CC-5 / MCC-9			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	V		
Name of the Course	Statistical Methods in Geography (Theory)		
Course Code	B23-GEO-501		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-5 MCC-9		
Level of the course (As per Annexure-I	300-399		
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 quantitative methods **2.** enrich understanding about types of data 3. skilled to data analysis and its presentation. 4. acquaint with data summarization and nuances of data. 5* develop the skill of mapping data, interpretation and analysis		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks: 20+10=30** **End Term Exam Marks: 50+20=70**		**Time: 03 Hours**	
Part B- Contents of the Course			
Instructions for Paper- Setter Question 1 is compulsory consisting of five sub parts spread over entire syllabus (two marks for each sub parts), 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. Data organization and its type. Tabulation of data, frequency distribution of nominal, interval and ordinal data, class interval, ratios and rates. 2. Graphical presentation of data: histogram, frequency polygon and ogives.	11
II	3. Measures of central tendency: mean, median and mode. 4. Measure of quantile, decile and percentile.	12
III	5. Absolute measures of dispersion: range, quartile deviation. 6. Mean deviation and standard deviation (grouped and ungrouped data).	11
IV	7. Relative measures of deviation: coefficient of variation, Location quotient. 8. Basics of bivariate: scatter diagram, rank correlation	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. Mapping/ Graphic presentation of mean Centre. 2. Mapping/ Graphic presentation of median center. 3. Graphical presentation of mode. 4. Illustration of standard distance 5. Mapping/ Graphical representation relative distance. 6. Exercise based on coefficient of variation. (Temperature and Rainfall variability across seasons and its mapping). (2) 7. Graphical presentation of Bi-variate data.	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**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Gregory, S. Statistical Methods and the Geographers, Longman, London, 1964.
2. Gupta, C. B. An Introduction to Statistical Methods, Vikas Publishing House, Delhi, 1974.
3. Johnston, R.J. Multivariate Statistical Analysis in Geography, Longman Scientific and Technical, John Wiley & amp; Sons, 1989.
4. Mahmood, A. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi, 1993.
5. Paul, S.K. Statistics for Geoscientists: Techniques and Applications, Concept Publishing Company, New Delhi, 1998.
6. Houshmand, A.R. Statistical Methods for Environmental and Agricultural Sciences, CRC Press, New York, 1998.
7. Levin, J and Fox, J.A. Elementary Statistics in Social Research, Pearson Education, New Delhi, 2006.
8. Rogerson. P. A. Statistical Methods for Geography, Sage Publication, New Delhi, 2010.
9. Sarkar, A. Quantitative Geography: Techniques and Presentations. 2013.

<table>
<tr><td colspan="4">MCC-10</td></tr>
<tr><td colspan="4">Session: 2023-24</td></tr>
<tr><td colspan="4">Part A – Introduction</td></tr>
<tr><td>Subject</td><td colspan="3">Geography</td></tr>
<tr><td>Semester</td><td colspan="3">V</td></tr>
<tr><td>Name of the Course</td><td colspan="3">Regional Development and Planning</td></tr>
<tr><td>Course Code</td><td colspan="3">B23-GEO-502</td></tr>
<tr><td>Course Type:
(CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)</td><td colspan="3">MCC-10</td></tr>
<tr><td>Level of the course (As per Annexure-I</td><td colspan="3">300-399</td></tr>
<tr><td>Pre-requisite for the course (if any)</td><td colspan="3">No</td></tr>
<tr><td>Course Learning Outcomes (CLO):</td><td colspan="3">After completing this course, the learner will be able to:
1. understand the concept of region and development.
2. enrich understanding about pluralism and significance of diversity.
3. acquaint with the concept of planning and five-year plans.
4. enhanced understanding of various planning nuances.
_____
5* develop the skill of mapping data, interpretation and analysis</td></tr>
<tr><td rowspan="2">Credits</td><td>Theory</td><td>Practical</td><td>Total</td></tr>
<tr><td>3</td><td>1</td><td>4</td></tr>
<tr><td>Contact Hours</td><td>3</td><td>2</td><td>5</td></tr>
<tr><td colspan="2">Max. Marks: 100
Internal Assessment Marks: 20+10=30
End Term Exam Marks: 50+20=70</td><td colspan="2">Time: 03 Hours</td></tr>
<tr><td colspan="4">Part B- Contents of the Course</td></tr>
<tr><td colspan="4"><u>Instructions for Paper- Setter</u></td></tr>
</table>

Question 1 is compulsory consisting of five sub parts spread over entire syllabus (two marks for each sub parts), 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. Concept and meaning of region and its type. Identification of region, elements of region. 2. Development vs growth. Regional development and its dimensions. Regional disparity vs diversity.	11
II	3. Regional growth theories: Stage theory (Rostow). Harrod Domer model of development 4. Theory of cumulative causation and regional development (Myrdal).	12
III	5. Regional Planning: concept and definition. Features of regional planning. Role of regional planning in development. 6. India in Five-year plans. NITI Aayog and its characteristics.	11
IV	7. Multi- level planning in India. DPAP and backward area development plans. 8. Metropolitan planning in India, environmental issues in planning.	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. Method of delineating region (Fixed and variable method) (2) 2. Methods of mapping levels of regional development. (Ranking, division by mean, division by SD, standardization) (4). 3. Concentration and dispersal of tribes (1) 4. Similarity and dissimilarity index (1)	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**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Chandna, R.C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers, New Delhi.
2. Chaudhuri, J.R. (2001): An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.
3. Chand, M andPuri, V.K. (1983): Regional Planning in India, Allied Publishers, NewDelhi.
4. Misra, R.P.(1992): Regional Planning: Concepts, Techniques, Policies and Case Studies.Concept Publishing Company, New Delhi.
5. Misra, R.P. and Natraj, V.K. (1978): Regional Planning and National Development. Vikas Publication, NewDelhi.
6. Sundaram K V (1986): Urban and Regional Planning in India, Vikas Publishing House,New Delhi
7. Raza Moonis(1988): Regional Development Vol. 10, Contribution to Indian Geography Heritage Publishers, New Delhi.
8. Uma Kapila, Indian Economic Development since Independence, OUP, New Delhi

