DEPARTMENT OF GEOGRAPHY
SCHEME AND SYLLABUS OF EXAMINATION FOR
UG Programme (Multidisciplinary) : Scheme-A of Geography
Duration 3 Years (6 Semesters) w.e.f. Academic Session 2023-24

Semester – I

Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
Core Courses									
GEO-23/CC - 101	**Introduction to Geography of India**	4	3 : 0 : 1 : 5	20	10	50	20	40	100
CC – B1	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
CC – C1	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
Minor/Vocational Courses									
GEO-23/ M 101	Physical Geography of India	2	2 : 0 : 0 : 2	15	--	35	--	20	50
Multidisciplinary Courses									
GEO-23/MDC - 101	Geography in Everyday Life	3	2 : 0 : 1 : 4	15	05	35	20	30	75
Ability Enhancement Courses									
AEC- 01		2	2 : 0 : 0 :2	15	-	35	-	20	50
Skill Enhancement Courses									
SEC- 01	Basics of IT Tools	3	2 : 0 : 1 : 4	15	05	35	20	30	75
Value Added Courses									
VAC-01 VAC-01	Human Values and Ethics (50%) Environmental Studies (50%)	2	2 : 0 : 0 : 2 2 : 0 : 0 : 2	15	-	35	-	20	50
	Total	**24**							**600**

Semester – II

Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
Core Courses									
GEO-23/CC – 202	**Fundamentals of Physical Geography**	4	3 : 0 : 1 : 5	20	10	50	20	40	100
CC – B2	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
CC – C2	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
Minor/Vocational Courses									
GEO-23/ M 202	Human Geography of India	2	2 : 0 : 0 : 2	15	--	35	--	20	50
Multidisciplinary Courses									
GEO-23/MDC - 202	Geography of the Environment	3	2 : 0 : 1 : 4	15	05	35	20	30	75
Ability Enhancement Courses									
AEC- 02		2	2 : 0 : 0 : 2	15	-	35	-	20	50
Skill Enhancement Courses									
GEO-23/SEC- 202	Computer Aided Cartography	3	2 : 0 : 1 :4	15	05	35	20	30	75
Value Added Courses									
VAC-02 VAC-02	Human Values and Ethics (50%) Environmental Studies (50%)	2	2 : 0 : 0 : 2 2 : 0 : 0 : 2	15	-	35	-	20	50
	Total	**24**							**600**

Internship Courses

Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
INT 201	Internship of 4-6 weeks duration after 2nd semester	4	0 : 0 : 4	--	30	--	70	40	100

Exit Option

Under Graduate Certificate of Multidisciplinary (**with 52 Credits**)

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Semester – III

Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
Core Courses									
GEO-23/CC – 303	**Fundamentals of Human Geography**	4	3 : 0 : 1 : 5	20	10	50	20	40	100
CC – B3	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
CC – C3	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
Minor/Vocational Courses									
GEO-23/ M 303	Geography of Haryana	4	3 : 0 : 1 : 5	20	10	50	20	40	100
Multidisciplinary Courses									
GEO-23/MDC - 303	Weather Forecasting	3	2 : 0 : 1 : 4	15	05	35	20	30	75
Ability Enhancement Courses									
AEC- 03		2	2 : 0 : 0 :2	15	-	35	-	20	50
Skill Enhancement Courses									
GEO-23/SEC- 303	Exploration of Geographical Landscapes	3	2 : 0 : 1 :4	15	05	35	20	30	75
Value Added Courses									
--	--	--	--	--	--	--	--	--	--
Total		**24**							**600**

Semester – IV

Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
Core Courses									
GEO-23/CC – 404	**Basics of Economic Geography**	4	3 : 0 : 1 : 5	20	10	50	20	40	100
CC – B4	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
CC – C4	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
Minor/Vocational Courses									
GEO-23/ M 404(V)	Fundamentals of Aerial Photography	4	3 : 0 : 1 : 5	20	10	50	20	40	100
Multidisciplinary Courses									
--	--	--	--	--	--	--	--	--	--
Ability Enhancement Courses									
AEC- 04		2	2 : 0 : 0 :2	15	-	35	-	20	50
Skill Enhancement Courses									
--	--	--	--	--	--	--	--	--	--
Value Added Courses									
GEO-23/VAC-403	Understanding Climate Change	2	2 : 0 : 0 : 2	15	-	35	-	20	50
Total		**20**							**500**

Internship Courses

Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
INT 402	Internship of 4-6 weeks duration after 4th semester (If not done after 2nd semester)	4	0:0:4	--	30	--	70	40	100

Exit Option

Under Graduate Diploma of Multidisciplinary (**with 96 Credits**)

Semester – V									
Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
Core Courses									
GEO-23/CC – 505	**Statistical Methods in Geography**	4	3 : 0 : 1 : 5	20	10	50	20	40	100
CC – B5	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
CC – C5	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
Minor/Vocational Courses									
GEO-23/M 505(V)	Fundamentals of GIS	4	3 : 0 : 1 : 5	20	10	50	20	40	100
Multidisciplinary Courses									
--	--	--	--	--	--	--	--	--	--
Ability Enhancement Courses									
--	--	--	--	--	--	--	--	--	--
Skill Enhancement Courses									
INT201/INT402	Internship done after 2nd or 4th semester	4						40	100
Value Added Courses									
--	--	--	--	--	--	--	--	--	--
Total		**20**							**500**

Semester – VI									
Course Code	Course Title	Credit	L : T : P: CH	Internal Marks		External Marks		Total Marks	
				Th	Pr	Th	Pr	Min	Max
Core Courses									
GEO-23/CC – 606	**Basics of Remote Sensing**	4	3 : 0 : 1 : 5	20	10	50	20	40	100
CC – B6	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
CC – C6	Choose one from Social/Physical Science Pool	4	--	--	--	--	--	40	100
Minor/Vocational Courses									
GEO-23/M 606	Geography of Tourism	4	3 : 0 : 1 : 5	20	10	50	20	40	100
GEO-23/ M 607(V)	Making of Maps	4	3 : 0 : 1 : 5	20	10	50	20	40	100
Multidisciplinary Courses									
--	--	--	--	--	--	--	--	--	--
Ability Enhancement Courses									
--	--	--	--	--	--	--	--	--	--
Skill Enhancement Courses									
--	--	--	--	--	--	--	--	--	--
Value Added Courses									
--	--	--	--	--	--	--	--	--	--
Total		**20**							**500**

