NATIONAL EDUCATION POLICY-2020

Common Minimum Syllabus for all Uttarakhand State Universities and Colleges for First Three Years of Higher Education

PROPOSED STRUCTURE OF
UG -GEOGRAPHY
SYLLABUS

2021

Curriculum Design Committee, Uttarakhand

Sr.No.	Name & Designation	
1.	Prof. N.K. Joshi Vice-Chancellor , Kumaun University Nainital	Chairman
2.	Prof. O.P.S. Negi Vice-Chancellor , Uttarakhand Open University	Member
3.	Prof. P. P. Dhyani Vice-Chancellor , Sri Dev Suman Uttarakhand University	Member
4.	Prof. N.S. Bhandari Vice-Chancellor, Soban Singh Jeena University Almora	Member
5.	Prof. Surekha Dangwal Vice-Chancellor, Doon University, Dehradun	Member
6.	Prof. M.S.M. Rawat Advisor, Rashtriya Uchchatar Shiksha Abhiyan, Uttarakhand	Member
7.	Prof. K. D. Purohit Advisor, Rashtriya Uchchatar Shiksha Abhiyan, Uttarakhand	Member

Expert Committee:

S.N	Name	Designation	Department	Affiliation
1.	Dr. R.K.Pande	Professor, Head & Dean of Arts Faculty	Department of Geography	D.S.B. Kumaun University, Nainital
2.	Dr. D.C. Goswami	Professor & Head	Department of Geography	Sri Dev Suman Uttarakhand University, Campus- Rishikesh
3.	Dr. Jyoti Joshi	Associate Professor & Head of the Department	Department of Geography	Soban Singh Jeena Almora University, Almora
4.	Dr. R.C. Joshi	Professor	Department of Geography	D.S.B. Kumaun University, Nainital
5	Dr. Anita Pande	Professor	Department of Geography	D.S.B. Kumaun University, Nainital

Syllabus Preparation Committee

S.N	Name	Designation	Department	Affiliation
1.	Dr. R.K.Pande	Professor, Head & Dean of Arts Faculty	Department of Geography	D.S.B. Kumaun University, Nainital
2.	Dr. D.C. Goswami	Professor & Head	Department of Geography	Sri Dev Suman Uttarakhand University, Campus- Rishikesh
3.	Dr. Jyoti Joshi	Associate Professor & Head of the Department	Department of Geography	Soban Singh Jeena Almora University, Almora
4.	Dr. R.C. Joshi	Professor	Department of Geography	D.S.B. Kumaun University, Nainital
5	Dr. Anita Pande	Professor	Department of Geography	D.S.B. Kumaun University, Nainital
6	Dr. Kritika Bora	Guest Faculty	Department of Geography	D.S.B. Kumaun University, Nainital

List of all Papers in Six Semester Semester-wise Titles of the Papers in Under Graduate					
Year	**Sem.**	**Course Code**	**Paper Title**	**Theory/ Practical**	**Credits**
Certificate Course in Arts/Science					
FIRST YEAR	I	GEOG101T	Physical Geography	Theory	4
		GEOG102P	Basic Cartographic Techniques and Map Reading	Practical	2
	II	GEOG201T	Human Geography	Theory	4
		GEOG202P	Surveying Techniques	Practical	2
Diploma in Art/Sciences					
SECOND YEAR	III	GEOG301T	Tourism Geography	Theory	4
		GEOG302P	Thematic Cartography	Practical	2
	IV	GEOG401T	Regional Planning and Development	Theory	4
		GEOG402P	Quantitative Techniques and Map Projection	Practical	2
Bachelor of Arts/Science					
THIRD YEAR	V	GEOG501T	Geography of India	Theory	4
		GEOG502T	Economic Geography	Theory	4
		GEOG503P	Field Excursion	Practical	2
		GEOG504R	Survey/ Research Project -1	Project	4
	VI	GEOG601T	Evolution of Geographical Thoughts	Theory	4
		GEOG602T	Agricultural Geography	Theory	4
		GEOG603P	Basics of Remote Sensing & GIS	Practical	2
		GEOG604R	Survey/ Research Project -2	Project	4

Subject prerequisites:

Subject is open to all have passed 10+2 level in any stream
But,

1. To study Geography, a student had the subject Geography learnt at 10+2 level.
2. Anyone who has mathematics, physics, biology as base subjects at 10+2 level.
3. Keen interest in Earth and its physical and social environment and maps.
4. Computer and drawing skills.
5. Creativity, sound observation and analytical aptitude while working on scientific procedures and research.

COURSE INTRODUCTION

Geography helps us to have an awareness of a place. All places and spaces have a history behind them, shaped by humans, earth, and climate. It also helps students with spatial awareness on the globe. Understanding direction and where things are in the world is still a vital skill, despite having easy access to this information online. **Physical Geography:** includes the study of the physical makeup of a land which includes climate, landforms, soil and growth, bodies of waters, and natural resources. **Human Geography:** on the other hand, includes the study of people and culture and how they are distributed across the globe and are more likely to participate in the global community. Geography helps to develop factual reading skills — not only in the studying of maps, but also in the reading materials that are associated with geography. Geography often involves first-hand accounts, reading of research studies, and analysis of data sets. Geography puts history in context.

It helps us see the why, when, and how of what happened in history. One can learn History better by learning Geography.

Globalization is the process of cultures travelling globally and having an effect on others. Studying geography helps to understand where globalization might lead. Studying geography will make you better understand current events. Studying geography can enhance your navigation skills, no matter where you are. Studying geography will help you make sense of and appreciate different cultures around the globe. Learning about land, resource availability, and how that has shaped a culture to be the way it is today helps you understand the uniqueness of a culture. The study of geography helps us to understand relationships between cultures. Ultimately, this leads to a more accepting and culturally aware society.

Those who study geography have a unique perspective — one that comes with the knowledge of many cultures and spatial awareness that is not replicated in other disciplines. This mix of knowledge can help geographers come up with significant and unique solutions that others may not be able to see. Another way geography can have a positive influence in the world is by creating awareness of the effect of climate change. Geographers have intimate knowledge of weather patterns and climate changes throughout the course of history on areas of land. They also have studied how those changes have affected humans in those areas. That knowledge is shared with others to hopefully bring an understanding and global awareness of the effects of climate change on human society.

Geography will help you better understand news, help fight climate change, be a part of a global community, understand cultures, and learn history. At the end of the day, geography will help to become a better overall global citizen.

Programme outcomes (POs):

(After 3 Years of Study in Geography Under Graduate Programme)

PO 1	This course will provide students, the basic concepts of Physical & Human Geography.
PO2	It will help in developing analytical and critical thinking based on the themes and issues of Geography.
PO 3	Students will be able to analyze the problems of present physical as well as cultural world and they will try to find out the possible measures to solve those problems.
PO 4	Students will be able to understand applied and interdisciplinary aspects of Geography.
PO 5	Students will be able to design and conduct research projects in geography.
PO 6	Students will learn how to use various surveying instruments in the field.
PO 7	Students will be equipped with various statistical techniques and their uses.
PO 8	Students will learn how to prepare maps based on toposheets as well as GIS.
PO 9	Students will be able find out an original research question appropriate for geographic analysis.
PO10	Students will be able to design and implement legitimate geographic methodology.