DSE-2			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	V		
Name of the Course	Geography of Trade and Transport		
Course Code	B23-GEO-503		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	DSE-2		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Gain knowledge about the basic concept of trade and transport and its approaches 2. familiarization with the elements of trade and transport geography and its significance 3. Understand the meaning of trade, development and its impact on economy. 4. Familiarize the problems of trade & transport and the government policies for it. 5* attain skills in mapping trade and transport data		
Credits	Theory	Practical	Total
	03	01	04
Contact Hours	3	2	5
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. Nature, scope, significance and development of transport, 2. Approaches of transportation geography	11
II	3. Elements of transportation, geographical factors affecting the development of transportation 4. Distribution and economic significance of transportation in India	11
III	5. Trade – meaning and scope as tertiary activity. Eco-geographical aspects of trade. Internal, international and export trade. Balance of trade and trading regions. 6. Development of trade and its impact on economy	11
IV	7. Problems of trade and transportation, role of technology in the developments of transportation 8. Government policies in development of trade and transportation	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. Import and export basket of India (Comparative bar) 2. Show the major import and export items with the help of polygraph 3. State-wise distribution of trade (Bar diagram). 4. Composition of trade - states wise (comparative bar). 5. Total, domestic, and foreign trade (Compound bar diagram). 6. Draw express ways, trade corridors of India, freight train corridors of India 7. Volume of trade (bar diagram) 8. Spatial and temporal share of trade in India (bar)	30

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. Feulks R. W. Lan Allen: Principals of Transport – 1973
2. Feulks R. W. Lan Allen: Principals of Transport 1973
3. H & Bamford C. G.: Geography of transport Robinson
4. H. M. Saxena: Transport Geography Rawat Publications.
5. Majid Hussain (1999) Human Geography, Rawat, Jaipur
6. Moonis Raza & Yash Aggarwal: Transport Geography of India
7. O'dell A. C. and Richards R. S. Railway and geography (Hutchinson University)
8. Seaby K. R. The Geography of Air Transport: Hytchinson University
9. Taaffe E. J. and Gauthies H. L. geography of transportation (Prentice Hall – 1973)
10. Thompson J. M. Modern Transportation economics (Penguin Books – 1974)

DSE-2			
Session: 2023-24			
Part A - Introduction			
Subject	Geography		
Semester	V		
Name of the Course	Cultural Geography		
Course Code	B23-GEO-504		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	DSE-2		
Level of the course (As per Annexure-I	300-399		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. familiarise the students with the nature, scope and approaches of cultural geography. 2. understand the origin and evolution of human races and cultural regions of the world. 3. understand the races of the world and origin of human settlements 4. enhance the knowledge regarding the patterns of livelihood, modernization, technological changes and culture. _____ 5* attain skills in mapping of cultural data through different cartographic 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			
Question 1 is compulsory comprising five sub-parts spread over the entire syllabus (two marks for			

each sub-part). There will be eight questions, two from each unit. The candidate has to answer four more questions selecting at least one question from each unit. All questions carry equal marks.

Unit	Topics	Contact Hours
I	1. Definition, nature and scope, elements and significance of cultural geography 2. Historical development of cultural geography; approaches of cultural geography	11
II	3. Origin and evolution of man, basis of cultural diversity: race, religion and language 4. Cultural world: realm and regions of the world,	12
III	5. Human races and their classification, tribes of India (Santhal, Gond, Todda, Naga and Bhil). 6. Origin and evaluation of human settlements	11
IV	7. Pattern of livelihood: economic activities and cultural adaptation 8. Impact of technological changes on culture with special reference to agriculture, industrialization, and modernization.	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. Distribution of major languages in the world (1 exercise) 2. Racial distribution of India and world (2 exercises) 3. Patterns of human settlements (1 exercise) 4. Distribution of tribal groups of India (1 exercise) 5. Major cultural heritage sites of India by UNESCO-1 exercise 6. Distribution of cultural regions of the world- 1 exercise 7. Distribution of major crops/industries in India- 1exercise	30
Suggested Evaluation Methods		

Internal Assessment:	**End Term Examination:**
➢ **Theory** • Class Participation: **5** • Seminar/presentation/assignment/quiz/class test etc.: **5** • Mid-Term Exam: **10**	50
➢ **Practicum** • Class Participation: NIL • Seminar/Demonstration/Viva-voce/Lab records etc.:**10** • Mid-Term Exam: NIL	20

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Anderson, K. (2006): Race and Crises of Human Development, Routledge, London and New Delhi
2. Beteille, A. (1983): Equality and Inequality, Oxford University Press, New Delhi
3. Cavallaro Davi (2001) Critical and Cultural Theory: Thematic Variations, Athlone Press, London and New Brunswick, NJ.
4. Coates, B.E., Johnston, R.J. and Knox, P.L. (1977): Geography and Inequality, Oxford University Press, Oxford and London
5. Crang, M (1998). Cultural Geography, Routledge, London
6. Dubey. S.C. (1991): Indian Society, National Book Trust, New Delhi
7. Haq, M. (2000): Reflections on Human Development, Oxford University Press, New Delhi
8. Norton, W. (2006): Cultural Geography: Environments, Landscapes, Identities, Inequalities, Oxford University Press, Toronto
9. Planning Commission, Government of India (1981): Report on Development of Tribal Areas, New Delhi
10. Robertson, I and Penny, R (2003). Studying Cultural Landscapes. Oxford University Press, London.
11. Sahlins, M.D. (1968): Tribesmen, Prentice Hall, Upper Saddle River, New Jersey
12. Smith, D. (1977): Geography: A Welfare Approach, Edward Arnold, London
13. Sopher, D. (1980): An Exploration of India: Geographical Perspectives on Society and Culture, Cornell University Press, Ithaca, New York
14. Subba R.B. (1958): Personality of India: Pre- and Proto- Historic Foundation of India and Pakistan.

