SHRI GURU RAM RAI UNIVERSITY

(Estd. by Govt. of Uttarakhand, vide Shri Guru Ram Rai University Act no. 03 of 2017)

SYLLABUS OF M.A./M.Sc. GEOGRAPHY

Effective from Academic Session 2017-2018 & Revised in 2024

M.A./MS.c Geography

Duration of the Programme: Two Years
STUDY & EVALUATION SCHEME
Choice Based Credit System
Master of Geography

Eligibility for admission:

Any candidate who has passed the Graduation exam with one subject Geography from UGC recognized university. with not less than 40 % marks in aggregate is eligible for admission, However, SC/ST, OBC and other eligible communities shall be given relaxation as per University rules.

Pos

PO-1 Acquire knowledge of the discipline and conduct proper academic in various areas of discipline.

PO-2 Recognize the social structures in our society.

PO-3 Communicate effectively in context which one is operating and develop soft skills

PO-4 Leader in teams in multidisciplinary courses and engage in initiatives that encourage growth for all.

PO-5 Develop awareness of issues among students

PO-6 Recognize and respect different value systems by following the norms of academic integrity.

PO-7 Explain awareness of local, regional, national and global needs.

PO-8 Work on career enhancement by adapting to professional and social needs engaged in lifelong learning.

PO-9 Exhibit capability as lifelong learners adapting new technologies, modern concepts and skills for sustainable development

PO-10 Imbibe qualities of good citizenship, morality and ethics so as to work for the betterment of mankind.

PO-11 Cultivate a broad array of interdisciplinary knowledge and skills integrating concepts of humanities and social sciences.

PO-12 Able to apply critical thinking, creativity, skills, cultural sensitivity, and humanity to create awareness within society for problem – solving and interpretation.

Program Specific Outcome (PSOs)

PSO 1	To develop comprehensive knowledge in the discipline of Geography.
PSO2	To create the virtue of understanding of the concepts and applications in the discipline of Geography.
PSO3	To aware about the regional and national environmental issues, recent trends, and technological advancements in the discipline of Geography.
PSO4	To develop the ability of making comprehensive analysis, interpret spatio- temporal problems, suggest proper solutions by using theoretical, methodological and instrumental knowledge of Geography.
PSO5	To impart awareness about the global to local environmental issues and enhancement of social sensitivity.
PSO6	To introduce basic concept of cartography and develop the understanding about different type of maps, scales, relief features and surveying.
PSO7	To develop ability acquired skills that will be useful in personal and professional life.
PSO8	To gain good understanding about proper utilization of natural resources through geographical knowledge.
PSO9	To develop the research interest to solve critical and emerging issues related to Geography and surrounding environment.

M.A./M.Sc. Geography

Semester -I

Eligibility for admission:

Any candidate who has passed the UG Programme with one specific subject Geography from any UGC recognized university with not less than 40 %-marks in aggregate is eligible for admission; However, SC/ST, OBC and other eligible communities shall be given relaxation as per University rules.

Duration of the Programme: 2 Years
STUDY & EVALUATION SCHEME
Choice Based Credit System
Master of Geography

First Semester

S. No.	Course Category	Course Code	Course Name	Periods				Evaluation scheme		Subject Total
				L	T	P	C	Sessional (Internal)	External (ESE)	
Theory										
1	Core	MGGC_101	Geographic Thought	03			03	40	60	100
2	Core	MGGC_102	Advance Geomorphology	03			03	40	60	100
3		MGGC_103	Geography of Natural Resources	03			03	40	60	100
4		MGGC_104	Geography of India	03			03	40	60	100
5		MGGC_105	India-Location Aspects (Maps)	03			03	40	60	100
6										
Practical										
1		MGGL_106	Practical			06	03	40	60	100
2		MGGS-101	Seminar			2	2	40	60	100
			Total	15		8	20	280	420	700

L – Lecture, T – Tutorial, P – Practical, C – Credit

Examination Scheme:

Components	I internal	II Internal	Presentation/ Assignment/ Project	External (ESE)
Weightage(%)	Marks	Marks	Marks	Marks

100	20	20	40	60

MA/MS.c Geography Semester-1

Course code	**: MGGC_101**				
Course Name	**: GEOGRAPHIC THOUGHT**				
Semester	**: I**				
	L	**T**	**P**	**C**	
	03			**03**	

L - Lecture T – Tutorial P – Practical C – Credit

Course Objectives

The objectives of this course are:

1 To make them understand about historical development of geographical concepts, philosophies and approaches.

2. The learning outcome of this course would be comprehended, correlate and connect geographical ideas and concepts with historical as well as contemporary context.
3. To cultivate the interest among students to conduct research activities in the discipline of Geography thorough the work done by great geographers and contribution of Geographical Institutes.

Course Outcomes

Upon successful completion of the course a:

Paper code	Paper name	Course outcome
MGGC_101	Geographic Thought	CO1- Students will be recall the definition, scope, and branches and importance of geography in various fields of study. CO2- Students will be able to explain the importance and scope of Geography. CO3- They will be able to classify world Geography into various historical time period. CO4-. Now they will be identifying various world famous geographical scholars of different historical time period. CO5-.They will be able to prepare an assignment on the various fields of Geography. CO6- They will be able to evaluate the contribution of Geographers from classical period to modern time period.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	-	3	-	-	-	-	-	1	1
CO2	2	3	2	2	-	2	-	3	-	-	-	1
CO3	3	2	1	-	-	-	-	2	-	-	-	1

CO4	2	1	3	-	-	3	2	1	-	-	-	1
CO5	2	3	3	1	3	3	3	3	-	-	-	1
CO6	3	1	-	1	1	-	3	-	-	-	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Course Contents

UNIT -I

Contribution of Greeks and Romans with special reference to Ptolemy and Strabo, Geography in Muslim World, Geography as a Science of : (i) Location, (ii) Distribution, (iii) Areas differentiation, (iv) relationships (v) spatial organization and (vi) Religion.

UNIT -II

German School of Geography – Humboldt, Ritter, Ratzel.

French School of Geography – Blache & Brunhes

American School of Geography – Sauer & Hungtington

UNIT -III

Models and paradigms, system theory, phenomenological approach, dualism between (i) physical and human geography; (ii Regional and Systematic Geography and Quantitative revolution.

UNIT -IV Pragmatism, positivism, functionalism, idealism, existentialism, behaviouralism, radical and humanistic geography, future of geography and contribution of Indian Geography.

Books Recommended:

Text Books:

1. Dickenson. R. E. – The Makers of Modern Geography, Rutledge and Kegan London
2. Freeman . T.W. – A Hundred Years of Geography, London.
3. Jones and Martin – All Possible World – A History of Geographical Idias. Odessey, Indianapolis (USA)
4. Halt Jensen A. – Geography- Its History and Concepts , Harper and Raw London.
5. Dixit R.D. – Geographical Thought – A Contextual History of Ideas .Prentice Hall, New Delhi
6. Kaushik S.D. – BhaugolikVichardharayen (Hindi) – SahityaBhawan Pub. Agra.
7. HussainMajid- Evolution of Geographical Thought (English And Hindi)Rawat Publication jaipur.
8. Taylor. G. Geography in Twentieth Century; London
9. *Jagdish Singh - BhaugolikChintankaKramvikas (Hindi) Gyanodaya , Gorakhpur.*

Reference Books:

1. Hussain Majid - Evolution of Geographical Thought Rawat Publication jaipur.

2. Hussain Majid - Evolution of Geographical Thought (Hindi) Rawat Publication jaipur.

Course code	**: MGGC_102**				
Course Name	**: ADVANCE GEOMORPHOLOGY**				
Semester	**: I**				
		L	**T**	**P**	**C**
		03			**03**

Course Objectives

The objectives of this course are:

1. To enhance students' ability to apply their specialized knowledge in the geomorphology domain.
2. To develop employability skills and competencies to serve the job requirements in the society.
3. Inspire students to develop the abilities among them to offer services in the entrepreneurial environment.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_102	Advance Geomorphology	CO1- Students will be recall the definition, scope, and branches of Geomorphology. CO2- Students will be able to explain the concept of Geomorphology. CO3- They will be able to classify world geomorphic region. CO4-. Now they will be identifying various type of landforms develop by various process. CO5-.They will be able to prepare an assignment on the application of Geomorphology in practical world and region geomorphology. CO6- Now they will learn the use of morphometric analysis.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	3
CO2	3	3	2	-	-	2		1	-	1	1	3
CO3	3	3	3	-	-	2	3	2	-	1	2	3
CO4	3	3	3	-	-	2	3	2	-	1	2	3
CO5	3	3	3	-	2	2	3	2	-	-	-	3
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

UNIT I Fundamental concepts of Geomorphology; methods and approaches of landforms study; Theories of landscape development by Gilbert, Davis, Penk and Hack and Morphogenetic regions.

UNIT II

Plate tectonics, Mountain building, Isostasy, Theories of Slope development by Young and King, peneplain and pedi plains, geological structure and rocks.

UNIT III

Geomorphic process – River, glacier, air, underground water and coastal; mass movement and resultant land forms; morphometry of drainage basin; profile of equilibrium rejuvenation and polycyclic landscape.

UNIT IV

Applied Geomorphology engineering works, Anthropogenic process and landscape planning, Regional Geomorphology of Ganga plain, Nepal and Konkan region, Geomorphic hazards and mitigation.

Books Recommended:

Text Books:

1. Allaby, Michael (2008): Oxford Dictionary of Earth Science, Oxford University Press, New York.
2. Bloom, A.L. (1991): Geomorphology, 2nd Ed Englewood Cliffs, M.J. Prentice Hall.
3. Chorley, R.J. Schumm,S.A. & Sugden, D.E. (1985): Geomorphology, Methuen & Co. Ltd., London, New York.
4. Brierley, G.J. & Fryirs, K.A. (2005): Geomorphology and River Management, Blackwell Publishing, Oxford UK.
5. Briggs, K. (1985): Physical Geography Process and System, Hodder and Stoughton, London.
6. Dayal, P. (1996): A Textbook of Geomorphology, Shukla Book Depot, Patna.
7. Leopold, L.B. Wolman, M.G. & Miller, J.P.(1964): Fluvial Processes in Geomorphology, W.H.Freeman, San Fransisco.
8. Morgan, R.S. & Wooldridge S.W (1959): Outline of Geomorphology the Physical basis of Geography, Longmans Green, London.
9. Robinson, Harry (1969): Morphology and Landscape, University Tutorial Press Ltd. London.
10. Strahler, A.N (1969): Physical Geography. John Wiley & Sons Inc., NewYork.
11. Thornbury, W.D. (1969): Principles of Geomorphology, Wiley Easterrn Ltd. New Delhi.
12. Wadia, D.N. (1993): Geology of India, Tata McGraw Hill Edition, New Delhi.

Reference Books:

1.Singh, Savindra Geomorphology, PrayagPustakBhawan, Allahabad.:

2.Singh, Savindra,Bhooaakirtivigyan (in hindi),PrayagPustakBhawan, Allahabad.

3. Singh, Savindra (1991): Environmental Geography, Prayag Pustak Bhavan ,Allahabad

4. https://www.amazon.in/Introduction-Process-Geomorphology-Vijay-Sharma-ebook/dp/B006YWRR4A

5. https://www.kobo.com/us/en/ebook/the-basics-of-geomorphology

Course code	:	**MGGC_103**
Course Name	:	**GEOGRAPHY OF NATURAL RESOURCE**
Semester	:	**I**

	L	T	P	C
	03			03

Course Objectives

The objectives of this course are:

1. To enhance students' ability to apply their specialized knowledge in the field of resource utilization.
2. To develop employability skills and competencies to serve the job requirements in the society.
3. Inspire students to develop the abilities in them to develop service opportunity for other also in the entrepreneurial environment.

Course outcomes

Paper code	Paper name	Course outcome
MGGC_103	Geography of Natural Resources	CO1- Students will memorize different types of economic activities and type of resources. CO2- Students will be able to classify world economic region on the basis of different types of economic activities and availability of resources. CO3- They will be able to draw the world resource distribution map. CO4-. They will be able to know the concept of world's resource region and responsible factors for the development of economy in these regions. CO5-.They will be able to prepare world resources map after studying all the chapters. CO6- They will be able analyze and write about importance of sustainable development with need of resources conservation.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	3
CO2	3	3	2	-	-	2		1	-	1	1	3
CO3	3	3	3	-	-	2	3	2	-	1	2	3
CO4	3	3	3	-	-	2	3	2	-	1	2	3
CO5	3	3	3	-	2	2	3	2	-	-	-	3
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

UNIT -I

Concepts of Natural Resources, Classification; Dynamic theory of resources, resources scarcity and adequacy, resource regionalization, Economic development and resources.

UNIT -II

Land, water, mineral, energy and biotic resources- distribution, use-misuse and conservation, Global and Indian Scenario.

UNIT- III

Resource appraisal, resource depletion and emerging issues like desertification, deforestation, loss of bio diversity, energy crises, water scarcity and conflicts.

UNIT- IV

Natural resource data management system, sustainable development and conservation of resources, integrated resource development, Globalization and resources, community participation and governance and contemporary issues.

Reading List

Text Books:
1. Alexander J. W., 1963: *Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.

2. Bagchi-Sen S. and Smith H. L., 2006: *Economic Geography: Past, Present and Future*, Taylor and

Francis.

3. Coe N. M., Kelly P. F. and Yeung H. W., 2007: *Economic Geography: A Contemporary Introduction*, Wiley-Blackwell.

4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and*

Nations, Princeton University Press.

5. Durand L., 1961: *Economic Geography*, Crowell.

6. Hodder B. W. and Lee R., 1974: *Economic Geography*, Taylor and Francis.

7- https://www.pdfdrive.com/world-geography-books.html

8- https://play.google.com/store/apps/details?id=com.sanaedutech.worldgeography&hl=en_IN&gl=US
9- https://www.gale.com/ebooks/9781642654264/world-geography
10- Resource Geography, S.D. Maurya; Pravalika Publication; Allahabad.

Reference Books:
1. Economic Geography of India, T.C. Sharma, Rawat book Publication, New Delhi.
2. Indian Economy, A.N. Agarwal, New Age International; 2019.