PO 11	As a student of Geography, they will be capable to develop their observation power through field experience and to identify the socio-environmental problems of the areas and regions.
PO 12	Students will prepare themselves for professional careers in Geography.
PO 13	As a spatial science subject will train students to employ in the sectors of geospatial analysis, regional planning and development, tourism, mapping and surveying etc.
PO 14	Through this course students will be able to prepare themselves for Post Graduate and further Ph.D. programs in Geography.
PO 15	Students will be able to relate and use geographical knowledge and its applied aspects in their practical life.

Programme specific outcomes (PSOs):
UG I Year / Certificate course Arts/Science

1. Student will gain the knowledge of Physical Geography. Student will have a general understanding about the geomorphological and geotechnical process and formation. They will be able to correlate the knowledge of physical geography with the human geography.

2. Imbibing knowledge, skills and holistic understanding of the Earth, atmosphere, oceans and the planet through analysis of landform development; crustal mobility and tectonics, climate change and dynamics; soil formation and classification; hydrological and oceanographic studies etc.

3. Associating landforms with structure and process; establishing man-environment relationships; and exploring the place and role of Geography vis-a-vis other social and earth sciences.

4. They will be able to acquire the knowledge of Human Geography and will correlate it with their practical life.

5. Student will be able to analyse the problems of physical as well as cultural environments of both rural and urban areas. Moreover they will try to find out the possible measures to solve those problems.

6. Students will be able to learn various Field Survey Techniques with diverse Survey Instruments.

7. Students will be able to learn the application of various modern instruments (GPS) and by these they will be able to collect primary data.

8. Applied geomorphologists working independently or serving on multidisciplinary advisory panels are well positioned to influence public policy to the benefit of society and the earth sciences.

Programme specific outcomes (PSOs):
UG II Year/ (Diploma in Arts/Science

1. Student will have a general understanding about the Tourism Geography of any region. They will be able to correlate the knowledge of Tourism Geography with the Regional Development and Planning.

2. Students will be able analyze the prospects and potential of tourism in Uttarakhand State. Moreover they will try to find out the possible contribution of tourism development in regional development and planning.

3. Expertise in Statistical Techniques will be useful in quantitative assessment of the geographical data the students can be able to justify their research outcomes which will ultimately contribute to the proper formulation of developmental plans.

4. The earth is three dimensional, and it is a challenge to show information in 3D to communicate with others. The map projection techniques will be helpful to put the earth on the flat surface which makes it easier for all to understand. The map projection techniques the students will be able to map and communicate the geographical informations of any region and any plans they have for solving problems that arise.

Programme specific outcomes (PSOs):
UG III Year / Bachelor of Arts/Science

PSO 1	Inculcating a tolerant mindset and attitude towards the vast socio-cultural diversity of India by studying and discussing contemporary concepts of social and cultural geography. Understanding and accounting for regional disparities, poverty, unemployment and the impacts of globalization. Explaining and analyzing the regional diversity of India through interpretation of natural and planning regions.
PSO 2	Understanding the role and functioning of global economies, industrial locations; and the use and exploitation of resources with impacts.
PSO 3	Understanding the history of the subject; over viewing ancient and contemporary geographical thought and its relationship with modern concepts of empiricism, positivism, radicalism, behaviouralism , idealism etc.
PSO 4	Students correlate activity of agriculture and its determinants, Classify various types of agriculture in the world and differentiate, Discuss the problems and prospects of agriculture, Acquire new methods, techniques and trends used in agriculture, Understand the concept of sustainable agricultural development.
PSO 5	Conduct Social Survey Project: They will be eligible for conducting social survey project which is needed for measuring the status of development of a particular group or section of the society
PSO6	Training in practical techniques of mapping, cartography, softwares, interpretation of maps, photographs and images etc; so as to understand the spatial variation of phenomena on the Earth's surface.

PSO7	Students will learn how to prepare map based on GIS by using the modern geographical map making techniques.
PSO8	Development of Observation Power: As a student of Geography Course they will be capable to develop their observation power through field experience and in future they will be able to identify the socio-environmental problems of a locality.
PSO9	After the completion of the project they will be efficient in their communication skill as well as power of social interaction. Some of the students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.
PSO 10	Demonstrate knowledge and understanding of the management principles and apply these to their own work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PSO 11	Employment Opportunities: Many geography grads go into urban and regional planning, a field that is growing fast. Other geographers work in environmental management and consultation and can have a direct impact in the fight against climate change. Also, the skills learned during a geography degree, such as cartography, data representation, and research writing, transfer well into the workforce and can make you a standout applicant.
PSO12	Inculcating a tolerant mindset and attitude towards the vast socio-cultural diversity of Uttarakhand by studying and discussing contemporary concepts of social and cultural geography. Explaining and analyzing the regional diversity of Uttarakhand through interpretation of Physical regions.

	Year wise Structure of Under Graduate (CORE / ELECTIVE COURSES & PROJECTS)										
	Subject: Geography										Total Credits /hrs/
Course/ Entry –Exit Levels	**Year**	**Sem**	**Paper 1**	**Credit/ hrs**	**Paper 2**	**Credit/ hrs**	**Paper 3**	**Credit/ hrs**	**Research Project**	**Credit/ hrs**	
Certificate Course in Arts/Science	**I**	**I**	Physical Geography	4	Basic Cartographic Techniques and Map Readings	2	Applied Geomorphology	4	--	--	
		II	Human Geography	4	Surveying Techniques	2	--	--	--	--	
Diploma in Arts/Science	**II**	**III**	Tourism Geography	4	Thematic Cartography	2	Social and Cultural Diversity in Uttarakhand	4	--	--	
		IV	Regional planning and Development	4	Statistical and Map Projection Techniques	2	--	--	--	--	
Bachelor of Arts/Science	**III**	**V**	Geography of India	4	Economic Geography	4	Educational Tour	2	Survey/ Research Project-1	4	
		VI	Evolution of Geographical Thoughts	4	Agricultural Geography	4	Remote Sensing & GIS Techniques	2	Survey/ Research Project-2	4	
Comments											

Internal Assessment & External Assessment
Only for Theory Paper

Internal Assessment	**Marks 25**	**External Assessment**	**Marks 75**
Internal Assessment would be based on Written Test	**20**	External Assessment would be done on the Basis of University Examination System.	
Internal Assessment would be based on Attendance	**05**		

CERTIFICATE COURSE IN ARTS/SCIENCE		
Programme: ***Certificate Course in Arts/Science***	**Year: I**	**Semester: I Paper-I**
Subject: Geography		
Course Code: GEOG101T	**Course Title: Physical Geography**	

Course Outcomes:

1. Understand the origin of Universe, Earth and Solar system.

2. Learn about the Continents and Oceans.

3. Plate tectonics and related movements.

4. Origin and development of different Landforms on the Earth.

5. Earth's climate and factors influencing it.

6. Understand formation of Soil, types, profiles and biogeography.

7. Ocean systems of the world.

Credits: 04	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Meaning, Scope and Branches of Physical Geography, Origin of Universe, Solar system and Earth. Geological Time Scale, Theories of Laplace, Chamberlin, James Jeans, Jeffreys, and Hoyle & Lyttleton, Interior of the earth, Rocks: origin and classification.	12
Unit II	Origin of continents and ocean basins: Continental drift and convectional current theories, Plate Tectonics, Isostasy, Earth movements, Endogenetic forces, landforms: Mountains, Plateau and Plains, Gradational processes, Weathering and Erosion, normal cycle of erosion, Arid, Glacial, Marine and Karst topographies, Vulcanicity and Earthquakes.	15
Unit III	Soil as a basic component of environment, Soil profile (Soil horizon): Characteristics and Significance, Processes and factors of soil formation. Biodiversity and Biosphere, Biotic succession, Biomes and their types, Zoo-geographical regions of the world. Biodiversity conservation.	10
Unit IV	Composition and structure of atmosphere, Insolation, Vertical and Horizontal Distribution of temperature, Pressure and pressure belts, Winds: Planetary, Periodic and Local. Humidity, Clouds and Precipitation, Cyclones and Anticyclones.	14
Unit V	Ocean bottom topography, Ocean deposits, Salinity, Temperature, Ocean currents, Tides and Coral reefs.	09

Suggested Reading:

1. Barry, R.G. and Chorley, R.J. (1998). Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001). Physical Geography Made Simple. Rupa and Co., New Delhi.
3. Bunnett, R.B. (2003). Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Pvt Ltd.
4. Garrison T (1998). Oceanography. Wordsworth Cp, Bedmont.
5. Lake, P. (1979). Physical Geography (English & Hindi Edition) Cambridge Univ. Press, Cambridge.
6. Monkhouse, F I (1979). Physical Geography, Methuen, London.
7. Singh, S. (2003). Physical Geography (English and Hindi Editions) Prayag Pustak Bhawan, Allahabad.
8. Singh, M.B. (2001) Bhoutik Bhoogol, Tara Book Agency, Varanasi.
9. Strahler, A.N. and Strahler A.M. (1992). Modern Physical Geography, John Wiley and Sons, New York
10. Wooldridge, S.W. and Morgan, R.S. (1959). The Physical Basis of Geography: An Outline of Geomorphology.Longman, London.

Suggested Online Link:

Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/cec21_hs03/preview
https://onlinecourses.swayam2.ac.in/nos20_sc25/preview

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Class Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

CERTIFICATE COURSE IN ARTS/SCIENCE		
Programme: ***Certificate Course in Arts/Science***	**Year: I**	**Semester: I Paper-II**
Subject: Geography		
Course Code: GEOG102P	**Course Title: Basic Cartographic Techniques and Map Readings**	
Course Outcomes: **1.** Learn basics of Cartography and Map making **2.** Understand and interpret toposheets and weather maps **3.** Draw maps with the help of toposheets **4.** Learn function and use of meteorological instruments		
Credits: 2	**Core Compulsory**	

Max. Marks: 80+10+10 (Lab exercise-Record File-Viva-Voce)		Min. Passing Marks:
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P:0-0-2		
Unit	**Topic**	**No. of Lectures**
Unit I	Meaning, importance and types of Scale, Conversion of Scale, Construction of Plain, Comparative and Diagonal Scale. Methods of enlargement and reduction of maps.	7
Unit II	Definition, nature and scope of cartography, Globe and maps, Essentials of maps, History of map making, Types and uses of maps, Elements of map reading.	4
Unit III	Cartographic representation of relief: Hachures, Contours, Form line, Spot height, Bench mark, Trig point, Layer tint; Interpolation of contours.	5
Unit IV	Indian topographical map system: Their classification and types. Interpretation of topographical maps and preparation of base map, index map, drainage map, toporographic map, land use map, settlement map and transportation network map.	8
Unit V	Indian weather maps: Interpretation and preparation of weather report, Meteorological instruments; Barometer, Thermometer (Minimum, Maximum, Dry and Wet bulb), Rain gauge, Wind vane and Anemometer.	6

Suggested Reading:

1. Monkhouse, F.J. & Wilkinson, F.J. (1985). Maps and Diagrams. Methuen, London.
2. Raisz, E (1962). General Cartography. John Wiley &Sons, New York.
3. Sharma, J.P. (2001). Prayogik Bhoogol. Rastogi Pub, Meerut.
4. Singh, R. L. & Singh, Rana PB (1993). Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.
5. Singh, L. R. (2006). Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all.

Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

CERTIFICATE COURSE IN ARTS/ SCIENCE		
Programme: *Certificate Course in Arts/Science*	**Year: I**	**Semester: II Paper-I**
Subject: Geography		
Course Code: GEOG201T	**Course Title: Human Geography**	

Course Outcomes:

1. Learn Meaning, Concept, Nature, Scope and development of Human Geography.

2. Understand Cultural Changes in and around the world.

3. Learn about the different races, religions, tribes, their culture and cultural development.

Credits: 04	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Definition and scope of Human Geography; human versus physical geography; branches of Human Geography; Development of Human Geography; Contributions of German and French Geographers. Contribution of Indian Geographers.	12
Unit II	Schools: Determinism, possibilism, welfare or humanistic and positivism; Approaches: ecological, landscape, locational, welfare and humanistic.	12
Unit III	Elements of environment; physical and human environment; constraints and opportunities of the environment; impact of environment on man; impact of man on environment; environmental problems; pollution, natural hazards, and climate change.	12
Unit IV	Evolution of man: Classification of races, Characteristics of races and their world distribution, Human adaptation to the environment: Eskimo, Bushman and Masai. Tribes of India; habitat, economy and culture with special reference to Naga, Bhil, Santhal, Gaddi, Bhotia, and Tharu tribes.	14
Unit V	Human Settlements: Origin, types and patterns (Rural and Urban) characteristics, House types and their distribution with special reference to India.	10

Suggested Reading:

1. Singh, L.R. (2005). Fundamentals of Human Geography. Sharda Pustak Bhawan, Allahabad.
2. DeBlij, H.J. Human Geography: Culture, Society and Space. John Wiley, New York.
3. Haggett, P. (2004). Geography: A Modern Synthesis. Harper & Row, New York
4. Hussain, M. (1994): Human Geography. Rawat Publication, Jaipur.
5. Kaushik, S.D.& Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Pub. Meerut.
6. Norton W. (1995). Human Geography. Oxford University Press, New York.
7. Singh, K. N. & Singh J. (2001). Manviya Bhoogol. Gyanodaya Prakashan, Gorakhpur.

Suggested Online Link:

Suggested equivalent online courses:

Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/nou20_hs18/preview

This course can be opted as an elective by the students of following subjects: Open to all.