DSE-3

<table>
<tr><td colspan="4">Session: 2023-24</td></tr>
<tr><td colspan="4">Part A - Introduction</td></tr>
<tr><td>Subject</td><td colspan="3">Geography</td></tr>
<tr><td>Semester</td><td colspan="3">V</td></tr>
<tr><td>Name of the Course</td><td colspan="3">Geography of Disaster Management</td></tr>
<tr><td>Course Code</td><td colspan="3">B23-GEO-505</td></tr>
<tr><td>Course Type:
(CC/MCC/MDC/CCM/DSEC/VOC/DSE/PC/AEC/VAC)</td><td colspan="3">DSE-3</td></tr>
<tr><td>Level of the course (As per Annexure-I)</td><td colspan="3">300-399</td></tr>
<tr><td>Pre-requisite for the course (if any)</td><td colspan="3">NA</td></tr>
<tr><td>Course Learning Outcomes (CLOs):</td><td colspan="3">After completing this course, the learner will be able:
1. to understand the fundamental issues pertaining to disaster.
2. to understand the mechanism of disaster classification.
3. to understand the causes, effects and control measures of different hazards.
4. to evaluate the functioning of various agencies for disaster risk reduction in India.
_____
5*. to attain skills in solving practical problems associated with disaster and their management.</td></tr>
<tr><td rowspan="2">Credits</td><td>Theory</td><td>Practical</td><td>Total</td></tr>
<tr><td>3</td><td>1</td><td>4</td></tr>
<tr><td>Contact Hours</td><td>3</td><td>2</td><td>5</td></tr>
<tr><td colspan="3">Max. Marks: 100
Internal Assessment Marks: 20+10 = 30
End Term Exam Marks: 50+20 = 70</td><td>Time: 03 Hours</td></tr>
<tr><td colspan="4">Part B- Contents of the Course</td></tr>
<tr><td colspan="4"><u>Instructions for Paper- Setter</u></td></tr>
<tr><td colspan="4">Question 1 is compulsory comprising of five sub parts spread over entire syllabus (two marks for</td></tr>
</table>

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. Natural hazards and disasters: definition, nature and classification 2. Geography and disasters: occurrence of major disasters in world and India.	11
II	3. Tectonic hazards: causes, effects and control measures of earthquakes and tsunamis. 4. Geological hazards: causes, effects and control measures of landslides and volcanoes	11
III	5. Meteorological hazards: causes, assessment, effects and control measures of cyclones and cloud bursts. 6. Hydrological hazards: causes, assessment, effects and control measures of floods and droughts.	12
IV	7. Human induced disasters: causes, assessment, effects and control measures of oil spills and stampedes. 8. Disaster management in India: policy and organizational setup	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. Mapping and demarcation of hazard prone areas in the district/state (1 exercise). 2. Analysis of extreme rainfall events in district/state (1 exercise). 3. Plotting of annual distribution of occurrence of cyclones in India (1 exercise). 4. Plotting of annual distribution of flood mortalities in Haryana since 2000 (1 exercise). 5. Plotting of decadal distribution of flood prone and flood affected area in Haryana since 1966 (1 exercise). 6. Plotting of progress of flood forecasting stations in India (1 exercise). 7. Mapping of district-wise heat wave mortalities in Haryana (1	30

	exercise). 8. Mapping of district-wise cold wave mortalities in Haryana (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. Alexander, D (1993) Natural Disasters, Springer, Berlin.
2. Carter, NW (1991) Disaster Management: A Disaster Manager's Handbook, ADB, Manila.
3. Coch, NK (1994) Geohazards: Natural and Human, Pearson, New Delhi.
4. Cuny, FC (1983) Disasters and Development, Oxford University Press.
5. Cutter, SL (2006) Hazards Vulnerability and Environmental Justice, Routledge, London.
6. Gupta, HK (2013) Disaster Management, University Press, New Delhi.
7. Hewitt, K (1977) Regions of Risk: A Geographical Introduction to Disasters, Longman, Harlow.
8. Husky, T (2012) Encyclopedia of the Hazardous Earth, Viva Books, New Delhi.
9. Kapur, A (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
10. Modh, S (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, New Delhi.
11. National Policy on Disaster Management (2009) Ministry of Home Affairs, Govt. of India, New Delhi.
12. Nlaikie, P (1994) At Risk: Natural Hazards, People's Vulnerability and Disaster, Routledge, London.
13. Pine, JC (2014) Hazards Analysis: Reducing the Impact of Disasters, CRC Press, New Delhi.
14. Singh, RB (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
15. Singh, S and Singh J (2013) Disaster Management, Pravalika Publications, Allahabad.
16. Sinha, A (2001) Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
17. Smith, K (1996) Environmental Hazards: Assessing Risks and Reducing Disasters, Routledge, London.
18. Stoltman, JP (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.

19. Turk, J (1985) Introduction to Environmental Studies, Saunders Publications, Tokyo, Japan.
20. Varley, A. Disaster, Development and Environment, John Wiley and Sons, Chichester.