Exit Option
Bachelor of Art/Science (Multidisciplinary) **(with 132 Credits)**

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Chaudhary Ranbir Singh University, Jind
Syllabus for Under Graduate Programmes as per NEP- 2020
(Multiple Entry – Exit, Internships and Choice Based Credit System) w.e.f.2023-24

CC-A1			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	I		
Name of the Course	Introduction to Geography of India		
Course Code	GEO-23/CC - 101		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. provide knowledge about the physiography of our nation. 2. understand the agriculture and irrigation system. 3. understand the basic demographic structure and literacy. 4. provide awareness about the resources and industries of our nation. 5* acquire knowledge of socio-economic and demographic data		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for each sub-part), to be answered in 15-20 words. There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Geological history and regions of India. 2. Physiographic divisions of India.	12
II	3. Drainage System and Soils of India. 4. Climate and Natural Vegetation of India.	11
III	5. Population: distribution, density and growth. 6. Population composition: sex ratio, rural and urban, literacy, work force, language and religion.	11
IV	7. Resources: Production and distribution of iron ore, coal, petroleum, hydro power, solar and thermal power 8. Industries: iron and steel, sugar and cotton textile; transport and communication	11
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks Practical Record: A project file consisting of 10 exercises on the below mentioned themes: - 1. Drawing of Isopleth lines on map of India (1 exercise) 2. Landuse pattern of India (pie chart-1 exercise) 3. Population distribution and density map of India (choropleth and dot method- 2 exercise) 4. Occupational structure, Sex ratio, Literacy, Population of selected metro cities of India (any 2 exercise) 5. Age and sex structure (pyramid diagram) 6. Rainfall deviation diagram of at least 20 years (1 exercise) 7. Cropping intensity and irrigation intensity (mono and bi-variate- any 2 exercise)	30

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Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**End-Term Examination:** **50 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Deshpande C. D. (1992) India: A Regional Interpretation, ICSSR, New Delhi.
2. Hussain M. (1992) Geography of India, Tata McGraw Hill Education
3. Johnson, B. L. C., ed. (2001) Geographical Dictionary of India. Vision Books, New Delhi.
4. Mamoria C. B. (1980) Economic and Commercial Geography of India, Shiva Lal Agarwala.
5. Mandal R. B. (ed.), (1990) Patterns of Regional Geography – An International Perspective. Vol. 3 – Indian Perspective.
6. Sdyasuk Galina and P Sengupta (1967) Economic Regionalisation of India, Census of India
7. Sharma, T. C. (2003) India - Economic and Commercial Geography. Vikas Publ., New Delhi. 6. Singh R. L. (1971) India: A Regional Geography, National Geographical Society of India.
8. Singh, Jagdish (2003) India - A Comprehensive & Systematic Geography, GyanodayaPrakashan, Gorakhpur.
9. Pathak, C. R. (2003) Spatial Structure and Processes of Development in India. Regional Science Assoc., Kolkata.
10. Sharma, T.C. (2013) Economic Geography of India. Rawat Publication, Jaipur
11. Spate O. H. K. and Learmonth A. T. A. (1967) India and Pakistan: A General and Regional Geography, Methuen.
12. Tirtha, Ranjit (2002) Geography of India, RawatPubls., Jaipur & New Delhi.
13. Tiwari, R.C. (2007) Geography of India. PrayagPustakBhawan, Allahabad

*Applicable for courses having practical components.

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CC-M1			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	I		
Name of the Course	Physical Geography of India		
Course Code	GEO-23/M-101		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the geological and physiographic structure of India. 2. enrich skills about drainage system and various hydrological regimes. 3. understand the climate and its characteristics. 4. acquire knowledge about different types of flora and soils found in India. 5* attain skills in solving various practical problem associated with physical aspects of India.		
Credits	Theory	Practical	Total
	02	00	02
Contact Hours	02	00	02
Max. Marks:50 **Internal Assessment Marks: 15** **End-Term Exam Marks: 35**		**Time:2 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Physiographic structure and divisions. 2. Regions of India	7
II	3. Drainage system of India. 4. Climate of India.	7
III	5. Natural vegetation: classification, distribution and inter-relationships 6. Biosphere reserves of India.	8
IV	7. Soils: classification, distribution and inter-relationships. 8. Geological and Climatological Disasters.	8
V*	NA	

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** • Class Participation: **04 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **04 Marks** • Mid-Term Exam: **07 Marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **NIL** • Mid-Term Exam: **NIL**	**End-Term Examination:** **35 Marks** **NIL**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Deshpande, C.D. (1992) India-A Regional Interpretation, Northern Book Depot, New Delhi.
2. Hussain Majid (2015) Geography of India, Mc Graw Hill Education.
3. Shafi, M. (2000) Geography of South Asia, McMillan and Company, Calcutta.
4. Singh, Gopal (2006) Geography of India, Atma Ram and Sons, New Delhi.
5. Singh, R.L. (1971) India: A Regional Geography, National Geographical Society, India, Varanasi.

*Applicable for courses having practical components

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MDC-1			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	I		
Name of the Course	Geography in Everyday Life		
Course Code	GEO-23/MDC-101		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the geographical phenomena observed in its surroundings. 2. enrich skills about various elements that compose the surrounding environment. 3. understand the climate and its characteristics. 4* attain skills in solving various practical problem associated with geography.		
Credits	Theory	Practical	Total
	02	01	03
Contact Hours	02	02	04
Max. Marks:75 **Internal Assessment Marks: 15+05 =20** **End-Term Exam Marks: 35+20 = 55**		**Time:3 hours**	

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Part B-Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Solar System: location, shape and uniqueness of earth. 2. Formation of Day/night, Seasons and Various movements of Earth.	7
II	3. Continents and Oceans on Earth. 4. Latitude, Longitude, Times zones and International dateline.	7
III	5. Atmosphere: structure and composition. 6. Elements of weather and climate.	8
IV	7. Types of Vegetation. 8. Climate change and human being.	8
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks --- Practical Record: A project file consisting of 11 exercises on the below mentioned themes: - 1. Solar System (1 exercises). 2. Solstices and Equinoxes (2 exercise) 3. Antipodal arrangement of land and water (1 exercise) 4. Drawing of latitudes and longitudes (2 exercise) 5. Time zones of World (1 exercise) 6. Calculation of time in eastern and western hemisphere (2 exercise) 7. International Date Line (advancement/reduction of day (2 exercise)	30

Suggested Evaluation Methods

Internal Assessment:	End-Term Examination:
➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **05 Marks**	**35 Marks**

➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **05 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. NCERT (2017), The Earth: Our Habitat, National Council for Education, Research and Training, Sri Aurobindo Marg, New Delhi.
2. Ojha, S K (2022) World Geography, Baudhik Prkashan, Pryagraj, UP.
3. Husain Majid (2018) Indian and World Geography, McGraw Hill Education (India) Private Limited, Channai.