Websites:

3. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
4. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
5. Indian National Cartographic Association: https://incaindia.org/

6. Bhuvan Indian Geo Platform of ISRO:
https://bhuvan.nrsc.gov.in/

Course code : MGGC_104				
Course Name : GEOGRAPHY OF INDIA				
Semester : I				
	L	**T**	**P**	**C**
	03			**03**

Course Objectives

The objectives of this course are:

1. To enhance students' ability to apply their specialized knowledge in the field of resource utilization of India and their own state or village.
2. To develop employability skills and competencies to fulfill the job requirements in the society.
3. Inspire students to develop the abilities in them to develop self-confidence to establish himself as a successful business worker.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_104	Geography of India	CO1- Students will able to provide detail knowledge about physiographic divisions and unity in diversity of India. CO2- Students will be able to explain Plans and policies introduced by Indian government. CO3- They will be able to clarity about physical, climatic and natural vegetation demographic, social, cultural, agriculture and economic spheres of Indian regions. CO4-. Students will be able to compare between Plans and policies introduced by Indian government. CO5- They will able to prepare maps of physical, demographic, social, cultural, agriculture and economic spheres of Indian regions. CO6- Now students will be able to argue on the sucees or failure of plans and scheme of Indian Government as well as development of all Geographical parameters in India.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	-
CO2	3	3	2	-	-	2		1	-	1	1	-
CO3	3	3	3	-	-	2	3	2	-	1	2	-
CO4	3	3	3	-	-	2	3	2	-	1	2	1
CO5	3	3	3	-	2	2	3	2	-	-	-	1
CO6	3	3	3	-	3	2	3	2	-	-	1	2

Course Contents

UNIT- I

Indian federalism, India unity in diversity (view points from social geography), physiography, Drainage (volume), climate mechanism of Indian Monsoon (recent theories), soil and Natural vegetation.

UNIT- II

Human development index and its components, Growth and distribution and density of population, Trends of Urbanization special distributional pattern of settlements (rural & urban).

UNIT -III

Agroclimatic region, Rainbow revolution, Industrial Complex and Industrial regions, Major river valley projects, energy crises and food security.

UNIT- IV

Growing importance of ports, last two five plans, experience of Rural Planning, Integrated R.D.P., Multi level planning, community participation & governance and planning contemporary issues and Economic reforms- Multinationals and liberalization. Indian economy after Covid- 19.

Reading List

Text Books:

1. Hussain M., 1992: *Geography of India*, Tata Mc Graw Hill Education.

2. Mamoria C. B., 1980: *Economic and Commercial Geography of India*, Shiva Lal Agarwala.

3. Miller F. P., Vandome A. F. and McBrewster J., 2009: *Geography of India: Indo- Gangetic Plain, Thar Desert, Major Rivers of India, Climate of India, Geology of India*, Alpha script Publishing.

4. Nag P. and Sengupta S., 1992: *Geography of India*, Concept Publishing.

5. Pichamuthu C. S., 1967: *Physical Geography of India*, National Book Trust.

6. Sharma T. C. and Coutinho O., 1997: *Economic and Commercial Geography of India*, Vikas Publishing.

7. Singh Gopal, 1976: *A Geography of India*, Atma Ram.

8. Spate O. H. K. and Learmonth A. T. A., 1967: *India and Pakistan: A General and Regional*

Geography, Methuen.

9.Rana, Tejbir Singh, 2015, Diversity of India , R.K. Books, Delhi.

10. https://www.galc.com/ebooks/9781615302024/understanding-india-the-geography-of-india

11. https://www.indianculture.gov.in/ebooks/india-regional-geography

Reference Books:

1. . Hussain M., 1992: *Geography of India*, Tata Mc Graw Hill Education.
2. INDIA A COMPREHENSIVE GEOGRAPHY, D.R. Khullar, Kalyani Publication.

Course code : MGGC_104				
Course Name : INDIA – LOCATIONAL ASPECTS (MAP)				
Semester : I				
	L	**T**	**P**	**C**
	03			**03**

Course Objectives

The objectives of this course are:

1. The paper is designed to acquaint the students with the importance of location as one of the important aspects of geographical studies.
2. The aim to promote awareness among students about Atlas.
3. They will be able to get job in the department of Survey of India, and other concern private department.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_105	India – Locational Aspects (Map)	CO1- Students will able to recall the detail knowledge about physiographic divisions. CO2- Students will be able to explain and compare between different regions of India. CO3- They will be able to clarity about physical, climatic and natural vegetation demographic, social, cultural, agriculture and economic spheres of Indian regions. CO4-. They will able to examine the reasons for the uneven distribution of various natural and cultural components in India. CO5- Students will able to prepare maps of physical, demographic, social, cultural, agriculture and economic spheres of Indian regions. CO6- Now they will be able to justify the relation between physical features and cultural development in various region of India.

CO-PO Mapping

Course	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO 9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	3
CO2	3	3	2	-	-	2		1	-	1	1	1 1
CO3	3	3	3	-	-	2	3	2	-	1	2	2 1
CO4	3	3	3	-	-	2	3	2	-	1	2	3
CO5	3	3	3	-	2	2	3	2	-	1	-	2
CO6	3	3	3	-	3	2	3	2	-	1	1	3

Note : The paper consists of four units.4 long,5 short & 10 very short questions will be set from all unit. The candidates will be required to attempt all section.

There will be two parts of this course :

(A) The paper consists of four units.4 long,5 short & 10 very short questions will be set from all unit. The candidates will be required to attempt all section. The paper is map oriented.

(B) An out line map of India with indicated location of features in the numerals will be provided. Students will identify the location features.

(C) An out line map of India will be provided to the students and they will have to mark locations on it. 10 locations will be given and 01 mark for each correct location.

Course Contents :

Physical –

Mountain and ranges, rivers, forest, soil, lakes, and natural regions.

Cultural – State and Capitals, Impotant Cities, Population, Rural –Urban, Tribal Areas, Planning regions.

Economic –

Agricultural regions Cities/ belts, Industrial, regions and complexes, Power plants, Hydro Power Projects, Important ports and transport routes, important resources.

Other –

Bio diversity, National Parks, Environment, ecology and contemporary issues.

Reading List Books:

Text Books:

1. Hussain M., 1992: *Geography of India*, Tata McGraw Hill Education.

2. Mamoria C. B., 1980: *Economic and Commercial Geography of India*, Shiva Lal Agarwala.

3. Miller F. P., Vandome A. F. and McBrewster J., 2009: *Geography of India: Indo- Gangetic Plain, Thar Desert, Major Rivers of India, Climate of India, Geology of India*, Alpha script Publishing.

4. Nag P. and Sengupta S., 1992: *Geography of India*, Concept Publishing.

5. Pichamuthu C. S., 1967: *Physical Geography of India*, National Book Trust.

6. Sharma T. C. and Coutinho O., 1997: *Economic and Commercial Geography of India*, Vikasb , Publishing.

7. Singh Gopal, 1976: *A Geography of India*, Atma Ram.

8. Spate O. H. K. and Learmonth A. T. A., 1967: *India and Pakistan: A General and Regional.*

9.Rana, Tejbir Singh, 2015, Diversity of India , R.K. Books, Delhi.

10. https://www.gale.com/ebooks/9781615302024/understanding-india-the-geography-of-india

11. https://www.indianculture.gov.in/ebooks/india-regional-geography

12. https://sarkaribooklet.com/india-atlas-book-pdf-in-hindi/
13. https://ishwarahir.in/atlas-book-pdf/

Reference books.

3. . Hussain M., 1992: *Geography of India*, Tata Mc Graw Hill Education.
4. INDIA A COMPREHENSIVE GEOGRAPHY, D.R. Khullar, Kalyani Publication.
Geography, Methuen.

Websites:
Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
Indian National Cartographic Association: https://incaindia.org/
Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGL_101				
Course Name : PRACTICAL – 1				
Semester : I				
	L	**T**	**P**	**C**
			03	**03**

Course Objectives

The objectives of this course are:

1. Student will get deep knowledge in the field of Indian map.
2. They will enrich themselves by the practical knowledge to get job.
3. They will be able to get job in the department of Survey of India, And other concern private department.

Course Outcome

Paper code	Paper name	Course outcome
MGGL_101	Geography	CO1- Students will be recall the projection and profile.

	Practical	CO2- Students will be able to explain topographical maps. CO3- They will be able to classify different type of map. CO4-. Now they will be identifying various type of landforms develop by various process and their morphometric analysis. CO5-.They will be able to prepare different types of maps as Geological map, topographical map etc.

CO-PO Mapping

Course	PO1	PO2	PO3	PO 4	P O5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	1
CO2	3	3	2	-	-	2		1	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	2	-	1	2	2
CO5	3	3	3	-	2	2	3	2	-	-	-	2
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Note :

The syllabus for practical is related to laboratory work on cartographic mapping. The practical exam will be of three hours duration. The division of marks in Practical exam shall be as given below:
Laboratory work is divided into four units. Two exercises are to be set from each unit with internal choice and candidates will be required to attempt four exercises in all. (The cartographic mapping work examination will be of three hours duration in which exercises will be given on Cartography).All questions carry equal marks.

Course Contents

UNIT -I

Projections-Mercator's, Polyconic, International, Gnomonic (Equational Aspect), Gall's Stereographic, interrupted Mollweide's and Sinusoidal.

UNIT- II

Slope analysis by Wenthworth', Smith's, Henery- Raiz's and Robinson's Methods. Analysis of relief characterstics from contours, profiles Transverse, longitudinal, Serial, Superimposed, Projected and Composite.

UNIT -III

Morphometric analysis- Area height, Altimetric frequency and Hypsometric curve; Drainage density, stream order, Elongation, circularity and bifurcation ratio.

UNIT- IV

Interpretation of Topographical maps – land use and settlements.
Topographical mapping
Geological Cross Section drawing.

Books Recommended :

Text Books:

1. Gupta K.K and Tyagi V.C., 1992: Working with Maps, Survey of India, DST, New Delhi.

2. Mishra R.P. and Ramesh A,. 1989: Fundamentals of Cartography, Concept Publishing.
3. Singh R.L. and Singh R.P.B., 1999: Elements of Practical Geography, Kalyani Publishers.
4. https://www.amazon.com/dp/B07DZKT9KM?tag=uuid10-20
5. . https://www.pdfdrive.com/land-surveying-books.html
6. https://www.esri.com/en-us/news-publications/ebooks
7. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

1. Singh r.l., 1998: Prayogic Bhoogol ki Rooprekha, Kalyani Publications.
2. Sharma J. P., 2010: *Prayogic Bhugol*, Rastogi Publishers.

Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGP_101				
Course Name : SEMINAR– 1				
Semester : I				
	L	**T**	**P**	**C**
			02	**02**

Course Objectives

The objectives of this course are:

1. Student will learn to analyze, construct and evaluate scientific information and research topics.
2. They will enrich themselves by the practical knowledge to get job.
3. They will be able to make a quality scientific presentation and able to present themselves in front of Geographers and scholars.

Course Outcome

Paper code	Paper name	Course outcome
MGGP_101	Seminar	CO1- Students will be recalling the scientific information for presentation. CO2- Students will be able to understand quality scientific presentation. CO3- They will be able to present the scientific information. CO4-. Now they will be able to classify the data and put them in a table. CO5-.They will be able to prepare different types of maps and with these maps able to explain the collected data. CO6- Now they will be able to develop the theory and concept regarding the topic of the research.

CO-PO Mapping

Course	PO1	PO2	PO3	PO 4	P O5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	1
CO2	3	3	2	-	-	2		1	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	2	-	1	2	2
CO5	3	3	3	-	2	2	3	2	-	-	-	2
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

The students will be required to select any one of the topics allotted to them by the Department. The Topic will be related to the disciplines already studied by students in the same semester as core or elective courses. The assessment of the presentation of the students / examinees will be done by external and internal examiners appointed by the University.

Books Recommended :

Text Books:

1. R. Willams, Non- Designer's Presentation Book, The Principles for effective presentation design.
2. N. Duarte, Slide: ology: The Art and Science of creating great presentation
3. https://www.esri.com/en-us/news-publications/ebooks
4. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

1. G. Reynolds, Presentation Design and Delivery.

M.A./MS.c Geography

SEMESTER – II

S. No.	Course Category	Couse Code	Course Name	Periods				Evaluation scheme		Subject Total
				L	T	P	C	Sessional (Internal)	External (ESE)	
Theory										
1	Core	MGGC_201	Geography of the Himalaya	03			03	40	60	100
2	Core	MGGC_202	Advance Climatology	03			03	40	60	100
3		MGGC_203	Environme	03			03	40	60	100

			ntal Study							
4		MGGC_204	Remote Sensing and GIS	03			03	40	60	100
5		MGGC_205	World (Excluding India) Location Aspects (Maps)	03			03	40	60	100
Practical										
1		MGGL_201	Practical			06	03	40	60	100
		MGGS-201	Seminar			02	02	40	60	100
			Total	15		08	20	280	420	700

L – Lecture, T – Tutorial, P – Practical, C – Credit

Examination Scheme:

Components	I[st] internal	II[nd] Internal	Presentation/ Assignment/ Project	External (ESE)
Weightage(%)	Marks	Marks	Marks	Marks
100	20	20	40	60

Course code	:	**MGGC _201**
Course Name	:	**GEOGRAPHY OF THE HIMALAYA**
Semester	:	**II**

	L	T	P	C
	03			03

Course Objectives

The objectives of this course are:

1. The students may find employment in businesses involved in agriculture or business.
2. They will also have access to tourism, social services, transit planning, and other things in Himalayan region after the knowledge of Himalayan region.
3. They have the option of going into research or can prepare a project through various schemes introduced by state government.

Course Outcome

Paper code	Paper name	Course outcome

MGGC_201	Geography of the Himalaya	CO1- Students will be recall Himalayan physiographic division and other cultural information. CO2- Students will be able to explain topographical features of Himalaya. CO3- They will be able to classify various physical and cultural landforms in Himalayan region made by rivers, glaciers and man. CO4-. Now they will be identifying various type of natural hazards in the Himalayan region. CO5-.They will be able to prepare map and plan for population distribution and related field of Himalaya. CO6- Now student will be able to write their view and the description of geographical knowledge of different region of Himalaya with development plan and policies of government in the region.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	-	3	1	3	-	-	1	1
CO2	3	3	3	-	2	-	1	1	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	2	-	1	2	2
CO5	3	3	3	-	2	1	3	2	-	-	-	2
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

UNIT- I

Geo- physical identity; origin of Himalaya and its structure; Himalaya as regional entity; geopolitical issues, cultural appraisal, Himalayan people; Geo-sensitivity of Himalaya. Future of Himalaya.