*Applicable for courses having practical component.

DSE-3

<table>
<tr><td colspan="4">Session: 2023-24</td></tr>
<tr><td colspan="4">Part A - Introduction</td></tr>
<tr><td>Subject</td><td colspan="3">Geography</td></tr>
<tr><td>Semester</td><td colspan="3">V</td></tr>
<tr><td>Name of the Course</td><td colspan="3">Geography of Water Resources</td></tr>
<tr><td>Course Code</td><td colspan="3">B23-GEO-506</td></tr>
<tr><td>Course Type:
(CC/MCC/MDC/CCM/DSEC/VOC/ DSE/PC/AEC/VAC)</td><td colspan="3">DSE-3</td></tr>
<tr><td>Level of the course (As per Annexure-I)</td><td colspan="3">300-399</td></tr>
<tr><td>Pre-requisite for the course (if any)</td><td colspan="3">NA</td></tr>
<tr><td>Course Learning Outcomes (CLOs):</td><td colspan="3">After completing this course, the learner will be able:
1. to understand the fundamental issues pertaining to water resources.
2. to justify the importance of surface and ground water resources management.
3. to understand water conservation techniques and approaches to attain sustainable development.
4. to evaluate the contemporary issues and problems of water resources management.
_____
5*. to attain skills in solving practical problems associated with water resources.</td></tr>
<tr><td rowspan="2">Credits</td><td>Theory</td><td>Practical</td><td>Total</td></tr>
<tr><td>3</td><td>1</td><td>4</td></tr>
<tr><td>Contact Hours</td><td>3</td><td>2</td><td>5</td></tr>
<tr><td colspan="2">Max. Marks: 100
Internal Assessment Marks: 20+10 = 30
End Term Exam Marks: 50+20 = 70</td><td colspan="2">Time: 03 Hours</td></tr>
<tr><td colspan="4">Part B- Contents of the Course</td></tr>
<tr><td colspan="4"><u>Instructions for Paper- Setter</u></td></tr>
<tr><td colspan="4">Question 1 is compulsory comprising of five sub parts spread over entire syllabus (two</td></tr>
</table>

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. Water resource: its importance and types; recent trends in water use in the world and in India; contemporary water crisis (stress)- causes and consequences; factors affecting water resources development. 2. Surface water: use, issues and management for irrigation and hydropower development. Big and small irrigation projects and their impact on water resources.	11
II	3. Ground water: assessment and development, depletion (regional pattern and consequences) and measures of conservation. conjunctive use of surface and ground water. 4. Water quality and its parameters; sources and types of water pollution; impact of water pollution on urban and human health; water quality management and pollution control.	11
III	5. Watershed management: concept and delineation; its types and functions; principles and significance of integrated watershed management. 6. Rainwater harvesting: techniques and approaches as strategies of water resource conservation; water recycling.	11
IV	7. Hydrological input and output; floods and droughts- their causes, consequences and management. National water grid (river linking). 8. Politics regarding conflicts over water resource: river water sharing disputes with examples from world (Brahmaputra, Indus, Teesta) and India (Cauvery, Krishna, Yamuna); Central Water Commission and Water Tribunals and their role.	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: -	**30**

	1. Mapping and demarcation of different size and shape of watersheds (2 exercises). 2. Analysis of extreme rainfall indices (2 exercises). 3. Derivation of water balance chart (2 exercises). 4. Mapping of major wetlands in a district and computation of shape and size (area) for classification (1 exercise). 5. Preparation of a map of a nearby wetland and to identify the changes in dimension, water level changes and encroachments it faced in the last one decade. Presentation of data in tabular form along with a map (field-based) (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. Bouwer, H (1978) Ground Water Hydrology, McGraw-Hill, New York.
2. Brutsaert, W (2005) Hydrology: An Introduction, Cambridge University Press, Cambridge.
3. Chow, VT (1988) Applied Hydrology, McGraw-Hill Education, New York.
4. Dingman, SL (2002) Physical Hydrology, Prentice Hall, Englewood Cliffs.
5. Gurjar, RK and Jat BC (2017) Geography of Water Resources, Rawat Publications, Jaipur.
6. Karanth, KR (1988) Ground Water: Exploration, Assessment and Development, Tata-McGraw Hill, New Delhi.
7. Karanth KR (1989) Hydrology, Tata McGraw Hill Publications, New Delhi.
8. Khan, RNA (2013) Indus Water Treaty: A Geo Political Study, University of Kashmir, Srinagar. http://hdl.handle.net/10603/14384.
9. Mather, JR (1984) Water Resources Distribution, Use and management, John Wiley and Sons, Maryland.
10. Meinzer, OE (1949) Hydrology, Dover Publications, Mineola, New York.
11. Newson, M (1992) Land, Water and Development River Basin Systems and their Sustainable Management, Routledge, London.
12. Raghunath, HM (2006) Hydrology: Principles, Analysis and Design, New Age International Publishers, New Delhi.
13. Reddy, PJR (2005) A Textbook of Hydrology, Firewall Media, New Delhi.
14. Tideman, EM (1996) Watershed Management: Guidelines for Indian Conditions, Omega

Publications, New Delhi.
15. Todd, DK and Mays, LW (2005) Groundwater Hydrology, John Wiley and Sons, Chichester.
16. Vaidyanathan, A (2008) Water Resources: Contemporary Issues on Irrigation, Oxford University Press, New Delhi.

*Applicable for courses having practical component.