*Applicable for courses having practical components.

CC-A2			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	II		
Name of the Course	Fundamentals of Physical Geography		
Course Code	GEO-23/CC - 202		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Acquire the knowledge about basic concepts of geo-tectonics. 2. Understand about the agents and processes of change on the surface of earth. 3. Enrich knowledge about atmosphere and its climate. 4. Attain knowledge about ocean surface configuration and circulation in oceanic water. 5* Attain skills in solving practical problems associated with physical geography.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time: 3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for each sub-part), to be answered in 15-20 words. There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Interior of the earth, geological time scale, rocks and their types. 2. Theory of isostasy, continental drift and plate tectonic.	12
II	3. Degradational processes: weathering, mass wasting and resultant landforms. 4. Landforms generated by following geomorphic agents: river, under-ground water, wind and glacier.	11
III	5. Weather and climate: Atmosphere-composition and structure. 6. Atmospheric temperature, pressure and moisture: measurement and distribution.	11
IV	7. Surface configuration of ocean floors: surface relief of the Pacific, Atlantic and Indian Ocean. 8. Circulation of oceanic waters: current of the Pacific, Atlantic and Indian Ocean.	11
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks Practical Record: A project file consisting of 9 exercises on the below mentioned themes: - 1. Identification and basic characteristics of rock: granite, basalt, limestone, shale, sandstone, slate, phyllite, schist, quartzite (2 exercise). 2. Extraction of physiographic information from Survey of India 1:50000 topographical maps of mountain, plateau and plain regions (2 exercises). 3. Preparation of climograph, hythergraph and hyetograph (3 exercises). 4. Interpretation of a daily weather map of India: Pre-Monsoon, Monsoon and Post-Monsoon (2 exercises).	30

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Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**End-Term Examination:** **50 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Barry, RG and Chorley, RJ (1998) Atmosphere, Weather and Climate, Routledge, London.
2. Bunnett, RB (1987) Physical Geography in Diagrams, Pearson Education, New Delhi.
3. Critchfield, H (2002) General Climatology, Prentice-Hall of India, New Delhi.
4. Kale, V and Gupta, A (2001) Element of Geomorphology, Oxford University Press, Calcutta.
5. Khullar, DR (2014) Physical Geography, Kalyani Publishers, New Delhi.
6. Monkhouse, FJ (1960) Principles of Physical Geography. Hodder and Stoughton, London.
7. Singh, S (1998) Geomorphology, Prayag Publication, Allahabad.
8. Singh, S (2012) Physical Geography, Prayag Publication, Allahabad.
9. Thornbury, WD (1969) Principles of Geomorphology, John Wiley and Sons, New York.
10. Trewartha, GT (1981) An Introduction to Climate, Mc-Graw Hill, New York.

*Applicable for courses having practical components.

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CC-M2			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	II		
Name of the Course	Human Geography of India		
Course Code	GEO-23/M-202		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M2		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the demographic characteristics of India. 2. Enrich knowledge about population composition of India. 3. Understand the Resource enrichment of India. 4. Acquire knowledge about Industrial landscape of India. 5* attain skills in solving various practical problem associated with socio-economic aspects of India.		
Credits	Theory	Practical	Total
	02	00	02
Contact Hours	02	00	02
Max. Marks:50 **Internal Assessment Marks: 15** **End-Term Exam Marks: 35**		**Time:2 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Population of India: Growth and its measures. 2. Population of India: Distribution of Density	7
II	3. Population composition: Sex ratio, literacy rate, work force. 4. Ethnic composition of India: Language and religion.	7
III	5. Energy resources of India: Production and distribution of Coal, Petroleum, hydropower and solar power. 6. Industrial Resources of India: Iron-ore, Cotton and Sugarcane.	8
IV	7. Industrial development of India: Iron and steel, sugar and textile. 8. Transportation in India: Road, Railways, Waterways.	8
V*	NA	

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** • Class Participation: **04 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **04 Marks** • Mid-Term Exam: **07 Marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **NIL** • Mid-Term Exam: **NIL**	**End-Term Examination:** **35 Marks** **NIL**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Deshpande, C.D. (1992) India-A Regional Interpretation, Northern Book Depot, New Delhi.
2. Hussain Majid (2015) Geography of India, Mc Graw Hill Education.
3. Shafi, M. (2000) Geography of South Asia, McMillan and Company, Calcutta.
4. Singh, Gopal (2006) Geography of India, Atma Ram and Sons, New Delhi.
5. Singh, R.L. (1971) India: A Regional Geography, National Geographical Society, India, Varanasi.

*Applicable for courses having practical components.