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

CERTIFICATE COURSE IN ARTS/SCIENCE			
Programme: ***Certificate Course in Arts/Science***		**Year: I**	**Semester: II Paper-II**
Subject: Geography			
Course Code: GEOG202P	**Course Title: Surveying Techniques**		
Course Outcomes: **1.** Understand importance of Surveying. **2.** Learn to use Different Surveying instruments including GPS.			
Credits: 2		**Core Compulsory**	
Max. Marks: 80+10+10 (Lab exercise-Record File-Viva-Voce)		**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-2			
Unit	**Topic**		**No. of Lectures**
Unit I	Fundamentals of Surveying: Objects, Primary divisions of survey, Classification.		2
Unit II	Plane Table Surveying: Radiation, Intersection, Close Traverse, Open Traverse, Resection by two point and three-point problems.		9
Unit III	Surveying by Prismatic Compass: Close Traverse, Open Traverse, and Correction of bearing.		9
Unit IV	Measurement of height and depth by Indian Pattern Clinometer.		5
Unit V	Use and Applications of GPS in surveying		5

Suggested Reading:

1. Monkhouse, F.J. & Wilkinson, F.J. (1985). Maps and Diagrams. Methuen, London.
2. Raisz, E. (1962). General Cartography. John Wiley & Sons, New York.
3. Sharma, J.P. (2001). Prayogik Bhoogaol. Rastogi Pub, Meerut.
4. Singh, R.L. & Singh, Rana P.B. (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.
5. Singh, L. R. (2006). Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all.

Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

DIPLOMA IN ARTS/SCIENCE		
Programme: ***Diploma in Arts/Science***	**Year: II**	**Semester: III Paper-I**
Subject: Geography		
Course Code: GEOG301T	**Course Title: Tourism Geography**	

Course Outcomes:

1. Understand the concept and importance of tourism and tourism Geography.

2. Infrastructure required by the tourism services.

3. Learn impacts on Environment, economy and society.

4. Tourism prospects and challenges in Uttarakhand.

Credits: 4	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Concept of Leisure and Tourism; Development of Tourism; Types of Tourism; Definition, Scope and Significance of Geography of Tourism; Geographical Basis of Tourism; Resources and Infrastructure for Tourism: Transportation, Accommodation and Basic Infrastructure.	12
Unit II	Impact of Tourism: Physical, Economic, Social and Cultural Impacts; Concept of Ecotourism; New Emerging Trends in Tourism. Statistics of tourism and data collection.	12

Unit III	Tourism Marketing: Marketing Concepts and Marketing in Tourism; The Tourist Product; Segmentation- A Priori Segmentation; Tourism Circuits; Tour Agencies. Components of a Tourism Plan, The Tourism Planning Process.	12
Unit IV	Globalization and Tourism; Tourism in India; Resource and Growth; National Tourism Policy in India; Tourism Organizations. Role of WTO, IATA, UPTAA, AI, IATO, etc. in promotion and development of tourism	12
Unit V	Sustainable Tourism Development in Uttarakhand: Policies and Planning for Tourism Development; Tourism Carrying Capacity and Limits of Acceptable Change; Pro-Poor Tourism (PPT); Environmental, Cultural, Social and Historical Attractions with special reference to Uttarakhand Himalaya; Framework for Monitoring Sustainability of Tourism in Uttarakhand.	12

Suggested Reading:

1. Bhatia A.K. (1978). Tourism in India. Sterling pub. New Delhi.
2. Burkarl, A.J. (1974). Tourism, Past, present and future Heineman London.
3. Gearing Charles, E (1976). Planning for Tourism development Praeger Pub, NewYork
4. Lawbon, F &Bauet B. (1977) Tourism and recreation Development mass, CBI pub.
5. Robinson H. (1976). A Geography of Tourism. MacDonald and Evans Ltd; London.
6. Douglas Pearce (1981). Topics in Applied Geography, Tourist Development. Longman London New York.
7. Stephen L.J. smoth (1989). Tourism Analysis: A Handbook-Longman Scientific of Telchnical.
8. Ministry of Tourism Govt. of India (1999): Report on National Tourism.
9. Pande, G.C. and D.C. Pandey (1999). Environmental Development and Management: Strategies and Policies, New Delhi.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

DIPLOMA IN ARTS/SCIENCE		
Programme: ***Diploma in Arts/Science***	**Year: II**	**Semester: III Paper-II**
Subject: Geography		
Course Code: GEOG302P	**Course Title: Thematic Cartography**	

Course Outcomes:

1. Learn theme-based cartography.

2. Able to represent geographical data of different types using diagrams,graphs and maps.

Credits: 2	**Core Compulsory**
Max. Marks: 80+10+10 (Lab exercise-Record File-Viva-Voce)	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-2

Unit	Topic	No. of Lectures
Unit I	Cartography: Meaning, Rules and Methods of Geographical data representation, Types of Diagrams, Graph, Distribution maps and cartogram. Isopleth and choropleth maps.	6
Unit II	Cartographic representation of geographical data by (a) dot method (b) proportional sphere method and circle method. Representation of economic data: Agricultural, land use, production and industrial data.	6
Unit III	Representation of population data: Growth, distribution and employment.	6
Unit IV	Representation of climatic data: Climatograph, Climograph and Hythergraph.	6
Unit V	Drainage ordering, Slope analysis: Wentworth's and Smith's methods.	6

Suggested Reading:

1. Monkhouse, F.J. & Wilkinson, F.J. (1985) Maps and Diagrams. Methues, London.
2. Raisz, E (1962) General Cartography. John Wiley &Sons, New York.
3. Sharma, J.P. (2001) Prayogik Bhoogol. Rastogi Pub, Meerut.
4. Singh R.L. & Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.
5. Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

DIPLOMA IN ARTS/SCIENCE		
Programme: ***Diploma in Arts/Science***	**Year: II**	**Semester: IV Paper-I**
Subject: Geography		
Course Code:GEOG401T	**Course Title: Regional Planning and Development**	

Course Outcomes:

1. Understand the concept of region, planning and development

2. Understand the importance of Regional planning.

3. Learn the process and strategies of planning.

4. Understand the theories of regional planning.

5. Problems of planning and causes of regional disparities.

Credits: 4	**Core Compulsory**
Max. Marks:25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Regional concept in geography: Concept, Scope & purpose of regional planning, Types of regions: Formal and functional; uniform and nodal, single purpose and composite region.	10
Unit II	Regional Planning: Planning process - sectoral, temporal and spatial dimensions; short-term and long-term perspective planning, Indicators of development and their data sources, measuring levels for regional development and disparities, Planning for regional development and multi-regional planning in national context	14
Unit III	Regional development strategies: Concentration vs. dispersal, Case studies for plans of developed and developing countries, Regional planning and development in India through Five year plans, problems and prospects, Regional disparities: causes and consequences.	13
Unit IV	Concept of Multi-level planning: Decentralized planning; peoples participation in the planning process, Concept and approaches of urban development, Landscape ecology and sustainable urban development, Application of remote sensing and Geographic Information System in Development Planning.	13
Unit V	Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow and Friedmann.	10

Suggested Reading:

1. Chitambar, J.B. (1993) Introductory Rural Sociology, Wiley Eastern, New Delhi.
2. Goomen, M.A. and Datta, A. (1995) Panchayats and their Finance, Rawat Pub. Co., New Delhi.
3. Matthews G. (editor) (1995) Status of Panchayati Raj: 1994, Institute of Social Sciences / Rawat Pub. Co., New Delhi.
4. Matthews A. (1994) Panchayati Raj: From Legislation to Movements, Rawat Pub. Co., New Delhi:
5. Misra, H.M. (ed) (1987) Contributions to Indian Geography, Volume 9: New Delhi.
6. De Blij, H.J. and Muller, P.O. (1997) Geography: R.R.C, 8th edition, J. W. & S. Ltd., NewYork.
7. Dickinson, J., Gould, B., Clarke, C., Mather, S., Prothero, M., Siddle, D., Smith, C. and Thomas-Hope, E. (1996) A Geography of the Third World, 2nd edition, Routledge, London
8. Bhat, L.S. (1972) Regional Planning in India, Indian Statistical Institute, Calcutta.
9. Bhat, L.S. (2003) Micro Planning: A Case Study of Karnal Area, KB Publications, New Delhi.
10. Chand, M. and Puri, V.K. (2004) Regional planning in India; Allied Publishers, New Delhi.
11. Chandana, R. C. (2005) Regional Development and Planning. Kalyani Publishers, New Delhi.
12. Dube, K.K. and Singh, M.B. (1986): Pradeshik Niyojan. Tara Book Agency, Varanasi.
13. Friedman, J.&Alonse, W. (1968) Regional Development & Planning, M.I.T. Press, Cambridge-Massachusetts.
14. Kuklinski, A.R. (ed.) (1975) Regional Development & Planning: International Perspectives.
15. Kuklinski, A.R. (1972) Growth Centres in Regional Planning. Mounton and Company, Paris.
16. Mishra, R.P, Sundaram, K.V., and Prakasarao, V.L.S. (1976) Regional Development Planning in India, Vikas Publishers., New Delhi.
17. Mishra, R.P. (1969) Regional Planning. University of Mysore, Mysore.
18. Mishra, R.P. (2002) Regional Planning, Concepts, Techniques, Policies and Case Studies, Concept Publishing Company, New Delhi.
19. Pandey, D.C. and P.C. Tiwari (1989) Dimensions of Development Planning, Volumes I and II, New Delhi.
20. Singh O.P. and D.C. Pandey (1986) Development Planning: Theory and Practice, Nainital.
21. Sharma, P.R. (ed.) (1993) Regional Policies and Development in the Third World. Rishi Publication., Varanasi.
22. Sundaram, K.V. (1977) Urban and Regional Planning in India, Vikas Publishers. New Delhi.
23. Sundaram, K.V. (1997) Decentralized Multilevel Planning: Principles and Practice. Asian and African Experience. Concept Publishing Company, New Delhi.

Suggested Online Link:

Suggested equivalent online courses: https://onlinecourses.swayam2.ac.in/aic19_ge05/preview

This course can be opted as an elective by the students of following subjects: Open to all.

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

DIPLOMA IN ARTS/SCIENCE		
Programme: ***Diploma in Arts/Science***	**Year: II**	**Semester: IV Paper-II**
Subject: Geography		
Course Code: GEOG402P	**Course Title: Quantitative Techniques and Map Projections**	

Course Outcomes:

1. Understand the importance of statistical methods in Geographical studies.

2. Learn data collection, tabulation, analysis and prediction.

3. Understand the need of projection and construction methods.

Credits: 2	**Core Compulsory**
Max. Marks: 80+10+10 (Lab exercise-Record File-Viva-Voce)	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-2

Unit	Topic	No. of Lectures
Unit I	Data: Meaning, and Types, Collection of data, Sampling Techniques and Methods, Measures of central tendency: Mean, Mode, and Median.	7
Unit II	Measures of dispersion; Mean Deviation, Quartile Deviation and Standard deviation, Correlation: Karl Pearson's and Spearman's methods.	5
Unit III	Definition, Necessity and Classification of map projection, Mathematical method of drawing projections, Construction of map projections: Simple conical projection with one and two standard parallels, Bonne's projection, Polyconic projection.	7
Unit IV	Cylindrical projections: Equidistant and Equal area cylindrical projections, Mercator's, Gall's stereographic projection.	6
Unit V	Zenithal Projections: Polar zenithal equidistant, Equatorial zenithal equidistant, Polar zenithal equal-area, Equatorial zenithal equal-area.	5

Suggested Readings:

1. Monkhouse, F.J. &Wilkinson, F.J.(1985)Maps and Diagrams. Methues, London.
2. Raisz, E. (1962). General Cartography. John Wiley & Sons, New York.
3. Sharma, J.P. (2001). Prayogik Bhoogaol. Rastogi Pub, Meerut.
4. Singh, R.L. &Singh, Rana P.B.(1993).Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.
5. Singh, L. R. (2006). Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

DEGREE IN ARTS/SCIENCE		
Programme: ***Degree in Arts/Science***	**Year: III**	**Semester: V Paper-I**
Subject: Geography		
Course Code: GEOG501T	**Course Title: Geography of India**	

Course Outcomes:

1. Help students to know the Uniqueness of India in the world.

2. Learn about the physical and cultural diversities and interrelationships of India.

3. Understand the agricultural, industrial and trade aspects of India.

Credits: 4	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	India- A subcontinent, Physical features, Geologic structure, Drainage system, Climate, Natural vegetation, Soils, Natural regions.	16
Unit II	Agriculture, Crops (Food, plantation and commercial), Agriculture production, Agriculture regions, Irrigation, Livestock raising and Fishery.	10
Unit III	Industries: Metallurgical, Textile, Engineering, Chemical, Food, Leather, Forest and Agro-industries, Industrial regions, Minerals and Power resources.	10
Unit IV	Population (density, distribution and urbanization), Multipurpose projects. Regional development and planning, Regional disparities, Five-year plans, Integrated rural development programme, Panchayati raj, Command area and watershed management.	14
Unit V	Transportation: Roads and railways, air transportation and pipeline transportation. Trade: Internal and External (Trend, composition and direction); SEZ (Special Economic Zones).	10

Suggested Reading:

1. Chauhan B.S. & Gautam Alka (2011) Bharat (Geography of India), Rastogi Publication, Meerut.
2. Chauhan B.S.& Gautam Alka (2013) Bharatvarsh kaVistrat Bhogool, Rastogi Publication, Meerut.
3. Hussain, Majid (2015) Geography of India, McGraw Hill Education, New Delhi.
4. Mamoria, C.B. (2007) Bharat Ka Bhoogol. Sahitya Bahwan, Agra.
5. Sharma,Y.K.(2009)Geography of India, Lakshmi Narayan, Agra.
6. Sharma, M.L.& Sharma H.S. (2011) Bharatka Bhogool, Rastogi Publication, Meerut.
7. Sharma, J.K.& Kalwar,S.C.(2011)Bharat ka Bhogool, Rastogi Publication, Meerut.
8. Singh R. L. (1993) Regional Geography of India, National Geographic Society of India, Varanasi.