CC-6, MCC-11 / CC-M6			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Fundamentals of Remote Sensing		
Course Code	B23-GEO-601		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-6, MCC-11 / CC-M6		
Level of the course (As per Annexure-I	300-399		
Pre-requisite for the course (if any)	No		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. understand the concept of remote sensing **2.** enrich understanding about satellite images and aerial photographs 3. acquaint with the various space programme. 4. enhanced understanding of Indian satellites and their product. 5* develop the skill of using satellite data, interpretation and analysis		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks: 20+10=30** **End Term Exam Marks: 50+20=70**		**Time: 03 Hours**	
Part B- Contents of the Course			

Instructions for Paper- Setter

Question 1 is compulsory consisting of five sub parts spread over entire syllabus (two marks for each sub parts), 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 remote sensing: historical development/ evolution and process of remote sensing.	11
II	2. Aerial photography, photogrammetry and photo interpretation: process of aerial photography, types of aerial photograph, and elements of air photo interpretation.	12
III	3. Types of remote sensing, digital image, Indian remote sensing satellites and their characteristics.	11
IV	4. Applications of aerial photographs and satellite remote sensing in geographical studies and management of natural resources.	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. Information recorded on aerial photographs and satellite imageries. (2) 2. Determination of Principal point and flight line. (1) 3. Determination of scale of aerial photographs. (2) 4. Use of stereoscope and making of 3D (using Zeiss card, features on air photo) (1) 5. Interpretation of aerial photographs: physical and socio-cultural features. (2)	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**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Aggarwal C.S. and P.K. Garg (2000). Remote Sensing, A.H. Wheeler & Co. Ltd, New Delhi.
2. Campbell, J.B. (2002) Introduction to Remote Sensing,Taylor & Francis, New York, USA.
3. Jensen, J.R. (2000), Remote Sensing of the Environment: An Earth Resource Perspectives, Pearson Education.
4. Lillesand, T M. and Keiffer R. (1994). Remote Sensing and Image Interpretation, John Willy & Sons, New York.
5. Meenakshi Kumar (2000), Text book on Remote Sensing; NCERT, New Delhi.
6. Nag and Kudrat (2002), Remote Sensing and Image Interpretation, Concept Publishers, Delhi.
7. Reddy, A. (2000) Remote Sensing and Geographical Information System (An Introduction), Hyderabad.

<table>
<tr><td colspan="4">MCC-12</td></tr>
<tr><td colspan="4">Session: 2023-24</td></tr>
<tr><td colspan="4">Part A – Introduction</td></tr>
<tr><td>Subject</td><td colspan="3">Geography</td></tr>
<tr><td>Semester</td><td colspan="3">VI</td></tr>
<tr><td>Name of the Course</td><td colspan="3">Urban Geography</td></tr>
<tr><td>Course Code</td><td colspan="3">B23-GEO-602</td></tr>
<tr><td>Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/ DSE/PC/AEC/VAC)</td><td colspan="3">MCC-12</td></tr>
<tr><td>Level of the course (As per Annexure- I)</td><td colspan="3">300-399</td></tr>
<tr><td>Pre-requisite for the course (if any)</td><td colspan="3">NA</td></tr>
<tr><td rowspan="2">Course Learning Outcomes (CLOs):</td><td colspan="3">After completing this course, the learner will be able to:
1. understand the concept, characteristics, and history of urban geography, the emergence and expansion of cities in India and around the world.
2. examine the causes and effects of urbanization on a global scale and in relation to particular contexts, noting trends, patterns, and phases of the urbanization cycle.
3. understand the generalized models of cities
4. identify and analyze urban problems and to comprehend the nitty- gritty of urban planning.</td></tr>
<tr><td colspan="3">5. attain skills in mapping urbanization data.</td></tr>
<tr><td rowspan="2"></td><td>Theory</td><td>Practical</td><td>Total</td></tr>
<tr><td>3</td><td>1</td><td>4</td></tr>
<tr><td>Contact Hours</td><td>3</td><td>2</td><td>5</td></tr>
<tr><td colspan="2">Max. Marks: 100
Internal Assessment Marks: 20+10 = 30
End Term Exam Marks: 50+20 = 70</td><td colspan="2">Time: 03 Hours</td></tr>
</table>

Part B- Contents of the Course		
Instructions for Paper- Setter		
Question 1 is compulsory comprising of seven sub parts spread over entire syllabus (one mark for each sub part), to be answered in 10-15 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, scope and significance of urban geography, basic concepts of urban geography. 2. Origin and growth of urban settlements in world and India, their process and geographical distribution.	11
II	3. Pattern, trend, and cycle of urbanization; its causes and consequences. 4. Classification of urban centres by size class as per census of India; functional classification of urban centres.	11
III	5. Theories of urban internal structure: concentric zone theory, sector theory and multiple nuclei model. 6. Central place theory by Christaller & Losch; bid rent theory by William Alonso.	12
IV	7. Urban problems; causes and mitigation strategies. 8. Urban Planning: concept, need and types; historical development in context to India.	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. Locating the megalopolis on world map (1 exercise). 2. Hierarchical representation of size class towns as per census of India through compound bar diagram (1 exercise). 3. Representation of population of major cities of world through proportionate circle (1 exercise). 4. State-wise level of urbanization in India through choropleth method (1 exercise). 5. Diagrammatic representation of size and number of	30