MDC-2			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	II		
Name of the Course	Geography of the Environment		
Course Code	GEO-23/MDC-202		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the geographical environment observed in its surroundings. 2. enrich skills about various elements that compose the surrounding environment. 3. understand the climate and its characteristics. 4* attain skills in solving various practical problem associated with geography.		
Credits	Theory	Practical	Total
	02	01	03
Contact Hours	02	02	04
Max. Marks:75 **Internal Assessment Marks: 15+05 =20** **End-Term Exam Marks: 35+20 = 55**		**Time:3 hours**	

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Part B-Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Nature and Scope of Environmental Geography. 2. Determinants of Environment.	11
II	3. Concept of Ecology and ecosystem. 4. Trophic structure and energy flow.	11
III	5. Environmental pollution: Meaning causes and impacts of Air, Water and Land pollution.	11
IV	6. Mitigating efforts of Environmental degradation: Stockholm conference, earth summit and Kyoto protocol.	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks --- Practical Record: A project file consisting of 8 exercises on the below mentioned themes: - 1. Make inventory of natural vegetation of neighborhood environment (2 exercise). 2. Make inventory of wild animals of neighborhood environment (2 exercise) 3. Classification and mapping of area under forest in Haryana (1 exercise) 4. Trend in cattle population of Haryana (1 exercise) 5. Mapping National Parks and sanctuaries of India (2 exercise)	30

Suggested Evaluation Methods

Internal Assessment:	**End-Term Examination:**
➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **05 Marks**	**35 Marks**
➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **05 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Chandna R. C., (2002) Environmental Geography, Kalyani, Ludhiana.
2. Cox, C.D. and Moore, P.D. (1993) Biogeography: An Ecological and Evolutionary Approach, Blackwell.
3. MOEF (2006) National Environmental Policy-2006, Ministry of Environment and Forests, Government of India.
4. Odum, E. P. et al. (2005) Fundamentals of Ecology, Ceneage Learning India.
5. Singh S. (1997) Environmental Geography, PrayagPustakBhawan. Allahabad.
6. UNEP (2007) Global Environment Outlook: GEO4: Environment for Development, United Nations Environment Programme.

Hindi Reading List

8. Singh, Savindra (2001) ParyavaranBhugol, PrayagPustakBhawan, Allahabad.
9. Singh, Shri Narayan (1993) VatavaranBhugol, Tara Book Agency.

*Applicable for courses having practical components.

5.2.2024

SEC-2			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	II		
Name of the Course	Computer Aided Cartography		
Course Code	GEO-23/SEC-202		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	SEC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the nature, scope and development of cartography. 2. Enrich skills about various cartographic methods used in geographical applications. 3. Understand different types of map and their uses. 4* attain skills in solving various practical problem associated with geography.		
Credits	Theory	Practical	Total
	02	01	03
Contact Hours	02	02	04
Max. Marks:75 **Internal Assessment Marks: 15+05 =20** **End-Term Exam Marks: 35+20 = 55**		**Time:3 hours**	

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Afternoon 5.2.2024

Part B-Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Nature and Scope of cartography 2. Recent advancement in cartography	11
II	3. Types and characteristics of statistical diagrams a. One dimensional diagram (bar and line) b. Two dimensional diagram (rectangular, square and circle) c. Three dimensional diagram (sphere, cube)	11
III	4. Types and characteristics of Maps a. Chorochromatic maps b. Choroschematic maps c. Choropleth maps d. Dot maps e. Isopleths maps	11
IV	5. Introduction to Computer Aided Cartography a. Introduction to Q-GIS b. Characteristics, Advantage and Disadvantages of Raster and Vector Data c. Characteristics and uses of Point, Line and Polygon d. Elements of Maps	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks --- Practical Record: A project file consisting of 11 exercises on the below mentioned themes: - 1. Introduction to MS Excel 2. One Dimensional Diagrams in MS Excel (2 Exercises) 3. Two Dimensional Diagrams in MS Excel (2 Exercise) 4. Scatter Plot in MS Excel (1 Exercise) 5. Making of Shape file in Q-GIS (3 exercise) 6. Digitization of Map in Q-GIS (1 exercise) 7. Composition of Map in Q-GIS (2 exercise)	30

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Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **05 Marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **05 Marks** • Mid-Term Exam: **NIL**	**End-Term Examination:** **35 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Sarkar, A. (2015 Textbook of Practical Geography, Orient Blackswan Pvt. Ltd., New Dlelhi.
2. Jensen, J. R. (2013) Remote Sensing of the Environment: An Earth Resource Perspective (2nd Edition), Pearson Education India.Singh,
3. Singh L. R. (2005) Elements of Practical Geography, Kalyani Publishers, New Delhi.
4. Misra, R. P. and Ramesh, A. (1999) Fundamentals of Cartography, Concept Publishing Company, New Delhi.
5. Tutorials by Department of Science and Technology. https://dst-iget.in/index.php/tutorialdetails/1/1

*Applicable for courses having practical components.

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CC-A3			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	III		
Name of the Course	Fundamentals of Human Geography		
Course Code	GEO-23/CC - 303		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. provide knowledge about the physiography of our nation. 2. understand the agriculture and irrigation system. 3. understand the basic demographic structure and literacy. 4. provide awareness about the resources and industries of our nation. 5* acquire knowledge of socio-economic and demographic data		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course		
Instructions for Paper-Setter Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for each sub-part), to be answered in 15-20 words. There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.		
Unit	**Topics**	**Contact Hours**
I	1. Definition, nature and scope of human geography. 2. Development of human geography, approaches to study human geography, branches and relation with other social sciences.	12
II	3. Human race: Meaning, classification of races and their global diffusion and distribution. 4. Religion: Meaning, nature and classification. Evolution and global distribution of major religions in the world.	11
III	5. Organization of space: central place theory, agricultural location model and industrial location model. 6. Distribution, density and growth of population: Determinants and world pattern.	11
IV	7. World pattern of development: economy and polity 8. World pattern of migration: streams and determinants	11
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks	30
	Practical Record: A project file consisting of 10 exercises on the below mentioned themes: - 1. Composition of major religions and language of the world (2 exercises). 2. Methods of representing population distribution and density (2 exercises). 3. Flow diagram of migration streams of world population (2 excercise). 4. Spatial and temporal growth of world population (2 exercises). 5. Mapping Literacy of world for atleast 2 periods (2 exercise)	

Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**End-Term Examination:** **50 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Agarwal, A et al (1999) The Citizen's Fifth Citizen's Report, Centre for Science & Environment, New Delhi.
2. Alexander, John. W. (1988) Economic Geography, Prentice Hall of India Ltd., New Delhi.
3. Bergwan, Edward E. (1985) Human Geography: Culture Connections and Landscape, Prentice-Hall, New Jersey.
4. Carr, M. Patterns (1987) Process and Change in Human Geography, McMillan Education, London.
5. Carter, H. (1972) The study of Urban Geography, Edward Arnold, London.
6. Chandna, R.C. (2016) A Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
7. DeBlij, H. J. (1996) Human Geography, Culture, Society and Space, John Wiley, New York.
8. Fellman, J.L. (1997) Human Geography-Landscapes of Human Activities, Brown and Benchman Pub., USA.
9. Hassan, I. ( ) Population Geography: A Systematic Exposition, Routledge, London.
10. Hussain, M. (2018) Human Geography, Rawat, Publication, Jaipur.
11. McBride, P.J. (1996): Human Geography; Systems Patterns and Change, Nelson, UK and Canada.
12. Michael, C. (1996) New Patterns: Process and Change in Human Geography, Nelson.
13. Qazi, S.A. (2010) Population Geography, APH publishers.
14. Ramachandra, R. (1992) Urbanization and Urban System in India, Oxford, London.
15. Sharma, Y.K. (2017). Human Geography, Narain publishers.
16. Singh, N. (2015) A Text Book of Human Geography, Rajesh Publishing.

*Applicable for courses having practical components.

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CC-M3			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	III		
Name of the Course	Geography of Haryana		
Course Code	GEO-23/M-303		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the geological and physiographic structure of Haryana. 2. enrich skills about drainage system and various hydrological regimes. 3. understand the climate and its characteristics. 4. acquire knowledge about different types of flora and soils found in India. 5* attain skills in solving various practical problem associated with physical aspects of India.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Physiography of Haryana. 2. Relief and climate of Haryana	11
II	3. Drainage and natural vegetation of Haryana. 4. Agriculture: cropping pattern and challenges.	11
III	5. Population: distribution, density and growth. 6. Population composition: structure and literacy.	11
IV	7. Major industries and industrial centres of Haryana. 8. Transportation development of Haryana.	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks	30
	Practical Record: A project file consisting of 5 exercises on the below mentioned themes: - 1. Mapping of land use/land cover map of Haryana (1 exercises). 2. Population distribution map of Haryana (1 exercises). 3. Population density map of 2001 and 2011 (2 exercises). 4. Mapping of major industrial regions of Haryana (1 exercises).	

Suggested Evaluation Methods

InternalAssessment:	**End Term Examination:**
➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **10 Marks**	**50 Marks**
➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **10 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

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Part C-Learning Resources
1. Census of India (1981) Regional Division in Haryana. 2. Census of India (2001) Administrative Atlas of Haryana. 3. Deshpande CD (1992) India: A Regional Interpretation, ICSSR and Northern Book Centre. 4. FICCI (2007) State of Infrastructure in Haryana. 5. Singh, Jasbir (1976) Agricultural Geography of Haryana, Vishal Publishers, Kurukshetra. 6. Singh, R.L. (1971) India-A Regional Geography, National Geographical Society, Varanasi 7. Spate OHK and ATA Learmonth (1971) India and Pakistan, Methuen, London. 8. Tirtha R and Gopal Krishna (1996) Emerging India, Rawat Publications, Jaipur. 9. Regional division of Haryana, census of India, Chandigarh

*Applicable for courses having practical components.

MDC-3			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	III		
Name of the Course	Weather Forecasting		
Course Code	GEO-23/MDC-303		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the weather phenomena. 2. Enrich skills about various elements that compose the surrounding environment. 3. Understand the climate and its characteristics. 4* attain skills in solving various practical problem associated with weather.		
Credits	Theory	Practical	Total
	02	01	03
Contact Hours	02	02	04
Max. Marks:75 **Internal Assessment Marks: 15+05 =20** **End-Term Exam Marks: 35+20 = 55**		**Time:3 hours**	

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Part B-Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. What is weather and climate? 2. Elements of weather and climate and their measurement.	11
II	3. The concept and Uses of Isohyets, Isobars, Isotherms, Isoneph, Isohume.	11
III	4. Concept of High and Low pressure system. 5. Introduction to Prevailing, Seasonal and Local winds.	11
IV	6. Introduction to Weather map of India. 7. Interpretation of Weather maps.	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks --- Practical Record: A project file consisting of 6 exercises on the below mentioned themes: - 1. Inventory of symbols of weather map (1 exercise). 2. General forecasting of weather; precipitation and cloudiness (2 exercise) 3. Interpretation of pressure phenomena (1 exercise) 4. Interpretation of wind direction and speed (2 exercise)	30

Suggested Evaluation Methods

Internal Assessment:	**End-Term Examination:**
➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **05 Marks**	**35 Marks**
➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **05 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Barry, RG and Chorley, RJ (1998) Atmosphere, Weather and Climate, Routledge, London.
2. Bunnett, RB (1987) Physical Geography in Diagrams, Pearson Education, New Delhi.
3. Critchfield, H (2002) General Climatology, Prentice-Hall of India, New Delhi.
4. Singh, G (2005) Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi
5. Singh, L.R and Singh, R (1973) Map work and practical geography, Central Book Allahabad
6. Singh, R.L (2005) Elements of Practical Geography. Kalyani Publishers, New Delhi. India.

*Applicable for courses having practical components.

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SEC-3			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	III		
Name of the Course	Exploration of Geographical Landscapes		
Course Code	GEO-23/SEC-303		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	SEC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the nature of physical and cultural landscapes 2. internalize the processes shaping natural and cultural landscapes 3. understand the transformation process of urban and rural landscapes. 4. foster an appreciation for the environment and the role of human interactions in shaping landscapes. 5* enhance students' observational, analytical, and critical thinking about their surrounding environment		
Credits	Theory	Practical	Total
	02	01	03
Contact Hours	02	02	04
Max. Marks:75 **Internal Assessment Marks: 15+05 =20** **End-Term Exam Marks: 35+20 = 55**		**Time:3 hours**	

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Part B-Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Landscapes: concept, definition. 2. The basis for classification of landscapes.	11
II	3. Major land surface features: continents and oceans and their characteristics.	11
III	4. Natural landscapes and their formation processes. 5. Cultural landscapes and their formation processes.	11
IV	6. Urban landscapes and their formation process. 7. Rural landscapes and their formation process.	12
V*	Instructions for external practical examiner: This is field based study and all the students have to prepare a project report individually. The external examiner shall be conducting viva-voce on the project report. Distribution of marks for evaluation; 1. Field based project report = 10 marks 2. Viva-Voce = 10 marks	30
	Practical Record: Project report of a landscape by individual students based on field survey focusing on 1. Type and characteristics of the landscape 2. Identification of factors transforming landscape	