UNIT- II

Physiography; landforms, drainage (volume) and Himalaya as water tower, glaciers; lakes; passes; climate; natural vegetation, natural hazards. Geo- Ecological problems of Himalaya created by anthropogenic activities.

UNIT -III

Demography and Economy-Distribution, density and growth of population, migration, urbanization, tourism and power projects.

UNIT- IV

Geographical account of Western, Central and Eastern Himalaya.Regional analysis of Kashmir, Laddak, Kangra and Lahul, Doon, Kathmandu, Dhiyang Valley, Tista Valley, Mountain Development Planning and Policy.

Books Recommended :

Text Books:

1. Lal,J.S.& Moddie,: The Himalaya- Aspect of Change A.D. (ed).
2. Bose, S.C.: Land and people of the Himalaya.
3. Kayastha, S. :The Himalayan Beas Basin.
4. Valdin, K.S. (ed.) :Kumaun – Land and People.
5. Singh, T.V. (ed.) : Mountain and Development.
6. Singh, O.P. (ed.) : The Himalaya-Nature, Man & Culture.
7. Joshi, S.C. and others :Kumaun Himalaya
8. https://archive.org/details/geographyofhimal0000enay
9. https://books.google.co.in/books/about/The_Holy_Himalaya.html?id=wmNGKpcE83cC&redir_esc=y
   1. https://www.kobo.com/ww/en/ebook/the-himalayas-an-encyclopedia-of-geography-history-a Singh, R. B. Disaster Management. New Delhi: Rawat Publications., 2008.
10. nd-culture

Reference Books:

1. Geography of the Himalaya, Ahmad Enayat, Kalyani Publishers; 1992
2. Rawat, M.S.S. (ed.) : Central Himalaya – Environment Development Vol. I & II.

Websites:

1. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
2. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
3. Indian National Cartographic Association: https://incaindia.org/
4. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code	**:**	**MGGC_ 202**			
Course Name	**:**	**ADVANCE CLIMATOLOGY**			
Semester	**:**	**II**			
		L	**T**	**P**	**C**
		03			**03**

Course Objectives

The objectives of this course are:

1. To develop the knowledge of climatology.
2. To know about world climatology.
3. To develop the skill to prepare the project on climatology.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_202	Advance Climatology	CO1- Students will be recall meaning, scope and importance of climatology. CO2- Students will be able to explain different components of atmosphere. CO3- They will be able to classify world climate classification. CO4-. Now they will be identifying highly climate disturb region. CO5-.They will be able to prepare assignment on world climate.

		CO6-.Now the students will be able to write about the meaning and factors responsible for the climate change.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	-	3	2	3	-	-	1	1
CO2	3	3	3	-	2	-	1	3	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	3	-	1	2	2
CO5	3	3	3	-	2	3	3	3	-	-	-	2
									-	-	1	3

Course Contents

UNIT- I

Meaning, scope and development of climatology, Atmosphere equilibrium, Adiabatic temperature change, Jet Stream, El- Nino, La- Nin, Walkar circulation, Southern Oscillation, precipitation & humidity.

UNIT -II

Air masses-origin, growth, classification, and distribution, Horizontal and Vertical motion of winds. Fronts and front genesis, cyclones and anticyclones; temperate and tropical cyclones;

UNIT -III

Climate classification of Koppen and Thornthwaite. Major Climate types, Weather analysis; weather and human behaviour, Weather modification, atmospheric hazards, cloud bursts.

UNIT -IV

Climatic changes- definition &detection : Tree rings, Glacial ice & Oxygen Isotope analysis; causes : Plate tectonics, Volcanic activity, orbital variations: Solar variability. Human impact on global climate, Global Warming, artificial climate and acid precipitation.

Books Recommended :

Text Books:

1. Chorley, R.G. AND Barry, R.G. : Atmosphere, Weather and Climate Methuen & Co. Ltd., London, 1995.
2. Critchfield, H.J.: General Climatology, Prentice Hall of India, New Delhi, 2002.
3. Sidharta, K.: Climatology, Kitab Mahal, New Delhi.
4. Trewartha, G.T. : An Introduction to Climate, McGraw Hill Series in Geography.
5. Miller, A. et al : World Climatology, Elbs and Edward Arnold,1979.
6. https://store.kortext.com/meteorology-climatology
7. https://www.ebooks.com/en-fk/book/210120003/an-introduction-to-climatology/sanjay-kumar/
8. https://www.kobo.com/ww/en/ebook/applied-climatology

Reference Books:

1. Singh, Savindra : Climatology,, Prayag PustakBhawan, Allahabad.:
2. Singh, Savindra, JalvayuVigyan (in Hindi), PrayagPustakBhawan, Allahabad.

Course code	**:**	**MGGC _203**			
Course Name	**:**	**ENVIRONMENTAL STUDY**			
Semester	**:**	**II**			
		L	**T**	**P**	**C**
		03			**03**

Course Objectives

The objectives of this course are:

1.Student will get the deep knowledge of environment.

2. They will able to find the environmental problems and their solutions.

3. They will be develop skill of socialism and can prepare programs for clean environment.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_203	Environmental Study	CO1- Students will be recall meaning and definition of environmental geography. CO2- Students will find environmental issues. CO3- Students will be able to examine different types of environments, ecological setting and their issues and challenges. CO4- Now they will be able to explain role of environmental conservation and management. CO5-. They will be able to prepare the project on environment and issues related to environment. CO-6 Now they will be able to write his view on importance of environmental management and different organization and their plans for environment conservation.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	-	3	3	3	-	-	1	1
CO2	3	3	3	-	2	-	3	3	-	1	1	1
CO3	3	3	3	-	-	3	3	2	-	1	2	1
CO4	3	3	3	-	-	3	3	3	-	1	2	2
CO5	3	3	3	-	2	3	3	3	2	-	-	2
									2	-	1	3

Course Contents

UNIT- I

Meaning and scope of environmental geography, Basic Principles of environmental geography; composition and types of environment, Ecological Principles, Man- Environment relationship. Restoration of ecology.

UNIT- II

Ecosystem: Concept and components, Trophic levels; Food chains and Food Webs, Energy flow in the ecosystem, Ecosystem, Ecosystem stability, High land- Low and interactive system, human ecological adaptation.

UNIT- III

Environmental degradation, Environmental Pollution (Air, Water and Solid Waste Ganga Pollution & Ganga action plan.Environmental Problems- Global Warming. Ozone depletion and Green house effects, transformation of nature by man, global ecological imbalances.

UNIT- IV

Environmental management: Concept and approaches; Ecosystem management strategies, Environmental dimension in Planning – sustainable development, eco- development, limits to growth, Environmental impact assessment, RIO summit, Kyoto protocol & carbon trading. Effect of Covid – 19 on environment.

Books Recommended :

Text Books:

1. Furley, P.A.andNeway, W.W. : Man and the Biosphere, Butterworth, London.
2. Arvil, R.: Man and Environment, Penguin.
3. Bhatt H.P. & Bhatt Sangita (ed.): Environment – Yesterday, today & tomorrow 1992.
4. Singh, R.B. and Hietala, R. (Eds.) (2014) Livelihood security in North-western Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh.
5. Teli,BL, 2005, Paryavaraniya Adhayan, College Book Depot, Jaipur
6. https://books.google.co.in/books/about/Environmental_Geography.html?id=7shaMQAACAAJ&redir_esc=y
7. https://books.google.co.in/books/about/Environmental_Geography.html?id=nTKVnQEACAAJ&redir_esc=y

Reference Books:

1. Singh, Savindra : Environmental Management,Prayag Pustak Bhawan, Allahabad.
2. Singh, Savindra,Paryawan Bhoogl(in hindi), Prayag Pustak Bhawan, Allahabad.

Course code : MGGC _204				
Course Name : REMOTE SENSING AND GIS				
Semester : II				
	L	**T**	**P**	**C**
	03			**03**

Course Objectives

The objectives of this course are:

1. After completion of the course the students will learn theoretical framework in geographical information system.
2. They will develop their knowledge in the field of digital cartography.
3. They will get job opportunity in Remote Sensing and digital mapping companies. After learning the GIS software, Extraction, generation, and analysing of data.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_204	Remote Sensing and GIS	CO1- Students will recall remote sensing. They will be able to find about meaning and types and uses of GIS and its data. CO2- Students will be able to explain the sources and platform of remote sensing. CO3- They will be examining the use of GIS for preparation of digital maps. CO4- They will be able to examine the importance of remote sensing and Arial photograph. CO5-. They will be able to compose the importance of remote sensing. CO6- Now the students will able to prepare plan for the selected region with the help of GIS tools.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO5	3	3	3	-	2	2	3	3	-	-	-	2
									-	-	1	3

Course Contents

UNIT- I

Definition, process and stages of Remote Sensing, energy sources and radiation; EMR, energy interaction with atmosphere and earth surface, principles of micro wave Remote Sensing.

Types of R.S., platforms; satellites and sensor; sensor resolution, digital image and satellite imagery, elements of visual image interpretation; digital image processing techniques.

UNIT -II

Definition, history Types, classification and planning mission of A.P.; basic geometric characteristics – scale, height overlap, mosaic, resolution, stereoscopic, 3D viewing, uses of A.P. in landform mapping and urban planning.

UNIT -III

Definition, concept, scope and components of GIS, data and information, geo referencing and rectification, data inputting methods and GPS.

UNIT- IV

Computer cartography and mapping in digital age; Internal GIS, Web GIS, DTM; Recent trends of GIS, emerging branches of GIS Science.

Application of remote sensing and GIS in watershed management, weather information, disaster forecast and geo information.

Books Recommended :

Text Books:

1. Sabine, F.F.: Remote Sensing- Principles& Interpretation.
2. 2. Chauniyal. D.D.: Remote Sensing and G.I.S.(Hindi).
3. Demer, M.N.: Fundamentals of Geographic Information System.
4. Aronoff, S.: Principles of Geographical Information System : Socio-Economic Applications.
5. Aronoff, S.: Geographical Information System – A Management Perspective
6. https://www.amazon.in/Aerial-Photography-Image-Interpretation-David-ebook/dp/B00711AUN8
7. https://books.google.co.in/books/about/Basic_Concept_of_Remote_Sensing_GPS_and.html?id=hy_-DwAAQBAJ&redir_esc=y

Reference Books:

1. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
2. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.

Course code	**:**	**MGGC _205**			
Course Name	**:**	**World (Excluding India) Location Aspects (Map)**			
Semester	**:**	**II**			
		L	**T**	**P**	**C**
		03			**03**

Course Objectives

The objectives of this course are:

1.To give the knowledge about various field of Geography through map.

2. To develop the skill of map making.

3. To enrich the student for job after completion of master degree in Geography.

Course Outcome

Paper code	Paper name	Course outcome

MGGC_205	World (Excluding India) Location Aspects (Map)	CO1- Students will able to recall the detail knowledge various physiographic region and features located in the world. CO2- Students will be able to identify, explain and compare between different physical and cultural regions of the world on the world map. CO3- They will be able to show physical, climatic and natural vegetation demographic, social, cultural, agriculture and economic regions of the world on the map. CO4-. They will able to prepare maps of physical, demographic, social, cultural, agriculture and economic spheres of the various continents and countries. CO 5- Students will be able to present critical view on the development of different economical region of the world. CO6- Now they will be presents a plan for the development of eco and environmental back world regions of the world.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	**PO9**	**PO10**	**PO11**	**PO12**
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO4	3	3	3	-	2	2	3	3	1	-	-	2
									2	-	1	3

(A) An out line map of World will be provided to the students and they will have to mark locations. 15 locations will be given and a mark for each correct location.

(B) (B) An out line map of World with indicated location of features in the numerals will be provided. Students will identify the location features. 15 location features will be given for identification and 01 mark to each correct identification.

Students will provide write up (for both A and B Part) on the significant geographical relevance and importance of the locations (marked and identified), whether physical, economic, cultural, ecological, environmental and commercial etc. in 30 words on each. 01 mark is allotted for each write-up.

Distribution of Marks-

(A) Locations	15
Write up in 30 words	15
(B) Identification of locations	15
Write up in 30 words	15

Course Contents :

Physical –

Mountain and ranges, rivers, forest, soil, lakes, and natural regions, oceans and seas, climate and change, major currents, major land forms.
Cultural – Nation and Capitals, Important Cities, Population, Tribal Areas, cultural regions, Agglomeration, poverty, Metropolitan, Megalopolis.

Economic –
Agro-climatic regions & Agricultural regions, human ecological regions, Industrial regions and major industrial centres, major iron and coal fields, transport routes (land and sea).

Environment &Other –
Major eco system, zoo geographical regions, bio- geographical regions, Biome & biomass, popular biosphere reserves, SAARC, ASIAN, OPEC, places in news and geographical events, contemporary issues.

Books Recommended :

Reference Books:
Text Books:

1. India & the World- NATMO
2. School Atlas
3. Britanica World Atlas
1. Oxford Atlas
2. Mackmilan Atlas
3. Map by Practice, K. Sidharta
4. https://www.pdfdrive.com/world-atlas-books.html
5. https://www.pavithran.net/download-all-india-world-atlas-books-in/
6. https://www.yumpu.com/en/document/view/63767456/free-download-read-national-geographic-atlas-of-the-world-11th-edition-download-ebook

Websites:

7. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
8. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
9. Indian National Cartographic Association: https://incaindia.org/
10. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code	**:**	**MGGL-_201**			
Course Name	**:**	**PRACTICAL – 2**			
Semester	**:**	**II**			
		L	**T**	**P**	**C**
		03			**03**

Course Objectives

The objectives of this course are:

1. To give the theoretical knowledge about meaning and types and uses of GIS and it's data.
2. To develop the skill of use of GIS for preparation of digital maps.
3. They will be able to get job in the concern department of GIS.