	different size class urban centres by applying Zipf method (1 exercise) 6. Diagrammatic representation of urban land use model (2 exercises). 7. Representing the layout plan of any planned city of India (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. Carter, H. (2010). The Study of Urban Geography, Arnold Publishers, London: UK. *Classification in Villages, Towns and Cities*. Routledge, London: UK.
2. Hall, T., & Barrett, H. (2018). Urban geography. 5th Edition, Routledge, London.
3. Johnston, R. J. (2013). *City and society: An outline for urban geography*. Routledge, London: UK.
4. Kaplan, D., Wheeler, J. And Holloway, S. (2009) Urban Geography, Wiley, USA.
5. Knox, P. L., and McCarthy, L. (2005) *Urbanization: An Introduction to Urban Geography*, Pearson Prentice Hall, New York: USA.
6. Mandal, R. B. (2008). *Urban Geography A Text-Book*. Concept Publishing Company, New Delhi.
7. Maurya, S.D. (2018) *Urban Geography*, Sharda Pustak Bhawan, Allahabad.
8. Pacione, M. (2009). Urban Geography: A Global Perspective. Routledge, London: UK.
9. Rao, B.P. and Sharma, N (2001) Urban Geography, Vasundhara, Gorakhpur.
10. Siddhartha, K., and Mukherjee (2019) *Cities, Urbanisation and Urban Systems (Settlement Geography),* Kitab Mahal Publishers, New Delhi.
11. Singh, A.K. (2021) Fundamentals of Urban Geography, K.K. Publications.
12. Singh, R. Y. (2012) Geography of Settlements, Rawat Publications, Jaipur.
13. Singh, S. And Saroha, J. (2021). Urban Geography, Pearson Publication.
14. Taylor, G. (2013). Urban Geography: A Study of Site, Evolution, Patern and
15. Verma, L. N. (2006). Urban geography. Rawat Publications: Jaipur, India.

DSE-4			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Political Geography		
Course Code	B23-GEO-603		
Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/ DSE/PC/AEC/VAC)	DSE-4		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLOs):	After completing this course, the learner will be able to: 1. familiarization with the basic concept of political geography. 2. augmentation of knowledge about state, nation and their boundaries. 3. enhancement of knowledge about unitary, federal and landlocked state. 4. awareness about contemporary geo-political situation and problems faced in India. 5* attain skills in mapping of political data.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks: 20+10 = 30** **End Term Exam Marks: 50+20 = 70**		**Time: 03 Hours**	
Part B- Contents of the Course			
Instructions for Paper- Setter			
Question 1 is compulsory comprising of five sub parts spread over entire syllabus (two 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, scope and concepts of political geography 2. Approaches to the study of political geography	11
II	3. The state: concept and evolution; nation, and the nation-states 4. Frontiers and boundaries; demarcation, classification and functions of boundaries	11
III	5. Landlocked state and their advantages and disadvantages; Heartland theory. 6. Systems of governmental organization: unitary and federal.	11
IV	7. India's relationships with neighbouring countries; emergence of India as regional power: aspiration and challenges. 8. Geo-political significance of Indian ocean; Kashmir problem: POK and Aksai chin	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 and 1 assignment on the below mentioned themes: - 1. Formation of states in India since independence. 2. Formation of districts in Haryana since 1966. 3. Changing parliament constituency boundaries in Haryana since 1966. 4. Changing assembly constituency boundaries in Haryana since 1966. 5. Identification of landlocked states on world map. 6. Identification of boundaries (genetic and morphological) on global map. 7. Assignment based on field visit regarding political perception/views of people.	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**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Adhikari, S. Political Geography. Jaipur: Rawat Publications. 1997
2. Alexander, L.M. World Political Patterns Ran Mc Nally, Chicago, 1963.
3. Cox, K. Political Geography: Territory, State and Society. Wiley-Blackwell. 2002
4. De Blij, H.J. and Glassner, Martin. Systematic Political Geography, John Wiley, New York, 1968.
5. Deshpande C.D: India-A Regional Interpretation Northern Book Centre, New Delhi, 1992.
6. Dikshit, R. D. Political Geography: A Contemporary perspective, Tata McGraw Hill, New Delhi, 1996.
7. Dikshit, R.D. Political geography: A Century of Progress, Sage, New Delhi, 1999.
8. Fisher Charles A. Essays in Political Geography, Methuen, London, 1968.
9. Glassner, M. L., De Blij, H. J., & Yacher, L. Systematic Political Geography. John Wiley. 1980.
10. John R. Short. An Introduction to Political Geography, Routledge, London, 1982.
11. John, R. S. An introduction to Political Geography. Taylor & Francis.2002
12. Moddie, A.E. Geography Behind Political Hutchinson, London, Latest edition.
13. Pounds N.J.G. Political Geography. McGraw Hill, New York, 1972.
14. Prescott. J.R.V. The Geography of Frontiers and Boundaries Aldine, Chicago.
15. Sukhwal, B.L. Modern Political Geography of India Sterling Publishers, New Delhi. 1968.
16. Taylor, P. Political Geography, Longman, London. 1985.

*Applicable for courses having practical component.

DSE-4			
Session: 2023-24			
Part A – Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Agricultural Geography		
Course Code	B23-GEO-604		
Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/ DSE/PC/AEC/VAC)	DSE-4		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLOs):	After completing this course, the learner will be able to: 1. familiarise the students with the concept, origin, and development of agriculture; the course aims to shed light on the changing nature and scope of the agricultural geography 2. understand the crop concentration and crop diversification of agriculture 3. understand the landuse pattern and agricultural revolutions in India. 4. the course further aims to familiarise the problems, planning and policies of agriculture among the students _____ 5* attain skills in mapping of agricultural data through different cartographic techniques.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks: 20+10 = 30** **End Term Exam Marks: 50+20 = 70**		**Time: 03 Hours**	
Part B- Contents of the Course			
Instructions for Paper- Setter			
Question 1 is compulsory comprising of five sub parts spread over 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 agricultural geography, approaches to agricultural geography 2. Physical, cultural and institutional factors affecting agriculture	11
II	3. Salient features of Indian agriculture, types of farming in India 4. Crop combination and crop diversification in India	11
III	5. Land use pattern with special reference to India 6. Rainbow agricultural revolution in India	12
IV	7. Problems associated with Indian agriculture 8. Agricultural planning and policies in India	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. Representation of crop calendar using Ergograph (one exercise) 2. Preparation of crop-combination and crop diversification method (2 exercises) 3. Determination and mapping of cropping and irrigation intensity by bivariate method (one exercise) 4. Preparation and interpretation of different cereals through polygraph (one exercise) 5. Different methods representing the production and distribution of crops (2 exercises) 6. Prepare a proportional circle for showing landuse pattern of India (one 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