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **05 Marks**	**End-Term Examination:** **35 Marks**

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➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **05 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Alanen, A.R. and Melnick, R.Z. (2000) Preserving cultural landscape in America.
2. Hayden, D(1995)The power of place: Urban landscape as public history, The MIT press.
3. Hess, D. (2013)Physical Geography: A landscape appreciation, Pearson.
4. Hoss, T.A. (2016) Appreciating physical landscape: Three hundred years of geo-tourism.
5. Johnson, L.M. and Hunn, E.S. (2010) Landscape ethno ecology(concepts of biotic and physical space).
6. Terry, AG.(1989) The Physical landscape, McGraw-Hill, USA.
7. Sinha, A.(2020) Cultural landscape of India: Imagined, enacted and Reclaimed, University of Pittsburg press, USA.

*Applicable for courses having practical components.

5.2.2024

CC-A4			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	IV		
Name of the Course	Basics of Economic Geography		
Course Code	GEO-23/CC - 404		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. provides knowledge about the fundamental concepts of economic geography. 2. acquisition of knowledge about resources and their conservation. 3. enrichment of knowledge about distribution of crops, minerals and energy resources 4. acquaintance with global industries, transport, communication and trade 5* attain skills in solving practical problems associated with economic geography.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course		
Instructions for Paper-Setter Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for each sub-part), to be answered in 15-20 words. There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.		
Unit	**Topics**	**Contact Hours**
I	1. Nature and scope of economic geography and its relationship with economics. 2. Classification of economic activities and their impact on environment.	12
II	3. Natural resources: types, bases of classification. 4. Utilization and conservation of natural resources.	11
III	5. World distribution of food crops (rice and wheat), commercial crops (cotton and sugarcane) and plantation crops (tea and coffee). 6. World distribution and production of coal, petroleum and natural gas, iron ore and bauxite.	11
IV	7. World distribution and production of iron and steel industry, textile industry, sugar industry and automobile industry. 8. International trade and transport and major oceanic trade routes.	11
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks Practical Record: A project file consisting of 8 exercises on the below mentioned themes: - 1. Choropleth mapping of state-wise variation in GDP and PCI (2 exercises). 2. Computation of rail and road transport network accessibility index (2 exercises). 3. Time series analysis of world food, commercial and plantation crops production and trade using polygraph method (2 exercises). 4. Representation of coal and sugar production of major countries of the world using compound bar diagram (1 exercise).	30

	5. Representation of decadal production of major petroleum and iron and steel producing countries using multiple bar diagram (1 exercise).	

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**End-Term Examination:** **50 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Gautam, A. 2010. Advanced Economic Geography. Sharda PustakBhawan, Allahabad.
2. Hartshorne, T. A. and Alexander, J. W. 2001. Economic Geography. Prentice Hall of India. New Delhi.
3. Hudson, R. 2005. Economic Geography. Sage Publication, New Delhi.
4. Jones, C. F. and Drakenwarld, G. G. Economic Geography. The Macmillan and Company. New York.
5. Knowled, R. and Wareing, J. 1992. Economic and Social Geography. Rupa and Company, Calcutta.
6. Knox, P. 2003. The Geography of World Economy. Arnold, London.
7. Saxena, H.M. 2013. Economic Geography. Rawat Publications, Jaipur.
8. Thomas, RS. 1962. The Geography of Economic Activities. McGraw Hill, New York.
9. Wheeler, J.O. and Muller, P.O. 1995. Economic Geography. John Wiley and Sons. New York.

*Applicable for courses having practical components.

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CC-M4(V)			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	IV		
Name of the Course	Fundamentals of Remote Sensing		
Course Code	GEO-23/M-404(V)		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M4(V)		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the basics of aerial photography. 2. enrich skills about technique of remote sensing. 3. understand the various satellite systems of India. 4. acquire knowledge about interpretation of images. 5* attain skills in solving various practical problem associated with aerial photography and remote sensing.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20+10 = 30** **End Term Exam Marks: 50+20 = 70**		**Time: 03 Hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Aerial Photography: History, advantage, and limitations. 2. Types of Aerial photograph.	11
II	3. Geometry of Aerial photograph. 4. Interpretation of Aerial photographs.	11
III	5. Uses of UAV (Drone) in Agriculture and Settlement Analysis.	11
IV	6. Stages of Remote Sensing. 7. Electromagnetic Radiation and Spectrum.	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks --- Practical Record: A project file consisting of 5 exercises on the below mentioned themes: - 1. Identification and mapping of Principal and conjugate principal point (1 exercise). 2. Determination of Flight line (1 exercise) 3. Interpretation and mapping of landuse from Aerial photograph (1 exercise) 4. Interpretation and mapping of landuse from the satellite image (2 exercise)	30

Suggested Evaluation Methods

Internal Assessment:	**End-Term Examination:**
➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks**	**50 Marks**
➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

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Part C-Learning Resources
Recommended Books/e-resources/LMS: 1. Bhatta, B. (2010) Remote Sensing and GIS, Oxford University Publications. 2. Chauniyal, D.D. (2010) Sudur Samvedan evam Bhogolik Suchana Pranali, Sharda PustakBhawan, Allahabad 3. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept. 4. Singh, G (2005) Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi 5. Singh, L.R and Singh, R (1973) Map work and practical geography, Central Book Allahabad 6. Singh, R.L (2005) Elements of Practical Geography. Kalyani Publishers, New Delhi. India.

*Applicable for courses having practical components.

