera, malaria, tuberculosis, hepatitis, leprosy, cardiovascular, cancer, AIDS and STDS; Spread of diseases and their causes; Deficiency, disorders and problems of mal nutrition in India.	**9**
V	Healthcare Planning: (i) International level-WHO, UNICEF, Red Cross (ii) National Level- Government and NGOS; Health care planning and policies: availability, accessibility and utilization of health care services; Primary health care; family welfare, immunization, national disease eradication and health for all programme; Health care policy in India	**9**

Suggested Readings:

1. While not solely focused on geography, this book provides a global perspective on health issues, including the geographical dimensions of healthcare provision.
2. "Geographies of Infectious Diseases" edited by Mark W. Rosenberg and Oran R. Young:
   This collection of essays explores the spatial dimensions of infectious diseases, addressing topics such as disease diffusion, social determinants of health, and global health governance.
3. "Public Health, Disease and Development in Africa" edited by Ezekiel Kalipeni and Juliet Iwelunmor:
   Focusing on the African continent, this book examines the complex relationship between geography, disease, and public health, with insights into health disparities and development.
4. "Geography, Health, and Sustainability: Gender Matters in South Sudan" by Lucy Gilson:
   This book explores the intersection of gender, geography, and health in the context of South Sudan, providing a case study approach to understanding health disparities.
5. "The Geography of Health Inequalities in the Developed World: Views from Britain and Australia" by Anthony C. Gatrell and Susan J. Elliott:
   Examining health inequalities in developed countries, this book offers insights into the role of geography in shaping healthcare access and outcomes.
6. "Geographies of Placemaking: A Praxeological Approach to Human and Non-Human Agency in Health and Wellness" by Rob Wilton:
   This book explores the concept of placemaking and its impact on health and wellness, emphasizing the role of the environment in shaping health behaviors.
7. "Health and Place: A Critical Introduction" by Anthony C. Gatrell and Susan J. Elliott:
   This introductory text provides an overview of the key concepts and theories in health geography, helping students understand the spatial dimensions of health.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of Other Discipline

Programme: B.A./B.A. (Honours/Honours with Research) in Geography	**Year: B. A. IIIrd Year**	**Semester: VIth**
Pedagogy:		
Course Code: **MGEO06**	Course/Paper Title:	**Applied Geography with field study/ field trip and report writing (Practical)**

Course Objective & Outcomes:

Course Objectives:

1. Understand the definition and scope of applied geography
2. Identify the importance of geographic concepts and techniques from various branches of geography in solving real-world problems
3. Understand the importance of field surveys in geography and related fields
4. Learn various field survey techniques, including observation, measurement, and documentation

5. Develop skills in data collection, recording, and analysis

By the end of the Course, the student will be able to:
CO1: Define and explain the scope of applied geography: Demonstrate an understanding of the definition, principles, and applications of applied geography in solving real-world problems.
CO2: Integrate geographic concepts and techniques in problem-solving: Apply geographic concepts and techniques from various branches of geography (e.g., physical, human, technical, regional) to analyze and solve real-world problems.
CO3: Explain the significance of field surveys in geography and related fields: Understand the importance of field surveys in collecting primary data, conducting research, and informing decision-making in geography and related fields.
CO4: Conduct field surveys using various techniques: Apply observation, measurement, and documentation techniques to collect and record data during field surveys.
CO5: Collect, record, and analyze data effectively: Demonstrate skills in data collection, recording, and analysis, and apply these skills to real-world problems in geography and related fields.

Credit: 1+0+2	Paper (Core Compulsory / Elective): **Elective (minor)**
Max. Marks: 40+60	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 27+0+18

Units:	Topics:	No. of Lectures
I	Physical and Human Geography in Applied Geography, Applied geography: Application of concepts of physical geography to the real-world problems, Application of concepts of human concepts to the real-world problems.	9
II	Introduction to Field Survey, Definition and importance of field survey, Types of field surveys (reconnaissance, detailed, thematic), Preparation for field surveys (planning, equipment, safety protocols)	9
III	Data Collection and Analysis, Sampling and data collection techniques, Data recording and storage techniques Basic data analysis techniques (descriptive statistics, mapping)	9
IV	Field Survey Report Writing, Principles of effective report writing, Structure and organization of a field survey report Writing style and conventions,	9
V	Field trip and Report Submission, Selection of the study area, application of geographic concepts and techniques to a real-world problem, Development of a research question or hypothesis, Collection and analysis of data, Writing and submission of a comprehensive report	9

Books recommended:

1. Paul L. Knox and Sallie A. Marston, Human Geography: Places and Regions in Global Context, Pearson Prentice Hall, Upper Saddle River, 2010.
2. Richard G. Boehm, Applied Geography: A World Perspective, Routledge, London, 2013.
3. Nicholas A. Phelps, Research Methods in Geography: A Guide for Students, Routledge, London, 2012.
4. David A. Fennell, Fieldwork in Geography: A Practical Guide, Routledge, London, 2015.
5. Pauline E. McGuirk, Writing in Geography: A Guide for Students, Routledge, London, 2014.
6. D. R. Khullar, Geography: A Comprehensive Study, Tata McGraw-Hill, New Delhi, 2009.
7. S. C. Mishra, Economic Geography, Vikas Publishing House, New Delhi, 2011.
8. K. Siddhartha, Human Geography: Issues and Trends, Rawat Publications, Jaipur, 2012.
9. R. P. Misra, Applied Geography, Concept Publishing Company, New Delhi, 2013.
10. S. B. Singh, Research Methods in Geography, Anmol Publications, New Delhi, 2014.
11. R. K. Gupta, Cartography: Theory and Practice, Concept Publishing Company, New Delhi, 2016.

This course can be opted as an elective by the students of other discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1(After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Other Courses:

Mandatory Internship [GEO-23109]
Skill Enhancement Course (SEC): To be Chosen from POOL C
Value Added Course: To be Chosen from POOL D

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Exit Option: **Bachelor' Degree (Programme duration: Three years or six semesters) . [NHEQF Level 5.5]**

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SEMESTER-VII

Programme: B.A. (Honours/Honours with Research) in Geography	Year : B. A. Fourth year	Semester: VII
Pedagogy:		
Course Code : GEO-23110	Course/Paper Title : **Urban & Regional Planning**	

Course Objective & Outcome-

Course Objectives:

1. The students will be exposed to basic concepts of urban and regional planning.
2. The students will be conscious of pioneering thinkers in urban planning.
3. The students will be aware of the background theory of regional planning and its processes.

After completing this course, the students will be able to-

CO1. The students will learn about basic principles of urban and regional planning.
CO2. The students will know about pioneering thinkers in the field of urban planning.
CO3. The students will study about the different theoretical background and structure of the regional planning process.
CO4. The students will be able to understand regional development strategies, urban theory and regional planning strategies for backward areas like drought prone area, hill area, tribal area and rural area.
CO5. The students will be able to understand role of urban centres in regional planning and strategies for urban planning.

Credits: 3+0+2	Paper(core compulsory/Elective): Compulsory
Max. Marks: 40+60	Min. Marks: 35

Total Number of Lecture (Lecture-Tutorials-Practical); 45+0+60

Units:	Topics:	No. of Lecture
I	Concept of planning; Types of planning; Concept of regional planning; Types of regional planning; City as unit of regional planning; Approaches to regional planning; Historical development of regional planning- -developed world and developing world.	**9**
II	Methodology and Techniques of Regional Planning; Analytical techniques and procedural techniques; Principles of regionalization; Indications of development and data sources.	**9**
III	Measures of regional development and regional disparities; Planning processes- sectoral and spatial planning; short medium and perspective planning; Multi regional and multilevel planning.	**9**
IV	Regional development strategies: Export base theory, convergence theory, Growth poles and growth centres in regional development; Industrial dispersal and backward area development; Identification of planning regions, Regional planning strategies for backward areas—drought prone area hill area, tribal area and Rural area.	**9**
V	Role of urban centres in regional planning; urban scenario in India; city regions and their problems; Problems of poorly urbanized areas, strategies for urban planning; metropolitan planning, preparation of master plans, city region planning;	**9**

Suggested Readings:

Books Recommended

1. R. Abler et al: Spatial Organisation: The Geographers View of the World, Prentice Hall, Englewood Cliffs, NJ.
2. L.S. Bhat: Regional Planning in India, Statistical Publishing Society, Calcutta, 1973.
3. J. Friedmann and W. Alonso: Regional Development and Planning-A Reader, MIT Press, Cambridge, Mass 1967.
4. Arthur Glikson: Regional Planning and Development, Netherland, Universities Foundation for International Co-operation, Londlon, 1955.

5. E.A.J. Johnson: The Organisation pf Space in Developing Countries, Harward University Press, Cambridge, 1970.
6. A.R. Kuhlinski (Ed): Growth Poles and Growth Centres in Regional Planning, Mouton, The Hague, 1972.
7. R.P. Misra: et al: Regional Planning: Concepts, Techniques and Policies, University of Mysore, Mysore, 1969.
8. R.P. Misra et al: Multi Level Planning, Heritage Publishers, Delhi, 1930.
9. Peter Hall: Urban and Regional Planning, Penguin Books Ins. New York.
10. J.G.M. Hill Shorts: Regional Planning, University Press, Rotterdom.
11. John Glasson: Regional Planning, Hutchrson, London.
12. R.P. Misra: Development Issues of our time, Concept Pub. Co. New Delhi.
13. J. Alden and R. Morgan: Regional Planning: A Comprehensive View, Leonard Hill Books, Beds 1974.
14. J. Glassen: An Introduction to Regional Planning, Hutchron Educational, London.
15. P. Hall: Cities of Tomorrow, Updated Edition, Blackwell Publishers Ltd. Oxford 1996.

Suggested continuous E-Valuation methods-

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

[Practical Activity/Lab Activity]

Programme: B.A. (Honours/Honours with Research) in Geography	Year : B. A. Fourth year	Semester: VII
Pedagogy:		
Course Code : GEO-23110	Course/Paper Title : [Practical Activity/Lab Activity]	

Course Objective & Outcome-

Course Objectives:

1. To develop an understanding of remote sensing, GIS and GPS technologies and their potential applications.
2. To develop basic skills to interpret remote sensing images for various applications in geography.
3. To develop basic skills to use GIS for various applications in geography.

After completing this course, the students will be able to-

CO1. Overall understanding of potential of Remote Sensing, GIS and GPS.
CO2. Understanding of image interpretation and relating it with field observations.
CO3. Understanding of GIS analysis workflow and integrated applications in various domains of Geography.
CO4. The students will be able to understand application of GIS technology in utilities management and other fields.
CO5. The students will be able to understand different type of field surveying with different type of instruments.

Credits: 0+0+2	Paper(core compulsory/Elective): Compulsory
Max. Marks: 40+60 (30T+30P)	Min. Marks: 35

Total Number of Lecture(Lecture-Tutorials-Practical); 0+0+60

Units:	Topics:	Practical Hrs.
	GIS, Surveyingand Computer Assisted Cartography	
I	FUNDAMENTALS OF GIS: Concepts and definitions; Evolution and development of GIS; Computer environment for GIS; Elements of spatial data and their graphical representation- Thematic maps; Scales and symbolization;	**12**

	Map projections; spatial data models and data structure in GIS environment modelling surfaces, networks' terrain' relief and time –virtual maps.	
II	GIS Technology: Co-ordinate system-basic principles of cartography and computer assisted cartography for GIS; Remote Sensing data as a data source for GIS; Integration of GIS and Remote Sensing-GPS and GIS technology; Creation of location and attribute data bases-Vector and raster formats-digitizing and scanning-data editing and validation-decoding.	**12**
III	Data analysis and manipulation; measurement in GIS-classification, overlay analysis and intergradation of data-buffering- shortest path-interpolation-analysis of surfaces and networks; Modeling physical and environmental processes and human activities; visualization and mapping-forms of output: map, tables, report Cartographic principles and techniques of graphic representation-inbuilt tools and facilities in a GIS package.	**12**
IV	GIS as decision support system; Application of GIS technology in utilities management and other fields-GIS in land information system, urban management, environmental of management and emergency response system; Adoption of GIS technology in India; GIS project designing and implementation, Future prospects of GIS.	**12**
V	(a) Plane Table Surveying –triangulation, traversing and resection. (b) Use of Telescopic Alidade in Plane Table Surveying- measurement of distances and mapping. (c) Levelling- Differential and profile levelling (d) Use of Indian Clinometers- Determination of spotheghts; Interpolation of Contours. (e) Use of Theodolite – Triangulation and Traversing.	**12**

Suggested Readings:

Books Recommended

1. S. Aronoff: Geographic Information Systems: A Management Perspective, D.D.L. Publication, Ottawa, 1989.
2. P.A. Burrough: Principles of Geographic Information Systems for Land Resource Assessment, Oxford University Press, New York, 1986.
3. D.R. Fraser, Taylor: Geographic Information Systems, Pergaman Press, Oxford, 1991.
4. D.J. Peuquet and D.F.Marble: Introductory Readings in Geographic Information Systems, Taylor & Francis, Washington, 1990.
5. J. Star and J Estes: Geographic Information Systems: An Introduction, Prentice Hall, England Cliff. New Jersey, 1994.
6. Marks S. Monmonier: Computer- Assisted Cartography, Prentice Hall, Englewood Cliff, New Jersey, 1982.
7. I. Heywood et al: An Introduction to Geographical Systems, Pearson Education, Ltd. New Delhi, 2002.
8. Christopher B. Jones: Geographical Information Systems and Computer Cartography, Addison Wealey Longman Ltd. England, 1997.
9. David Martin: Geographical Information Systems: Socio-Economic Application, IInd Edition, Routledge London & New York, 1996.
10. William E. Huxhold: An Introduction to Urban Geographic Information Systems, Oxford University Press, New York.
11. John Pickles (Ed) 1995: Ground Truth: The Social Implications of Geographical Information Systems, the Guilford Press, New York, 1995.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