Course Outcome

Paper code	Paper name	Course outcome
MGGL_201	Geography Practical	CO1- Students will recall meaning and types and uses of GIS and it's data. CO2- Students will be able to explain the sources and platform of remote sensing. CO3- They will be examining the use of GIS for preparation of digital maps. CO4- They will be able to examine the importance of remote sensing, arial photograph and GPS. CO5-. They will be able to compose the importance of remote sensing. CO6- They will be able to use of GIS data for the preparation of map.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO5	3	3	3	-	3	-	3	3	-	-	-	2
CO6	3	3	3	-	3	-	3	3	-	-	1	3

Note : The syllabi for practical is divided into two section , Section – 'A' is related to Laboratory work , and Section 'B' is related to field work (Geographical Tour) . The laboratory work is divided into four units .eight question will be set selecting at least two question from each unit . Candidate will have to attempt four question selecting at least one question from each unit. The division of marks in Practical is given below-

Laboratory work - **M.M. 14**

Field Work - **M.M. 30**

Sessional record - **M.M. 11**

Viva – Voce - **M.M. 05**

SECTION A – LABORATARY WORK

Course Contents
UNIT – I :

Basic of Computer , Concept of maps , Coordinates System, Projection (WGS84 and Everest), Types of files , Export Import file , Layer stacking of Multispectral Imagery .

UNIT - II :

Concept of Geo referencing (maps to image, image to image), sub – setting with the help of AOI layers , Mosaicking, Radiometric and stacking of Multispectral Imagery. Geometric errors and correction, image Classification .

UNIT- III :

Spatial data integration, Digitization (Point , line , Polygon), Non Spatial data integration, Editing of Spatial and Non Spatial data , Building Topology .

UNIT – IV :

Basics of GPS and Computer Cartography &mapping .

Books Recommended:

Text Books:

1. Jenson, J.R. : Introduction to Digital Image Processing, Prentice Hall, Englewood cliffs, NJ.
2. Pratt, W.K. : Digital Image processing, John Wiley & Sons, New York, 1995.
3. Hord, R.M. : Digital Image Processing of Remotely sensed Data, Academic Press, New York, 1989.
4. Nag, P.: Thematic cartography and Remote Sensing, concept Publishing House, New Delhi.
5. Sinha, P.K. &Sinha, P.: Computer Fundamentals, 3rd Ed. B.P.B. Publication.
6. https://www.amazon.com/dp/B07DZKT9KM?tag=uuid10-20
7. https://www.pdfdrive.com/land-surveying-books.html
8. https://www.esri.com/en-us/news-publications/ebooks
9. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

1. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers
2. Singh R. L., 1998: *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
3. Singh, R.B. and Murai, S. (1998) Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.
4. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.

Websites:

1. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
2. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
3. Indian National Cartographic Association: https://incaindia.org/
4. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

SECTION - B – FIELD WORK

The field study is compulsory for all students, those who will not take part, will not give any mark for this. The field study work is designed to acquaint the students that,

"Geography is an observational science" and field work is one of the important methodologies in geographical studies.

The students are to be sensitized about pre field work preparation, conduct of field work, post field work and report writing.

Field study tour to provide traverses across and macro regions of the country specially problem areas, areas in news and needs will be arranged of about two week duration. Students will be trained in field work collection of data, mapping, sketching and collection of socio economic data etc. using observational and interview method etc.

The report will involve statement of objective, selection of area (with reasons), method of field study and data collection, analysis of collected data/ information etc. in which minimum 5 maps and diagrams and 6 pages of write up is necessary.

FIELD STUDY GUIDE (TEACHER)-

Students will submit a precise report (1 or 2 pages) of field study work with the list of students present/ attended the field study to the HOD concern.

Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGR_201				
Course Name : SEMINAR– 2				
Semester : II				
	L	**T**	**P**	**C**
			02	**02**

Course Objectives

The objectives of this course are:

4. Student will learn to analyze, construct and evaluate scientific information and research topics.
5. They will enrich themselves by the practical knowledge to get job.
6. They will be able to make a quality scientific presentation and able to present themselves in front of Geographers and scholars.

Course Outcome

Paper code	Paper name	Course outcome

MGGP_201	Seminar	CO1- Students will be recalling the scientific information for presentation. CO2- Students will be able to understand quality scientific presentation. CO3- They will be able to present the scientific information. CO4-. Now they will be able to classify the data and put them in a table. CO5-. They will be able to prepare different types of maps and with these maps able to explain the collected data. CO6- Now they will be able to develop the theory and concept regarding the topic of the research.

CO-PO Mapping

Course	PO1	PO2	PO3	PO 4	P O5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	1
CO2	3	3	2	-	-	2		1	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	2	-	1	2	2
CO5	3	3	3	-	2	2	3	2	-	-	-	2
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

The students will be required to select any one of the topics allotted to them by the Department. The Topic will be related to the disciplines already studied by students in the same semester as core or elective courses. The assessment of the presentation of the students / examinees will be done by external and internal examiners appointed by the University.

Books Recommended :

Text Books:

5. R. Willams, Non- Designer's Presentation Book, The Principles for effective presentation design.
6. N. Duarte, Slide: ology: The Art and Science of creating great presentation
7. https://www.esri.com/en-us/news-publications/ebooks
8. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

2. G. Reynolds, Presentation Design and Delivery.

SEMESTER –III

Third Semester

S. No.	Course Category	Couse Code	Course Name	Periods				Evaluation scheme		Subject Total
				L	T	P	C	Sessional (Internal)	External (ESE)	
Theory										
1	Core	MGGC_ 301	Research Methodology and Techniques	03			03	40	60	100
2	Core	MGGC_ 302	Model & Theory in Human Geography	03			03	40	60	100
1	Elective -Any three of the following elective (optional courses)	MGGE_ 303	Natural Hazards & Disaster Management	03			03	40	60	100
2		MGGE_ 304	Political Geography	03			03	40	60	100
3		MGGE_ 305	Cultural Geography	03			03	40	60	100
4		MGGE_ 306	Geo-Hydrology	03			03	40	60	100
5		MGGE_ 307	Biogeography	03			03	40	60	100
6		MGGE_ 308	Geography of Soil & Land Use	03			03	40	60	100
7		MGGE_ 309	Urban Geography	03			03	40	60	100
		MGGE_ 310	Geographical Information Science	03			03	40	60	100
Practical										
1		MGGL-301	Geography Practical			03	03	40	60	100
2		MGGS-301	Seminar				02	40	60	100
Self-Study Course										
1		MGGS_301	Assignment based Seminar	-			02	40	60	100

Total	15		06	20	280	420	700

L – Lecture, T – Tutorial, P – Practical, C – Credit

Examination Scheme:

Components	I[st] internal	II[nd] Internal	Presentation/ Assignment/ Project	External (ESE)
Weightage(%)	Marks	Marks	Marks	Marks
100	20	20	40	60

Course code	:	**MGGC_301**
Course Name	:	**Research methodology and techniques**
Semester	:	**III**

L	T	P	C
03			03

Course Objectives

The objectives of this course are:

1.To give the basic knowledge about various major components of research.

2. To enrich the knowledge and to develop the interest for research in student.

3. To develop the skill in student to write and publish research paper.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_301	Research methodology and techniques	CO1- Students will find the meaning, type and research process. CO2- Students will be able to explain the importance of research. CO3- They will be examining the importance of research. CO4- They will be able to examine the importance of remote sensing, aerial photograph and GPS. CO5-. They will be able to compose the importance of remote sensing. CO6- They will be able to framing of pilot and Research project.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO5	3	3	3	-	3	-	3	3	-	-	-	2
CO6	3	3	3	-	3	-	3	3	-	-	1	3

Course Contents
Unit- I

Concept & significance of research in geography, nature, objective and basis of research, types of research, approaches & methods, research problem selection, techniques and research process.

Unit -II

Research Design: Meaning Need, Features and types, Sampling: Methods and steps, design of spatial sampling, Survey and Experiments, Data collection methods – Primary and secondary data, schedule and questionnaire and observation

UNIT – III

Hypothesis, meaning, characteristic importance and formulation, testing of Hypothesis – parametric (Standard) and non parametric, Review of literature, Bibliography and case study

UNIT – IV

Application of Remote Sensing and GIS in Research, Arrangements and Analysis of Data and map, Quantitative and qualitative interpretations, Writing of Research report/ paper and dissertation, Framing of Pilot and Research project

Books Recommended:
Text Books:

1. Bhatt, H.P. and Bansal S.C. (2012) :Research Methodology (in Hindi), Meenakshi Prakashan, Meerut.
2. Ahuja, R. (2001): Research Methods, Rawat Publication, Jaipur and New Delhi
3. Bhattacharya, D.K. (2005): Research Methodology, Excel Books, New Delhi
4. Blackburn, J. and Holland, J. (eds) (1998) :Who changes ? Institutionalizing Participation in Development IT Publication, London
5. Blaxter, L., Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.
6. Har Prasad : Research Methodology and Techniques in Geography, Rawat Publicaiton, Jaipur
7. Daniels, P., Bradshaw, M. et al. (2000) : Human Geography : Issues for the 21st Century, Prentice Hall, London and Pearson Publishers, Singaproe, Indian reprint, 2003.
8. https://www.worldcat.org/title/political-geography/oclc/1036780687

Reference Books:

1. An Introduction to operational research, C.R.Kothari & Gaurav Garg; New Age International Publication.
2. Shodh Paddhati (Research Methodology):Methods and Techniques, C.R.Kothari; New Age International Publication.

Websites:

1. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
2. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
3. Indian National Cartographic Association: https://incaindia.org/
4. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGC_302				
Course Name : Models & theory in human geography				
Semester : III				
L	**T**	**P**	**C**	
03			**03**	

Course Objectives

The objectives of this course are:

1. To know the meaning and types of models in Geography.
2. To explain how models give the success in various field of economic life.
3. To prepare the student to be financially independent and serve the region and nation with success

Course Outcome

Paper code	Paper name	Course outcome
MGGC_302	Models & theory in human geography	CO1- Students will recall meaning and types and uses of concept and theories. CO2- Students will be able to explain the different models. CO3- They will be examining the use of models in geography. CO4- They will be able to compare between different types of model. CO5-. They will be able to write the importance of model in geography. CO6- They will be able to apply different model in practical world.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO5	3	3	3	-	3	-	3	3	-	-	-	2

CO6	3	3	3	-	3	-	3	3	1	-	1	3

Course Contents

Unit -I

Central place theory of Christaller & losch, Von Theunnen's Model of agricultural location and recent modification, Weber's model of industrial locations, spatial diffusion GGtheory

Unit- II

Malthusian and Marxian theory of population growth, Demographic Transition model, Revenstein's Migration model, Taylor's Zone-Strata Theory

Unit- III

Perroux Growth Pole Theory, Rostow's Model of Stages Of Growth, Tissen Polygons, Primate City Model, Rimland Theory

Unit -IV

Development from above- Theory of G. Mirdal and A.O. Hirchmann, Re thinking development – Theory by club of Rome, Development from below – Theory of Rondinelli

and Friedmn, theory of eco development, Another Development and Sustainable development.

Books Recommended :

Text Books:

1. Jonson, E.A.J. : The organization of space in developing countries, harward university Press Cambridge, 1970.
2. Models & Theories in Geography, K.Siddhartha, Kitab Mahal Publication; New Delhi.
3. Misra, R. P. et al : Regional Planning: Concepts, Techniques and Policies, University of Mysore, 1969
4. Gregor : Geography of Agriculture
5. Bhatt H. P. & Bhatt Sangeeta: Environmental Dimensions of rural settlements in Himalayas in 1993
6. Johnson, J.H.: Urban Geography: An Introductory Analysis, Pergamon press, London , 1972
7. Singh, R.L. : Urban geography in Developing Countries, National Geographical Society of India, Varanasi
8. Clarke, John : Population Ecology, Pergamon Press, oxford, 1973
9. Crook, Nigael: PrincipalesOf Population and Development, Pergamon Press New York, 1997
10. https://books.google.co.in/books/about/Models_in_Geography.html?id=pFucAAAAMAAJ&redir_esc=y
11. https://www.worldcat.org/title/models-in-geography/oclc/609023952
12. https://www.onlinebooksstore.in/catalogsearch/result/?q=Models+%26+theories+in+human+geography+sd+maurya

Reference Books:

1. Hussain, Majid (2012), Human Geography; Rawat Publications, Jaipur.
2. Hussain, Majid (2012), Model Geography; Rawat Publications, Jaipur.

Course code : **MGGL_301**				
Course Name : **Practical – III (Quantitative Techniques and Mapping)**				
Semester : **III**				
	L	**T**	**P**	**C**
			03	**03**

Course Objectives

The objectives of this course are:

1. To enhance the potential of advance statistical techniques and its application in geographical studies.
2. To develop the knowledge regarding appropriate use of statistical techniques in varying avenues of geographical studies.
3. To impart the knowledge in students to prepare the distribution maps.

Course Outcome

Paper code	Paper name	Course outcome
MGGL-301	Quantitative Techniques and Mapping	CO1- Students will recall of meaning of map. CO2- Students will be able to explain different types of diagram and graph. CO3- They will be examining the use of GIS for preparation of digital maps. CO4- They will be able to examine the importance of statistical method and technique. CO5-. They will be able to compose the importance of GIS data. CO6- They will be able to show the data by different methods of diagrams.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO5	3	3	3	-	3	-	3	3	-	-	-	2
CO6	3	3	3	-	3	-	3	3	-	-	1	3

Course Contents

UNIT -I

Types of Spatial Data : Line, Area and Point, Levels of their measurement – Nominal, Ordinal interval and ratio, Diagrammatic representation of Data Circle, Spheres, Block Piling, Erograph (Cropcycle and Activity Pattern) Climograph.

UNIT- II

Nearest Neighbor Analysis (NNA), Gini's Co- efficient, Rank Size Rule, Location quotient, Lorenz, Curve, Compositing- the indices of Nodal Accessibility

UNIT -III

Elements of Maps – Generalization, Symbolization and Classification, Techniques of Mapping – Dot, Choropleth and Isopleths, Stilgenbauer's & Sten de Geer's method. Choropleth – Simple and asymmetric stepped statistical surface, class less chopleth, errors and their elimination

UNIT- IV

Correlation by spearman's and Karl Person's method, Scatter Diagram, Simple Linear Regression analysis, Construction of Regression Line, Plotting of Residuals of Absolute and Relative location, explanation of Residuals plotted on the maps.

Distribution ofMarks: Laboratory Work : 30 Sessional Record : 20 Viva Voice: 10

Books Recommended: Text Books:

1. Barrett, E.C. &Courtis, L.F. :Introduction to Environmental Remote Sensing
2. Dickinson, G.O. :Maps and Aerial Photographs
3. Smith, H.T.V. :Aerial Photographs and their Applications
4. Dookshatula, B.L. & Rajani, Y.S. :Remote Sensing
5. Davis, P. :Data Description and Presentation
6. Garnett, A. :Geographical Interpretation of Topographical Maps
7. Mishra, R.P. & Ramesh A. :Fundamentals of Cartography
8. Raja, Moonis :Source of Socio – Economic Data 20
9. Sharma, J.P. :Practical Geography (Hindi)
10. Singh, R.L. :Practical Geography (English / Hindi)
11. https://www.amazon.com/dp/B07DZKT9KM?tag=uuid10-20

12.https://www.pdfdrive.com/land-surveying-books.html

13.https://www.esri.com/en-us/news-publications/ebooks

14- https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

1. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers

2. Singh R. L., 1998: *PrayogicBhoogolRooprekha*, Kalyani Publications.

Course code : MGGE_303				
Course Name : Natural Hazards & Disaster Management				
Semester : III				
	L	**T**	**P**	**C**
	03			**03**

Note : candidate have to select any three of the following elective (optional courses)

Course Objectives : The objectives of this course are:

1. Students will be able to know the meaning, causes, impact of environmental hazards, vulnerability and disasters.
2. They will also able to know different types of disasters in India.
3. Now they will able to know the role of different government and NGA in India to control the disasters. .

Course Outcome

Paper code	Paper name	Course outcome
MGGE_303	Natural Hazards & Disaster Management	CO1- Students will recall meaning and types of disaster and hazard. CO2- Students will be able to explain the factors responsible for disaster and hazard. CO3- They will be illustrating various tools and methods to study the disaster and hazard. CO4- They will be able to examine the government programmes and policies to control the disaster and hazard in different region. CO5-. They will be able to evaluate the loss of property and life in various regions and various type of disaster. CO6- They will be able to write and prepare a map for the disaster affected region of their state and country.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	2	1	2	2
CO5	3	3	3	-	3	-	3	3	2	-	-	2
CO6	3	3	3	-	3	-	3	3	2	-	1	3

Course Contents

UNIT – I

Meaning and concept of Hazards and Disaster, Type of Natural and Manmade Hazards, Elements of Disasters: Hazard analysis, Vulnerability and risk analysis, Disaster Management – Determinants of Scale.

UNIT – II

Natural Hazards : Typology, Regional Dimension of Hazards, Occurrence and trends, Methods of Identifying Hazards Prone regions, Major terrestrial Disasters : Seismic Disasters, Volcanic Disaster, Landslides and Tsunamic Disaster, Reasons of increasing frequency of Disasters

UNIT – III

Disaster Management : Concept, stages of Disaster Management, Pre- Disaster stage – Disaster Preparedness (Disaster research, Disaster Predication and Disaster warning), Methods and levels of preparedness, Disaster mitigation and Disaster prevention, Post – Disaster stage – Rescue and relief work, Disaster Management Act

UNIT – IV

Different type of Disaster and Hazards prone areas in India, Disaster Management Policies and Approaches, Major Disaster in India and their management, Resource to Disaster, Government, Non Government Programmes/ Institution of Disaster Management. Covid- 19 as a hazard in India.

Books Recommended:

Text Books:

1. Tianch, L. : Landslide Hazard Mapping and Management in China, ICIMOD, Nepal, 1996

2. Valdiay, K.S. : Environmental Gelogy, Tata McGraw Hill Co. Ltd., New Delhi 1987

3. Zareba, Q. and ManceV. : Landslides and their Control, Elsevier Amsterdam, 1969

4. White, G.F. (ed): Natural Hazards : Local, National, Global, Oxford University Press, London 1974

5. Gupta, H.K. : Dams and Earthquakes, Elsevier, Amsterdam, 1976

6. I. et al : The Environment as Hazards, O.P.U. , New York, 1978

7. B.A. et ai (ed) : Geological Hazards, Springer Varlay, New York, 1950

8. C. : Natural Hazards and Global Change I.T.C. Journal, 1989

9. : Environmental Geography (English /Hindi)

10. Petak, W.J. & Atkinson, A.D. : Natural Hazards Risk Assessment and Public Policy, Springer – Verlay, New York, 1982

11. https://www.kobo.com/in/en/ebook/disaster-management

12.https://www.barnesandnoble.com/b/free-ebooks/ebooks-nook/public-health-safety/emergency-disaster-management-policics/_/N-ry0Z8qaZ16uo

13. https://www.amazon.in/Disaster-Management-S-C-Sharma-ebook/dp/B08RJRDCSY

Reference Books:

1. Singh, R. B. Disaster Management. New Delhi: Rawat Publications., 2008.
2. Narayan, B. Disaster Management, New Delhi: A.P.H. Publishing Corporation ,2009

Course code	**:**	**MGGE_304**			
Course Name	**:**	**Political Geography**			
Semester	**:**	**III**			
		L	**T**	**P**	**C**

	03			03

Course Objectives

The objectives of this course are:

1. To give the knowledge about meaning and importance of political geography in modern world.

2. To make them more aware on national and international political issues.

3. They will know the concept and apply them in practical world for betterment of society and nation.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_304	**Political Geography**	CO1- Students will be able to define political geography. CO2- Students will be able to identify world political region. CO3- They will be able to write about concept of nation and theories given by different geographers. CO4- They will be able to illustrate political distribute between different countries of the world. CO5-. They will be able to examine Indian political system on country, state and local level. CO6- They will be able to evaluate Indian constitute. CO7- They will be able to design new frame work of Indian political system for betterment.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	-	3	-	3	3	-	-	1	1
CO2	3	3	3	-	3	-	3	3	-	1	1	1
CO3	3	3	3	-	3	-	3	2	-	1	2	1
CO4	3	3	3	-	3	-	3	3	-	1	2	2
CO5	3	3	3	-	3	-	3	3	-	-	-	2
CO6	3	3	3	3	3	1	3	3	-	-	1	3
CO7	3	3	3	3	3	2	3	3				

Course Contents

UNIT – I

Meaning, Scope, approaches of study and recent development in political geography, concept of nation, state and spatial factors of state, buffer state and core area. Concept of geostrategy- Geostrategic ideas of makainder and spykman.

Unit – II

Capital city, types of capitals, boundries frontiers and their laws, implication in the current geopolitical context. Geopolitical significance of Indian ocean NATO, SAARC.

UNIT – III

World politics in changing perspective – colonization, decolonization, federalism, strategic basics and military alliances, non alingned movement, water disputes and terrorism, India's position in world politics

UNIT –IV

Concept, Nature and scope of electoral geography, parliamentary constituencies in india, and legislative allotment of uttarakhand. National and regional political parties and voting behaviours in india and uttarakhand (case study of three constituencies each from garhwal, kumaon and plain). Changing Political map of india. Role and future of regional parties in uttarakhand. Recent controversies about re delineation of constituencies in uttarakhand and its effects.

Books recommended:

Text Books:

1. Dikshit, R.D. : Political Geography – a contemporary perspective, tata mc graw hill publication, new delhi 1996
2. Pounds, N.J.G. : Political geography, mcgraw hill, new York
3. Dikshit ,r.d. : political geography – a century of progress, sage, new delhi, 1999
4. Taylor, p. : political geography, longman, London, 1985
5. https://www.worldcat.org/title/political-geography/oclc/1036780687
6. https://www.kobo.com/in/en/ebook/political-geography-10

Reference Books:

1. Political Geography, Sudeepa Adhikari, Rawat Publication, Jaipur
2. Political Geography, Chopra Girish, Commonwealth Publication, New Delhi.

Course code	**:**	**MGGE_305**			
Course Name	**:**	**Cultural Geography**			
Semester	**:**	**III**			
	L	**T**	**P**	**C**	
	03			**03**	

Course Objectives

The objectives of this course are:

1. To develop the knowledge of various types of world culture and cultural region, components of cultural.

2. To develop the communal harmony and feeling of national and international brotherhood in student.

3. After getting the knowledge they will be able to prepare project and write article and publish in standardized newspaper and magazines.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_305	Cultural Geography	CO1- Students will recall the knowledge of culture. CO2- Students will be able to recognize major cultural region of the world. CO3- They will be able to interpret the theories given by geographers. CO4- They will be able to distinguish between the people of different races. CO5-. They will be able to evaluate concept and significations of Culture Geography. CO6- They will be able to develop a plan to maintain unity and brotherhood among the people in the world.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	2	-	3	3	3	-	-	1	1
CO2	3	3	3	1	-	3	3	3	-	1	1	1
CO3	3	3	3	2	1	3	3	2	-	1	2	1
CO4	3	3	3	3	-	3	3	3	1	1	2	2
CO5	3	3	3	-	-	3	3	3	1	-	-	2
CO6	3	3	3	-	-	3	3	3	3	-	1	3

Course Contents

UNIT – I

Concept of Culture and Culture as an indicator of Regional identity. The Study of culture in Geography, Nature, Scope concept and significations of Culture Geography, Development of Cultural Geography, Cultural Landscape, Cultural Process, Cultural Diffusion.

UNIT – II

Origin and dispersal of man, Brief cultural history of Man

Migration processes and cultural development – Prehistoric, Primitive agrarian, Industrial revolution, Role of Technological changes in Cultural Development, Cultural Hearths, Cultural Ecology

UNIT – III

Human Races – origin and dispersal and related theories, type and distribution, Major ethnic, Racial Groups and Linguistic groups.

Resource and Culture – Resource extraction and conversion

Processes and elements of Cultural Transformation

Cultural Segregation and Assimilation, Cultural unity and Diversification

UNIT- IV

Cultural Realms – Monsoon Asian, Meso – African, Mediterranean, Western European, Anglo – American , Latin American

Cultural Regions - Indo – Aryan, Dravidian, Chinese, Arabian Islamic, Angolo – American Atlent Coastal, Brazilian, Maxican, English – European

Books Recommended:

Text Books:

1. Spencer, J.&E. ThomsasW.I. : Introducing cultural Geography
2. Rostlund, F. : Outline of Cultural Geography
3. Wagner, P.J. & Mikesell, M.W. (eds) : Reading Cultural Geography
4. Sultar, C.I. : The Cultural Landscape
5. Frazier, D.E. : Race and Cultural Contacts in the modern world
6. Spher, D.F. : Geography of Religions
7. Carter, G.F. : Man and the land a cultural Geography
8. Dohra, F.E. & Sommers, L.M. (eds) : Cultural Geography Selected Readings
9. https://www.amazon.in/Introduction-Human-Geography-5th-edn-ebook/dp/B01FDYGTTS
10. https://www.amazon.in/INTRODUCTION-HUMAN-GEOGRAPHY-Jyotiram-Chandrakant-ebook/dp/B08B1QYG4X

Reference Books:

1. Cultural Geography, P. K. Pande K. Chavan, Crescent Publishing House, New Delhi.
2. Human Geography, Majid Husain, Rawat Publication, New Delhi.

Course code : MGGE_306				
Course Name : Geo Hydrology				
Semester : III				
	L	**T**	**P**	**C**
	03			**03**

Course Objectives

The objectives of this course are:

1. To impart the knowledge of sources and availability of water resources in student.
2. To give the knowledge about concept of watershed in student.
3. To enrich them to prepare project on water conservation and to aware about many concern issues and disputes related with water on national and international level.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_306	Geo Hydrology	CO1- Students will be able to find the definition, concept, scope and importance of Geohydrology. CO2- Students will be able to recognize watershed and hydrology region in India. CO3- They will be able to interpret the runoff process and factors, surface runoff and morphometric analysis. CO4- They will be able to distinguish between sources of underground water and ground water. CO5-. They will be able to evaluate water surplus and water deficit - areas, over and under utilization of water resource, water balance, water conservation, government programs and policies regarding hydrology. CO6- They will be able to develop a plan for better utilization and conservation of water resources in an area.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	2	-	3	3	3	-	-	1	1
CO2	3	3	3	1	-	3	3	3	-	1	1	1
CO3	3	3	3	2	1	3	3	2	-	1	2	1
CO4	3	3	3	3	-	3	3	3	-	1	2	2
CO5	3	3	3	-	-	3	3	3	-	-	-	2
CO6	3	3	3	-	-	3	3	3	-	-	1	3

Course Contents

UNIT – I

Definition, concept, importance and scope of Geohydrology, Water resource, The Hydrological cycle, concept of water shed management in Hydrology, Mountain Hydrological system

UNIT – II

Precipitation and Measurement, runoff process and factors, surface runoff, compilation of runoff, Discharge and Measurement, Hydrograph, stream gauging and stream flow, constraint - examples from India

UNIT – III

Infiltration - capacity, rate, factors and methods of compilation of infiltration, evaporation factors, estimation and its control, transition ratio,

Management planning : Ground Water Hydrology origin, occurrence, movement, recharge and discharge

UNIT – IV

Water Surplus and water deficit - areas, over and under utilization of water resource, water balance, Water conservation – present, future perspective, planning and programme, Water Harvesting – Traditional and modern methods

Books Recommended:

Text Books:

1. Bouwer, H. : Ground Water Hydrology, McGraw Hill Book Co., New York, 1978

2. Karanth, K.r. : Groundwater Assessment : Development and Management, Tata Mc Graw Hill New Delhi, 1987

3. Rao, K.L. : India's Water Wealth, Orient Longman, New Delhi, 1979

4. Murthy, J.V.S. : Watershed Management in India : Wiley Eastern Ltd., New Delhi , 1995

5. Reddy, R.J. : The Textbook of Hydrology, Laxmi Publicaiton, New Delhi,1999

6. Charlu, T.G.K. and Dutt. D.K. : Ground Water Development in India, Rural Electrification Corporation, New Delhi, 1982

7. Tideman, E.M. : Watershed Management Guidelines for India Conditions, Omega, New Delhi

8. Sain, S.K. : The Flood Problem in India, Birla Institute of Sceintific Research, Economic Reserarch Divison, New Delhi

9. Sokolar, A.A. and Chapman, T.B. (ed) : Methods for Water Balance Computations : An International Guide for Research & Practice : The UNESCO Press, Paris, 1974

10. Chorley, R.J. : Introduction to Physical Hydrology, Methuen, London, 1967

11. Jones, J.A. : Global Hydrology : Processes, Resources and Water Management, London, 1997

12.https://books.google.co.in/books/about/Geohydrology.html?id=_eBRAAAAMAAJ&redir_esc=y

13. https://www.amazon.in/Geohydrology-Simulation-Groundwater-Assessment-Water-management/dp/1500486388

Reference Book:

1. Singh, R.A. and Singh, S.R. : Water Management Principles and Practices, Tara Publishers Varanasi
2. Singh,Savindra : Physical Geography, PrayagPustak Bhawan, Allahabad.
3. Singh, Savindra :Bhotik Bhoogol (in Hindi), Prayag Pustak Bhawan, Allahabad.

Course code	:	**MGGE_308**
Course Name	:	**Geography of soil and landuse**

Semester : III	L	T	P	C
	03			03

The objectives of this course are:

1.To give the knowledge of meaning, formation and importance of soil for man.

2. To develop the interest in student to study the soil and importance of landuse pattern and preparation of landuse map of an area for future planning regarding sustainable development.

3. To make the student perfect in this field so he or she can get job opportunity as as soil research scholar or soil expert.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_308	Geography of soil and landuse	CO1- Students will memorize scope and significance of soil science. CO2- Students will be able to recognize major soil regions of the world. CO3- They will choose the region for experiment. CO4- They will be able to test the soil of different region. CO5-. They will be able to know the value of soil for economy development in a region. CO6- They will be able to design a map of soil on the basis of value of agriculture product in the market.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	2	-	3	3	3	-	-	1	1
CO2	3	3	3	1	-	2	3	3	-	1	1	1
CO3	3	3	3	2	1	2	3	2	-	1	2	1
CO4	3	3	3	3	-	3	3	3	-	1	2	2
CO5	3	3	3	-	-	3	3	3	-	-	-	2
CO6	3	3	3	-	-	3	3	3	-	-	1	3

Course Contents

UNIT – I

Nature, scope and significance of soil Geography, Its relationship with pedology, soil forming factors- organic, inorganic, climatic, topographic and temporal, process of soil formation, soil profile.

UNIT – II

Soil properties, physical, chemical and biological etc. soil capability. Genetic classifications of soils : Zonal, Azonal and intrea zonal soils, soil conservation, methods to improve the physical qualities of soil.

UNIT – III

Concept, nature, and significance of landuse in geography, urban and rural landuse, development of techniques of classification and description of landuse, determinations of agricultural landuse : physical, economic, social, institutional and technological, landuse survey india.

UNIT – IV

Landuse, landholding, land tenure system and land capability classification, landuse efficiency, potential land, landuse planning, methods and techniques, landuse and watershed management. Landuse system and landman ratio.

Books recommended:

Text Books:

1. Bunting ,b.t. : the geography of soils.
2. Clark, G.R. : study of the soil in the field
3. Jenny, h, : factors of soil formation
4. Plyusnin,I.I.: soils, Their Origin, constitution & classification
5. Gregor : geography of agriculture
6. https://www.eolss.net/ebooklib/bookinfo/land-use-land-cover-soil-sciences.aspx
7. https://www.worldcat.org/title/geography-of-soil/oclc/1154536296

Reference Book:

1. Landuse Planning and Geomorphology, Hironi Kalyan, Concept Publishing Company Pvt. Ltd.
2. Introductory Soil Science , Dilip Kumr Das, KALYANI PUBLICATION, NEW DELHI.

Course code : MGGE_309				
Course Name : Urban Geography				
Semester : III				
	L	**T**	**P**	**C**
	03			**03**

The objectives of this course are:

1. To aware the students regarding meaning and scope of urban geography.

2. To explain various theories of urban place development in student.

3. To develop the skill in student to work for development of urban region.

Course Outcome

Paper code	Paper name	Course outcome

MGGE_309	Urban Geography	CO1- Students will find the knowledge of meaning, scope and approaches of urban geography. CO2- Students will be able to recognize urban morphology region of the world. CO3- They will be able to interpret the center place theory of Christailer. CO4- They will be able to examine the theory of Christailer. CO5-. They will be able to evaluate concept of national urban policy and urban land use planning, concept of garden city and new town. CO6- They will be able to develop a plan to remove the negative aspect of their city after preparation of case study of the city.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	2	-	3	3	3	-	-	1	1
CO2	3	3	3	1	-	2	3	3	-	1	1	1
CO3	3	3	3	2	1	2	3	2	-	1	2	1
CO4	3	3	3	3	-	2	3	3	-	1	2	2
CO5	3	3	3	-	-	2	3	3	-	-	-	2
CO6	3	3	3	-	-	3	3	3	-	-	1	3

Course Contents

UNIT – I

Meaning, Scope and approaches of Urban Geography: Changing Paradigms of Urban Geography, Development of Urban Geography in India, Theories of Urban Origin : Urbanization Cycle, Trends of Urbanization – World and India, Historical and Spatial Perspective

UNIT – II

Urban Morphology, land use models and city growth – concentric zone, Urban Economic Base, multiple nuclei models, Structure and Characteristics of Central Business District, Classification, Nelson – Steigenga webb and double index method, Rank size rule applicability

UNIT – III

Centrality and Hierarchy of Towns, Central place theory of Christailer, Concept of City Region - Rrural Urban fringe and its delimitation, satellite town, suburbs, conurbation, urban problems, poverty, slums urban renewal and sprawl, solid waste

UNIT – IV

National Urban Policy and Urban land use Planning: Concept of garden city and New Town, Major Plans : A case study of Nainital and Dehradun, Planned and SmartCities : Chandigarh and New Tehri town, urban development, planning in India – Policies, programme and implication, Delhi and NCR Globalization and Urban Planning

Books Recommended:

Text Books:

1. Ortham, R.M. : Urban Geography, John Wiley, New York

2. Short, R.J. : An introduction to Urban Geography, Rutledge and Kegan Paul, London,

3. Johnston, R.J. : City and Society, Hutchinson, London

4. Herbert, D.T. : Urban Geography : As Social Perspective, David and Charles, Newton Abbot, 1977

5. Johnson, J.H. : Urban Geography : An Introductory Analysis, Pergamon Press, London, 1972

6. Singh, R.L. : Urban Geography in Developing Countries, National Geographical Society India, Varanasi

7. Berry, B.J.L. and Horton, F.F. : Geographic Perspectives on Urban Systems, Prentice, Englewood Cliffs, New Jersey, 1970

8. Ramachandran, R. : Urbanization and Urban Systems of India, Oxford, New Delhi, 1993

9. Knox, P.L. and Taylor. P.J. : World Cities in a World System, Cambridge University U.K. 1995

10. Harvey, D. : Social Justice and the City, Arnold, 197

11. https://www.taylorfrancis.com/books/mono/10.4324/9781315168036/introduction-urban-geography-john-short

12. https://www.worldcat.org/title/urban-geography-a-global-perspective/oclc/841750841

Reference Books:

1. Singh, L.S. and Goiledge, R.G. : Cities, Space and Behaviour : Elements of Urban Geography, Prentice Hall, New Delhi
2. Mishra, H.N. (ed) : Urban Geography, Heritage Publication.

Course code	**:**	**MGGE_310**			
Course Name	**:**	**Advance geographical information science**			
Semester	**:**	**III**			
		L	**T**	**P**	**C**
		03			**03**

The objectives of this course are:

1. Students will be able to know about meaning and types and uses of GIS and it's data.

2. They will be able to understand the use of GIS for preparation of digital maps.

3. They will be prepare project on importance of digital map.

Course Outcome

Paper code	Paper name	Course outcome

MGGE_310	Advance geographical information science	CO1- Students will recall the knowledge of use of GIS in Geography. CO2- Students will be able to discuss various sources of GIS. CO3- They will be choose a area for mapping through application of GIS. CO4- They will be able to ask question regarding slow progress of GIS tool in India. CO5-. They will be able to evaluate the progress and use of GIS technique in India. CO6- They will be able to prepare a map with the help of GIS tool.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	2	3	3	3	2	-	-	1	1
CO2	3	3	3	1	3	2	3	2	-	1	1	1
CO3	3	3	3	2	3	2	3	2	-	1	2	1
CO4	3	3	3	3	3	2	3	3	-	1	2	2
CO5	3	3	3	1	3	2	3	3	-	-	-	2
CO6	3	3	3	1	3	3	3	3	-	-	1	3

Course Contents

UNIT – I

Spatial science – geography as a special science, maps and spatial information, dynamics of spatial information, elements of information technology, geographical objects and their relations.

UNIT –II

Data Base Management System – gis database, spatial data management system, object oriented data base management system, object relational data base management system, spatial data – elements sources quality, data model and GIS data format.

UNIT –III

Spatial data analysis – analysis, techniques, raster data analysis – location operations, neighbourhood operations, distance measurement operation.

Vector data analysis – buffering, overlay, distance measurement, pattern analysis, and map manipulation.

UNIT – IV

Recent trends in GI sciences- Web GIS, mobile, computer cartography, GPS, mobile, mapping mobile application.

Application of GIS – GIS science and society, network modeling, environmental modeling, geomorphologic and land use and land cover mapping.

Books Recommended:-

Text Books:

1. Pratt. W.k. Digital image processing, john wilry and sons, newyork, 1995
2. Ayery. T.e. : introduction to aerial photographs
3. Jones , C : geographical information sysyemand computer cartyography
4. Aronoff, s. : geographic information system – a management perspective
5.
6. https://www.esri.com/en-us/news-publications/ebooks
7. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Websites:

1. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
2. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
3. Indian National Cartographic Association: https://incaindia.org/
4. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Assignment based Seminar MGGP -301

Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGP_301				
Course Name : SEMINAR–3				
Semester : III				
	L	**T**	**P**	**C**
			02	**02**

Course Objectives

The objectives of this course are:

7. Student will learn to analyze, construct and evaluate scientific information and research topics.
8. They will enrich themselves by the practical knowledge to get job.
9. They will be able to make a quality scientific presentation and able to present themselves in front of Geographers and scholars.

Course Outcome

Paper code	Paper name	Course outcome

MGGP_301	Seminar	CO1- Students will be recalling the scientific information for presentation. CO2- Students will be able to understand quality scientific presentation. CO3- They will be able to present the scientific information. CO4-. Now they will be able to classify the data and put them in a table. CO5-.They will be able to prepare different types of maps and with these maps able to explain the collected data. CO6- Now they will be able to develop the theory and concept regarding the topic of the research.

CO-PO Mapping

Course	PO1	PO2	PO3	PO 4	P O5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	1
CO2	3	3	2	-	-	2		1	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	2	-	1	2	2
CO5	3	3	3	-	2	2	3	2	-	-	-	2
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

The students will be required to select any one of the topics allotted to them by the Department. The Topic will be related to the disciplines already studied by students in the same semester as core or elective courses. The assessment of the presentation of the students / examinees will be done by external and internal examiners appointed by the University.

Books Recommended :

Text Books:

9. R. Willams, Non- Designer's Presentation Book, The Principles for effective presentation design.
10. N. Duarte, Slide: ology: The Art and Science of creating great presentation
11. https://www.esri.com/en-us/news-publications/ebooks
12. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

3. G. Reynolds, Presentation Design and Delivery.

M.A./MS.c Geography

SEMESTER IV

S. No.	Course Category	Couse Code	Course Name	Periods				Evaluation scheme		Subject Total
				L	T	P	C	Sessional (Internal)	External (ESE)	
Theory										
1	Core	MGGC-401	Uttarakhand – A Regional Analysis	03			03	40	60	100
2	Core	MGGC-402	Dissertation	03			03	40	60	100
1	Elective Any three of the following elective (options) courses	MGGE-404	Human Ecology & Sustainable Development	03			03	40	60	100
2		MGGE-405	Regional Planning & Development	03			03	40	60	100
3		MGGE-406	Oceanography	03			03	40	60	100
4		MGGE-407	Population Geography	03			03	40	60	100
5		MGGE-408	Geography of Rural Settlements and Central Places	03			03	40	60	100
6		MGGE-409	Agriculture Geography	03			03	40	60	100
7		MGGE-410	Glacial Geomorphology	03			03	40	60	100
8		MGGE-411	Geography of Tourism and Recreation	03			03	40	60	100
Practical										
1		MGGL-401	Practice IV – Surveying and Weather			06	03	40	60	100

			Analysis							
		MGGP-401	Seminar			02	02	40	60	100
						08	20	280	420	700
Self Study Course										
1		MGGS-401	Medical Geography (Qualifying)	-			-	40	60	100
			Total	15		06	3x6=18+2=20	40x7=280	60x7=420	700

L – Lecture, T – Tutorial, P – Practical, C – Credit

Course code	**: MGGC_401**				
Course Name	**: UTTARAKHAND – A REGIONAL ANALYSIS**				
Semester	**: IV**				
	L	**T**	**P**	**C**	
	03			**03**	

The objectives of this course are:

1.To impart the knowledge about social, cultural, economic, condition of the people of Uttarakhand.

2. To develop the interest in student regarding to visit and prepare plan to solve the various problems in the hilly state Uttarakhand.

3. To develop the skill to work with NGO and other agencies to earn and serve the mother state.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_401	Uttarakhand-A Regional Aalysis	CO1- Students will recall general information on Uttrakhand. CO2- Students will be able to discuss various physical and cultural elements in Uttarakhand. CO3- They will be able choose a area of highly economy and physiographical strong and backward region in Uttarakhand. CO4- They will be able to ask question regarding poor economy and failure of implementation of government plan in Uttarakhand. CO5-. They will be able to evaluate the economic progress and loss of economy and backwardness due to the natural

		calamity and hazards in the region. CO6- They will be able to present a plan for economy development and weak environmental region of Uttarakhand.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	3	3	2	-	-	1	1
CO2	3	3	3	1	1	2	3	2	-	1	1	1
CO3	3	3	3	2	-	2	3	2	-	1	2	1
CO4	3	3	3	3	-	2	3	3	-	1	2	2
CO5	3	3	3	1	1	2	3	3	3	-	-	2
CO6	3	3	3	1	2	3	3	3	-	-	1	3

Course Contents

UNIT – I

Geo Political setting, Historical Outline, Geo Physical Setting, Geological structure, Geomorphic Characteristics, Processes and features and physiographic region Drainage – River system and basin, Characteristics and water volume, Climate, Natural Vegetation, Soil, Glaciers and Lakes

UNIT – II

Population, growth and distribution, density, age, sex structures , Literacy and Education, Cultural Appraisal, rural out migration, rural settlement, Type, Patterns and urbanization, occupational structure Harsh Nature of Environment and its influence on Socio – Economic aspects of Life, Tribes

UNIT – III

Land use, Agriculture, Constraints of Agrarian Economy, Money order economy and Role of Women in Hill economy, Important crops, animal husbandry, forestry, Horticulture mixed farming system, poverty, Transport, Tourism and Pilgrimage, Important Natural Resources, Industries, Hydropower projects – Tehri Dam, Vishnuprayag and AHPP Srinagar

UNIT – IV

Environmental Constraints in the Framework of Man- Nature interaction, Disaster, Regional Disparities in Development, Hill Development planning, problems and limitation of Development, Movement of Environment conservation, Environment V/S Economic Development, Waste Land Expansion after the creation of Uttarakhand State, Contemporary issues.

Books Recommended:

Reference Books:

Text Books:

1. Lal, J.S. &Moddie :The Himalaya Aspect of Change A.D. (ed)
2. Bhatt, H.P. & Bhatt Sangeeta :Environmental Dimensions of Rural Settlements in the Himalaya in1993
3. Bhatt, H.P. & Bhatt Sangeeta (1992) :Environment – Yesterday, Today and Tomorrow, GalgotiaPublication, New Delhi
4. Bose, S.C. :Land and People of the Himalaya.
5. Kayastha, S. :The Himalayan Beas Basin
6. Singh O.P. (ed) :The Himalaya Nature, Man & Culture
7. Joshi, S.C. and others :Kumaun Himalaya
8. Mathani, D.D. : Central Himalaya : Ecology, Environmental Resources and Development.
9. Rawat, M.S.S. (ed) :Central Himalaya – Environment Development Vol. I
10. https://niti.gov.in/planningcommission.gov.in/docs/plans/stateplan/sdr/sdr_uttarakhand1909.pdf
11. http://cgwb.gov.in/Regions/UR/Reports/GW%20Year%20Book-2019-20-%20Uttarakhand.pdf

Reference Books:

1. Nityнnand& Kumar, K. : The Holy Himalaya – Geographical Interpretation of Garhwal Himalaya.

12. Kharkwal, S.C. : Uttarakhand – Physico – Culture Complex.

Course code	:	**MGGC_402**			
Course Name	:	**Dissertation**			
Semester	:	**IV**			
	L	**T**	**P**	**C**	
	03			**03**	

The objectives of this course are:

1. To develop research interest in students.

2.To develop the skill to write and work scientifically for the development of a micro region.

3. To develop the self confidance in student that he or she can opt research as a carrier in life to serve the nation and Geography.

Course Outcome

Paper code	Paper name	Course outcome
MGGC_402	Dissertation	CO1- Students will recall the knowledge of allotted micro region. CO2- Students will be able to discuss the knowledge concern with the given topic. CO3- They will be able to choose a problem, construct a hypothesis, collect the review of literature in allotted micro region. CO4- Thus they will be able to prepare questioner regarding topic of dissertation. CO5-. They will be able to evaluate the results and move to work on all parameters of research in allotted region for dissertation. CO6- They will be able to prepare a complete report on allotted topic for dissertation.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	3	3	2	-	-	1	1
CO2	3	3	3	1	1	2	3	2	-	1	1	1
CO3	3	3	3	2	-	2	3	2	-	1	2	1
CO4	3	3	3	3	-	2	3	3	-	1	2	2
CO5	3	3	3	1	1	2	3	3	-	-	-	2
CO6	3	3	3	1	2	3	3	3	-	-	1	3

Topic of dissertation will be assigned by HOD or Supervisor of the department of the dept Concerned. Area of study shall be the Himalayan region preferably.

Distribution of Marks:

Periodical Presentation (Internal Assessment) - 20 Marks

Dissertation

Power Point / Viva Voce - 60 Marks

- 20 Marks

Objective :

1. The Paper is designed to acquaint the student with the importance of Field Work as one of The Methodologies in Geography and Especially in Research Work
2. The Student are to be sensitized about Field Work and Data/ information collection and writing of Report.

Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGP_401				
Course Name : SEMINAR– 4				
Semester : IV				
	L	**T**	**P**	**C**
			02	**02**

Course Objectives

The objectives of this course are:

10. Student will learn to analyze, construct and evaluate scientific information and research topics.
11. They will enrich themselves by the practical knowledge to get job.
12. They will be able to make a quality scientific presentation and able to present themselves in front of Geographers and scholars.

Course Outcome

Paper code	Paper name	Course outcome
MGGP_401	Seminar	CO1- Students will be recalling the scientific information for presentation. CO2- Students will be able to understand quality scientific presentation. CO3- They will be able to present the scientific information. CO4-. Now they will be able to classify the data and put them in a table. CO5-.They will be able to prepare different types of maps and with

		these maps able to explain the collected data. CO6- Now they will be able to develop the theory and concept regarding the topic of the research.

CO-PO Mapping

Course	PO1	PO2	PO3	PO 4	P O5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	-	-	3	-	3	-	-	1	1
CO2	3	3	2	-	-	2		1	-	1	1	1
CO3	3	3	3	-	-	2	3	2	-	1	2	1
CO4	3	3	3	-	-	2	3	2	-	1	2	2
CO5	3	3	3	-	2	2	3	2	-	-	-	2
CO6	3	3	3	-	3	2	3	2	-	-	1	3

Course Contents

The students will be required to select any one of the topics allotted to them by the Department. The Topic will be related to the disciplines already studied by students in the same semester as core or elective courses. The assessment of the presentation of the students / examinees will be done by external and internal examiners appointed by the University.

Books Recommended :

Text Books:

13. R. Willams, Non- Designer's Presentation Book, The Principles for effective presentation design.
14. N. Duarte, Slide: ology: The Art and Science of creating great presentation
15. https://www.esri.com/en-us/news-publications/ebooks
16. https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

4. G. Reynolds, Presentation Design and Delivery.

M.A./MS.c Geography

Field Based (Dissertation)

The Students should be sensitized about the methodology, synopsis preparers, Mapping exercise, data collection. 10 Minutes Power Point presentations on the Dissertation work are compulsory for the students. Students will also submit precise Dissertation Report along with maps, diagrams and at least 100 pages report. Supervisor will be allotted by HoD concern.

1. The Candidates are required to submit their Project Reports one week before the commencement of Examination to the concerned Head of the Department.
2. Assessment of Report will be done by a Board of Examiners, Consisting of external examiner and internal examiner.

Books Recommended:

Reference Books:
Text Books:

1. Bhatt, H.P. and Bansal S.C. (2012) :Research Methodology (in Hindi), Meenakshi Prakashan, Meerut.
2. Ahuja, R. (2001): Research Methods, Rawat Publication, Jaipur and New Delhi
3. Bhattacharya, D.K. (2005): Research Methodology, Excel Books, New Delhi
4. Blackburn, J. and Holland, J. (eds) (1998) :Who changes ? Institutionalizing Participation in Development IT Publication, London
5. Blaxter, L., Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.
6. Har Prasad : Research Methodology and Techniques in Geography, Rawat Publicaiton, Jaipur
7. Daniels, P., Bradshaw, M. et al. (2000) : Human Geography : Issues for the 21st Century, Prentice Hall, London and Pearson Publishers, Singaproe, Indian reprint, 2003.
8. https://www.worldcat.org/title/political-geography/oclc/1036780687
9. https://www.goodreads.com/shelf/show/dissertation-writing
10. https://www.servicescape.com/blog/how-to-turn-your-dissertation-into-a-book-a-step-by-step-guide-for-new-authors

Websites:

1. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
2. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
3. Indian National Cartographic Association: https://incaindia.org/
4. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

Course code : MGGL_401				
Course Name : Practical – IV (Surveying and Weather analysis)				
Semester : IV				
	L	**T**	**P**	**C**
			03	**03**

Course Outcome

Paper code	Paper name	Course outcome
MGGL_401	Geography Practical	CO1- Students will recall the application of various type and use of ground survey. CO2- Students will be able to discuss the progress of Survey of India. CO3- They will be choose a area for prepare a plan or sketch. CO4- They will be able to examine the method of survey in reference to fulfill the requirement of purpose. CO5-. They will be able to evaluate all the work done by them in ground. CO6- They will be able to prepare a map for ground or allotted survey area.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	-	3	2	-	-	1	1
CO2	3	3	3	1	1	-	3	2	-	1	1	1
CO3	3	3	3	2	-	-	3	2	-	1	2	1
CO4	3	3	3	3	-	-	3	3	-	1	2	2
CO5	3	3	3	1	1	-	3	3	-	-	-	2
CO6	3	3	3	1	2	-	3	3	-	-	1	3

The syllabi for Practical is divided into two sections: Section A and B

A is related to field work. Candidate will have to attempt two exercises of Surveying form section A of 02 Hours Duration and two exercises of Section B of 01 Hour duration

Course Contents
Section A - UNIT-1

Field Work

1. **Plane Table Survey:** Two Point and three point problem. Triangulation and determination ofheights and contouring with clinometers.
2. **Prismatic Compass Survey:** Closes Traverse error adjustment by Bowditch method andtrigonometry.

UNIT-2

3. **Dumpty level survey :**Contouring and Profile drawing

Section- B - UNIT-3

Laboratory Work

1. GPS : Handing usages, GPS based data acquisition, GPS System and application

2. Altimeter (Hi – teach with precision) : Handling and use

UNIT-4

Interpretation of Indian daily weather maps through the study of thermal and cloud conditions and pressure system, Weather forecasting method.

Distribution of Marks :

Surveying (Two Exercises)	– 15
Lab Work (Two Exercise)	– 10
Survey Camp	– 20
Sessional Record (min)	– 10

Viva – Voce - 05

Note :

1. In all 20 exercises form both the parts A and B shall constitute the sessional record covering all sub sections

2. Candidate shall attend (Compulsory) field training (Survey camp) of at least seven days duration in a suitable area handing different survey instruments. They shall prepare minimum 5 exercises (Survey camp) belonging to the original field survey.

3. Survey camp work will be evaluated at the time of the end semester Practical exam.

Books Recommended:

Text Books:

1. Jenson, J.R. : Introduction to Digital Image Processing, Prentice Hall, Englewood cliffs, NJ.
2. Pratt, W.K. : Digital Image processing, John Wiley & Sons, New York, 1995.
3. Hord, R.M. : Digital Image Processing of Remotely sensed Data, Academic Press, New York, 1989.
4. Nag, P.: Thematic cartography and Remote Sensing, concept Publishing House, New Delhi.
5. Sinha, P.K. &Sinha, P.: Computer Fundamentals, 3rd Ed. B.P.B. Publication.
6. https://www.amazon.com/dp/B07DZKT9KM?tag=uuid10-20

9..https://www.pdfdrive.com/land-surveying-books.html

10.https://www.esri.com/en-us/news-publications/ebooks

11- https://www.amazon.in/Image-Processing-GIS-Remote-Sensing-ebook/dp/B01BKTGKCG

Reference Books:

1. Sharma, J.P. :Practical Geography (Hindi)
2. Singh, R.L. :Practical Geography (English / Hindi)

Websites:

1. Indian Institute of Surveying & Mapping: http://www.iism.nic.in/
2. Survey of India Department of Science & Technology: http://www.surveyofindia.gov.in/
3. Indian National Cartographic Association: https://incaindia.org/
4. Bhuvan Indian Geo Platform of ISRO: https://bhuvan.nrsc.gov.in/

NOTE: CANDIDATE WILL HAVE TO SELECT ANY THREE OF THE FOLLOWING

ELECTIVE (OPTIONAL COURSE)

Course code	**:**	**MGGE_405**			
Course Name	**:**	**Regional Planning and Development**			
Semester	**:**	**IV**			
		L	**T**	**P**	**C**

	03			03

The objectives of this course are:

1. To developed the analytical understanding of regional concepts, approaches and demarcation and to make the students aware about various plans adopted for regional developments.

2. to develop the skill of critically evaluate the formal, functional and planning regions as well as they can evolve theoretical input for regional development.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_405	Regional Planning and Development	CO1- Students will find the concept of region. CO2- Students will be able to compare between different types of region. CO3- They will be able to classify different region on the basis of different natural and cultural components. CO4-. They will justify the limitation of a particular region. CO5-.They will be able to prepare a plan of natural regions in a political boundary as well as political regions. C06- Now students will be able to write critically about the spatial inequalities and regional imbalances in India.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	-	3	2	-	-	1	1
CO2	3	3	3	1	1	-	3	2	-	1	1	1
CO3	3	3	3	2	-	-	3	2	-	1	2	1
CO4	3	3	3	3	-	-	3	3	-	1	2	2
CO5	3	3	3	1	1	-	3	3	-	-	-	2
									-	-	1	3

Course Contents

UNIT – I

Concept, Scope and Typology of Planning, Regional Planning- its Philosophy and purpose, Theoretical and operational frame work of Regional Planning, Approaches to regional planning, Historical Development of Regional Planning, Geography and its role in regional planning and development

UNIT – II

Methodology and techniques of regional planning, Analytical techniques and procedural techniques, Principles of Regionalization, Planning Processes – sectoral ad spatial planning, short – term and long term perspective planning, Multi Regional, Multi – level and Decentralize Planning

UNIT – III

Regional Development Strategies : Identification of planning regions , Regional Planning strategies for backward area – Hill area, tribal area case studies of planning program, achievements, problems and prospects from Japan and China

UNIT – IV

Spatial inequalities and regional imbalances in India : Problems of Regional planning, indicators and level of regional development, Dilema of Development of Problem areas, Regional Planning & Development in India, Region Planning and Development strategies in the 21st Century.

Books Recommended:

Text Books:

1. Johnosn, E.A.J. :The Organization of Space in Development Countries, Harward University PressCambridge, 1970

2. Kuhilnski, A.R. (ed): Growth Poles and Growth Centers in Regional Planning, Mouton, The Hague,1972

3. Misra, R.P. et al :Regional Planning : Concepts, Techniques and Policies, University of Mysore,Mysore, 1969

4. Misra, R.P. et al :Multi Level Planning, Heritage Publishers, Delhi, 1930

5. Hall, Peter :Urban and Regional Planning, Penguin Books Ins, New York

7. Shorts, J.G.M. Hill :Regional Planning, University Press, Rotterdam. Blackwell Glasson John :Regional Planning, Hutchison, London

8. Mishra, R.P. : Development Issues of our time, Concept Pub. Co. New Delhi

9. Alden, J. and Morgan, R. :Regional Planning : A Comprehensive View, Leonard, Hill Bed Beds, 1974

10. Blij H. J. De, 1971: *Geography: Regions and Concepts*, John Wiley and Sons.

11. ClavalP.l, 1998: *An Introduction to Regional Geography*, Blackwell Publishers, Oxford and Massachusetts.

12. Friedmann J. and Alonso W. (1975): *Regional Policy - Readings in Theory and Applications*, MIT Press, Massachusetts.

13. Gore C. G., 1984: *Regions in Question: Space, Development Theory and Regional Policy*, Methuen, London.

14- https://www.pearson.com/store/p/world-regional-geography-a-development-approach/P100002140235/9780137612697

15- . https://www.indianculture.gov.in/ebooks/india-regional-geography

Reference Books:

1. Alka Gautam, Regional Geography of the world, Sharda Pustak Bhawan, Allahabad.

Course code : MGGE_406				
Course Name : Oceanography				
Semester : IV				
	L	**T**	**P**	**C**
	03			**03**

The objectives of this course are:

1.To develop the knowledge of distribution and importance of oceans in economy.

2. To enrich the interest in students regarding oceanography.

3. To develop the ability to prepare projects to solve various oceanic problems due to the excess human interference.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_406	Oceanography	CO1- Students will recall general information about oceanography. CO2- Students will be able to discuss significance and problems in oceans. CO3- They will be to draw a map or sketch of world oceans and currents. CO4- They will be able to attempt critical study on the economic and environmental aspect of oceans. CO5-. They will be able to evaluate the availability of oceanic resources in a region. CO6- They will be able to prepare a map and write about marine resource region in the world.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	3	3	2	-	-	1	1
CO2	3	3	3	1	1	3	3	2	-	1	1	1
CO3	3	3	3	2	-	3	3	2	-	1	2	1
CO4	3	3	3	3	-	3	3	3	-	1	2	2
CO5	3	3	3	1	-	3	3	3	-	-	-	2
CO6	3	3	3	1	2	3	3	3	-	-	1	3

Course Contents

UNIT – I

Meaning, Objective, Scope and Significance of Oceanography, Submarine topography, Configuration of pacific, Indian and Atlantic Ocean Floors, sea Floor Spreading

UNIT – II

Ocean Salinity, Temperature, Currents, Tides, Ocean Deposits and Coral Reefs

UNIT – III

Marine Resources, Mineral, Biotic and Energy and their conservation, Marine Pollution and Ocean dumping

UNIT – IV

Ocean Routes and World Economics, laws of the seas, Global Warming and Transgretium of seas, Tsunamies and Elnino, Seal level change, Contemporary issues.

Books Recommended:

1. Davis, R.J.A. : 1986 - Oceanography -An Introduction of the Marine EnviromementWin.C. Brown,Lowa
2. Griffiths, J.F. : 1976 - Applied Climatology, Oxford Press, New York
3. Huntington, E. and S.S. Visher : 1922 - Climate Change, Yale University Press
4. Hussain, T. and Tahir, M. : 2003 - Oceanography, Jawahar, New Delhi
5. Kings, C.A.M. : 1963 - An Introduction to Oceanography, McGraw, New York
6. Lamb, H.H. : 1972 - Climate - Present, Past and Future, Methuen London

7. Biddhartha, K. : 1999 - Oceanography – A Brief Introduction, Kisalya Publication, New Delhi

8. Singh, S. : 2002 - Physical Geography, Prayag Publication, Allahabad

9. Trewartha, G.T. :1968 - An Introduction to Climate, McGraw, New York
10. Weyl, P.K. : 1970 - Oceanography – An Introduction of the Marine Environment, John W. and Sons,London.

11. https://open.umn.edu/opentextbooks/textbooks/732

12. https://geo.libretexts.org/Bookshelves/Oceanography/Book%3A_Introduction_to_Oceanography_(Webb)

Course code : MGGE_407				
Course Name : Population Geography				
Semester : IV				
L	**T**	**P**	**C**	
03			**03**	

The objectives of this course are:

1.To give the knowledge regarding meaning and importance of population geography.

2. To aware the student regarding problems face by world due to the population explosion.

3. To develop the interest and skill to work with agencies and organizations concern with demography composition.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_407	Population Geography	CO1- Students will find the knowledge about nature, scope and definition of population geography. CO2- Students will be able to discuss various components and issues concern with population. CO3- They will be able to illustrate the reason and results of highly populated and less populated region of the world. CO4- They will be able to distingue between the region of highly populated and low density. CO5-. They will be able to evaluate the economy progress and leaving standard in highly populated and low density region of world. CO6- They will be able to prepare a map and write about the problems and solution of highly populated and low density region of world.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	3	3	2	-	-	1	1
CO2	3	3	3	1	1	3	3	2	-	1	1	1
CO3	3	3	3	2	-	2	3	2	-	1	2	1
CO4	3	3	3	3	-	1	3	3	-	1	2	2
CO5	3	3	3	1	-	1	3	3	1	-	-	2
CO6	3	3	3	1	2	1	3	3	2	-	1	3

Course Contents

UNIT – I

Nature, Scope and Significance of Population Geography, its relation with demography, Relevance of Population Studies in Geography: Nature and Sources of Population data and maps, Methods and Approaches to Population Study, Recent Development in Population Geography, Population and Development Planning.

UNIT – II

Population growth distribution and density, World Patterns and their determinants, concepts of 'Under', over and optimum population, Population composition – age, sex, literacy, occupational structure and gender issues. Population growth in the context of Manpower and employment

UNIT – III

Population Dynamics – Measurement of Fertility and mortality, **Migration – Causes,** types, national andinternational Pattern, Push and Pull Factors, Mobility Transition, Rural and Urban Dimensions, Globalization and Labour mobility, **Demographic regions of India :** Attributes, Structure and Characteristics

UNIT – IV

Concept of Human Resource and Management, Population Resource Regions, Population Planning and Policies in Under – Development and developed countries with special reference to Japan and India, Population as Social Capital, Human Development Index, National Population Policy

Books Recommended:

Books Recommended:

Text Books:

1. Chandna, R.C. :A Geography of Population, Concept, Determinants and Patterns, KalyaniPublication, New Delhi, 2000
2. Clarke, John I. :Population Ecology, Pergamon Press, Oxford 1973
3. Crook, Nigael :Principles of Population and Development, Pergamon Press New York, 1997

4. Garnle, R.B.J. :Geography of Population, Longman, London, 1970
5. Srinivasan, K. &VlassoffM. :Population Development Nexus in India : Challenges for theMilliennium, Tata Mc Graw Hill, New Delhi, 2001
6. Srinivasan, K. :Demographic Techniques and Applications, Sage Publication, New Delhi, 1998
7. Sundaram, K.V. and Nangla, Sudesh (ed) :Population Geography, Heritage Publication, Delhi 1986
8. Woods, R. :Population Analysis in Geography, London, 1979
9. Zelinsky, Wilbur :A Prologue to Population Geography, Prentice Hall, 1966
10. Clarke, J.I. :Population Geography, Pergamon, Oxford, 1972
11. https://www.amazon.in/Population-Geography-M-Hassan/dp/8170339677
12. Population Geography 1 Edition (Hindi, Paperback, Sisodia, Dr. Mamoria), SBPD Publications
13. https://books.google.co.in/books/about/Population_Geography.html?id=F7CcCuPDZ5cC

Course code : MGGE_409				
Course Name : Agriculture Geography				
Semester : IV				
	L	**T**	**P**	**C**
	03			**03**

The objectives of this course are:

1. To aware them about the knowledge of agriculture region in the world.

2. To give the knowledge about alarming condition of agriculture in the world.

3. To develop the skill in student regarding use of various renounced agriculture models.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_406	Agriculture Geography	CO1- Students will find the knowledge about definition, scope and significance of agriculture geography. CO2- Students will be able to identify world agriculture region. CO3- They will be able to examine the problems and limitation of different types of agriculture. CO4- They will be able to ask question regarding slow progress of agriculture in a particular region of the world. CO5-. They will be able to evaluate the progress green revolution and white revolution in India. CO6- They will be able to prepare an assignment on programs and policies introduced by India government in the field of agriculture.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	3	3	2	-	-	1	1
CO2	3	3	3	1	1	3	3	2	-	1	1	1
CO3	3	3	3	2	-	2	3	2	-	1	2	1
CO4	3	3	3	3	-	1	3	3	-	1	2	2
CO5	3	3	3	1	-	1	3	3	1	-	-	2
CO6	3	3	3	1	2	1	3	3	1	-	1	3

Course Contents

UNIT – I

Nature, Scope, significance and development of Agricultural geogprahy, Origin and Dispersal of Agriculture – major agriculture hearths, Diffusion of Agriculture innovation, Recent trends in Agriculture

UNIT – II

Determinants of agriculture – Physical, economic, Political, Technological, Socio – cultural, Land reforms, cropping Patter, Cropping intensity, diversification and specialization, efficiency and Productivity, crop combination regions

UNIT – III

Theories of agriculture location: Von Thunen's Model and its modification – Sinclair's approach, concept of agriculture region, whittlesey's classification of agriculture regions, Agricultural typology Mix Cropping, Crop – rotation and eco farming.

UNIT – IV

Agriculture in India: Land use and shifting cropping Pattern, New trends in India Agriculture – Greenrevolution, White revolution, Nutritional Index, Problems of India Agriculture, Agriculture Policy in India, Food Security.

Books Recommended:

Text Books:

1. Symons, L. :Agricultural Geography, G. Bells, London, 1967
2. Grigg, D. :An introduction to Agricultural Geography, Hutchinson Publication, London
3. Gigg. D.B. :The Agricultural System of the World, Cambridge University Press, New York, 1974
4. Mannion, A.M. :Agriculture and Environment Change, John Wile, London, 1995
5. Morgan, W.B. :Agriculture in the Third World – A Spatial Analysis, West Press,
6. Singh, B.B. :Krishi Bhoogol, GyanodayPrakashan, Gorakhpur
7. Kumar, Pramila evm Sharma, S.K. :Krishi Bhoogol, Hindi Granth Academy, Bhopal

8. and Food – Global Trends and Future Prospects, Routledgo, London, 1997
9. https://www.amazon.in/Agricultural-Geography-Leslie-Symons-ebook/dp/B08QYKXJRT
10. https://books.google.co.in/books/about/Agricultural_Geography.html?id=zBo_1ZJAQDAC
11. https://books.google.co.in/books/about/Agricultural_Geography.html?id=EYI_AAAAYAAJ&redir_esc=y

Reference Books:

1. Tiwari, R.C. and Singh, B.N. :Krishi Bhoogol, PrayagPustak Bhawan, Allahabad
2. Agriculture Geography, Majid Husain, Rawat Publication, Jaipur.

Course code : MGGE_410				
Course Name : Geography of Tourism & Recreation				
Semester : IV				
	L	**T**	**P**	**C**
	03			**03**

The objectives of this course are:

1. Students will understand the concept, parameters and types of tourism.
2. They will also study the impact of tourism on economy and society.
3. They will learn about the tourist places of different region of the country.

Course Outcome

Paper code	Paper name	Course outcome
MGGE_410	Geography of Tourism & Recreation	CO1- Students will learn about concept, parameters and types of tourism. CO2- Students will be able to explain the impact of tourism on economy and society. CO3- They will be able to draw and find the national and international tourist places of the world. CO4-. They will be able to differences between Himalayan tourism and other physiographic region's tourism. CO5-. They will be able to evaluate the development of tourism in deferent region of the world. CO6-.They will be able to prepare project on tourism and economy development, green tourism, eco tourism, and sustainable tourism etc.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1	3	3	3	-	-	1	1
CO2	3	3	3	1	1	3	3	3	-	1	1	1
CO3	3	3	3	2	-	2	3	3	1	1	2	1
CO4	3	3	3	2	-	1	3	3	1	1	2	2
CO5	3	3	3	1	-	1	3	3	1	-	-	2

CO6	3	3	3	1	2	1	3	3	2	-	1	3

Course Contents

UNIT – I

Tourism and Recreation – meaning and Definitions, Development of Geography of Tourism and Recreation, Approaches to the study and models of Tourism, Present Tourism Trends, Its relation with other branches of Geography

UNIT – II

Tourism Types : Cultural, Eco- tourism- coastal and adventure tourism, National and International tourism, Globalization and Tourism, Tourism as an industry structural components and characteristics, International tourism and Political Fallouts

UNIT – III

Development of Tourism in Himalayas: Potentials and Promotion of Tourism – Pilgrimage Tourism as aprocess of Development and Change in Hill region : Futuristic Tourism Himalayas. Impact of Tourism – Environmental, Economic and Socio- Cultural, Case Study of Mussorie and Nainital

UNIT – IV

Planning of Tourism – conflicting issues of Development, Concept of Green Tourism, Eco Tourism Sustainable tourism: Community participation: Role of Foreign capital and impact of Globalization on Tourism, Contemporary issues

Books Recommended:

Text Books:

1. Hall, C.M. and Page, S.J. :The Geography of Tourism and Recreation, Environment, Place andSpace, Routledge, London, 1999
2. Shaw, G. and Williams, A.M. :Critical issues in Tourism : A Geographical Perspective Blackwell,Oxford, 1994
3. Kaul, R.K. :Dynamics of Tourism and Recreation, Inter India, New Delhi, 1985
4. Pearce, D. :Tourism Today – A Geographical Analysis, Longman Scientific and Technical, New York,1987
5. Cris, Ryan :Recreational Tourism, A Social Science Perspective, Routledge, London
6. Hall, C.M. and Page, S.J. :Tourism in South and South East Asia, issues and Cases, Butterworth, Heinemann, Oxford, 2001
8. Garg, N.K. :Tourism and Economic Development, Avishkar, Jaipur, 1996
9. Bhardwaj, D.S. and Chaudhary, M. :Contemporary Issues in Tourism, Himalaya, Mumbai, 1997

11.https://books.google.co.in/books/about/The_Geography_of_Tourism_and_Recreation.html?id=Dl9JhlZ-i4MC&redir_esc=y

12. https://www.kobo.com/ww/en/ebook/the-geography-of-tourism-and-recreation-environment-place-and-space-4th-edition

12. https://www.academia.edu/265485/The_Geography_of_Tourism_and_Recreation_Environment_Place_and_Space_CM_Hall_SJ_Page_Abingdon_Routledge_2006_408pp_25_99_Pbk_ISBN_0_

Reference Books:

1. Sinha, P.C. :International Encyclopedia of Tourism Management, Vols. 1-12, Anmol, New Delhi
2. Bhatia, A.K. :Tourism Development Principles and Practices, Sterling, Bangalore,