VAC-3			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	IV		
Name of the Course	Understanding Climate Change		
Course Code	GEO-23/VAC-403		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the nature, scope and development of climate. 2. enrich skills about various climatic features. 3. understand different types of map and their uses. 4* attain skills in solving various practical problem associated with geography.		
Credits	Theory	Practical	Total
	02	00	02
Contact Hours	02	00	02
Max. Marks:50 **Internal Assessment Marks:15** **End-Term Exam Marks:35**		**Time:2 hours**	

Part B-Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Understanding climate 2. Elements of climate	7
II	3. Basis of classification of climate 4. Various types of climate	7
III	5. The concept of climate change 6. Tools of reconstruction of past climate	8
IV	7. Evidences of climate change 8. Effects of climate change	8
V*	NA	

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **05 Marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **NIL** • Mid-Term Exam: **NIL**	**End-Term Examination:** **35 Marks** **NIL**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Barry, RG and Chorley, RJ (1998) Atmosphere, Weather and Climate, Routledge, London.
2. Khullar, DR (2014) Physical Geography, Kalyani Publishers, New Delhi.
3. Singh, S (2020) Jalvayu Vigyan, Pravalika Publications, Allahabad.

*Applicable for courses having practical components.

5.2.2024

CC-A5			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	V		
Name of the Course	Statistical Methods in Geography		
Course Code	GEO-23/CC - 505		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. provide knowledge about basic statistical methods. 2. understand the uses of statistical methods in Geography. 3. understand the computation of different statistical tools. 4. provide awareness about the statistics in Geography. 5* acquire knowledge of statistical tools and techniques		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for each sub-part), to be answered in 15-20 words. There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Type of Data and descriptive statistics: Histograms, ogives. 2. Measures of Central tendency: Mean, Median, Mode	12
II	3. Measures of Dispersions: Quartile deviation, mean deviation and standard deviation. 4. Measures of inequalities: Lorenz curve.	11
III	5. Sampling: its types and application in Geography. 6. Probability distribution and models.	11
IV	7. Correlation: Scatter diagram, rank correlation and correlation coefficient. 8. Properties of Normal distribution.	11
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks	30
	Practical Record: A project file consisting of 8 exercises on the below mentioned themes: - 1. Preparation of Bar diagrams (3 exercise). 2. Simple and Polyline graph (2 exercise). 3. Plotting of data through scatter plot (1excercise). 4. Making of maps using statistical diagrams (2 exercises).	

Suggested Evaluation Methods

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Internal Assessment:	End-Term Examination:
➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks**	**50 Marks**
➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. S. Gregory, 2006. Statistical Methods and the Geographers, Longman, London.
2. C. B. Gupta, 2004. An Introduction to Statistical Methods, Vikas Publishing House, Delhi.
3. R. J. Johnston,1989. Multivariate Statistical Analysis in Geography, Longman Scientific and Technical, John Wiley & Sons (4th edition).
4. Aslam Mahmood, 1999. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
5. Saroj K. Paul, 1998. Statistics for Geoscientists : Techniques and Applications, Concept Publishing Company, New Delhi.
6. A. Reza Hoshmand, 1998. Statistical Methods for Environmental and Agricultural Sciences, CRC Press, New York (second edition).
7. Jack Levin and J.A. Fox, 2006. Elementary Statistics in Social Research, 10th edition, Peason Education, New Delhi.
8. Rogerson. P.A. 2010. Statistical Methods for Geography, (A Student's Guide), 3rd Edition, Sage Publication, New Delhi
9. Ashis Sarkar, 2013. Quantitative Geography: Techniques and Presentations, Orient Blackswan Private Limited - New Delhi.

*Applicable for courses having practical components.

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CC-M5(V)			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	V		
Name of the Course	Fundamentals of GIS		
Course Code	GEO-23/M-505(V)		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M5		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the basics of Geographic Information System. 2. enrich skills about functioning of GIS. 3. understand the tools used in GIS. 4. acquire knowledge about application of GIS. 5* attain skills in solving various geographical problems using GIS.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. GIS: Definition, scope and development. 2. Components and elements of GIS	11
II	3. Sources of data in GIS. 4. Type of data: spatial and non-spatial.	11
III	5. Models in GIS: Raster and vector. 6. Advantages and disadvantages of raster and vector models.	11
IV	7. Application of GIS in agriculture and forestry mapping	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks	30
	Practical Record: A project file consisting of 8 exercises on the below mentioned themes: - 1. Introduction to QGIS (1 exercises). 2. Making of shapefiles in QGIS (3 exercises). 3. Digitization in QGIS (3 exercises). 4. Map composition (1 exercise)	

Suggested Evaluation Methods

InternalAssessment:	**End Term Examination:**
➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **10 Marks**	**50 Marks**
➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **10 Marks** • Mid-Term Exam: **NIL**	**20 Marks**

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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Bhatta, B. (2010) Remote Sensing and GIS, Oxford University Publications.
2. Burrough, P.A., and McDonnell, R.A. (2000) Principles of Geographical Information System-Spatial Information System and Geo-statistics. Oxford University Press
3. Chauniyal, D.D. (2010) SudurSamvedanevamBhogolikSuchanaPranali, Sharda PustakBhawan, Allahabad
4. Heywoods, I., Cornelius, S and Carver, S. (2006) An Introduction to Geographical Infromation system. Prentice Hall.
5. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.
6. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.

*Applicable for courses having practical components.

5-2-2024

CC-A6			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Basics of Remote Sensing		
Course Code	GEO-23/CC - 606		
CourseType: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. provide knowledge about Remote sensing and GIS. 2. understand the uses of these techniques in Geography. 3. understand the latest technology in GIS. 4. provide awareness about Remote sensing and GIS. 5* acquire knowledge of functioning of remote sensing and GIS		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for each sub-part), to be answered in 15-20 words. There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Introduction to Aerial photographs: Their types and advantages. 2. Elements of Aerial photo interpretation.	12
II	3. Introduction to Remote Sensing: Electromagnetic spectrum and processes of Remote Sensing. 4. Types of Satellite, Indian Space programs and their data products.	11
III	5. Introduction to GIS: Definition, purpose, and components. 6. Spatial and Non spatial data: their characteristics and sources.	11
IV	7. Application of Remote Sensing and GIS in Urban Planning and Resource management. 8. Uses of UAV (Drone) in Agriculture and Settlement Analysis	11
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks Practical Record: A project file consisting of 13 exercises on the below mentioned themes: - 1. Identification and mapping of Principal and conjugate principal point and Determination of Flight Line (2 exercise). 2. Interpretation and mapping of landuse from Aerial photograph (1 exercise) 3. Interpretation and mapping of landuse from the satellite image (2 exercise) 5. Introduction to QGIS (1 exercises). 6. Making of shapefiles in QGIS (3 exercises). 7. Digitization in QGIS (3 exercises). 8. Map composition (1 exercise) 9. Mapping using Drone (1 exercise)	30