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[For Students Pursuing Hons. with Research]

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIth**
Pedagogy:		
Course Code: GEO-23111A	Course/Paper Title: **Research Methodology**	
Course Objective & Outcomes:		

Course Objectives:

1. To understand the concept of spatial data.
2. To learn the techniques of spatial data analysis.
1. This course attempts to introduce the students to the basic knowledge related to geographical field research design.
2. The course examines the questions related to data collection, methods and its analysis.
3. It also critically evaluates the dissertation based on field survey.

By the end of the Course, the student:

CO1. To know about different types of spatial data and the methods of data collection and compilation.
CO2. To perform diagrammatic and mathematical representation of spatial data.
CO3. To know about sampling frame and procedure.
CO4. Perform hypothesis testing.
1. The students will be able to understand basic concepts of field research methods and research design in geography.
2. The students will be able to do field work through practical experience and get skills of data collection methods and processing and analysis of obtained data.
3. The students will be able to write dissertation based on field work on given topic.
4. The students will be able to understand qualitative research design.
CO5. The students will be able to understand data analysis, data classification and tabulation.

Credit: 4+0+0	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Introduction to research in Geography: Concept and significance of research in geography; Philosophy and methods; Naturalism and anti-naturalism; realism and idealism.	**12**
II	Scientific Research; Inductive and deductive approaches; Research design; Formulation of research problem.	**12**
III	Introduction of research problems, objectives and research methodology. Critical review of the thematic literatures.	**12**
IV	Data collection and generation (indices, indicators); Field survey (sampling, design, representation, selection, overview); Analysis and interpretation of data and maps.	**12**
V	Hypothesis testing- Chi-square test, binomial test, t test, Mann-Whitney U test, Analysis of variance; Multivariate Analysis.	**12**

Suggested Readings:

Books Recommended

- Ahuja, Ram 2001. Research Methods. Rawat Publications, Jaipur and New Delhi.
- Bharati, S.K., 2020. *Geographic Information System and Remote Sensing Technique* (In Hindi), Vikas Publishing House, New Delhi.
- Denzin, N. K. and Lincoln, Y.S. (eds.) 2000. Handbook of Qualitative Research. Sage Publ., Thousand Oaks CA.
- Hay, Iain (ed.) 2005. Qualitative Research Methods in Human Geography. Oxford University Press, Melbourne. 2nd Ed.
- Kitchen, Rob and Tate, Nicholas J. 2009. Conducting Research into Human Geography: Theory, Methodology & Practice. Prentice Hall-Pearson, Harlow U.K. 2nd Ed.
- Knight, Peter G. and Parsons, Tony 2003. How to do your Essays Exams & Coursework in Geography and Related Disciplines. Nelson Thornes, Cheltenham U.K.
- Limb, Mclanie 2001. Qualitative Methodologies for Geographers. Issue and Debates. Arnold, London.
- Lofland, J. and Lofland, L.H. 1995. Analysing Social Setting. A Guide to Qualitative Observation and Analysis. Wadsworth, Belmont, CA.
- Lousenbury, J. F. and Aldrich, F.T. 1986. Introduction to Geographic Field Methods and Techniques. Charles E. Merrill Publishing. Company, Colombus.
- Mikkelsen, B. 1995. Methods for Development Work and Research: A Guide for Practitioners. Sage, London.

- Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Publs. Co., New Delhi.
- O'Leary, Zina 2004. The Essential Guide to Doing Research. The Vistaar Publ., New Delhi.
- Parsons, Tony and Knight, Peter G. 2005. How to do your Dissertation in Geography and Related Disciplines. Routledge, London. 2nd Ed.
- Sharma, P. R. et. al. (ed.) 2011. *Research Methodology Concept and Studies*, RK BOOKS 4215/, Ansari Road, Daryaganj, New Delhi, pp. 29-42.

This course can be opted by the students of pusuing Honours with Research in the Discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;
Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Or

[For Students Pursuing Honours Only]

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIth**
Pedagogy:		
Course Code: GEO-23111B	Course/Paper Title:	**History of Geographical Thought**

Course Objective & Outcomes:
Course Objectives:
1.Understanding historical evolution of geographic thought
2.Detailed analysis of different paradigms in geography
3.Evaluating the contemporary trends in geographical studies.
By the end of the Course, the student:

CO1. In depth understanding about the evolution of geographical thought
CO2. Detailed knowledge about the paradigms and debates in the geographical studies.
CO3. Understanding of recent traditions in geography.
CO4. To understand the development of geography in the modern classical period and different school of geography
CO5. To understand the dichotomies in geography and different approaches to the study of geography.

Credit: 4+0+0	Paper (Core Compulsory / Elective): Compulsory
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Meaning and scope of geography; Changing philosophy of geography; Geography as an interdisciplinary science; Geography as social science; Geography as a synthesizing science; Explanations in Geography	**12**
II	Development of Geography in the ancient classical period; Contributions of Greek, Roman, Indian and Chinese scholars.	**12**
III	Geography in the dark ages –contributions of Arab geographers; Period of renaissance age of explorations and discoveries and their impacts.	**12**
IV	Development of Geography in the modern classical period; Rise of philosophical and scientific analysis in geography; Contributions of German, French, British, American and Russian schools of thought.	**12**

V	Dichotomies in geography: physical vs human, systematic vs regional etc. Different approaches to the study of geography – areal differentiation, landscape, ecological and locational. Development of geography in the first half of the 20th century; fundamental concepts in physical, human, economic and settlement geography.	**12**

Suggested Readings:

Books Recommended

1. Minshull: The Changing Nature of Geography
2. Dickinson: The Makers of Modern Geography.
3. Chisholn: Human Geography-Evolution and Revolution
4. D. Harvey: Explanations in Geography, Edward Arnold.
5. East and Wooldridge: The Spirit and Purpose of Geography.
6. P. Haggett: Geography: A Modern Synthesis
7. M. Hussain: Evolution of Geographical Thought, Rawat Publication, Jaipur.
8. R.D. Dixit: Geographical Thought, Prentice Hall of India Pvt .Ltd. New Delhi.
9. R. Hartshrone: Perspective on the Nature of Geography, Rawat Publication, Jaipur.
10. R.J. Chorley & P. Haggett: Models in Geography
11. Majid Hussain: Bhaugolik Vichardharaon ka Itihas, Rawat Pub., Jaipur
12. R.D. Dixit: Bhaugolik Vichardhara, Prentice Hall of India, Pvt .Ltd. New Delhi.

This course can be opted by the students of pusuing Honours in the Discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Major (Elective): Choose Any Two Courses

Programme: B.A. (Honours/Honours with Research) in Economics	**Year: B. A. 4th Year**	**Semester: VIIth**
Pedagogy:		
Course Code: GEO-23112A	Course/Paper Title: **Climatology**	

Course Objective & Outcomes:

Course Objectives:

1. To understand various dimensions of climate and weather.
2. Detailed analysis of global atmospheric pressure and wind system.
3. To understand the causes of global climate change.

By the end of the Course, the student will be able to:

CO1.	Understand the elements of weather and climate, different atmospheric phenomena and climate change.
CO2.	Learn to associate climate with other environmental and human issues.
CO3.	To analyze the dynamics of the Earth's atmosphere and global climate and assess the role of man in global climate change.
CO4.	To understand the characteristics, classification and distribution of Cyclones.
CO5.	To understand the significance of earthquakes and tsunamis.

Credit: 4+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Meaning and scope of climatology; Atmosphere: Composition and structure; Insolation: determinants and distribution; Temperature: Controlling factors and Distribution; Processes of heating and cooling of the atmosphere.	**12**
II	Heat budget of earth and atmosphere; Temperature change; Air stability and its importance; Laws of Horizontal Motion and general Atmospheric Circulation, Monsoon, Jet Stream and their significance with reference to India	**12**
III	Precipitation: Theories of Precipitation Formation, forms and types; Air Masses: classification and modification; Fronts: source regions, types and associated weather.	**12**

IV	Cyclones: tropical and temperate; hurricanes; tornadoes; thunderstorm; Climatic classification: Köppen and Thornthwaite	**12**
V	Earthquakes and Tsunamis; Global Warming: causes and consequences; Climatic change: evidences and theories.	**12**

Suggested Readings:

Books Recommended

1. Barry, R.G. and Carleton, M. (2001): Synoptic and Dynamic Climatology, Routledge, London.
2. Chorley, R.J. (2001): Atmosphere, Weather and Climate. Methuen, London.
3. Critchfield, H.J. (2002): General Climatology. Prentice-Hall of India, New Delhi..
4. Finch, J. C. and Trewartha, G. T.: Elements of Weather and Climate. Prentice-Hall, London.
5. Kendrew, W.C. (1998): Climatology. Edward Arnold, London. 5th edition.
6. Lal, D.S.(1986): Climatology. Chaitanya Publications, Allahabad.
7. Oliver, J.E. and Hidore, J.J. (2003): Climatology: An Atmospheric Science, Pearson Education Private Ltd, Patparganj, Delhi.
8. Robinson, P. J. and Henderson, S. (1999): Contemporary Climatology, 2nd edition, Pearson Education Ltd., Harlow, UK.
9. Singh, M.B. (1998): Jalvayu Avam Samudra Vigyan. Tara Book Agency, Varanasi.
10. Singh, M.B. (1999): Jalvayu Avam Jal Vigyan. Tara Book Agency, Varanasi,. 11. Singh, S. (2005): Climatology. Prayag Pustak Bhawan, Allahabad.
12. Singh, S. (2006): Jalvayu Vigyan. Prayag Pustak Bhawan, Allahabad

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Or

Programme: B.A. (Honours/Honours with Research) in Economics	**Year: B. A. 4th Year**	**Semester: VIIth**
Pedagogy:		
Course Code: GEO-23112B	Course/Paper Title: **Population Geography**	

Course Objective & Outcomes:

Course Objectives:

1. It introduces the basic concepts of population Geography to the students.
2. An understanding of the importance and need of demographic data.
3. Spatial understanding of population dynamics.

By the end of the Course, the student will be able to:

- CO1. This paper would bring an understanding of Population Geography along with relevance of demographic data.
- CO2. The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population theories.
- CO3. The students would get an understanding of the dynamics of population.
- CO4. An understanding of the implications of population composition in different regions of the world.
- CO5. An appreciation of the contemporary issues in the field of population studies

Credit: 4+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Nature and scope of population geography; Sources and types of population data: census, sample survey and vital registration system.	**12**

II	World population: growth, causes and consequences; Factors affecting population distribution; Migration: types and determinants; Urbanization: trends and pattern.	**12**
III	Population dynamics: fertility and mortality, age and sex structure; Occupational structure; Demographic transition theory; human resource development: indicators and patterns.	**12**
IV	Population problems - over population, under population; optimum population; population planning and control -- theories of Malthus, Marx and Rostov.	**12**
V	INDIA:- Population growth; Distribution of population; Density types; Population problems; Population Policy; measures of population control in India.	**12**

Suggested Readings:

Books Recommended

1. Chandna, R. C. (2006): Geography of Population. Kalyani Publishers, New Delhi.
2. Clarke, J.I. (1972): Population Geography. Pergamon Press, Oxford.
3. Demko, G.J., Rose, H.M., and Schnell, G.A. (1970): Population Geography: A Reader, McGraw Hill, New York.
4. Dube, K.K. and Singh, M.B.(1994): Jansankhya Bhoogol, Rawat Publications, Jaipur.
5. Garnier, B.J. (1993): Geography of Population. 3rd edition. Longman, London.
6. Jones, H. R. (1981): A Population Geography. Harper and Row, New York.
7. Peters, G. L. and Larkin, R.P. (1983): Population Geography: Problems, Concepts and Prospects. Kendall/Hunt, Dubuque, IA.
8. Trewartha, G.T. (1985): A Geography of Population: World Patterns. John Wiley and Sons, New York.
9. Zelinsky, W. (1966): A Prologue to Population Geography. Prentice Hall, New Jersey.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Or

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIth**
Pedagogy:		
Course Code: GEO-23112C	Course/Paper Title: **Economic Geography**	

Course Objective & Outcomes:

Course Objectives:

1. To understand the concept of resources and spatial distribution of economic activities in the world.
2. To analyse the factors influencing location of economic activities with the help of relevant models.
3. To describe the influence of cultural and social processes on economic activities.

Course Outcome: By the end of the Course, the student will be able to:

CO1. To distinguish different types of economic activities and their utilities.
CO2. To understand the role of globalisation on spatial distribution of economic activities.
CO3. To understand the relevance of the theoretical models explaining location of economic activities.
CO4. To understand the relevance of major World transportation.
CO5. To understand the cultural and social processes of the world.

Credit: 4+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35
Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0	

Units:	Topics:	No. of Lectures
I	Meaning and approaches to economic geography; Main concepts of economic geography; Resource: concept and classification; Resource conservation.	**12**
II	Natural resources: soil, forest and water; Mineral resources: iron ore and bauxite; Major industries: iron and steel, and cotton textiles.	**12**
III	Power resources: coal and petroleum; Principal crops: wheat, rice and cotton.	**12**
IV	Agricultural regions of the world (Derwent Whittlesey); Theory of agricultural location (Von Thunen); Theory of industrial location (Weber);	**12**
V	World transportation: major trans-continental railways, and sea routes; WTO and International trade: patterns and trends; Major trade blocs: EEC, ASEAN; Effect of globalization on developing countries.	**12**

Suggested Readings:

Books Recommended

1. Alexander, J. W. (1988): Economic Geography. Prentice-Hall, New Delhi,.
2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, New York.
3. Clark,G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA.
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): Aarthik Bhugol Ke Mool Tattava, Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chattoraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff , New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.
10. Knowles, R, Wareing, J. (2000): Economic and Social Geography Made Simple, Rupa and Company, New Delhi.
11. Sokal, Martin 2011. Economic Geographics of Globalisation: A short Introduction. Cheltenham, UK: Edward Elgar.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

MINOR ELECTIVE: To be Chosen by Students of Other Discipline

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIth**
Pedagogy:		
Course Code: **MGEO07**	Course/Paper Title: **GIS & Its Applications**	

Course Objective & Outcomes:

Course Objectives:

1. To make students acquainted with standard GIS techniques through hands-on practical exercises
2. To enable students to use GIS as a decision support system for different geographical applications
3. To enable students to prepare thematic maps using GIS tools.

By the end of the Course, the student will be able to:

CO1. Understanding of geospatial data management and analysis functions
CO2. Understanding of analytical modelling with GIS
CO3. Understanding of thematic map design using GIS
CO4. The students will be able to understand the GIS data standards and Digital Elevation Model (DEM).
CO5. To understand the Integration of Remote sensing and GIS as well as GIS project design and planning methodologies.

Credit: 3+0+0	Paper (Core Compulsory / Elective): **Elective (minor)**
Max. Marks: 40+60	Min. Passing Marks: 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Definition and Evolution of GIS; Components of GIS; Issues in GIS: user, technology, data and application; Recent trends in GIS; Mobile GIS	**9**
II	Geographical data: types and characteristics; Spherical and plane coordinate systems in GIS; datum in geo-referencing	**9**
III	Digital representation of geographic data: Data structure, spatial data model, raster and vector models.	**9**
IV	GIS data standards: concepts and components; Digital Elevation Model (DEM): characteristics and applications.	**9**
V	Integration of Remote sensing and GIS; GIS database management systems; Applications of GIS.	**9**

Books Recommended:

1. Bonham, Carter G.F. (1995): Information Systems for Geoscientists – Modelling with GIS. Pergamon, Oxford.
2. Burrough, P.A. and McDonnell, R. (1998): Principles of Geographic Information Systems. Oxford University Press, Oxford.
3. Chang, K.T. (2003): Introduction to Geographic Information Systems. Tata McGraw Hill Publications Company, New Delhi.
4. Chauniyal, D. D. (2004): Remote Sensing and Geographic Information Systems. (in Hindi). Sharda Pustak Bhawan, Allahabad.
5. Demers, M. N. (2000): Fundamentals of Geographic Information Systems. John Wiley and Sons, Singapore.
6. ESRI (1993): Understanding GIS. Redlands, USA
7. Fraser Taylor, D.R. (1991): Geographic Information Systems. Pergamon Press, Oxford.
8. George, J. (2003): Fundamentals of Remote Sensing. Universities Press Private Ltd, Hyderabad.
9. Girard, M. C. and Girard, C. M. (2003): Processing of Remote Sensing Data. Oxford and IBH, New Delhi.
10. Glen, E. M. and Harold, C. S. (1993): GIS Data Conversion Handbook. Fort Collins, Colorado, GIS Word Inc.
11. Goodchild, M.F.; Park, B. O. and Steyaert, L. T. (eds.) (1993): Environmental Modelling with GIS. Oxford University Press, Oxford.
12. Guptill, S.C., and Morrison, J.L. (1995): Elements of Spatial Data Quality. Elsevier/ Pergamon, Oxford.
13. Heywood, I. (2003): An Introduction to Geographical Information Systems. 2nd edition, Pearson Publishing Company, Singapore.
14. Korte, G. M. (2002): The GIS Book. On Word Press: Thomson Learning, New York and Singapore.
15. Lo, C.P. and Yeung, A. K. W. (2002): Concepts and Techniques of Geographic Information Systems. Prentice Hall of India, New Delhi.
16. Longley, P. and Batty, M. (eds.) (1996): Spatial Analysis: Modelling in a GIS Environment. GeoInformation International, Cambridge.
17. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. (1999): Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.
18. Maguirre, D. J.; Michael F. G. and David W. R. (1999): Geographical Information Systems:
19. Principles and Application. Geo Information International, Vol.2, Longman Publication., New York.
20. Martin, D. (1996): Geographic Information Systems: Socioeconomic Implications. Routledge, London.
21. Michael F. G. and Karan K. K. (ed.) (1990): Introduction to GIS. NCGIA, Santa Barbara, California.
22. Ralston, B. A. (2002): Developing GIS Solutions with Map Objects and Visual Basic. OnWord Press: Thompson Learning, New York and Singapore.
23. Reddy, M. A. (2001): Textbook of Remote Sensing and Geographic Information Systems. B. S. Publications., Hyderabad.
24. Ripple, W. J. (ed.) (1989): Fundamentals of Geographic Information Systems: A Compendium. ASPRS/ ACSM, Falls Church.
25. Siddiqui, M.A. (2005): Introduction to Geographical Information Systems, Sharda Pustak Bhawan, Allahabad.
26. Star, J. and Estes, J. (1990): Geographic Information Systems – An Introduction. Prentice-Hall, Englewood Cliffs, New Jersey.
27. Worboys, M. F. (1995): GIS: A Computing Perspective. Taylor and Francis, London.

Bhatta,B. (2010), Remote Sensing and GIS, Oxford University Press, New Delhi.

This course can be opted as an elective by the students of other discipline.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ; Assignment/Practical/Projects – 05 Marks Internal Class Test – 10 Marks Attendance/Behavior – 05 Marks

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SEMESTER-VIII

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIIth**
Pedagogy:		
Course Code: GEO-23113	Course/Paper Title:	**Remote Sensing & Geographical Information System**

Course Objective &Outcomes:

Course Objectives:

1. To apprise the students to various aspects of Aerial photographs.
2. To introduce about Remote Sensing and GIS.
3. To teach about the important elements of the Geospatial technology. .
4. Student will be familiar with modern techniques in Geography.
5. Students will be prepared to apply their skills in professional careers.

Course Outcome: By the end of the Course, the student will be able to:

CO1. Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and use the tools and methods of GIS.
CO2. Students will demonstrate their competence to work individually and as a team to develop and present a client-driven GIS solution.
CO3. Student will be familiar with modern techniques in Geography.
CO4. Student will be familiar with application of GIS.
CO5. Students will be prepared to apply their skills in professional careers.

Credit: 5+0+0	Paper (Core Compulsory / Elective): Core Compulsory
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 75 + 0 + 0

Units:	Topics:	No. of Lectures
I	Remote Sensing: Concept and Scope; Electro-magnetic Radiation: Characteristics, Spectral regions and Bands; Interaction with earth surface features and atmosphere; Spectral Signature.	**15**
II	Types of Remote Sensing: Air borne and Space borne; Aerial photos: Types and Characteristics; Remote Sensing satellites: Platforms and sensors.	**15**
III	Visual and Digital image processing techniques; Remote Sensing application in resource mapping and environmental monitoring.	**15**
IV	FUNDAMENTALS OF GIS: Concepts and definitions; Evolution and development of GIS; Computer environment for GIS; GIS as decision support system.	**15**
V	Application of GIS technology in utilities management and other fields-GIS in land information system, urban management, environmental of management and emergency response system; Adoption of GIS technology in India; GIS project designing and implementation, Future prospects of GIS.	**15**

Suggested Readings:

Books Recommended

1. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London

2. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4th edition. John Wiley and Sons, New York
3. Campbell, J.B. (2002): Introduction to Remote Sensing. 5thedition, Taylor and Francis, London.
4. Bhatta, B. (2010): Remote Sensing and GIS, Oxford University Press, New Delhi.
5. Nag Prithvish and Kudrat M. (1998): Digital Remote Sensing, Concept Publishing Company, New Delhi
6. S. Aronoff: Geographic Information Systems: A Management Perspective, D.D.L. Publication, Ottawa, 1989.
7. P.A. Burrough: Principles of Geographic Information Systems for Land Resource Assessment, Oxford University Press, New York, 1986.
8. D.R. Fraser, Taylor: Geographic Information Systems, Pergaman Press, Oxford, 1991.
9. D.J. Peuquet and D.F.Marble: Introductory Readings in Geographic Information Systems, Taylor & Francis, Washington, 1990.
10. J. Star and J Estes: Geographic Information Systems: An Introduction, Prentice Hall, England Cliff. New Jersey, 1994.
11. Marks S. Monmonier: Computer- Assisted Cartography, Prentice Hall, Englewood Cliff, New Jersey, 1982.
12. I. Heywood et al: An Introduction to Geographical Systems, Pearson Education, Ltd. New Delhi, 2002.
1. 13. Christopher B. Jones: Geographical Information Systems and Computer Cartography, Addison Wealey Longman Ltd. England, 1997.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Major (Elective) : Choose any One Courses

Programme: B.A. (Honours/Honours with Research) in Geography	Year : B. A. Fourth year	Semester: VIII
Pedagogy:		
Course Code : GEO-23114A	Course/Paper Title : **Earths Dynamic Systems**	
Course Outcome- **Course Objectives:** 1. To understand the theories of the earth's origin and its continents. 2. To understand the mechanism of plate movements of the earth. 3. To understand the origin and formation of physical landforms on the surface of the earth. After completing this course, the students will be able to- CO1. Understand earth's tectonic and structural evolution, gain knowledge about earth's interior and develop an idea about concept of plate tectonic and resultant landforms. CO2. Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms. CO3. Understanding crustal mobility and tectonics; with special emphasis on their role in landform development. CO4. To understand the concept of cycle of erosion and its related theories. CO5. To understand the processes and resultant landforms of different physical features.		
Credits: 3+0+0	Paper (core compulsory/Elective): Elective	
Max. Marks: 60+40	Min. Marks: 35	
Total Number of Lecture (Lecture-Tutorials-Practical); 45+0+0		

Units:	Topics:	No. of Lecture
I	Diastrophism; Origin of Continents, Ocean, Basins; Theories of Lothian Green, F.B. Taylor, A.G. Wegener; Isostasy; Volcanism and associated landforms.	**9**
II	Folding and faulting; Formation of folded mountains; Theories of mountain building, geosynclinal theory of Kober.	**9**
III	Thermal convection theory of Jeffreys, Convection current theory of Holmes, sliding continent theory of Daly, Plate Tectonic Theory.	**9**
IV	Concept of cycle of erosion by W. M. Davis and W. Penck; Interruption in normal cycle of erosion and poly cyclic relief.	**9**
V	Mass movement of rock wastes; Mecharism of coastal, ground water and periglacial processes and resultant landforms.	**9**

Suggested Readings:

Books Recommended

1. A.L. Bloom: Geomorphology, Prentice Hall, New Delhi.
2. B.W. Sparks Geomorphology Longmans, London
3. C. Embleton and C.A. M.King: Glacial and Preiglacial Geomorphology, Edward Arnold Publishers, London
4. M.J. Bradshaw et. al: The Earths Changing Suface, ELBS,U.K.
5. R.J. Chorley, et. al. Geomorphology, Methuen, London.
6. R.J. Small: The Study of Landforms, Cambridge University Press, Cambridge.
7. Savindra Singh: Geomorphology, Prayag Pustak Bhawan, Allahabad
8. V.S.Kale and A. Gupta: Introduction to Geomorphology, Orient Longman Ltd. Hyderabad.
9. Savindra Singh Bhuakriti Vigyan,Vasundhara Prakashan, Gorakhpur.
10. D.S. Lal: Climatology, Sharda Pustak Bhawan, Allahabad
11. G.T. Trewartha and L.A. Horn: An Inroduction to Climate, International Studies.
12. H.J. Critchfield: General Climatology, Prentice Hall of India, New Delhi.
13. P.K. Das: Monsoons, National Book Trust, New Delhi
14. R.J. Chorley and R.G. Barry: Atmosphere, Weather and Climate, Mathuen & Co. Ltd. London.
15. Savindra Singh : Climatology, Prayag Pustak Bhawan, Allahabad.
16. Savindra Singh :Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Or

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIIth**
Pedagogy:		
Course Code: GEO-23114B	Course/Paper Title: **Agricultural Geography**	

Course Objectives & Outcomes:

Course Objectives:

1. To understand the correlation between agricultural activity and its determinants.
2. Classify various types of agricultural system in the world and differentiate.
3. Discuss the problems and prospects of agriculture and understand the concept of sustainable agricultural development.

Course Outcome: By the end of the Course, the student will be able to:

CO1. To understand the world agricultural systems, agricultural regions and agricultural land use and differentiate among them.
CO2. To understand the physical, social, economic and cultural factors responsible for specific agricultural system and land use.
CO3. To understand the political factors responsible for agricultural development.
CO4. To understand the Agro-climatic regions and green revolution of India.
CO5. To understand the land and institutional reforms, agricultural planning and policies in India.

Credit: 3+0+0	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Meaning and scope of agricultural geography; Approaches to agricultural geography; Physical, cultural and institutional factors affecting agriculture.	**9**
II	Crop concentration and crop diversification; Delineation of crop combination regions; Agricultural regions of the world; Detailed study of subsistence, plantation, commercial and mixed farming	**9**
III	Agricultural land-use and carrying capacity; Land use pattern with special reference to India; Measures of agricultural efficiency and agricultural productivity.	**9**
IV	Agro-climatic regions of India, Green revolution in India; Second generation reforms in Indian agriculture.	**9**
V	Land and institutional reforms; Organic and contract farming; Agricultural planning and policies in India.	**9**

Suggested Readings:

Books Recommended

1. Dumont, R.(1970): Types of Rural Economy: Studies in World Agriculture, Douglas Manin, London Methuen.
2. Gregor, H. P. (1970): Geography of Agriculture. Prentice-Hall, New York. 3. Husain, M. (1996): Systematic Agricultural Geography, Rawat Publications, Jaipur.
4. Misra, R. P. (1967): Diffusion of Agricultural Innovations, University of Mysore, Mysore.
5. Mohammad, A.(1978): Studies in Agricultural Geography, Rajesh Publications, New Delhi
6. Morgan, W. B. and Norton, R.J.C. (1971): Agricultural Geography. Methuen, London.
7. Sauer, O. C. (1969): Agricultural Origins and Dispersals. MIT Press, Cambridge.
8. Shafi, M. (2006): Agricultural Geography, Pearson Education, New Delhi.
9. Sen, Sudhir (1975): Reaping the Green Revolution. Tata McGraw-Hill, New Delhi
10. Shafi, M.(2000): Agricultural Geography of South Asia, McMillan, Delhi
11. Singh, B.B. (1979) : Krishi Bhugol. Tara Publications, Varanasi.
12. Singh, J. and Dhillon, S.S. (2000): Agricultural Geography. Tata McGraw Hill, New Delhi.
13. Singh, S. (1994): Agricultural Development in India: A Regional Analysis, Kaushal Publications, Shillong.
14. Symons, L. (1967): Agricultural Geography. George Bell and Sons, London.
15. Tarrant J. R. (1974): Agricultural Geography. John Wiley and Sons, New York.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

Or

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B. A. 4th Year**	**Semester: VIIIth**
Pedagogy:		

Course Code: GEO-23114C	Course/Paper Title: **Cultural Geography**

Course Objectives & Outcomes:

Course Objectives:

1. To understand the culture and its development as well as differences in various cultures of the world.
2. To understand the origin and dispersal of human races and its related cultural diffusion.
3. To understand the social, economic and political influences on world cultures.

By the end of the Course, the student will be able to:

CO1. To understand the origin of cultures and factors responsible for the origin and development of specific types of culture.
CO2. To identify cultural hearths and process of diffusion of cultures to the various parts of the world.
CO3. To understand the role of modernization and globalization on existing cultural regions and predict the possible changes.
CO4. To be able to understand the Racial composition of India and Major Religions of the world.
CO5. To be able to understand the major cultural realms of the world and space adjustment.

Credit: 3	Paper (Core Compulsory / Elective): Elective
Max. Marks : 40+60	Min. Passing Marks : 35

Total Number of Lectures (Lecture – Tutorials – Practical): 60 + 0 + 0

Units:	Topics:	No. of Lectures
I	Concept of Culture; Meaning and scope of cultural geography; Processes of Cultural evolution; Cultural changes—perception.	**9**
II	Behaviouralism and cultural relativism; Major concepts—cultural diffusion, material culture, cultural landscape, cultural ecology, acculturation.	**9**
III	Origin and dispersal of man; Cultural hearths; Primitive culture; Agricultural practices, Agricultural innovations; industrial and technological revolution; globalization and cultural development, cultural conflict.	**9**
IV	Origin and dispersal of human races; zone-strata theory; Racial composition of India, Major Religions of the world; Religion and economic development; Major linguistic families; world distribution of major languages; Religious composition of India.	**9**
V	Environment and Culture; environmental perception; Resources and culture; space adjustment and space intensification; major cultural realms of the world; Major cultural regions of the world.	**9**

Suggested Readings:

Books Recommended

1. J.E. Spencer and W.L. Thomas: Introducing Cultural Geography John Willey and Sons, New York, 1973.
2. P.J.Wagner and M.W.Mikesell: Readings in Cultural Geography, University of Chicago Press, 1962
3. F. Rostlund: Outline of Cultural Geography, California Book Co. Berkley.
4. S. N. Dicken & F. R. Pitts: Introduction to Cultural Geography: A Study of Man and his Environment, Gown and Co. Walthan. Mass. 30.
5. C.L. Saltar: The Cultural Landscape, Durbury Press, Clifurnia,1971.
6. J.M. Broek: Geography of Mankind, Mc. Graw Hill, New York..
7. T.G. Jordon & L. Lawntree: The Human Mosaic-A Thematic Introduction to Cultural Geography, Harper and Row, New York.
8. G.F. Carter: Man and the Land-A Cultural Geography; Reinhardt, New York, 1968.
9. F.E. Dohrs, L.M. Sommers (Ed): Cultural Geography-Selected Readings, Dunn-Donnal\y Publishing Corporation, New York, 1967.
10. David E. Sopher: Geography of Religions, Prentice Hall, New Jersey.
11. E.F. Frazier: Race and Cultural Contacts in the Modern World, A.A. Knopf, New York 1957.
12. R. Coulborn: The Origin of Civilized Societies, Princeton University Press, Prelection, N.J. 1959.
13. P.L. Wagner: Environment of People, Prentice Hall, Englewood, Cliffts 1972.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ; Assignment/Practical/Projects – 05 Marks Internal Class Test – 10 Marks Attendance/Behavior – 05 Marks

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Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B.A. 4th Year**	**Semester: VIIIth**
Pedagogy:		
Course Code: GEO-23115A	Course/Paper Title:	**Dissertation /Research Project & Viva voce [For Hons. with Research Students]**
Course Objective & Outcomes: **Course Objectives:** 1. According to the specialization the assigned topic has to be studied in a particular area. 2. To understand what a case study is and how to perform an inductive or deductive study. Course Outcome: After completing this course, the students will be able to -		
CO1. According to the specialization the students learn to take up a case study and generalize the phenomena studied. CO2. To learn about the research methodology and relevance of the case study. CO3. To apply the knowledge and techniques learnt in report writing and data analysis.		
Credit: 0+0+12		Paper (Core Compulsory / Elective): Elective
Max. Marks: 100		Min. Passing Marks: 50
Total Number of Lectures (Lecture – Tutorials – Practical): 0+0+12		

Units:	Topics:	Practical Hrs.
I	Dissertation/ Research Project & Viva Voce	360

Suggested Readings:

1. "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches" by John W. Creswell and J. David Creswell
   This book covers various research designs and approaches, helping you select the most appropriate one for your dissertation. It's suitable for both qualitative and quantitative research.
2. "The Craft of Research" by Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams
   This book is a comprehensive guide to the research process, from formulating research questions to presenting findings. It offers practical advice and strategies for effective research.
3. "How to Write a Better Thesis" by David Evans, Paul Gruba, and Justin Zobel
   Geared towards graduate students, this book provides practical guidance on planning, writing, and revising a thesis or research project. It covers a range of disciplines and research methods.
4. "Completing Your Qualitative Dissertation: A Roadmap from Beginning to End" by Linda Dale Bloomberg and Marie F. Volpe
   Focused on qualitative research, this book offers step-by-step guidance on the entire dissertation process, including choosing a topic, data collection, analysis, and writing.
5. "Writing Your Dissertation in Fifteen Minutes a Day" by Joan Bolker
   This book offers practical strategies to help you overcome writer's block and procrastination while writing your dissertation. It emphasizes consistent writing habits.
6. "The Dissertation Journey: A Practical and Comprehensive Guide to Planning, Writing, and Defending Your Dissertation" by Carol M. Roberts
   This book provides a holistic approach to the dissertation process, covering topics such as time management, literature review, research design, and defense preparation.
7. "How to Design, Write, and Present a Successful Dissertation Proposal" by Elizabeth A. Wentz
   Focusing on the proposal stage, this book offers guidance on crafting a clear and effective dissertation proposal, including outlining research questions and methodologies.

8. "Writing the Successful Thesis and Dissertation: Entering the Conversation" by Irene L. Clark
   This book emphasizes the importance of contributing to scholarly conversation in your field and provides practical advice on how to structure and present your research.
9. "The Literature Review: Six Steps to Success" by Lawrence A. Machi and Brenda T. McEvoy
   A comprehensive guide to conducting a literature review, a crucial component of any research project or dissertation.
10. "Demystifying Dissertation Writing: A Streamlined Process from Choice of Topic to Final Text" by Peg Boyle Single
    This book offers a straightforward and organized approach to the dissertation process, helping you break down the tasks and stay on track.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks

Internal Class Test – 10 Marks

Attendance/Behavior – 05 Marks

Or

Programme: B.A. (Honours/Honours with Research) in Geography	**Year: B.A. 4th Year**	**Semester: VIII th**
Pedagogy:		
Course Code: GEO-23115B	Course/Paper Title:	**Field Survey, Report Writing & Viva- Voce [For Students Pursuing Honours in the Discipline]**

Course Objective & Outcomes:

Course Objectives:

1. According to the specialization the assigned topic has to be studied in a particular area.
2. To understand what a case study is and how to perform an inductive or deductive study.

Course Outcome: After completing this course, the students will be able to -

CO1. According to the specialization the students learn to take up a case study and generalize the phenomena studied.

CO2. To learn about the research methodology and relevance of the case study.

CO3. To apply the knowledge and techniques learnt in report writing and data analysis

Credit: 0+0+12	Paper (Core Compulsory / Elective): Elective
Max. Marks : 100	

Total Number of Lectures (Lecture – Tutorials – Practical): 0+0+12

Units:	Topics:	Practial Hrs.
I	**Field Survey, Report Writing & Viva- Voce**	360

Suggested Readings:

11. "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches" by John W. Creswell and J. David Creswell
    This book covers various research designs and approaches, helping you select the most appropriate one for your dissertation. It's suitable for both qualitative and quantitative research.
12. "The Craft of Research" by Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams
    This book is a comprehensive guide to the research process, from formulating research questions to presenting findings. It offers practical advice and strategies for effective research.
13. "How to Write a Better Thesis" by David Evans, Paul Gruba, and Justin Zobel
    Geared towards graduate students, this book provides practical guidance on planning, writing, and revising a thesis or research project. It covers a range of disciplines and research methods.
14. "Completing Your Qualitative Dissertation: A Roadmap from Beginning to End" by Linda Dale Bloomberg and Marie F. Volpe

Focused on qualitative research, this book offers step-by-step guidance on the entire dissertation process, including choosing a topic, data collection, analysis, and writing.

15. "Writing Your Dissertation in Fifteen Minutes a Day" by Joan Bolker
    This book offers practical strategies to help you overcome writer's block and procrastination while writing your dissertation. It emphasizes consistent writing habits.
16. "The Dissertation Journey: A Practical and Comprehensive Guide to Planning, Writing, and Defending Your Dissertation" by Carol M. Roberts
    This book provides a holistic approach to the dissertation process, covering topics such as time management, literature review, research design, and defense preparation.
17. "How to Design, Write, and Present a Successful Dissertation Proposal" by Elizabeth A. Wentz
    Focusing on the proposal stage, this book offers guidance on crafting a clear and effective dissertation proposal, including outlining research questions and methodologies.
18. "Writing the Successful Thesis and Dissertation: Entering the Conversation" by Irene L. Clark
    This book emphasizes the importance of contributing to scholarly conversation in your field and provides practical advice on how to structure and present your research.
19. "The Literature Review: Six Steps to Success" by Lawrence A. Machi and Brenda T. McEvoy
    A comprehensive guide to conducting a literature review, a crucial component of any research project or dissertation.
20. "Demystifying Dissertation Writing: A Streamlined Process from Choice of Topic to Final Text" by Peg Boyle Single
    This book offers a straightforward and organized approach to the dissertation process, helping you break down the tasks and stay on track.

Suggested continuous evaluation Methods –

Continuous Internal Evaluation shall be of 40% in two Steps in a Semester , C1 (After 45 Days) & C2 (After 90 Days) respectively. Marks of Each Internal Assesment will be distributed as under ;

Assignment/Practical/Projects – 05 Marks
Internal Class Test – 10 Marks
Attendance/Behavior – 05 Marks

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Completion of the Programme: Bachelor's degree with Honours/Honours with Research in Major Discipline at the Successful Completion of the Fourth Year (Eight Semesters) of the multidisciplinary Four-year Undergraduate Programme. **[NHEQF Level 6.0]**

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