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Basu, D.N., and Guha, G.S., 1996: Agro-Climatic Regional Planning in India, Vol.I & II, Concept Publication, New Delhi.
2. Bryant, C.R., Johnston, T.R, 1992: Agriculture in the City Countryside, Belhaven Press, London.
3. Burger, A., 1994: Agriculture of the World, Aldershot, Avebury.
4. Grigg, D.B., 1984: Introduction to Agricultural Geography, Hutchinson, London.
5. Hussain, M. 1978. Agricultural Geography, Rawat Publication.
6. Ilbery B. W., 1985: Agricultural Geography: A Social and Economic Analysis, Oxford University Press.
7. Mohammad, N., 1992: New Dimension in Agriculture Geography, Vol. I to VIII, Concept Pub., New Delhi.
8. Roling, N.G., and Wageruters, M.A.E., (ed.) 1998: Facilitating Sustainable Agriculture, Cambridge University Press, Cambridge.
9. Shafi, M., 2006: Agricultural Geography, Doring Kindersley India Pvt. Ltd., New Delhi
10. Singh, J., and Dhillon, S.S., 1984: Agricultural Geography, Tata McGraw Hill, New Delhi.
11. Tarrant J. R., 1973: Agricultural Geography, David and Charles, Devon.

DSE-5			
Session: 2023-24			
Part A - Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Elementary Soil geography		
Course Code	B23-GEO-605		
Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/ DSE/PC/AEC/VAC)	DSE-5		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLOs):	After completing this course, the learner will be able to: 1. understand the basic concepts related to soil and various factors and processes of soil formation. 2. recognize various physical and chemical properties of soil. 3. identify the world pattern of soil. 4. understand the problems of soil erosion, degradation processes and its impact on environment. _____ 5* attain skills in identifying and solving practical problems associated with soils.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks: 20+10 = 30** **End Term Exam Marks: 50+20 = 70**		**Time: 03 Hours**	
Part B- Contents of the Course			
Instructions for Paper- Setter			
Question 1 is compulsory comprising of five sub parts spread over entire syllabus (two 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 soil geography and its relationship with pedology and edaphology. 2. Soil factors-parent material, organic matter, climate, topography, and spatio-temporal dimensions.	11
II	3. Physical properties of soils: texture, structure, 4. Chemical properties of soil: humus and soil organism	12
III	5. Soil profile and its development. 6. Soils: classification and distribution at world level.	11
IV	7. Soil erosion and degradation 8. Environmental problems of soil and the need for soil conservation.	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. Taking soil profile in the field (1 exercise) 2. Identification of soil parent material (1 exercise) 3. Determining soil texture through feel method (2 exercises) 4. Making of soil textural diagram (2 exercises) 5. Determination of soil structure (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**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Birkeland, P. W (1999). Soils and Geomorphology. New York: Oxford University Press.
2. Brady, N. C., & Weil, R. R. (2008). The Nature and Properties of Soils. New Jersey: Prentice Hall.
3. Bridges, E. M., & Davidson, D. A. (1982). Principles and Applications of Soil Geography. London: Longman Group.
4. Daji, J. A. (1970). A Textbook of Soil Science. New York: Asia Publication House.
5. Miller, R. W., & Donahue, R. L. (1992). Soils: An Introduction to Soils and Plant Growth, New Delhi: Prentice- Hall of India.
6. Pitty, A. F. (1978). Geography and Soil Properties, London: Methuen and Co.
7. Dury, G. H. (1972). Map Interpretation. London: Pitman and Sons.
8. Gupta, K. K., & Tyagi, V. C. (1992). Working with Maps. Survey of India Publication.
9. Kimerling, A.J., Buckley, A.R., Muehrcke, P.C., Muehrcke, J.O. (2011). Map Use: Reading, Analysis,
   Interpretation. 7th ed, Esri Press.
10. Ramamurthy, K. (1982). Map Interpretation. Madras: Rex Printer.
11. Singh, G. (1996). Map Work and Practical Geography. New Delhi: Vikas Publication.
12. Tamaskar, B. G., & Deshmukh, V. M. (1974). Geographical Interpretation of Indian Topographical maps.
    Kolkata: Orient Longman.
13. Scovel, M. J. S., Brien, E. J. O', McCormack, J. C., & Chapman, R. B. (1965). Atlas of Landforms. John Wily and Sons / U.S. Military Academy.
14. Vaidyanadhan, R., & Subbarao, K. V. (2014). Landforms of India from Topomaps and Images. Geological Society of India.
15. Vaidyanadhan, R. & Subbarao, K. V. (2006). Recognition of Landforms from Topographical Maps of India.
16. Vaidyanadhan, R. (1968). Index to a Set of Sixty Topographic Maps: Illustrating Specified Physiographic
    Features from India. Council of Scientific and Industrial Research, Ministry of Education, Government of India.