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Suggested Evaluation Methods	
Internal Assessment: ➢ **Theory** • Class Participation: **05 marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 marks** • Mid-Term Exam: **10 marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.:**10 Marks** • Mid-Term Exam: **NIL**	**End-Term Examination:** **50 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Bhatta, B. (2010) Remote Sensing and GIS, Oxford University Publications.
2. Burrough, P.A., and McDonnell, R.A. (2000) Principles of Geographical Information System-Spatial Information System and Geo-statistics. Oxford University Press
3. Chauniyal, D.D. (2010) Sudur Samvedan evam Bhogolik Suchana Pranali, Sharda PustakBhawan, Allahabad
4. Heywoods, I., Cornelius, S and Carver, S. (2006) An Introduction to Geographical Infromation system: Prentice Hall.
5. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.
6. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.

*Applicable for courses having practical components.

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CC-M6			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Geography of Tourism		
Course Code	GEO-23/M-606		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M6		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. familiarization with the fundamentals of tourism geography 2. understand the types of tourism and their trend 3. acquaintance with tourism infrastructure and its impact 4. provide awareness of the carrying capacity of tourism destinations 5* attain skills in solving practical problems associated with tourism.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Tourists and tourism. Nature, scope, approaches and significance of tourism. 2. Travel and tourism through ages. Role of geography in tourism industry.	11
II	3. Types of tourism and its importance. Development of tourism in India and other major tourist countries. 4. Trends of international and domestic tourism. Tourism motivation and tourism demand.	11
III	5. Tourism infrastructure; transport, accommodation, hospitality and other facilities. 6. Positive and negative impact of tourism: economic, political, socio-cultural and environmental.	11
IV	7. Carrying capacity: a tool for sustainable development 8. Tourism planning and policies.	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempttwo exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks	30
	Practical Record: A project file consisting of 8 exercises on the below mentioned themes: - 1. State-wise distribution of tourists (Bar diagram). 2. Development of accommodations in India (comparative bar diagram). 3. Composition of tourists - states wise or of different tourist destinations (comparative bar). 4. Total, domestic, and foreign tourists (Compound bar diagram). 5. Tourism infrastructure (Trend graph). 6. Location and characteristics of highway tourism resorts of Haryana(dot method). 7. Tourist-population pressure (Bivariate method). 8. Explored and unexplored tourist destinations (Point method).	

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Suggested Evaluation Methods	
InternalAssessment: ➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **10 Marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **10 Marks** • Mid-Term Exam: **NIL**	**End Term Examination:** **50 Marks** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Bhatia, A. K., (1991) International Tourism: Fundamentals and Practices, Sterling Publishers, New Delhi.
2. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects. Kanishka, New Delhi.
3. Kaul R. N. ( ) Dynamics of Tourism: Sterline Publisher Ltd.
4. Shinde S.B. ( ) Geography of Tourism, PhadkePrakashan, Kolhapur.
5. Hall, M. and Stephen, P. (2006) Geography of Tourism and Recreation – Environment, Place and Space, Routledge, London.
6. Kamra, K. K. and Chand, M. (2007) Basics of Tourism: Theory, Operation and Practise, Kanishka Publishers, Pune.
7. Muluk, Musmade, Doke, More, (2021) Geography of Tourism-I, Nirali Publication, Pune.
8. Page, S. J. (2011) Tourism Management: An Introduction, Butterworth-Heinemann USA. Chapter 2.
9. Singh Jagbir (2014) "Eco-Tourism" Published by - I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).
10. Seth P.N. (1985) Successful Tourism Management: Sterling Publisher Ltd., New Delhi.

*Applicable for courses having practical components.

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CC-M7(V)			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Making of Maps		
Course Code	GEO-23/M-607(V)		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M7(V)		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. familiarization with the cartographic techniques 2. understand the elements of map 3. acquaintance with types of maps 4. provide awareness of the uses of maps in geographical studies 5* attain skills in solving practical problems associated with mapping.		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	03	02	05
Max. Marks: 100 **Internal Assessment Marks: 20 + 10 = 30** **End-Term Exam Marks: 50 + 20 = 70**		**Time:3 hours**	

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Part B- Contents of the Course

Instructions for Paper-Setter

Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one marks for each sub part). There will be eight long questions, two from each unit. The candidate has to answer four long questions, at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Nature and Scope of cartography. 2. Recent developments in cartography.	11
II	3. Elements of Maps. 4. Types and characteristic of maps.	11
III	5. Introduction of topographical maps, one million sheets, half degree sheets and one fourth degree sheets.	11
IV	6. Maps scale, types of scale and uses of scale	12
V*	Instructions for external practical examiner: There will be three questions in all and candidate has to attempttwo exercises. Distribution of marks for evaluation Exercise = 10 marks File record = 5 marks Viva-Voce = 5 marks	30
	Practical Record: A project file consisting of 6 exercises on the below mentioned themes: - 1. Linear scale, representative scale (2 exercises). 2. Interpretation of topographic sheet (2 exercises). 3. Dots and Choropleth maps- distribution and density of population (2 exercises).	

Suggested Evaluation Methods

InternalAssessment: ➢ **Theory** • Class Participation: **05 Marks** • Seminar/presentation/assignment/quiz/class test etc.: **05 Marks** • Mid-Term Exam: **10 Marks** ➢ **Practicum** • Class Participation: **NIL** • Seminar/Demonstration/Viva-voce/Lab records etc.: **10 Marks** • Mid-Term Exam: **NIL**	**End Term Examination:** **50 Marks** **20 Marks**

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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. F.J Monkhouse and H.R. Wilkinson (1972) Maps and Diagrams, Mothuen and Co. Ltd., London
2. L.R. Singh and Raghuvander Singh (1973), Map Work and Practical Geography, Central Book Depot, Allahabad.
3. R.I. Singh and P.K. Dutt (1968), Elements of Practical Geography, Students Friends, Allahabad.
4. Singh Gopal (2004) 4th edition, Map work and Practical Geography, Viksa Publication House.

*Applicable for courses having practical components.