Suggested Online Link:

Suggested equivalent online courses:
Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/nou20_ag10/preview

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

DEGREE IN ARTS/SCIENCE		
Programme: ***Degree in Arts/Science***	**Year: III**	**Semester: V Paper-II**
Subject: Geography		
Course Code: GEOG502T	**Course Title: Economic Geography**	

Course Outcomes:

1. Understand broad meaning and scope of Economic Geography.

2. Understand Economic landscape.

3. Learn world production of crops, industries, resources, and petroleum etc.

4. Learn theories of industrial location and factor responsible.

5. Understand trade and transportation scenario of the world.

Credits: 4	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	**Topic**	**No. of Lectures**
Unit I	Meaning, aim and scope of economic geography, Resources: Meaning, classification, conservation and concepts, Economic landscapes.	14
Unit II	Primary production, Vegetation & forest economy, Soil resources, Mineral resources (Iron ore and bauxite), Power resources (Coal, Petroleum and Hydro-electricity), Resource conservation.	12
Unit III	Main crops in the world: Wheat, paddy, sugarcane, coffee and tea. industries: Iron & steel, textiles, petro-chemical and sugar.	12

Unit IV	Theory of industrial location: Weber and Losch, Industrial regions of India and World.	10
Unit V	World transportation: trans-continental railways, sea and air routes, international trade, patterns and trends, trade blocks: NAFTA, EEC, ASEAN, G7 and G20, Globalization and developing countries.	12

Suggested Reading:

1. Alexander, I W (1988) Economic Geography. Prentice Hall, New Delhi.
2. Boesch, H (1964) A Geography of World Economy. Von Nostrand, New York.
3. Gautam, A (2006) Arthik Bhugol ke Mool Tatve. Sharda Pustak Bhawan, Allahabad.
4. Hartshorne, TA & Alaxender IW (1988) Economic Geograohy. Englewood Cliff, New Jersey.
5. Singh, KN and Singh I (2003) Arthik Bhugol ke Mool Tatve.Gyanodaya Prakashan,Gorakhpur.

Suggested Online Link:

Suggested equivalent online courses:

Courses on Swayam / MOOCs https://onlinecourses.nptel.ac.in/noc21_hs50/preview

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

DEGREE IN ARTS/SCIENCE			
Programme: ***Degree in Arts/Science***		**Year: III**	**Semester: V Paper-III**
Subject: Geography			
Course Code: GEOG503P	**Course Title: Field Excursion**		
Course Outcomes: **1.** Understand different physio-cultural settings of the visited region or area. . **2.** Understand the geographical differences among regions and areas and their causes. **3.** Learn to interact with peoples of different culture. **4.** Learn to Prepare tour report			
Credits: 2		**Core Compulsory**	
Max. Marks: 75+25 (Tour Report-Viva-Voce)		**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-2			
Unit	**Topic**		**No. of Lectures**

Unit I	How to prepare Field Manuscript, Steps and methods of preparing Tour report, Methodology adopted for Research in Field Trip, Various other aspects of study in Field Trip, Preparation of Surveying in Field Trip. Prerequisites of field trip. Conducts during field visit. (Different lectures would be taken before and during field visit).	30

Suggested Continuous Evaluation Methods:
The following shall be the guidelines and structure of Educational tour;

Geographical Excursion Committee

1. All faculty members shall organize geographical excursion as 'tour in-charge' in rotation according to departmental seniority list.
2. There shall be Geographical Excursion Committee headed by HOD in University and Principal in colleges. Tour in-charge shall act as convener of committee and shall convene a meeting at the beginning of session or semester. All other teachers of department shall be member of committee. Four/Five meritorious students based on last available examination result shall be invited by the tour in-charge to participate in meeting as members of committee.
3. Committee shall:

a) Review the tour plan.
b) Confirm that all arrangements shall be made in advance before tour departure.
c) Listen to the opinion of students and give recommendations to tour in-charge accordingly.
d) Review academic nature of tour and evaluate day wise tour plan and academic activity as submitted by Tour in-charge.

Structure of the tour party

1. For 20 or less than 20 students one faculty member with one non teaching staff shall accompany the Tour party. For 21 to 50 students two faculty members with one non teaching staff shall accompany the Tour party. If two faculty members are required for tour, second faculty member shall be selected on the recommendation of tour in-charge. If students are more than 50 then a separate tour batch shall be constituted in same manner.

2. If female students are also participating in tour and tour in-charge, accompany other faculty member or Non teaching staff none are female then one female attended (Female faculty member from Geography or any other departments/female non teaching staff) shall accompany with tour party.

Responsibility of tour in-charge

1. Tour shall at least of 6 days stay at location with inter region variation.
2. Tour in-charge shall submit tentative day wise activity report in advance to HOD in University and Principal in colleges.
3. Tour in-charge shall coordinate with Institutes/Colleges/ Universities/Research institutes etc in location where tour is being planned for following activities like;

a) Interaction of students.
b) Lectures on various local physical and cultural attributes of the area by the experts.
c) Local visit with faculty members having academic understanding of the area.

4. Lectures by tour in-charge on physical and human characteristics of area being visited for educational tour.
5. Survey with students with at least one instrument like Dumpy Level, Sextant, Theodolite, GPS etc.
6. Questionnaire survey on various socio-cultural or any other aspects. Questionnaire must be prepared in advance and shall be shared during Geographical Excursion Committee meeting.
7. Tour in-charge shall collect undertaking from all students which shall be counter signed by their guardian.
8. Tour in-charge will prepare list of students accompanying the tour with their information like mobile number, address, guardian contact information and one recent color photo. One copy will also be submitted to the head in universities and Principal in colleges.
9. Teacher shall always try to minimize tour expenditure of students by;

a) Using concession train reservation and avoiding buses if possible.
b) Making stay arrangements of students in advance in youth hostels/lodges/guest 25 house etc.
c) Try to visit few important locations only with objective of spot study and avoiding unnecessary travel for sightseeing.

10. After the completion of tour there shall be presentation by students regarding learning outcomes and experiences under the supervision of tour in-charge. Presentation shall be attended by Geographical Excursion Committee members along with other faculty members, staff, students etc.
11. All students shall submit tour report under supervision of Tour in-charge for evaluation. Tour report shall portray all activities conducted and places visited for the purposes of study.

12. In case of any incident/injury where one or more than one student can't join tour party in return journey. One teaching/non teaching staff member shall stay with student until student's guardian arrives or alternative arrangement is not made by the college. In case tour in-charge stays the other teacher/staff member shall act as tour in-charge for remaining tour period according to seniority.

Exemption of Students from Tour

1. Tour can be exempted in very special circumstances on recommendation of tour incharge and head (in University) or Principal (in Colleges). Exempted students will prepare local tour report based on his/her own local tour visits. Report shall be prepared under supervision of tour in-charge.

TA, DA and other expenses

1. The TA, DA and other expenses of teachers and attendants shall be met out by college as admissible to their cadre as per government rules.

Suggested equivalent online courses

DEGREE IN ARTS/SCIENCE		
Programme: ***Degree in Arts/Science***	**Year: III**	**Semester: V Paper-IV**
Subject: Geography		
Course Code: GEOG504R	**Course Title: Survey/ Research Project -1**	

Course Outcomes:

1. Understand the importance of research and research methodology.

2. Learn how to conduct research project.

3. Learn to prepare project report.

Credits: 4 (3 credits for Theory and 1 credit for preparation of field survey)	**Core Compulsory**
Max. Marks: 100	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-P

Unit	Topic	No. of Lectures
Unit I	Meaning, types and significance of Research, Literature review and formulation of research design, research problem, objectives, hypothesis, Research materials and methods, Sampling. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract and keywords etc.	**45**
Unit II	Selection of research problem and study area.	**15**
Note	1. Each faculty member shall teach these topics of research to his/her Group of students independently. 2. Student shall choose supervisor according to his/her research interest and specialisation of Faculty member.	