DSE-5			
Session: 2023-24			
Part A - Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Introduction to Population Geography		
Course Code	B23-GEO-606		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	DSE-5		
Level of the course (As per Annexure-I	300-399		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. gain knowledge about the basic concepts of population geography. 2. enhance the knowledge how space is occupied by population. **3.** understand the composition of population. 4. familiarize with world pattern of literacy and work participation. _____ 5* gain knowledge of mapping demographic and socio – economic data.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks:20+10=30** **End Term Exam Marks: 50+20=70**		**Time: 03 Hours**	
Part B- Contents of the Course			

Instructions for Paper- Setter

Question 1 is compulsory consisting of five sub parts spread over entire syllabus (two marks for each sub parts), 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, scope and significance of population geography; basic concepts of population geography 2. Approaches to study population geography, and its relation with other subjects.	11
II	3. Sources of population data: census, civil registration system, and sample survey. 4. Distribution, density and growth of population: determinants and world pattern.	11
III	5. Age and sex composition of population: pattern, determinants and impacts. 6. Migration: concepts, types, factors and trends.	11
IV	7. Occupational structure of population: pattern and determinants; work participation rate (WPR) gender gaps in WPR, dependency ratio. 8. Literacy: difference between literacy and education, world pattern and determinants of literacy rate and gender gaps in literacy.	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. Methods of representing population distribution and density (2excercises). 2. Spatial and temporal growth of world population (2 exercises). 3. Composition of population (1 exercises). 4. Method of representing occupational structure, types of workers and work participation rates (2 exercises). 5. Methods of representing gender gap in literacy rate (1	30

	exercise).	

Suggested Evaluation Methods

Internal Assessment: ➢ **Theory** • Class Participation: **5 Marks** • Seminar/presentation/assignment/quiz/class test etc**.: 5 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** **20 Marks**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Bergwan, Edward E. (1985) Human Geography: Culture Connections and Landscape, Prentice-Hall, New Jersey.
2. Carr, M. Patterns (1987) Process and Change in Human Geography, McMillan Education, London.
3. Chandna, R.C. (2016) A Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
4. DeBlij, H. J. (1996) Human Geography, Culture, Society and Space, John Wiley, New York.
5. Fellman, J.L. (1997) Human Geography-Landscapes of Human Activities, Brown and Benchman Pub., USA.
6. Ghosh, B.N. (1985) Fundamentals of Population Geography, Sterling, New Delhi
7. Hassan, M.I. (2020) Population Geography: A Systematic Exposition, Routledge, London.
8. Helen D. Hazen, Heike C. Alberts, Kazimierz J. Zaniewski (2023) Population Geography: Social Justice for a Sustainable World, Tylor and Francis.
9. Hussain, M. (2018) Human Geography, Rawat, Publication, Jaipur.
10. Maurya, S.D. (2017) Population Geography,
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. Roy, Debjani (2022) Population Geography, Books and Allied Pvt Ltd.
15. Singh, Y.I (2021) Population and Settlement Geography, AHP publishers.

CC-M6(V)			
Session: 2023-24			
Part A - Introduction			
Subject	Geography		
Semester	VI		
Name of the Course	Making of Maps		
Course Code	B23-VOC-320		
Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M6(V)		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)	N.A.		
Course Learning Outcomes (CLOs):	After successful completion of this course students will be able to: 1. understand about map preparation methods using conventional symbols & will be able to read a map. 2. understand graphical representation of climatic data. 3. understand the concept of dot method**.** 4. interpret the weather charts using different symbols. 5* understand practically how to make maps using different techniques.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 **Internal Assessment Marks: 20+10 = 30** **End Term Exam Marks: 50+20 = 70**		**Time: 03 Hours**	
Part B- Contents of the Course			
Instructions for Paper- Setter			
Question 1 is compulsory comprising of five sub parts spread over entire syllabus (two 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. Maps: Definition and classification. 2. Scale: Definition, and classification. Conversion of scale (RF and Statement of scale).	11
II	3. Climatic data by line and bar graph. 4. Windrose diagram to show direction of winds.	11
III	5. Population distribution by simple & population density by multiple dot method. 6. Population growth: line graph, composite bar graph showing total, rural and urban population (India & Haryana).	11
IV	7. Interpretation of relief, drainage and settlement from topographical map. 8. Symbols in daily weather report used by Indian meteorological department (IMD) and isobaric pattern	12
V*	Instructions for external practical examiner: There will be three questions in all, and candidate must 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: - Representation of various maps and diagrams: 1. Draw map of Haryana using all conventional symbols (1) 2. Construction of wind rose diagram (1) 3. Construction of line and bar graph to show the temperature and rainfall (2) 4. Simple & multiple dot method maps (2) 5. Draw cultural and physical features using toposheet (2)	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**
➢ **Practicum**
• Class Participation: **NIL**
  • Seminar/Demonstration/Viva-voce/Lab records etc.: **10 Marks**
  • Mid-Term Exam: **NIL**
	50 Marks
	
	20 Marks

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Dent B.D., 1999. Cartography: Thematic Map Design, (Vol. 1), McGraw Hill.
2. Gupta K.K and Tyagi V.C., 1992. Working with Maps, Survey of India, DST, New Delhi.
3. Mishra R.P. and Ramesh A., 1989. Fundamentals of Cartography, Concept Publishing.
4. Monkhouse, F.J. and Wilkinson, H.R., 1971. Maps and Diagrams. Methuen and Co. Ltd., London. K.
5. Singh, R.L., 2005. Elements of Practical Geography. Kalyani Publishers, New Delhi. India.
6. Ramamurthy, K., 1982. Map Interpretation, Rex Printers, Madras.
7. Robinson A. ,1953. Elements of Cartography, John Wiley.
8. Singh, G., 2005. Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi
9. Singh, L.R. and Singh, R., 1973. Map work and practical geography, Central Book Allahabad
10. Siddhartha, K., 2006. Geography through maps, Kisalaya Publications Pvt. Ltd, Delhi
11. Steers, J.A., 1970. An Introduction to Study of Map Projections. University of London Press Ltd., London