Suggested Readings:

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

DEGREE IN ARTS/SCIENCE		
Programme: Degree *in Arts/Science*	**Year: III**	**Semester: VI Paper-I**
Subject: Geography		
Course Code: GEOG601T	**Course Title: Evolution of Geographical Thoughts**	

Course Outcomes:

1. Understand the development of Geography as a scientific discipline.

2. Learn the basic concepts of Geography.

3. Know the impact of expedition, discoveries and exploration on Geographical knowledge.

4. Contributions of Indian, Arab, Greek, Roman, and modern geographers.

Credits: 4	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week):L-T-P: 4-0-0

Unit	Topic	No. of Lectures
Unit I	Definition and purpose of Geography, Science and philosophy of Geography, The basic concepts of Geography, Techniques and tools in Geography, Different branches of Geography, Relationship of Geography with other Sciences.	12
Unit II	Geography in classical times: Greek and Roman Geographers, Contribution by Arab Geographers.	12
Unit III	Renaissance, Eighteenth century Geography, Development of Geographical Thought in India: Ancient and Modern. Contribution of Important Indian Geographers.	12
Unit IV	Formulation of scientific Geography, Schools of thoughts; German, French, British, American and former Soviet Union. Environmental determinism, possibilism, Neo-determinism and probabilism.	12
Unit V	Dualism in Geography, Dichotomy of scientific and regional Geography; Unity in Geography, Concept of Regions and regionalization, Quantitative Geography, Recent Trends in Geography.	12

Suggested Reading:

1. Abler, Ronald; Adams John S. Gould, Peter (1971) Spatial Organization: The Geographer's View of the world. Prentice Hall.N.I.
2. Ali.S.M: The Geography of Puranas (1996) People of Publishing House, Delhi.
3. Amedeo, Douglas (1971) An Introduction to scientific Reasoning in Geography, John Wiley, USA.
4. Dikshit, R.D. (ed): The Arts and science of Geography integrated readings, P.H.I, New Delhi.

5. Hartshone, R. (1959) Perspectives on Nature of Geography, Rand Mcnally &co.
6. Husain, M. (1984) Evaluation of Geographical thought, Rawat Publication, Jaipur.
7. Johston,R.J.(1983)PhilosophyandHumanGeography,EdwardArnoldLondon,Johnston,
8. R.H. (1988) The future of Geography, Methuen, London.
9. Mishull, R. (1970) The Changing Nature of Geography, Hutchinson University library, London.
10. Adhikari S. (1992): Geographical Thought, Chiatanya Pub. House, Allahabad.
11. Chorley, R.J. & Hagget.P.(1965) Frontier in Geographical Teaching, Oxford University Press.

Suggested Online Link:

Suggested equivalent online courses:

Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/cec21_lg06/preview

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

DEGREE IN ARTS/SCIENCE			
Programme: ***Degree in Arts/Science***		**Year: III**	**Semester: VI Paper-II**
Subject: Geography			
Course Code: GEOG602T	**Course Title: Agricultural Geography**		
Course Outcomes: **1.** Understand the meaning, scope and approaches of Agricultural Geography. **2.** Learn factors influencing Agriculture. **3.** Learn techniques and methods of agricultural regionalization. **4.** Come to know the agricultural location theory. **5.** Understand the agricultural scenario of India.			
Credits: 4		**Core Compulsory**	
Max. Marks: 25+75		**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0			
Unit	**Topic**		**No. of Lectures**
Unit I	Nature, scope, significance and development of Agriculture Geography, Approaches to the study of Agricultural Geography: Commodity, systematic, regional, behavioral and recent approaches etc., Origin and dispersal of agriculture.		12

Unit II	Determinants of agricultural land use: Physical, economic, social and technological factors, Land holding and land tenure systems in India, Land use and land capability.	12
Unit III	Agricultural efficiency Concepts, Techniques and Methods of measurements; Methods of delimiting crop combination region, cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization.	12
Unit IV	Theories of Agriculture Geography, Von Thunen's theory (model) of agricultural location and its recent modifications, Demarcation of Agricultural regions, Whittlesey's classification of agricultural regions.	12
Unit V	Regional pattern of productivity in India, Green Revolution, White Revolution, Food deficit and food surplus regions; World pattern of Agriculture: Subsistence agriculture, Commercial farming, Plantation agriculture, Mixed agriculture, State, collective and cooperative farming.	12

Suggested Reading:

1. Bhalla, G.S. and Alagh, Y.K. (1979). Performance of Indian Agriculture: A District-wise Study, Sterling, New Delhi.
2. Das,M.M. (1982) Peasant Agriculture in Assam, Inter India, New Delhi.
3. Gobind, N. (1986) Regional perspective in agriculture, concept, New Delhi.
4. Hussain, M. (1979) Agricultural Geography, Inter India, New Delhi.
5. Mergra, W.B. & Munton, R.J.C. (1971) Agricultural Geography, Methuen, London.
6. Mitchel, P. (1979) Agro-ecosystem, Inter India Publication, New Delhi.
7. Shafi, M. (1984) Agricultural productivity and regional imbalance, concept, New Delhi.
8. Singh J. and Dhillon, S.S. (1985) Agricultural Geography, Tata McGraw Hill, New Delhi.
9. Singh, J. (1974) Agricultural Atlas of India: A Geographical perspective, Vishal Publications, Kurukshetra.
10. Kumar, Pramila, Krishi Bhoogol, Madhya Pradesh Hindi Granth Academi, Bhopal,MP.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

DEGREE IN ARTS/SCIENCE		
Programme: ***Degree in Arts/Science***	**Year: III**	**Semester: VI Paper-III**
Subject: Geography		
Course Code: GEOG603P	**Course Title: Basics of Remote Sensing and GIS**	

Course Outcomes:

1. Understand the meaning and importance of Remote Sensing and GIS.

2. Learn to map making by using RS and GIS.

Credits: 2	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-2

Unit	Topic	No. of Lectures
Unit I	Remote Sensing: Components of Remote Sensing, Thermal and Radar Remote Sensing; Image Processing Techniques: Visual and Digital, Classification: Supervised and Unsupervised.	6
Unit II	GIS: Geographic Data Types; Spatial and Non-Spatial Data; Raster and Vector Data, Linkages and Matching, Principal Functions of GIS; Data Capture; Geographic Analysis; Scanning System; Data Conversion, Data Base Management System (DBMS), Data Base and Spatial Data Management; Geo-Relational Data Model; Topological Data Structure; Attribute Data Management; Relational Database-Concepts & Model, Digital Elevation Model (DEM): Process, Derivatives and applications.	6
Unit III	Geo-Referencing and Its Importance. Spatial Data Integration (Digitization) – Point, Line, Polygon. Map Design or Layout, Map Production. Import And Export of Map in Various Formats.	5
Unit IV	Satellite Data and its type. Downloading Sources of Satellite Data (Google Earth, USGS, GLCF Etc.). Download Process Satellite Imagery. Remote Sensing data download from open sources.	5
Unit V	GIS Software (Including Open-Source Softwares). Creation of Shape files in GIS Softwares. Geo-Referencing and Digitization in GIS Software. Attribute Data Entry, Manipulation of Fields and Attribute Data.	8

Suggested Reading:

1. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London
2. Chaunial, D. D. (2004): Remote Sensing and Geographical Information System (in Hindi), Sharda Pustak Bhawan, Allahabad
3. Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis, London.
4. Curran, P.J. (1985): Principles of Remote Sensing. Longman, London.

5. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
6. Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York.
7. Gautam, N.C. and Raghavswamy, V. (2004). Land Use/ Land Cover and Management Practices in India. B.S. Publication., Hyderabad.
8. Jensen, J.R. (2004): Remote Sensing of the Environment: An Earth Resource Perspective. Prentice Hall, Englewood Cliffs, New Jersey. Indian reprint available.
9. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. John Wiley and Sons, New York.
10. Nag, P. (ed.) (1992): Thematic Cartography and Remote Sensing. Concept Publishing Company, New Delhi.
11. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, New Delhi.
12. Campell, J. B. (2003): Introduction to Remote Sensing. 4th edition. Taylor and Francis, London.

Suggested Online Link:

Suggested equivalent online courses:

Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/aic20_ge05/preview

This course can be opted as an elective by the students of following subjects: Open to all
Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

DEGREE IN ARTS/SCIENCE		
Programme: ***Degree in Arts/Science***	**Year: III**	**Semester: VI Paper-IV**
Subject: Geography		
Course Code: GEOG604R	**Course Title: Survey/ Research Project-2**	

Course Outcomes:

1. Implementation of Research Methodology.

2. Field Survey and Data collection and Data Analysis.

3. Report Writing.

Credits: 4	**Core Compulsory**
Max. Marks: 100	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-4

Unit	**Topic**	**No. of Lectures**

Unit I	Project should be based on problem oriented research using quantitative techniques and appropriate graphical representation of Data.	60
Note	1. Each faculty member shall teach and guide to his/her Group of students independently. 2. Student shall choose supervisor according his/her research interest and specialisation of Faculty member.	

Suggested Readings:

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): N.A.

Course Prerequisites:

KUMAUN UNIVERSITY
NAINITAL

Subject: Geography

Under Graduate Syllabus
For
Minor Elective Course

(Session 2021-22 onwards)

ELECTIVE COURSE IN ARTS/SCIENCE		
Programme: ***Elective Course in Arts/Science***	**Year: I**	**Semester: I Paper-III**
Subject: Geography		
Course Code: GEOGME103	**Course Title: Applied Geomorphology**	

Course Outcomes:

1. To understand the impact of landforms on various spheres of human life.
2. To analyse the role of human being in mitigating the geomorphic hazards.
3. The applied geomorphological knowledge is useful to scientists, engineers, consultants, and decision-makers involved with hazards, land-use planning, natural resources, environmental management, and global environmental change.

Credits: 4	**Minor Elective**
Max. Marks: 25+75	**Min. Passing Marks:**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Introduction : Definition, Nature and scope of Applied Geomorphology	**10**
Unit II	Geomorphic Hazards and Mitigation Measures: Landslides Flash Floods and Flood Hazards, Avalanches, Earthquakes and Tsunamis, Volcanic Eruptions.	**15**
Unit III	Geomorphology in Civil Engineering: Dam Construction, Road construction, Site selection for the construction of Airport	**15**
Unit IV	Geomorphology and Natural Resources: Geomorphology and Groundwater Studies; Soil and Geomorphology; Application of Geomorphology in agriculture and resource management.	**20**

Suggested Readings:

1. Coats, D.R. (1981. edt.). Geomorphology and Engineering, George Allen and Unwin, London.
2. Cooke, R.U. and J.C. Doornkamp (1974) : Geomorphology in Environmental Management, Oxford University Press.
3. Hart, M.G. (1986) : Geomorphology : Pure and Applied, George Allen and Unwin, London.
4. Gares, P.A, D.J. Sherman, and K.F. Nordstrom. 1994. Geomorphology and natural hazards. Geomorphology 10: 1-18.
5. Panizza, M. 1987. Geomorphological hazard assessment and the analysis of geomorphological risk. In V. Gardiner (ed.), International Geomorphology 1986, pp. 225-229. Part I. New York: Wiley.
6. Slaymaker, O. 1996. Introduction. In: Slaymaker, O. (Ed.), Geomorphic Hazards. Wiley, Chichester, pp. 1-7.
7. Craig, R.G. and Craft, J.L. 1982 Applied Geomorphology Allen & Unwin, London

8. Verstappen, H. Th. 1983 Applied Geomorphology: Geomorphological Surveys for Environmental Development Elsevier, Amsterdam
9. Cooke, R.U. and Doornkamp, J.C. 1974 Geomorphology in Environmental Management ,Oxford University Press, Oxford
10. Singh, S. 1998: Geomorphology,(Hindi and English Editions), Prayag Publications, Allahabad.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites:

ELECTIVE COURSE IN ARTS/SCIENCE		
Programme: ***Elective Course in Arts/Science***	**Year: II**	**Semester: III Paper-III**
Subject: Geography		
Course Code:GEOGME303	**Course Title: Social and Cultural Diversity in Uttarakhand**	
Course Outcomes: 1. To understand the physical and cultural diversity within the state. 2. To identify the impact of physical diversity in determining the Socio-Cultural diversity of the state.		
Credits: 4	**Minor Elective**	
Max. Marks: 25+75	**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0		

Unit	**Topic**	**No. of Lectures**
Unit I	**Fundamental Base**: Location and Extent; Geology; Physiography; Climate and Drainage System; Demographic and Socio-cultural Characteristics.	**10**
Unit II	**Socio-cultural Milieu:** Ethnic/tribal Groups and their Spatial Distribution, Fairs, Festivals and Languages and Dialects, Settlements: Types and Patterns.	**15**
Unit III	**Socio-cultural Diversity:** Components of social diversity; tribes and their distribution; Tribal region; Cultural regions: elements of cultural regionalization: race, caste, dance, music, cuisine, costumes, dialect, language, religion.	**20**

Unit IV	**Regional perspectives:** Socio-cultural diversity in the tribal groups of mountains and foothills; Changing cultural adaptations.	**15**

Suggested Readings:

1. Singh O.P. (ed.). (1983): The Himalaya: Nature, Man and Culture
2. Joshi, S.C. (2001): Uttaranchal: Environment & Development
3. Planning Commission (1981) : Report on Development of Tribal Areas, Government of India.
4. Srivastava, S.K.(1958): The Tharus, A study of Culture Dynamics, Agra
5. Walton, H.G. (1921) British Garhwal: A Gazetteer, Vol. xxxvi, District Gazetteer of the United Provinces of Agra and Awadh, Allahabaad
6. Singh, L.R. (1965): The Tarai Region of U.P., Allahabad
7. Guha, B.S.: Racial Elements in India's Population.

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Course Prerequisites: