B.A./ B.Sc. Syllabus Department of Geography

Semester wise course distribution of B.A./B. Sc.Geography Programme Regulation 2020

1. Applicability

These Regulations shall apply to the Bachelorof Arts/ Bachelor of Science in Geography Programme from the session 2020-21

2. Minimum Eligibility for Admission:

- Eligibility (B.A. Honors): Intermediate or equivalent examination from a recognized board/ institution including Madrasa Board of all states with minimum 45% marks in aggregate for General/OBC and 40% for SC/ST candidates.
- Eligibility (B.Sc. Honors): Intermediate or equivalent examination with PCM (Physics, Chemistry and Math) or PCB (Physics, Chemistry &Biology) from a recognized Board/ Institution with minimum 45% marks in aggregate for General/OBC and 40% for SC/ST candidates.

3. Programme Objectives:

The objectives of the Course are aimed to develop the geographical skills, awareness and sensitivity towards the Society and Nation so that students can enrich themselves for carrier and impart their role to the sustainable development of the Nation. The major objectives are:

- The main objective of this new curriculum is to give the students a holistic understanding of the subject, putting equal weightage to the core content and techniques used in Geography. The syllabus tries to give equal importance to the two main branches of Geography: Physical and Human.
- This course offers a comprehensive understanding of the human aspects of understanding about the physical, regional, and economic features of the earth's geographical dimensions.
- The course focuses on both theoretical and practical knowledge and understanding.
- B. A./B. Sc. Geography program concentrates on the social science aspect of Geography. It involves the thorough study of Human Geography and exploring the relationship of human beings with the created environment, management and utility of the space.
- The principal goal of the syllabus is to enable the students to secure a job at the end of the undergraduate programme. Keeping this in mind and in tune with the changing nature of Geography, adequate emphasis is rendered on applied aspects of the subject such as emerging techniques of mapping and field-based data generation, especially in the honours course. The syllabus emphasises on development of basic skills of the subject, so that everyone need not go for higher studies in search of professional engagement or employment.

4. Program Outcomes:

This syllabus is designed to impart basic knowledge on geography as a spatial science and train the undergraduates to secure employment in the sectors of geospatial analysis, development and planning, mapping and surveying. The Program trains students to:

- Understand basic and advanced theoretical and practical knowledge in branches of Geography
- Develop advanced skill in one of the branches of Geography
- To Convert theoretical knowledge and skills into practical skills.
- To gain the practical knowledge of GIS software like ARCGIS, QGIS, etc.
- Become responsible citizens with professional attitude.
- After completing the course, the students will be amply prepared for professional careers in geography and allied disciplines like GIS and Remote Sensing. They will also be able to pursue M.A. /M.Sc. Course in Geography.

5. Specific Programme Outcomes:

The courses focus on skill development and capacity building to empower women to initiate their own enterprise

- Courses aim at equipping the students with necessary proficiencies for a wide variety of career with geographical information systemskills and placement.
- This course aim at comprehensive understanding of the human aspects of understanding about the physical, regional, and economic features of the earth's geographical dimensions.
- The course focuses on both theoretical and practical knowledge and understanding.
- B. A./B. Sc. Geography program concentrates on the social science aspect of Geography. It involves the thorough study of Human Geography and exploring the relationship of human beings with the created environment, management and utility of the space.
- This course is essentially job oriented that incorporates an overall understanding of the discipline but from the perspective of social science.
- This course involves an advanced academic exploration of the earthôs surface, essence and composition.
- Students will get Practical training/exposure through internship, field visit, project work, expert lectures, demonstration, workshops and seminars
- Focus on updating with National & Global issues and concerns.
- Curriculum based capacity building through subject wise research methods and scientific writing.

LEARNING OUTCOMES:

Geography is enormously an important subject. Those who chose to study this are creating a huge difference in the world we live in. They bring together the physical dimensions of the world with the human side of things and thus help to minimize the negative human impact on the environment. Geographers are required to help find solutions to some of the biggest issues in the world, such as climate change, urban over-development, natural disasters, etc. With the development of human society, global issues are increasing and thus the employment opportunities are also growing exponentially. There is a broad range of career options after Masters in Geography like Geographic Information systems (GIS) analyst, Geographer, Cartographer, Marine Geologists, Oceanographer, Operations Manager, Senior executive assistant, etc. Some of the skills learned during the course are quite unique and can also be

marketed on their own, like cartographic (maps), Geographic Information Systems (Google maps), and data presentation skills.

Geographers are expected to internalize the principle of a Geography, that is, to give back to the community from which they draw, for sustainable development.

- To understand the scope and evolution of the diverse discipline of Geography.
- Recognize, synthesize and evaluate diverse sources of knowledge, arguments and approaches pertinent to exploring human-environment problems. Explain societal relevance of geographical knowledge and apply it to real world human- environment issues.
- Appreciate and reflect critically on the importance of holistic and interpretative human-environment perspectives.
- An understanding and acknowledgment of the threats that endanger the earthôs natural systems. This helps in further realization of the significance of anthropogenic causes of many of the disasters and threats that puts life on this planet on the edge.
- Development of knowledge, skills and holistic understanding of the discipline among students. Encouragement of scientific mode of thinking and scientific method of enquiry in students. This goal is achieved through the regular field excursions conducted by the Department to various parts of India extensively and the writing of a report/thesis on it.
- Students become equipped with the ability to respond to both natural and man-made disasters and acquire management skills. This is attained through the curriculum by studying and analyzing hazards, disasters, their impact and management.
- Ability to undertake research in interdisciplinary studies and problems or issues beyond the realm of what strictly comes under the purview of geography. This is possible because of the varied nature of the curriculum that encompasses the study and analyses of concepts of sub-disciplines and allied disciplines of Geology, Seismology, Pedology, Hydrology, Environmental Studies, Disaster Management, Resource Management and Conservation, Regional Planning and Development Studies etc. Identify the relative location, direction, size, and shape of locales, regions, and the world.
- Understand and appreciate the role of interdisciplinary sciences in the development and well-being of individuals, families and communities
- Understand the sciences and technologies that enhance the quality of life of people.

6. COURSE STRUCTURE

The Course Structure of the B.A./ B.Sc. Geography Hons. Programme shall be as under:

Course Structure B.A./ B.Sc. Geography Hons. (UGC Choice Based Credit System)

Year	Sem	Subject	Course Code	Paper Title	Theory/Practical/Project	Credits	Cumulative Minimum credits required for Award of Certificate/ Diploma/ Degree
1	I	Core 1	A01010 1T	Physical Geography	Theory	6	**(46) Certificate of Arts/Science in Geography**
		Core 2	A01010 2T	Fundamentals of Geography	Theory	6	
		Core 3	A01010 3P	Computer Application in Geography	Practical	6	
		GE 1	A01010 4T	Basic Concepts in Geography	Theory	4	
		SEC 1	A01010 5P	Elements of Map and Surveying	Practical	3	
		AECC 1	A01010 6T	Food Nutrition and Hygiene	Theory	0	
Total Credit						**25**	
1	II	Core 4	A01020 1T	Human Geography	Theory	6	
		Core 5	A01020 2T	Geomorphology	Theory	6	
		Core 6	A01020 3T	Geography Of Tourism	Theory	6	
		GE 2	A01020 4T	Spatial Information Technology	Theory	4	
		SEC 2	A01020 5P	Thematic Mapping and Surveying	Practical	3	
		AECC 2	A01020 6T	First Aid and Health	Theory	0	
Total Credit						**25**	
2	III	Core 7	A02030 1T	Environment, Disaster Management and Climate Change	Theory	6	**(92) Diploma of Arts/Science in Geography**
		Core 8	A02030 2T	Oceanography	Theory	6	
		Core 9	A02030 3P	Computer Mapping	Practical	6	
		GE 3	A02030 4T	Climate Change: Vul. & Adaptation	Theory	4	

		SEC 3	A02030 5T	Statistical Techniques and Surveying	Practical	3	
		AECC 3	A02030 6T	Human Values and Environmental Studies	Theory	0	
Total Credit						**25**	
2	IV	Core 10	A02040 1T	Economic Geography	Theory	6	
		Core 11	A02040 2T	Climatology	Theory	6	
		Core 12	A02040 3T	Disaster Management Based Project Work	Theory	6	
		GE 4	A02040 4T	Sustainable Development	Theory	4	
		SEC 4	A02040 5P	Weather Maps, Geological Maps and Surveying	Practical	3	
		AECC 4	A02040 6T	Physical Education and Yoga	Theory	0	
Total Credit						**25**	
3	V	Core 13	A03050 1T	Regional Geography	Theory	5	**(132)** **Bachelor of Arts/Science in Geography**
		Core 14	A03050 2T	Basics of Remote Sensing and GIS	Theory	5	
		Core 15	A03050 3P	Tour and Tour report	Practical	5	
		Core 16	A03050 4P	Project Report-1	Practical	5	
		AECC 5	A03050 5T	Analytic Ability and Digital Awareness	Theory	0	
		Industrial Training	A03050 6P	Industrial Training	Project	0	
Total Credit						**20**	
3	VI	Core 17	A03060 1T	Geography of India	Theory	5	
		Core 18	A03060 2T	Evolution of Geographical Thoughts	Theory	5	
		Core 19	A03060 3P	Remote Sensing and GIS	Practical	5	
		Core 20	A03060 4P	Project Report-2	Practical	5	
		AECC 6	A03060 5T	Communication Skill and Personality Development	Theory	0	
		Research Project	A03060 6P	Research Project	Project	0	
Total Credit						**20**	

4	VII	Core 21	A04070 1T	Physical Landscape and Hydrology	Theory	5	
		Core 22	A04070 2T	Research Methodology	Theory	5	**(184) Bachelor of Arts/Science in Geography (with Research)**
		Core 23	A04070 3T	Population Geography	Theory	5	
		Core 24	A04070 4P	Advanced Cartography	Practical	5	
		G E 5	A04070 5P	Computer Mapping	Practical	4	
		Research Project (Conceptual)	A04070 6P	Research Project (Conceptual)	Project	4	
Total Credit						**28**	
4	VIII	Core 25	A04080 1T	Social & Cultural Geography	Theory	5	
		Core 26	A04080 2T	Political Geography	Theory	5	
		Core 27	A04080 3T	Agricultural Geography	Theory	5	
		Core 28	A04080 4P	Land Surveying and GPS	Practical	5	
		Research Project Report	A04080 5P	Research Project Report	Project	4	
Total Credit						**24**	
						192	

EVALUATION

Both theory and practical papers have equal weightage (100 marks/50 marks) which will be evaluated at as End Semester Examination (70/35)

QUESTION PAPERS UNDER CBCS PATTERN

End Semester Examination (70/35)

Course	Marks	Duration	Nature of Questions		Examiners (Internal/External\
			Short Type	Long Type	

Theory	70	03 hours	**SECTION A**Answer any 6 out of 08 Questions (6 X 5 Marks = 30 Marks).	**SECTION B** Answer all the 4 questions with one option in each question. 4 out of 8 Questions (4 X 10 marks = 40 Marks)	Internal and external 60/40 ratio is followed by the Department for paper setting as per appointed by the Head/ Incharge

Course	**Marks**	**Duration**	**Nature of Questions**			**Examiners (Internal/External**
			Short Type	Long Type	Viva & File work	
Practical (Marks Distribution may vary according to the nature of Practical course)	70	3 hours	20	30	20	Internal and external 50/50 ratio will be followed as per appointed by the Head/ Incharge

Internal Assessment (30/15) is categorized into three parts for **Theory and Practical as follows**

Sl. No.	**Theory**	**Practical**	**Marks**
1	Sessional	Continuous evaluation	(10/05)
2	Assignment/ Tutorial	Seminar	(10/05)
3	Attendance	Attendance	(10/05)

Bachelor of Arts in Geography Programme in Brief

Title	**The title of the Course shall be Bachelor of Arts/ Bachelor of Science in Geography**
Objective	The objective of the Course is to develop responsive and skilful, talented, productive citizens of the nation with high potential and professionalism by imparting knowledge in various areas of Geography and creating suitable attitude for the same.
Duration	The total duration of the Course shall be of three years, spread in six semesters.

Seats	The total **number of students** to be admitted in the Course **shall be 30 each**.
Eligibility	• Eligibility (B.A. Honours): Intermediate or equivalent examination from a recognized board/ institution including Madrasa Board of all states with minimum 45% marks in aggregate for General/OBC and 40% for SC/ST candidates. • Eligibility (B.Sc. Honours): Intermediate or equivalent examination with PCM (Physics, Chemistry and Math) or PCB (Physics, Chemistry &Biology) from a recognized Board/ Institution with minimum 45% marks in aggregate for General/OBC and 40% for SC/ST candidates.
Fees	Fee will be charged as per University Fee Structure from time to time.
Admission Policy	Admissions shall be made on the basis of university norms. Reservation policy as per rules of KMCL University will be followed.
Course Content	The three-yearbachelor Course of Geographyis divided into six semesters i.e., two each in all three years. During these six semesters, knowledge enhancement of the students will be done through:
Distribution of Marks	• The theory papers will be each of 100 marks (70 marks for Written Examination + 30 marks for Internal Assessment) for each theory paper. • Practical work including Viva-Voce will be of 100 marks including 30 marks for Internal Assessment. • Dissertation will be of 100 marks.

Programme/Class: B.A./B.Sc.	Year: I	Semester: I
Subject- Geography		
Course Code: A110101T	Course Title: **Physical Geography**	

Course outcomes: Students will be able to understand

- The Earth geomorphic transition from beginning to present day.
- Plate tectonics and related movements
- Landforms carved by various agents of erosion
- Earthôs climate and that factors that influence it
- Oceans system and biogeography of the world.

Credits: 6	Course Type-Core Course
Max. Marks: 100(30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-2/w

Unit	Topics	No. of Lectures Total=90
I	Nature and Scope of Physical Geography, Origin of Universe, solar system and Earth. Geological Time Scale (with special reference to evidences from India), Interior of the Earth. Origin of Continents and Oceans, Isostacy, Earthquakes and Volcanoes, Geosynclines, Continental Drift theory, Concept of Plate Tectonics.	**23**
II	Rocks, Folding, Faulting, Weathering, Erosion, Cycle of Erosion by Davis and Penck, Drainage Pattern. Fluvial, Karst, Aeolian, Glacial, and Coastal Landforms	**23**
III	Composition and Structure of atmosphere: Insolation, Atmospheric pressure and winds. Airmasses and Fronts, cyclones and anti-cyclones, Humidity, precipitation and rainfall types.	**22**
IV	Ocean Bottoms, composition of marine water temperature and salinity. Circulation of Ocean water, Biosphere, Zoo-geographical regions of the world.	**22**

REFERENCE:

Text Book:

1. Husain M., (2002), Fundamentals of Physical Geography, Rawat Publications, Jaipur.
2. Monkhouse, F. J. (2009), Principles of Physical Geography, Platinum Publishers, Kolkata.
3. Singh Savindra, (2017), Physical Geography, Vashundhara Prakasah, Gorakhpur.
4. Strahler A. N. and Strahler A. H., (2008), Modern Physical Geography, John Wiley & Sons, New York.

Programme/Class: B.A./B.Sc.	Year: I	Semester: I
Subject- Geography		
Course Code: A010102T	Course Title: **Fundamentals of Geography**	

COURSE OUTCOME :
After completion of the course students will be able -
1. To understand the basics of geography as a discipline
2. To understand our solar system
3. To understand man nature relationship

Credits: 6	Course Type-Core Course
Max. Marks: 100(30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-2/w

Unit	Topics	No. of Lectures Total=90
I	Meaning, Definition, Nature, Scope and approaches of Geography, Objectives and Relevance; Basic Concepts of Geography, Branches of Geography; Dualism in Geography.	**23**
II	The Physical Dimension in Geography: The Universe; The solar system, The Earth Movement, Latitudes, Longitudes & Time calculation.	**23**
III	The Human Dimension in Geography: Man & Environment; Society, Culture & Civilization; Population; Economic Structure.	**22**
IV	Applied Geography: Recent Trends in Geogr aphy; Modern Concepts in Geography; Study of Geography in India; Career Opportunities for Geographers.	**22**

REFERENCE:

Text Books:
1. Dikshit R.D. Geographical Thought (2000) A contextual History of Ideas. Prentice Hall of India Pvt. Ltd..
2. Dwivedi A. K. (2021), Bhoogol Ke Mool Siddhant, Vanya Publications, Kanpur.
3. Dwivedi A. K. (2021), Fundamentals of Geography, Vanya Publications, Kanpur.
4. Husain Majid (1984) : Evolution of Geographical Thought, Rawat Publications, Jaipur.
5. Jain Ritu (2018), Fundamental of Geography, Pratyush Publication, Dehli.
1. 6. Kaushik S. D. (2018) Bhougolik Vichardharaye, Rastogi Publication Meerut.

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions

Programme/Class: B.A./B.Sc.	Year: I	Semester: I
Subject- Geography		
Course Code: A010103P	Course Title: **Computer application in Geography**	

Course outcomes:

- Develop an idea about resource.
- Understand the concept of different types of resources.
- Acquire knowledge about different types of theories and models
- Acquire knowledge about different types of power resources.
- Students will demonstrate their knowledge of resource and environmental issues. Students will also be able to demonstrate their knowledge of the role that geography can play in analyzing resource / environmental degradation and improving resource / environmental management.

Credits: 6	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 2 P-4/w

Unit	Topics	No. of Lectures Total=90
I	Computers: Definition, Characteristic; Hardware & Software; Number System; Operating Systems; Introduction to DOS, WINDOWS, WORD & EXCEL; Computer & Geographic Data: Scale of Measurement, Location Data, and Data Structure.	**23**
II	Computers in Cartography: Hardware and Software for Computer Mapping; Application of Computer Cartography	**23**
III	Simple Exercises for Representation of Geographic Data: Histogram, Bar Graphs, Line Graph, Multiple Line Graph, Scatter Diagram & Pie Diagram.	**22**
IV	Importance of Information Technology in Geographical Studies; Advantages of Internet, Browsing & Surfing the Geographical Sites; Web Pages; Portals & Down Loading Files.	**22**

Practical Record: A Project file consisting of 4 exercises using GPS on above mentioned themes.

Suggested Reading

1. D.J.Unnwin& J.A. Dawson(1987): Computer Programming for Geographers, Longman,London.
2. Monmonier, M.S.(1982) : Computer Assisted cartography, Prentice Hall.
3. David J. Maguire (1989) : Computers in Geography, Longman scientific &Technical,London.
4. Paul M.mather (1993): Computer application in geography John Wiley & Sons, New York U.S.A.
5. Cole & King (1968): QuantitativeGeography.
6. Hagget Peter (1990): Geography a modern synthesis Harper international, New York.
7. Hammond B.(1974) : Quantitative techniques in Geography, McCullagh Pclarendon press

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions

Programme/Class: B.A./B.Sc.	Year: I	Semester: I
Subject- Geography		
Course Code: A010104T	Course Title: **Basic Concept In Geography**	

Course outcomes:

- Understand the concept of Meaning, Concept, Nature and Scope of Geography
- Understand the Origin of the solar system and earth
- Understand the theories and fundamental concepts of Geotectonic and Geomorphology.
- Understand earthôs tectonic and structural evolution.
- Gain knowledge about earthôs interior.
- Develop an idea about concept of plate tectonics, and resultant landforms.
- Gain knowledge about major themes of human Geography.

Credit: 4	Course Type - General Elective 1
Max. Marks: 100 (30+70)	Min. Passing Marks:40

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

Unit	Topics	No. of Lectures Total=60
I	Meaning, Concept, Nature and Scope of Geography, Branches of Geography, Approaches in Geography, Origin of the solar system and earth	**15**
II	Physical Geography: Earthôs interior; rocks; Continental drift, Plate tectonics; Weathering and Erosion, fluvial and arid landscapes, Composition and structure of the atmosphere, Temperature, Pressure and pressure belt, Cyclone &Koppenôs classification of Climate, Ocean Floor and relief of Indian Ocean, salinity, Ocean Currents (Ref-Atlantic ocean)	**15**
III	Human Geography: Population Growth and Distribution; Population Composition; Demographic Transition Theory, Population- Resource Relations Settlements and its type, Trend in Urbanization	**15**
IV	Dualism in Geography Environmental Determinism and Possibilism, Systematic and Regional, Qualitative and Quantitative Recent trends in Geography	**15**

Suggested Readings:

1.Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge
2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company. N.D
3. Critchfield,H.J., (1966)General Climatology, Prentice Hall, New York.
4. Lydolf Paul E. (1985) The Climate of the earth, Rowman and Littlefield Publishers, Maryland,U.S.A

5. Lake, P. (1979): Physical Geography (English editions), Cambridge University Press, Cambridge.
6. Leong Goh Cheng (2003): Certificate Physical and Human Geography, OxfordUniversity Press, New Delhi.
7. Monkhouse, F.J. (1979): Physical Geography. Methuen, London
8. Singh, S. (2003): Physical Geography. (English edition.). PrayagPustakBhawan, Allahabad
9. Vatal (Hukku) M. and Sharma R.C., Oceanography for Geographers, Chaitanya Publications
10. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York
11. Trewartha, G.T. (1987) Introduction to Climate, Mac Graw Hill, New York
12. Singh, S. (2003): BhautikBhoogol (Hindi edition) ,PrayagPustakBhawan

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions.

Program/Class: Certificate/BA	Year: First	Semester: First
Subject: Geography		
Course Code: A110105P	Course Title: **Elements of Map and Surveying**	

Course Learning Outcomes

On completion of this course, learners will be able to:

ŏ Understand the basic idea of Map, Scale and Topographic sheets

Credits: 3	Core Compulsory
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): P - 6 /w

Unit	Topics	No. of Lectures=45
I	Cartography: Nature and Scope. Scalesï Concept and application; Graphical Construction of Plain, Comparative, Diagonal Scales and Vernier scale.	**12**
II	Map Projections: Classification, Properties and Uses; Graphical Construction of Polar Zenithal, Stereographic, Bonneôs and Mercatorôs Projections, and reference to Universal Transverse Mercator (UTM) Projection.	**11**
III	Topographical Map: Coverage, Scale and Topo Symbol, Interpretation Survey of India Toposheets. Representation of landforms by Contours. Slope Analysis ï Wentworthôs method.	**11**
IV	Basics of Surveying: Surveying: meaning, classification, merits and demerits. Plane Table Surveying.	**11**

Suggested Readings:

1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
3. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
4. Sharma, J. P. (2001): PrayogikBhugol., Rastogi Publication, Meerut 3rd. edition.
5. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,.
6. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.

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

Programme/Class: B.A./B.Sc.	Year: I	Semester: II
Subject- Geography		
Course Code: A010201T	Course Title: **Human Geography**	

Course outcomes:

- Gain knowledge about major themes of human geography.
- Develop an idea about space and society.
- Build an idea about population growth and distribution of population.
- Know about population ï resource relationship.

Credits: 6	Course Type-Core Course
Max. Marks: 100(30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-2/w

Unit	Topics	No. of Lectures Total=90
I	Introduction: Defining Human Geography; Major Themes; Contemporary Relevance, Approaches to the study of Human Geography	**23**
II	Space and Society: Cultural Regions; Races: physical and Socio-Economic Characteristics and Spatial Distribution, Religion and Language Human Adaptation and Environment: Cold Region: Eskimo, Hot Region: Bushman	**23**
III	Population: Population Growth and Distribution; Population Composition; Demographic Transition Theory, Population-Resource Relations	**22**

IV	Settlements: Types of Rural Settlements; classification of Urban Settlements; Trends and Patterns of World Urbanization	**22**

Suggested Readings:

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. DeBlij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10th edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
6. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
7. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
8. Norton, W. (2008): Human Geography, OxfordUniversity Press, New York. 5th ed.
9. Qureshi, M.H.(ed.) (20013) Paradigm Shift in Geography, Manak ,New Delhi
10. Singh, K. N. and Singh, J. (2001): ManavBhugol. GyanodayaPrakashan, Gorakhpur. 2nd edition.
11. Hassan M.I. (2005) Population Geography, Rawat Publication

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions.

Programme/Class: B.A./B.Sc.	Year: I	Semester: II
Subject- Geography		
Course Code: A010202T	Course Title: **Geomorphology**	

Course outcomes:

- Understand earthôs tectonic and structural evolution.
- Gain knowledge about earthôs interior.
- Develop an idea about concept of plate tectonics, and resultant landforms.
- Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms.

Credits: 6	Course Type-Core Course
Max. Marks: 100(30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-2/w

Unit	Topics	No. of Lectures Total=90
I	Nature and Scope of Geomorphology, Fundamental Concepts	**23**
II	Earth: Interior Structure and Isostasy; Earth Movements: Continental Drift, Plate Tectonics, Types of Folds and Faults	**23**

	Earthquakes and Volcanoes	
III	Geomorphic Processes: Weathering, Mass wasting, Cycle of Erosion (Davis and Penck)	**22**
IV	Evolution of Landform (Erosional and Depositional): Fluvial, Karst, Aeolian, Glacial and Coastal	**22**

Suggested Readings:

1. Bloom, A. L. (1992): Geomorphologyï A Systematic Analysis. Prentice-Hall India, New Delhi.
2. Chorley, R. J., Schumm, S. A. and Sugden D.E.(1984): Geomorphology. Methuen, London
3. Holmes, A. (1987): Principles of Physical Geology. Nelson, New York, 3rd edition.
4. Sparks, B.W.(1969) : Geomorphology. Longman, London.
5. Stoddard, D. R. (ed.)(1996): Process and Form in Geomorphology. Routledge, London,.
6. Kale, V. and Gupta, A. (2001): Elements of Geomorphology. Oxford University Press, Delhi.
7. Thornbury, W. D. (1990): Principles of Geomorphology. Wiley Eastern Edition, New York,.
8. Singh, S. (2004): Geomorphology, PrayagPustakBhawan, Allahabad
9. Skinner, B. J. and Porter, S.C. (1996): The Dynamic Earth. John Wiley and Sons, New York,.
10. Wooldridge, S.W. and Morgan, R.S. (1959): The Physical Basis of Geography: An Outline of Geomorphology. Longman, London, several reprints.
11. Gautam, A (2010): BhautikBhoogol, Rastogi Publication
12. S. Singh (2009): BhautikBhoogolkaSwaroop, PrayagPustak, Allahabad
13. Tikkaa, R.N. :BhautikBhoogolkaSwaroop, Kedarnath Ram Nath, Meerut

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions.

Programme/Class: B.A./B.Sc.	Year: I	Semester: II
Subject- Geography		
Course Code: A010203T	Course Title: **Geography Of Tourism**	

Course outcomes:

- Learn Scope and Nature: Concepts and issues, tourism, recreation and leisure inter-relations; Factors influencing tourism, Types of Tourism: Ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage, international, national.
- Use of information on factors (Historical, natural, socio-cultural and economic; motivating factors for pilgrimages) to plan destination marketing; tourism products; niche tourism planning; Tourism impact assessment, Sustainable tourism, Information Technology and Tourism, Tour operations planning and guiding.
- Increasing Global tourism; Tourism in India: Tourism infrastructure, access,

Credits: 6	Course Type-Core Course
Max. Marks: 100(30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-2/w

Unit	**Topics**	**No. of Lectures Total=90**
I	Scope and Nature: Concepts and Issues, Tourism, Recreation and	**23**

	Leisure Inter- Relations; Geographical Parameters of Tourism by Robinson	
II	Types of Tourism: Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage	**23**
III	Recent trends of Tourism: International and Regional ; Domestic ; Eco-Tourism, Sustainable Tourism, Meetings Incentives Conventions and Exhibitions (MICE)	**22**
IV	Tourism in India: Tourism Infrastructure; Case Studies of Himalaya, Desert and Coastal Areas; National Tourism Policy	**22**

Suggested Readings:

1. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects Kanishka, New Delhi
2. Hall, M. and Stephen, P. (2006) Geography of Tourism and Reaction- Environment, Place and Space, Routledge, London
3. Kamra, K.K. and Chand, M. (2007) Basics of Tourism: Theory, Operation and Practice, Kanishka Publishers
4. Page S.J. (2011) Tourism Management: An Introduction, Butterworth- Heinemann- USA. Chapter
5. Raj, R. and Nigel, D. (2007) Morpeth Religious Tourism and PilgrimageFestivalsManagement : An International Perspective
6. Tourism Recreation and Research Journal, Centre for Tourism Research and Development, Lucknow
7. Singh Jagbir (2014) ñEco- Tourismò published by I.K. International Pvt Ltd S-25, Green Park Extention, Uphaar Cinema Market, New Delhi, India

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions.

Programme/Class: B.A./B.Sc.	Year: I	Semester: II
Subject- Geography		
Course Code: A010204T	Course Title: **Spatial Information Technology**	

Course outcomes:

- To develop an understanding of remote sensing, GIS technology and their potential applications
- They can know about concept and components of Geographical Information System.
- They understand the GIS Data Structures.
- Develop an idea about GIS Data Analysis.
- Know about application of GIS.

Credit: 4	Course Type - General Elective 1
Max. Marks: 100 (30+70)	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 /w	

Unit	Topics	No. of Lectures Total=60
I	Introduction: Definition, Concept and Historical Development	15
II	Spatial Information/ Data: Web Data sources; Registration and Projection; Data Structure; Data interpolation and Modeling	15
III	Working of Spatial information system, Functions of Spatial information system: Information retrieval; Topological Modeling Networks Overlay; Data output	15
IV	Application of Spatial Information Technology	15

Suggested Readings:

1. C. Esperanca and H. Samet, An overview of the SAND spatial database system, to appear in Communication of the ACM, 1997, http://www.cs.umd.edu/-hjs/pubs/sandprog.ps.gz
2. G. Hjaltason and H. Samet, Ranking in Spatial Databases in Advances in spatial databases- 4th Symposium, SSDõ95, M.J. Egenhofer and J.R. Herring, Eds., Lecture Notes in Computer Science 951, Springer- Verlag, Berlin, 1995, 83-95. http://www.cs.umd.edu/-hjs/pubs/incnear.ps
3. http://www.cs.umd.edu/hjs/pubs/kim.ps
4. H.Samet, Application of Spatial Data Structure: Computer graphics, Image Processing and GIS, Addison Wesley, Reading M.A 1990 ISBN 0-201-50300-D

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions.

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code:A110202P	Course Title: **Thematic Mapping and Surveying**	

Course Learning Outcomes

On completion of this course, learners will be able to:

ð Understand the basic idea of Map, Scale and Topographicsheets

Credits: 3	Core Compulsory
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): P - 6 /w

Unit	Topics	No. of Lectures=45

I	Maps ï Classification and Types, Principles of Map Design. Diagrammatic Data Presentation ï Line, Bar and Circle.	**12**
II	Thematic Mapping Techniques ï Properties,Uses and Limitations; Areal Data -- Choropleth, Dot, Proportional Circles; Point Data ï Isopleths.	**11**
III	Cartographic Overlays ï Point, Line and Areal Data. Thematic Maps ï Preparation and Interpretation.	**11**
IV	Instrumental Survey: Prismatic Compass	**11**

Suggested Readings:

1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen,London
2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5thedition.
3. Sharma, J. P. (2001): PrayogikBhugol., Rastogi Publication, Meerut 3rd.edition.
4. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, NewDelhi,.
5. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
6. Sharma, JP. (2008): PrayogatmakBhugol Ki Rooprekha, Rastogi Publications- Meerut.

Note: In Final Examination Student shall be examined by external and internal examiners.
Marks Distribution: Written Exam, Viva, Practical File, Map Preparation.

Programme/Class: Diploma/BA	Year: Second	Semester: Third
Subject: Geography		
Course Code: A110301T	Course Title: **Environment, Disaster Management and Climate Change**	

Course outcomes: Students will be able to understand

- The course aim is to give basic understanding of concept Environment,Climate Change and DisasterManagement.
- Understanding of the concept of appraisal and conservation of Environmentand NaturalResources.
- It will help in developing understanding about various Impacts of ClimateChange.
- This course shall introduce the basic concepts related to disasterManagement.
- This paper shall help in understanding Global effort in field ofdisaster management.

Credits: 6	Course Type-Core Course

Max. Marks: 100 (30+70)		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 2 P-4/w		
Unit	**Topics**	**No. of Lectures Total=90**
I	Concepts & components of Environment, Ecology and ecosystem. Indian traditional Knowledge in Environment and disaster Management. Bio-diversity and its conservation, sustainable development.	**23**
II	Ganga Action Plan, Tiger project, Tehri dam &Narmada Valleyproject. Science of Climate Change: Understanding Climate Change; Green House Gases and Global Warming.	**23**
III	Global Climatic Assessment ï IPCC, Impacts of Climate Change, National Action Plan on Climate Change.	**22**
IV	Disasters, Hazards, Risk, Vulnerability, Type of Disasters, Disaster Management, Disaster Management Cycle. Flood, Drought, Cyclone, Earthquake, Tsunami,Landslide, Chemical and Nuclear Disasters. Doôs and Donôts During Disasters.	**22**

Suggested Readings:

1. Casper J.K. (2010). *Changing Ecosystems: Effects of Global Warming*. New York, USA: InfobasePub.
2. Hudson, T. (2011). *Living with Earth: An Introduction to Environmental Geology*. Delhi, India: PHI Learning PrivateLimited.
3. Miller, G.T. (2007). *Living in the Environment: Principal, Connections, and Solutions*. Belmont, Australia: Brooks/ Cole CengageLearning.
4. Singh, R.B. (1993) *Environmental Geography*. Delhi, India: HeritagePublishers.
5. UNEP. (2007). *Global Environment Outlook: GEO4: Environment For Development, United Nations Environment Programme*. UK: University Press,Cambridge.
6. Government of India. (2011). *Disaster Management in India*. Delhi, India: Ministry of HomeAffairs.
7. Singh, Savendra (2019) PryavaranBhugol, Pravalika Publication,Allahabad
8. Kapur, A. (2010). *Vulnerable India: A Geographical Study of Disasters*. Delhi, India: SagePublication.
9. Singh, Savendra (2019) ApadaPrabandhan, Pravalika Publication,Allahabad.
10. Ramkumar, M. (2009). *Geological Hazards: Causes, Consequences and Methods of Containment*. New Delhi, India: New India PublishingAgency.

11. Climate Change: Understanding Climate Change; Green House Gases and Global Warming; Global Climatic Assessment-IPCC
12. Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability; SocialVulnerability.
13. Impact of Climate Change: Agriculture and Water; Flora and Fauna; HumanHealth
14. Adaptation and Mitigation: Global Initiatives with Particular Reference toSouth Asia.
15. The Climate Change Policy Framework: Global Initiatives UNFCCC andCOPs; National and Local Action Plan on ClimateChange.

16. Government of India. (2008). *Vulnerability Atlas of India*. New Delhi, India:Building Materials & Technology Promotion Council, Ministry of Urban Development, Government ofIndia
17. Modh, S. (2010). *Managing Natural Disaster: Hydrological, Marine andGeological Disasters*. Delhi, India:Macmillan.
18. Bansal SC,(2020) Jalvayuvigyanevam Samudra Vigyan, MeenakshiPublication, Meerut.
19. Bansal SC,(2019) Prayavarn ek adhyan, Meenakshi Publication,Meerut.

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

Suggested Continuous Evaluation Methods:
Assignment / test / Quiz(MCQ) / Seminar/ Presentations

Programme/Class: B.A./B.Sc.	Year: II	Semester: III
Subject- Geography		
Course Code: **A020302T**	Course Title: **Oceanography**	

Course outcomes:

- Understand the elements of ocean and relief and its impacts at different scales.
- Comprehend the oceaniic aspects and its bearing on planet earth.
- Understand the oceanic process and availability of resources.

Credits: 6	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 2 P-4/w	

Unit	Topics	No. of Lectures Total=90
I	Basic Oceanography; Surface Bottom Relief: Pacific Ocean, Atlantic Ocean & Indian Ocean.	**23**
II	Physical & Chemic al Properties of Sea Water; Interlink Between Atmospheric Circulation &CirculationPatterns in the Oceans; Thermohaline, Waves & Tides	**23**
III	Ocean Current: Cause, Types, Currents of Pacific, Atlantic & Indian Ocean; Effects of Ocean Currents; EI Nino La Nina &Southern Oscillation.	**22**
IV	Ocean Deposits: Types & Distribution; Coral Reefs & Atolls; Theories of their Formation & Coral Bleaching; Tsunami; SeaLevel Changes: Causes, Evidence & Impact	**22**

Suggested Readings:

1. Davis Richard J.A.: "Oceanography - An Introduction to the Marine Environment" Wm. C. Brow n Low a. 1986.

2. Duxbury"C.A. and Duxbury B.: An Introduction to the World's Oceans. C. Brow n Low a 2nd ed. 1996.

3. Garrison, T.: "Oceanography - AnIntroduction to Marine Science. Books/ Cole, Pacific Grove, USA, 2001.

4. Gross, M. Grant: Oceanography, A View of the Earth, Prentice Hall Inc. New Jersey,1987.

5. King, C.A.M. Oceanography for Geographers, 1962.

6. Sharma, R.C. "The Oceans" Rajesh N. Delhi, 1985.

7. Singh, R.B. Natural Hazards and Disaster Management, Raw at Publication, Jaipur,2006

8. Ummerkutty, A.N.P. Science of the Oceans and Human Life, NBT, New Delhi, 1985.

Programme/Class: B.A./B.Sc.	Year: II	Semester: III
Subject- Geography		
Course Code: A020303P	Course Title: **Computer Mapping**	

Course outcomes:

- To enable students to use GIS as a decision support system for different geographical applications
- Students will learn about Modern science and technology that have made tremendous progress in all possible fields.
- Computer Mapping is a newly emerged field in Geospatial Technology.
- Students will get adequate professional knowledge and computer skills so as to enable the students to take up career in the field of Geospatial Technology.
- The students will be able to understand and prepare thematic maps using digital platform.

Credits: 6	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 2 P-4/w

Unit	Topics	No. of Lectures Total=90
I	Understanding of Diagrams: Meaning and concept, Kinds of Diagrams; One Dimensional, Two Dimensional, Three Dimensional Distribution Maps and Cartograms	**23**
II	Methods of Drawing Distribution Maps **Qualitative Methods:** Simple shade method, Pictorial, Choro-schematic or symbol and Naming Method)	**23**
III	**Quantitative Methods:** Choropleth, Isopleth, Dot Method, Diagrammatic Method,	**22**
IV	Cartograms: Value area cartograms, Traffic-flow cartograms,	**22**

	Isochronic Cartograms, Equal cost- distance cartograms	

Suggested Readings:

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

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: B.A./B.Sc.	Year: II	Semester: III
Subject- Geography		
Course Code: **A020304T**	Course Title:**Climate Change: Vulnerability and Adaptation**	

Course outcomes:

- Understand climate change with reference to the geological time scale
- Assess the Origin Greenhouse gases and global warming
- Global climatic assessment and Impact of climate change: Agriculture and water; flora and fauna; human health and morbidity
- Learn Global initiatives to climate change mitigation: Kyoto Protocol, carbon trading, clean development mechanism, COP, climate fund.
- Analysis of trends of temperatures
- Analyze the rainfall variability of about three decades of climatic regions of India.
- Develop concepts and skills regarding mitigation measures concerning climatic hazards.

Credit: 4	Course Type - General Elective 1
Max. Marks: 100 (30+70)	Min. Passing Marks:40

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

Unit	Topics	No. of Lectures Total=60
I	Science and Climate Change: Understanding Climate Change; Green House Gases and Global Warming; Global Climatic Assessment- IPCC	**15**
II	Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability; Social Vulnerability	**15**
III	Impact of Climate Change: Agriculture and Water; Flora and	**15**

	Fauna; Human Health	
IV	Adaptation and Mitigation: Global Initiatives with Particular References to South Asia. National Action Plan on Climate Change; Local institutions (Urban Local Bodies, Panchyats)	**15**

Suggested Readings:

1. IPCC (2007) Climate Change 2007: Impacts, Adaptations and Vulnerability. Contribution of Working Group II to the fourth Assessment Report of the Intergovernmental Panel on Climate Change
2. IPCC (2014) Climate Change 2014: Impacts, Adaptation and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Cambridge University Press, Cambridge, United Kingdom and New York, USA
3. Singh, M. Singh R.B. and Hasan, M.I. (Eds) (2014) Climate Change and Biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer
4. Sen Roy, S. and Singh, R.B. (2002) Climate Variability, Extreme Events and Agricultural Productivity in Mountain Regions, Oxford and IBH Pub; New Delhi
5. Palutikof, J.P., Van Der Linden, P.J. and Hanson, CE (eds), Cambridge University Press

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: Diploma/BA/B.Sc	Year: II	Semester: III
Subject: Geography		
CourseCode:**A020305P**	Course Title: **Statistical Techniques and Surveying**	

Course outcomes: Students will be able to understand

- To differentiate between qualitative and quantitativeinformation.
- To understand the nature of variousdata.
- To understand sampling methods for datacollection.
- To present data through graphical and diagrammaticformats.
- To use the concept of probability mainly the normaldistribution.

Credits: 3	Core Compulsory
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): P - 6 /w

Unit	**Topics**	**No. of Lectures=45**

I	Use of Data in Geography: Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio)	**12**
II	Tabulation and Descriptive Statistics: Frequency Distribution Table, Cross Tabulation, Graphical Presentation of Data (Bar diagram, Histograms, Frequency Curve and Cumulative Frequency Curves), Measurement of Central Tendencies (Mean, Median and Mode), Measurement of Partitions (Deciles, Quartiles and Percentiles), Dispersion (Standard Deviation, Variance and Coefficient of Variation).	**11**
III	Sampling: Probability sampling Non-probabilitysampling. Correlation: Rank Correlation andProduct Moment Correlation.	**11**
IV	Instrumental Survey: Sextant	**11**

Suggested Readings:

1. Berry B. J. L. and Marble D. F. (eds.): Spatial Analysis ï A Reader inGeography.
2. Ebdon D., 1977: Statistics in Geography: A PracticalApproach.
3. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGrawHill

Program/Class: Diploma /BA	Year: Second	Semester: IV
Subject: Geography		
Course Code: A1020401T	Course Title**: Economic Geography**	

Course Learning Outcomes
On completion of this course, learners will be able to:

- Define Meaning, concepts and approaches of EconomicGeography
- Understand the nature of Economic activities, ResourceDistribution
- Understand the Effect of globalization on developingcountries.

Credits: 6	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4T-2/w	

Unit	**Topics**	**No. of Lectures Total=90**

I	Meaning, concepts and approaches of Economic Geography; agricultural region of the world (Derwent Whittlesey). Resource: meaning, concept and classification. Spatial organization of economic activities.	**23**
II	Economic organization of space, Forestry, fishing and mining activities. Agricultural typologies, agricultural land use model (J.H. Von Thunen).	**23**
III	Types of industries; Factors of location of industries; iron and steel industry, cotton textiles and sugar; Theory of industrial location (AlfredWeber).	**22**
IV	World transportation: Sea routes and major trans- continental railways. WTO and International trade: Patterns and trends Effect of globalization on developing countries.	**22**

Suggested Readings:

1. B N Singh (2021) Manav evamArthikBhugol, Pravalika Publication,Allahabad
2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, NewYork.

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

Suggested Continuous Evaluation Methods: Assignment / test / Quiz(MCQ) / Seminar/Presentations

Suggested equivalent online courses:
Courses on Swayam / MOOCs https://onlinecourses.nptel.ac.in/noc21_hs50/preview

Programme/Class: B.A./B.Sc.	Year: II	Semester: IV
Subject- Geography		
Course Code: A020402T	Course Title: **Climatology**	

Course outcomes:

- Understand the elements of weather and climate, different atmospheric phenomena and climate change.
- Learn to associate climate with other environmental and human issues. Approaches to climate classification.
- To analyze the dynamics of the Earthôs atmosphere and global climate. Assessing the role of man in global climate change.
- Prepare various climatic maps and charts and interpret them.
- Learn to use of various meteorological instruments.
- Learn the interaction between the atmosphere and the earthôs surface. Understand the importance of the atmospheric pressure and winds.
- Understand how atmospheric moisture works.

Credits: 6	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-2/w

Unit	Topics	No. of Lectures Total=90
I	Meaning and scope of climatology; Atmosphere: Composition and structure; Insolation: determinants and distribution; Temperature: Controlling factors and Distribution; Processes of heating and cooling of the atmosphere, Inversion of Temperature	**23**
II	Atmospheric Pressure and Winds- Planetary Winds, Forces affecting Winds, General Circulation , Jet Streams	**23**
III	Atmospheric Moisture- Evaporation, Humidity, Condensation Fog and Clouds, Precipitation Types, Stability and Instability: Climatic Regions (Koppen)	**22**
IV	Cyclones- Tropical Cyclones, Extra Tropical Cyclones, Monsoon-Origin and Mechanism	**22**

Suggested Readings:

1. Barry, R.G. and Carleton, M. (2001): Synoptic and Dynamic Climatology, Routledge, London.
2. Chorley, R.J. (2001): Atmosphere, Weather and Climate. Methuen, London.
3. Critchfield, H.J. (2002): General Climatology. Prentice-Hall of India, New Delhi..
4. Finch, J. C. and Trewartha, G. T.: Elements of Weather and Climate. Prentice-Hall, London.
5. Kendrew, W.C. (1998): Climatology. Edward Arnold, London. 5th edition.
6. Lal, D.S.(1986): Climatology. Chaitanya Publications, Allahabad.
7. Oliver, J.E. and Hidore, J.J. (2003): Climatology: An Atmospheric Science, Pearson Education Private Ltd, Patparganj, Delhi.

8. Robinson, P. J. and Henderson, S. (1999): Contemporary Climatology, 2nd edition, Pearson Education Ltd., Harlow, UK.
9. Singh, S. (2005): Climatology. PrayagPustakBhawan, Allahabad.

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions/short and long answer questions.

Programme/Class: B.A./B.Sc.	Year: II	Semester: IV
Subject- Geography		
Course Code: **A1020403T**	Course Title**: Disaster Management Based Project Work**	

Course outcomes:

- Understand the definition, classification of hazards and disasters
- Gain knowledge about approaches to hazard study.
- Develop an idea about factors, consequences and management of earthquake, landslide, flood and riverbank erosion.
- Acquire knowledge about human induced disaster.
- The students will learn to write a project report / dissertation

Credits: 6	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 2 P-4/w

Unit	Topics	No. of Lectures Total=90
	The Project Report Based on ant two Field case studies among following Disasters and one Disaster preparedness plan of respective college or locality • Flood/ Drought • Cyclone or Hailstorms • Earthquakes • Landslide Human Induced Disaster: Fire, Chemical and Industrial Hazards.	90

Suggested Readings:

1. Government of India (1997) Vulnerability Atlas of India. New Delhi, Building Materials &Technilogy Promotion
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, MacMillan, Delhi
4. Singh, R. B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi, Chapter

1,2 and 3
5. Singh R.B. (2006) Natural Hazards and Disaster Management : Vulnerability and Mitigation, Rawat Publication, New Delhi
6. Sinha A., (2001) Disaster Management : Lesson Drawn and Strategies for future, New United Press, New Delhi
7. Stolman, J.P. et, al. (2004) International Perspectives on Natural Diasaters, Kluwer Academic Publication, Dordrecht
8. Singh Jagbir (2007) ñDisaster Management Future Challenges and Opportunitiesò, 2007 Publisher, I.K. International Pvt Ltd S-25, Green Park Extension Uphaar Cinema Market, New Delhi. Company, New Delhi.

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: B.A./B.Sc.	Year: II	Semester: IV
Subject- Geography		
Course Code: **A020404T**	Course Title:**Sustainable Development**	

Course outcomes:

- Understand the impact of the acquired knowledge in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.
- Gain knowledge about Sustainable Development Policies and Programmes

Credit: 4	Course Type - General Elective 1
Max. Marks: 100 (30+70)	Min. Passing Marks:40

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

Unit	Topics	No. of Lectures Total=60
I	Sustainable Development: Definition, Components, Limitations and Historical Background, The Millennium Development Goals: National Strategies and International Experiences,	**15**
II	Sustainable Regional Development: Need and Examples from different Ecosystem	**15**
III	Inclusive Development: Education, Health; Climate Change: The Role of Higher Education in Sustainable Development; Human Rights to Health: Poverty, Diseases; the challenges of Universal Health Coverage; Policies and Global Cooperation	**15**

	for Climate Change	
IV	Sustainable Development Policies and Programmes: The Proposal for SDGs at Rio+20; illustrative SDGs; Goal Based Development; Financing for Sustainable Development, Principles of Good Governance; National Environmental Policy, CDM	**15**

Suggested Readings:

1. 1Agyeman, Julian, Robert D. Bullard and BOB Evans (eds) (2003) Just Sustainabilities: Development in an Unequal World, London,: Earthscan
2. Baker, Susan (2006) Sustainable Development, Milton Park, Abingdon, Oxon, New York Routledge
3. Brosius, Peter (1997) Endangered Forest, endangered People: Environmentalist Representations of indigenous Knowledge ñ, Human Ecology
4. Lohman, Larry (2003) ñ Re- imagining the population Debateò, Corner House Briefing 28

Robbins, Paul (2004) Political Ecology: A Critical Introduction, Blackwell Publishing

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Program/Class: Diploma /BA/B.Sc	Year: II	Semester: IV
Subject: Geography		
Course Code:**A020405P**	Course Title: **Weather Maps, Geological Maps and Surveying**	

Course Learning Outcomes
On completion of this course, learners will be able to:

- Identify the various Survey Operations and SurveyInstruments
- To understand the idea of Basic and applied Instrumentalsurveying

Credits: 3	Skill Enhancement Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): P - 6 /w

Unit	**Topics**	**No. of Lectures=45**
I	Weather Maps, Study and Interpretation of Weather Map, Weather Forecasting.	**12**
II	Geological Maps: Types, Signs, Bed and Bedding plane, Rock Outcrop, Dip, Strike etc. Construction of Geological Sections.	**11**
III	Instrumental Survey: Indian Clinometer.	**11**

IV	Instrumental Survey: Theodolite	**11**

Suggested Readings:

1. Sharma, JP (2001) PrayogikBhugol, Rastogi Publication,Meerut
2. Jones, P.A.(1968): Fieldwork in Geography, Longmans, Green and Company Ltd., First Publication,London
3. Kanetker, T.P. and Kulkarni, S.V.(1967): Surveying and Levelling, Vol I and II V.G. Prakashan,Poona.
4. Natrajan, V. (1976): Advanced Surveying, B.I. Publications.,Mumbai.
5. Pugh, J.C. (1975): Surveying for Field Scientists, Methuen and Company Ltd., London, FirstPublication.
6. Punmia, B.C.(1994): Surveying, Vol I, Laxmi Publications Private Ltd, NewDelhi.
7. Shephard, F.A. (1968): Surveying Problems and Solutions, Edward Arnold (Publishers) Ltd,London
8. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions), Kalyani Publishers, Ludhiana and NewDelhi.
9. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press,Hyderabad.
10. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, NewYork.

Programme/Class: Degree/BA/B.Sc	Year: III	Semester: V
Subject: Geography		
Course Code: **A110501T**	Course Title: **Regional Geography**	

Course outcomes: Students will be able to understand

- To understand the concept of Region and RegionalPlanning.
- To familiarize the students with Theories and Models for RegionalPlanning.
- To develop understanding about concept of Development,Sustainable Development and Multi levelplanning.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4T-1/w

Units	**Topics**	**No. of Lectures=75**
I	Definition of Region, Evolution and objectives of regional planning. Planning practices in Ancient India. Types of Regional planning, Formal, Functional, and Planning Regions	**19**

II	Delimitations of Region and Regional Planning Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow and Friedmann.	**19**
III	Efficiency-Equity Debate: Definition, Components and Sustainability for Development. Indicators (Economic, Social and Environmental).	**19**
IV	Need for regional planning in India, Five Year Plans and Regional Planning, multi- level planning in India.	**18**

Suggested Readings:

1. Agyeman, Julian, Robert, D. Bullard and Bob,Evans. (Eds.) (2003). *Just Sustainabilities: Development in an Unequal World*. London: Earthscan. (Introduction andconclusion.).
2. Anand, Subhash.,(2011). *Ecodevelopment :Glocal Perspectives*. New Delhi, India: Research IndiaPress.
3. Misra, R. P., Sundaram, K.V., and Rao, V.L.S. (1974). Regional Development planning in India. Delhi, India: Vikas Publishing House.
4. Singh, M B, () Pradeshik Vikas Niyogan, Tara Book Agency, Varanasi.
5. Peet, R. (1999). Theories of Development. New York, USA: The Guilford Press.
6. Berry, BJ.L. and Horton, F.F. (1970): Geographic Perspectives on Urban Systems. Prentice Hall, New Jersey.
7. Bhat L.S. (1972): Regional Planning In India, Statistical Publishing Society
8. Blij H. J. De, 1971: Geography: Regions and Concepts, John Wiley and Sons.
9. Kulshetra ,S.K,(2012) : Urban and Regional Planning in India : A hand book for Professional Practioners , Sage Publication , New Delhi
10. Kundu, A. (1992): Urban Development Urban Research in India, Khanna Publ. New Delhi.
11. Misra , R.P, Sundaram K.V, PrakashRao , VLS(1974): Regional Development Planning in India , Vikas Publication , New Delhi.
12. Misra, R.P (1992): Regional Planning: Concepts , techniques , Policies and Case Studies , Concept , New Delhi
13. Friedmann, J. and Alonso W. (1975). Regional Policy - Readings in Theory and Applications. Massachusetts, USA: MIT Press.

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

Suggested Continuous Evaluation Methods:
Assignment / test / Quiz(MCQ) / Seminar/ Presentations

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

Program/Class:Degree/BA/B.Sc	Year: III	Semester: V
Subject: Geography		
Course Code:**A030502T**	Course Title: **Basics of Remote Sensing and GIS**	

Course Learning Outcomes
On completion of this course, learners will be able to:

- Understand the Basic idea and application of Remote sensing Techniques and Geographical InformationSystem

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1 P-4/w

Unit	Topics	No. of Lectures=75
I	Remote Sensing: Definition, Type, Scope and Historical Development. Types of Satellites. Electro-magnetic radiation: Characteristics, spectral regions and bands. Stages or Process of Remote Sensing.	**19**
II	Remote sensing satellites: Platform and sensors. Resolution: Spatial, Spectral, Temporal,Radiometric Resolution. Remote Sensing data processing and applications: Visual and digital image processing techniques.	**19**
III	Remote Sensing applications in Urban Planning, Agriculture, Forestry, Land use/Land cover Mapping, Oceanic Studies and Disaster Management.	**19**
IV	Introduction to GIS: Definition, concept and history of GIS. Computer fundamentals for GIS, GIS Packages like ARC GIS, ERDAS, QGI etc. Coordinate system, Datum, Raster and vector data.	**18**

Suggested Readings:

1. Choniyal, D D, (2016) SudurSamvadenevamBhogolicSuchnaPranalikesighant, Sharda Pustak Bhavan,Allahabad.
2. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4th edition. John Wiley and Sons, NewYork
3. Campbell, J.B. (2002): Introduction to Remote Sensing. 5th edition, Taylor and Francis,London
4. Bhatta, B. (2010): Remote Sensing and GIS, Oxford University Press, NewDelhi.
5. Nag Prithvish and Kudrat M. (1998): Digital Remote Sensing, ConceptPublishing Company, NewDelhi
6. Curran, P.J. (1985): Principles of Remote Sensing, Longman,London.

Suggested Continuous Evaluation Methods:
Assignment / test / Quiz(MCQ) / Seminar/Presenatations

Suggested equivalent online courses:Courses on Swayam / MOOCs
https://onlinecourses.swayam2.ac.in/aic20_ge05/preview

Programme/Class: Degree/BA	Year: III	Semester: V
Subject: Geography		
Course Code: **A030503P**	Course Title: **Tour and Tour report**	

Course outcomes: Students will be able to understand
- The variation among geographicallocations.
- Interaction with people with different natural and culturalsettings.
- Study physical and human geography of area beingvisited.
- Learn to prepare tourreport.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1 P-4/w

Unit	Topics	No. of Lectures=75
I	How to prepare Field Book, steps and methods for preparing Tour report, Methodology for Research in Field Trip, Various aspects of study in Field Trip, Preparation of Surveying in Field Trip. (30 lectures shall be taken before and during field trip)	**19**

Suggested Readings:

This course can be opted as an elective by the students of following subjects: Open for allé ..é é é

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

Geographical Excursion Committee

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

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

Structure of the tour party

1. For 20 or less than 20 students one faculty member with one non teaching staff shall accompany the Tour party. For 21 to 50 students two faculty members with one non teaching staff shall accompany the Tour party. If two faculty members are required for tour, second faculty member shall be selected on the recommendation of tour in-charge. If students are more than 50 then a separate tour batch shall be constituted in samemanner.
2. If female students are also participating in tour and tour in-charge, accompany other faculty member or Non teaching staff none are female then one female attended (Female faculty member from Geography or any other departments/female non teaching staff) shall accompany with tourparty.

Responsibility of tour in-charge

1. Tour shall at least of 6 days stay at location with inter regionvariation.
2. Tour in-charge shall submit tentative day wise activity report in advance to HOD in University and Principal incolleges.
3. Tour in-charge shall coordinate with Institutes/Colleges/ Universities/Research institutes etc in location where tour is being planned for following activitieslike;
   a) Interaction ofstudents.
   b) Lectures on various local physical and cultural attributes of the area by the experts.
   c) Local visit with faculty members having academic understanding of thearea.
4. Lectures by tour in-charge on physical and human characteristics of area being visited for educationaltour.
5. Survey with students with at least one instrument like Dumpy Level, Sextant, Theodolite, GPSetc.
6. Questionnaire survey on various socio-cultural or any other aspects. Questionnaire must be prepared in advance and shall be shared during Geographical Excursion Committeemeeting.
7. Tour in-charge shall collect undertaking from all students which shall be counter signed by theirguardian.
8. Tour in-charge will prepare list of students accompanying the tour with their information like mobile number, address, guardian contact information and one recent color photo. One copy will also be submitted to the head in universities and Principal incolleges.
9. Teacher shall always try to minimize tour expenditure of studentsby;
   a) Using concession train reservation and avoiding buses ifpossible.
   b) Making stay arrangements of students in advance in youthhostels/lodges/guest

house etc.

c) Try to visit few important locations only with objective of spot study and avoiding unnecessary travel for sightseeing.

10. After the completion of tour there shall be presentation by students regarding learning outcomes and experiences under the supervision of tour in-charge. Presentation shall be attended by Geographical Excursion Committee members along with other faculty members, staff, studentsetc.
11. All students shall submit tour report under supervision of Tour in-charge for evaluation. Tour report shall portray all activities conducted and places visited for the purposes ofstudy.
12. In case of any incident/injury where one or more than one student canôt join tour party in return journey. One teaching/non teaching staff member shall stay with student until studentôs guardian arrives or alternative arrangement is not made by the college. In case tour in-charge stays the other teacher/staff member shall act as tour in-charge for remaining tour period according toseniority.

Exemption of Students from Tour

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

TA, DA and other expenses

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

Suggested equivalent online courses

Programme/Class: Degree/BA	Year: III	Semester: V
Subject: Geography		
Course Code: A030504P	Course Title: **Project Report-1**	

Course outcomes: Students will be able to understand

- In-depth knowledge of researchmethodology.
- Learn to prepare ProjectReport.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1 P-4/w

Unit	Topics	**No. of Lectures=45**

I	Meaning, types and significance of Research, Literature review and formulation of research design, research problem, objectives, hypothesis, Research materials and methods, Sampling etc. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract and keywords etc. Note: 1. Each faculty member shall teach these topics of research to his/her Group of students independently. 2. Student shall choose supervisor according to his/her research interest and specialisation of Facultymember.	45
Suggested Readings:		
This course can be opted as an elective by the students of following subjects: Open for all é		
Suggested Continuous Evaluation Methods: Seminar, Presentations, VIVA		
Suggested equivalent online courses		

Program/Class: Degree /BA	Year: III	Semester: VI
Subject: Geography		
Course Code:**A030601T**	Course Title: **Geography of India**	

Course Learning Outcomes

On completion of this course, learners will be able to:
- Understand the importance of ñEk Bharat ShresthaBharatò
- Understand the wider aspects of Geography ofIndia

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w

Unit	**Topics**	**No. of Lectures=75**
I	Space relationship of India with neighbouring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Ek Bharat Shrestha Bharat: A Geographical Prospective. Mechanism of Indian monsoons and rainfall patterns, Tropical cyclones, and western disturbances; Floods and droughts; Climatic regions; Natural vegetation; Soil types and their distributions.	**19**

II	Resources: Land, surface and groundwater, energy, minerals, biotic and marine resources; Forest and wildlife resources and their conservation; Energy crisis. Industry: Evolution of industries; Locational factors of industries; Industrial houses and complexes including public sector undertakings; Industrial regionalization; New industrial policies; Special Economic Zones; Tourism including eco-tourism.	**19**
III	Cultural Setting: Historical Perspective of Indian Society; Racial, linguistic and ethnic diversities; religious minorities; major tribes, tribal areas, and their problems; cultural regions. Population: Growth, distribution, and density of population; Demographic attributes: sex-ratio, age structure, literacy rate, work-force, dependency ratio, longevity; migration (inter-regional, intraregional and international) and associated problems; Population problems and policies; Health indicators.	**19**
IV	Agriculture: Infrastructure: irrigation, seeds, fertilizers, power; Institutional factors: landholdings, land tenure, and land reforms; Cropping pattern, agricultural productivity, agricultural intensity, crop combination, land capability; Agro and social-forestry; Green revolution and its socio-economic and ecological implications. Settlements: Types, patterns, and morphology of rural settlements; Urban developments	**18**

Suggested Readings:

1. Chauhan, P.R. and Prasad, M. (2003): Bharat Ka VrihadBhugol, Vasundhara Prakashan,Gorakhpur.
2. Farmer, B.H. (1983): An Introduction to South Asia. Methuen,London
3. Gautam, A. (2006): Advanced Geography of India, Sharda Pustak Bhawan, Allahabad
4. Johnson, B.L.C. (1963): Development in South Asia. Penguin Books,Harmondsworth
5. Krishnan, M.S. (1982): Geology of India and Burma, CAS Publishers and Distributors,Delhi.
6. Bansal SC,(2018) Bharat Ka Bhugol, Meenakshi Publication, New Delhi,Meerut.
7. Nag, P. and Gupta, S. S. (1992): Geography of India, Concept Publishing Company, NewDelhi.
8. Rao, B.P. (2007): Bharat keeBhaugolikSameeksha, Vasundhara Prakashan, Gorakhpur.
9. Sharma, T.C. and Coutinho, O. (2003): Economic and Commercial Geography of India, Vikas Publishing House Private Ltd. NewDelhi.
10. Singh , J. (2003): India: A Comprehensive Systematic Geography. GyanodayaPrakashan,Gorakhpur
11. Singh, J. (2001): Bharat: Bhougolik Aadhar AvamAyam, GyanodayaPrakashan, Gorakhpur.(Hindi)
12. Singh, R.L. (ed.) (1971): India: A Regional Geography. National Geographical Society of India,Varanasi.
13. Spate, O.H. K., Learmonth A. T. A. and Farmer, B. H. (1996): India, Pakistan and Sri Lanka. Methuen, London, 7thedition.
14. SukhwaI, B.L. (1987): India: Economic Resource Base and Contemporary Political Patterns. Sterling Publication, NewDelhi
15. Tiwari, R.C. (2007): Geography of India, PrayagPustak Bhawan,Allahabad.
16. Wadia, D. N. (1959): Geology of India. Mac-Millan and Company, London and student edition,Madras.

Khullar, D.R. (2007): India: A Comprehensive Geography, Kalyani Publishers, New Delhi.

Suggested Continuous Evaluation Methods: 17. Assignment / test / Quiz(MCQ) / Seminar/ Presentations
Suggested equivalent online courses: Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/nou20_ag10/preview
Suggested equivalent online courses: Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/nou20_ag10/preview

Program/Class: Degree /BA	Year: III	Semester: VI
Subject: Geography		
Course Code:**A030602T**	Course Title: **Evolution of Geographical Thought**	

Course Learning Outcomes
On completion of this course, learners will be able to:
- Understand the contribution of Indian and other renownedGeographers
- Understand the concept of evolution of GeographicalThought.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w

Unit	Topics	No. of Lectures=75
I	Early Origins of Geographical Thinking, Concepts of distributions; relationships, interactions, area differentiation and spatial organization in Geography	**19**
II	Dualisms in geography; systematic & Regional geography, physical & human geography, Systematic and with regional geography. The myth and reality aboutdualisms.	**19**
III	Contribution of Greek & Roman geographers in ancient world. Contribution of Arab geographers in Middle ages, Renaissance period in Europe. Renowned travelers and their geographicaldiscoveries. German school of thought - Kant, Humboldt, Ritter, Richthofen, Ratzel, Hettner French school of thought - Contribution of Blache&Brunhes.	**19**
IV	Soviet geographers, American school - Contribution of Sample, Hunthington& Carl Sauer. British school - Contribution of Mackinder, Herbertson& L.D. Stamp. Paradigms in Geography, Thomas Kuhn theory about the growth and development of science. Application of Kuhn Model in Geography.	**18**

Suggested Readings:

1. Ali, S.M. (1960): Arab Geography, Institute of Islamic Studies, Aligarh Muslim University,Aligarh, First Edition.
2. Daniel, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): Human Geography. Issues for the 21stCentury. Prentice Hall,London.
3. Diddee, J. (ed.) (1990): Indian Geography, Institute of Indian Geographers,Pune, first edition.
4. Dikshit, R. D. (2003): Geographical Thought. A Critical History of Ideas. Prentice-Hall of India,New Delhi. (in English andHindi).
5. Dube, B. (1967): Geographical Concepts in Ancient India, National Geographical Society ofIndia,Varanasi
6. Getice, A., Getis, J. and Fellman, J. D. (2007): Introduction to Geography. 10th edition. McGraw Hill, NewYork.
7. Hartshorne, R. (1959): Perspective on the Nature of Geography, John Murray, London
8. Harvey, D. (1969): Explanations in Geography. Arnold,London.
9. Holt-Jensen, A. (1980): Geography: Its History and Concepts. Harper and Row Publishers,London.
10. Husain, Majid. (2002): Evolution of Geographical Thought, Rawat Publications, Jaipur.
11. Johnston, R., Gregory, D., Pratt, G., Watts, M. and Whatmore, S. (2003): The Dictionary of Human Geography. Blackwell Publishers, Oxford. 5thedition.
12. Johnston, R. and Sidaway, J.D. (2004): Geography and Geographers: Anglo- American Human Geography Since 1945, Arnold Publishers,London.
13. Rawling, E. and Daugherty, R. (eds.) (2005): Geography into the Twenty-first Century. 2nd edition. John Wiley and Sons,Chichester.
14. Taylor, G. (ed.) (1953): Geography in the Twentieth Century. Methuen and Company,London.

Suggested Continuous Evaluation Methods: Assignment / test / Quiz(MCQ) / Seminar/ Presentation

Suggested equivalent online courses:
Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/cec21_lg06/preview

Program/Class: Degree/BA	Year: III	Semester: VI
Subject: Geography		
Course Code: **A030603P**	Course Title**: Remote Sensing and GIS**	

Course Learning Outcomes
On completion of this course, learners will be able to:

- Understand and Conceptualize Remote Sensing and GISTechnique
- Understand the use of various image processingSoftware
- Basic idea of Geographical InformationSystem

Credits: 5	Course Type-Core Course

Max. Marks: 100 (30+70)		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1P-4/w		
Unit	**Topics**	**No. ofLectures=75**
I	Overview of image processing & GIS Packages (Including open source Softwareôs). ï ARC GIS, ERDAS, MAP INFO, ILWIS, GEOMEDIA, IDRISI, GRASS, SAGA,QGIS.	**19**
II	Creation of Shape File in GIS Softwareôs. Coordinate system and projections in GIS Softwareôs. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure.	**19**
III	Geo-Referencing of Maps. Creation of Point, Line and Polygon Files and features. Preparation of Maps with Legend, Scale, North Arrow etc and Export of Map in various Formats.	**19**
IV	Downloading of Remote sensing Images from various online platforms (like Bhuvan, USGS, ASF, Copernicus etc). Land use Classification (Supervised and Un- supervised) using downloaded images and GIS Packages.	**18**

Suggested Readings:

1. Curran, P.J. (1985): Principles of Remote Sensing, Longman,London
2. Chaunial, D. D. (2004): Remote Sensing and Geographical Information System(in Hindi), Sharda Pustak Bhawan,Allahabad
3. Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis,London.
4. Curran, P.J. (1985): Principles of Remote Sensing. Longman,London.
5. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science,Bangalore.
6. Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation. W.H. Freeman, NewYork.
7. Gautam, N.C. and Raghavswamy, V. (2004). Land Use/ Land Cover and Management Practices in India. B.S. Publication.,Hyderabad.
8. Jensen, J.R. (2004): Remote Sensing of the Environment: An Earth Resource Perspective. Prentice Hall, Englewood Cliffs, New Jersey. Indian reprintavailable.
9. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. John Wiley and Sons, NewYork.
10. Nag, P. (ed.) (1992): Thematic Cartography and Remote Sensing. Concept Publishing Company, NewDelhi.
11. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, NewDelhi.
12. Campell, J. B. (2003): Introduction to Remote Sensing. 4th edition. Taylor and Francis,London.

Note: In Final Examination Student shall be examined by external and internal examiners. Marks Distribution: Written Exam, Viva, Practical File, Map Preparation using open source GIS, Image processing Software Use.

Program/Class: Degree/BA	Year: III	Semester:VI
Subject: Geography		
Course Code: **A030604P**	Course Title**: Project Report-2**	

Course outcomes: Students will be able to understand

- In-depth knowledge and application of RS and GIS technology inresearch.
- ǒ Learn to prepare ProjectReport.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1 P-4/w

Unit	Topics	No. of Lectures=75
I	Project report shall be on any topic of interest of students. It must include Remote sensing and GIS technology directly or indirectly. Like project can be based on investigation of any issue using above technology or these technology must be used in data analysis or representation. Note: 1. Each faculty member shall teach and guide to his/her Group of studentsindependently. 2. Student shall choose supervisor according his/her research interest and specialisation of Faculty member.	**75**

Suggested Readings:

This course can be opted as an elective by the students of following subjects: Open for allé é é é é é é é é é ..é é

Suggested Continuous Evaluation Methods:
Seminar, Presentations, VIVA

Suggested equivalent online courses

Programme/Class: M.A./M.Sc.	Year: IV	Semester: VII
Subject- Geography		
Course Code: **A040701T**	Course Title: **Physical Landscape and Hydrology**	

Course outcomes:

- Develop an idea about geomorphology and different types of fundamental concepts.
- Explain different types of geomorphic processes like weathering and mass wasting and cycle of erosion.
- Understand the processes of erosion, deposition and resulting landforms.
- Acquire knowledge about slope forms and processes.
- Develop an idea about earth movements and the related topography.
- Acquire knowledge about different types of rock and their origin. Influence of the rocks on land form and topography.
- Getting familiar with the concept of hydrology
- This course gives a holistic view of the water environments i.e., hydrology seen as a water carrier in nature with human influence.
- Understanding the processes of Water Disposition.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w

Unit	Topics	No. of Lectures=75
I	**Bases of Physical Landscape**: Concept and types of physical landscape; Significance of geomorphic processes including plate tectonics in landforms development; Geological structure and climatic factors in the development of landforms.	**19**
II	**Landforms Development**: Interruption in the evolution of landforms: tectonic, climatic, and base-level changes; Development of landforms in various areas: humid, coastal, karsts, and peri-glacial; River terraces: concept and types; Regional geomorphology: Indo-Gangatic plain, and Rajmahal Hills.	**19**
III	**Bases of Hydrology**: Meaning, scope and development of Hydrology; Hydrological cycle; Manôs influence on the hydrological cycle; Precipitation types, characteristics and measurements; Evaporation: factors affecting evaporation from free water surface and soil; Evapotranspiration: estimation and its control.	**19**
IV	**Water and Its Disposition:** Soil moisture and its zones; Infiltration; Groundwater: occurrence, storage, recharge and discharge; Runoff: its sources and components, factors affecting runoff; Darcyôs law, River regimes; Hydrograph: components and	**18**

	separation.	

SuggestedReadings:

1. Bernhard, H. and James, M. A. (1944): Climatology. McGraw Hill Company, New York.
2. Chorley, R. J. (1995): Atmosphere, Weather and Climate. Methuen and Company Ltd. and Company Ltd., London.
3. Chow, V. T., (ed.) (1954): Handbook of Applied Hydrology: A Compendium of Water Resources Technology. McGraw Hill, New York.
4. Critchfield, H. J. (2003): General Climatology. Prentice-Hall of India, New Delhi.
5. Reddy, J. P. (1988): A Textbook of Hydrology. Laxmi Publication., New Delhi. 4th edition.
6. Singh, S., (1998): Geomorphology. PrayagPustak Bhavan, Allahabad.
7. Sparks, B.W., (1986): Geomorphology. Longman, London.
8. Thornbury, W.D., (2005): Principles of Geomorphology. John Wiley and Sons, New York.
9. Trewartha, G. T. (1980): An Introduction to Climatology. McGraw Hill Student edition, New York.
10. Ward, R.C. and Robinson, M. (2000): Principles of Hydrology. McGraw Hill, New York.
11. Weisberg, J. S. (1974): Meteorology. Houghton Miffin Company, Boston.
12. Wooldridge, S.W. and Morgan, R.S. (1959): The Physical Basis of Geography- An Outline of Geomorphology. Longmans Green, London.

SuggestedContinuousEvaluationMethods:

- Testwithmultiplechoicequestions/shortandlonganswerquestions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VII
Subject- Geography		
Course Code: **A040702T**	Course Title: **Research Methodology**	

Course outcomes:

- The students will be able to understand basic concepts of field research methods and research design in geography.
- Learn the significance of field work in geographical studies.
- Understand the meaning of field and identifying the case study.
- Know about different types of field techniques.
- Develop an idea about research problems.
- The students will be able to do field work through practical experience and get skills of data collection methods and processing and analysis of obtained data.
- The students will be able to write dissertation based on field work on given topic.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1P-4/w

Unit	Topics	No. of Lectures Total=75

I	**Introduction to research in Geography:** Concept and significance of research in geography; Philosophy and methods; Naturalism and anti-naturalism; realism and idealism.	**19**
II	**Scientific Research; Inductive and deductive approaches;** Research design; Formulation of research problem; Development and testing of hypothesis; Techniques of data collection; Sampling and field survey.	**19**
III	**Qualitative research:** Qualitative research design; Case study; Ethnography; Phenomenology and participatory research.	**19**
IV	**Data Analysis, interpretation and report writing:** Data classification and tabulation; Data analysis and interpretation; Writing thesis, project report and research paper.	**18**

SuggestedReadings:

1. Ahuja, R. (2001): Research Methods, Rawat Publications, Jaipur and New Delhi.
2. Bhattacharyya, D. K. (2005): Research Methodology, Excel Books, New Delhi
3. Blackburn, J. and Holland, J. (eds.) (1998): Who Changes? Institutionalising Participation in Development. IT Publications, London.
4. Blaxter, L.; Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.
5. Crang, Mike 1999. Cultural Geography. Routledge, London.
6. Daniels, P., Bradshaw, M., et al. (2000): Human Geography: Issues for the 21st Century. Prentice Hall, London, and Pearson Publishers., Singapore. Indian reprint, 2003.
7. Denzin, N. K. and Lincoln, Y.S., (eds.) (2000): Handbook of Qualitative Research. Thousand Oaks CA. Sage Publications.
8. Dikshit, R. D. (2003): The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
9. Dorling, D. and Simpson, L. (eds.) (1999): Statistics in Society. Edward Arnold, London.
10. Fisher, P. and Unwin, D., (eds.) (2002): Virtual Reality in Geography. Taylor and Francis, London.
11. Flowerdew, R. and Martin, D. (eds.) (1997): Methods in Human Geography. A Guide for Students Doing a Research Project. Longman, Harlow.
12. Hay, I. (ed.) (2000): Qualitative Research Methods in Human Geography. Oxford University Press, New York.
13. Henn, M., Mark W., and Nick F. (2006): A Short Introduction to Social Research, Vistaar Publications, New Delhi
14. Eyles J. and Smith D. M. (1988): Qualitative Methods in Human Geography, Polity Press, Dales Brewering Cambridge.
15. Kitchin, R. and Tate, N., (2001): Conducting Research into Human Geography. Theory, Methodology and Practice. Prentice-Hall, London.
16. Limb, M. (2001): Qualitative Methodologies for Geographers. Issue and Debates. Edward Arnold, London.
17. Lofland, J. and Lofland, L.H. (1995): Analysing Social Setting. A Guide to Qualitative Observation and Analysis. Wadsworth, Belmont, CA.

18. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. (1999): Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.
19. Maso, I., Atkinson, P.A. Delamont, S. and Verhoeven, J.C. (eds.) (1995): Openness in Research. The Tension between Self and Other. Van Gorcum, Assen, Netherlands.
20. Mikkelsen, B. (2005): Methods for Development Work and Research: A New Guide for Practitioners. Sage Publications, London.
21. Mukherjee, N. (1993): Participatory Rural Appraisal: Methodology and Application. Concept Publishing Company, New Delhi.
22. Mukherjee, N. (2002): Participatory Learning and Action: with 100 Field Methods. Concept Publishing Company, New Delhi.
23. Oô Leary, Z. (2005): The Essential Guide in Doing Research, Vistaar Publications, New Delhi
24. Pacione, M., (ed.) (1999): Applied Geography: Principle and Practice. Routledge, London.
25. Parsons, T. and Knight, P. G., (1995): How to Do Your Dissertation in Geography and Related Disciplines. Chapman and Hall, London.
26. Patrick M. and Chapman S. (1990): Research Methods(Third Edition), Routledge, London
27. Peet, R. and Thrift, N. (ed.) (1989/ 2002): New Models in Geography (2 vols.). Rawat Publishers., Jaipur and New Delhi.
28. Rachel, P. et al. (2001): Introducing Social Geographies. Arnold Hodder Group, London, and Oxford University Press, Oxford.
29. Robson, C. (1993): Real World Research. A Resource for Social Scientists and Practitioners-Researchers. Blackwell Publishers, Oxford.
30. Rogers, A. and Viles, H. A. (2003): The Studentôs Companion to Geography. Blackwell Publishers, Oxford. Indian reprint available.
31. Sheskin, Ira, M. (1987): Survey Research for Geographers, Scientific Publishers, Jodhpur.
32. Silverman, D. (1993): Interpreting Qualitative Data. Methods for Analysing Talk, Text and Interaction. Sage Publications, London.
33. Singh, R. L. and Singh, Rana P.B. (1993): Elements of Practical Geography. Kalyani Publishers, Ludhiana and New Delhi. (English and Hindi editions).
34. Singh, Rana P.B. and Singh, R. B. (1981): Changing Frontiers of Indian Village Ecology.National Geographical Society of India, BHU, Varanasi, Publication number 27.
35. Turkle, S. (1996): Life on the Screen: Identity in the Age of Internet. Weidenfeld and Nicolson, London.
36. Wolcott, H. (1995): The Art of Fieldwork. AltaMira Press, Walnut Creek, CA. .
39. Sharma, P.R., Yadava, R.S. ans Sharma, V.N., (2011), Interdisciplinary Research Methods: Concepts and Studies, R.K. Books Publishers, New Delhi.

SuggestedContinuousEvaluationMethods:

- Testwithmultiplechoicequestions/shortandlonganswerquestions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VII
Subject- Geography		
Course Code: **A040703T**	Course Title: **Population Geography**	

Course outcomes:

- Gain knowledge different aspects of population geography.
- Build an idea about Population dynamics
- Develop an idea about Population Composition and Characteristics like Age- Sex Composition, Rural and Urban Composition, Literacy
- Gain knowledge about Contemporary Issues like Ageing Population, Declining Sex Ratio, HIV/AIDS

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w

Unit	Topics	No. of Lectures Total=60
I	Nature and scope of population geography; Sources of Data with Special reference to India data (Census, Vital Statistics and NSS)	**19**
II	Population Size, Distribution and Growth- Determinants and Patterns; Theories of Growth- Malthusian and Demographic Transition	**19**
III	Population dynamics: Fertility, Mortality& Migration- Measures, Determinants and Implications	**19**
IV	Population Composition and Characteristics: Age- Sex Composition,; Rural and Urban Composition; Literacy Contemporary Issues: Ageing Population; Declining Sex Ratio; HIV/AIDS	**18**

Suggested Readings:

1. Barrett H.R. , 1995: Population Geography, Oliver and Boyd
2. Bhende A. And Kanitkar T., 2000: Principles of Population Studies, Himalaya Publishing House
3. Chandna, R. C. (2006): Geography of Population. Kalyani Publishers, New Delhi.
4. Clarke, J.I. (1972): Population Geography. Pergamon Press, Oxford.
5. Demko, G.J., Rose, H.M., and Schnell, G.A. (1970): Population Geography: A Reader. McGraw-Hill, New York.
6. Garnier, B.J. (1993): Geography of Population. 3rd edition. Longman, London.
7. Jones, H. R. (1981): A Population Geography. Harper and Row, New York.
8. Peters, G. L. and Larkin, R.P. (1983): Population Geography: Problems, Concepts and Prospects. Kendall/Hunt, Dubuque, IA.
9. Trewartha, G.T. (1985): A Geography of Population: World Patterns. John Wiley and Sons, NY
10. Zelinsky, W. (1966): A Prologue to Population Geography. Prentice Hall, New Jersey
11. Chandana, R.C. (2006) JansankhyaBhugol, Kalyani Publisher
12. Maurya S.D. (2009) JansankhyaBhugol, SharadaPustakBhawan Allahabad
13. Panda, B.P (2009) JansankhyaBhugol, M P Hindi Granth Academy

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VII
Subject- Geography		
Course Code: **A040704P**	Course Title: **Advanced Cartography**	

Course outcomes:

- To learn the basic concept of Measuring the Earth
- Students will learn different techniques of Survey
- Understand and prepare different kinds of Map Projections.
- Recognize basic themes of map making.
- Science of Cartography

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1P-4/w

Unit	Topics	No. of Lectures
I	**Measuring the Earth**. Properties of sphere; The Earth: its shape and size; Coordinate reference system on the sphere; Celestial coordinates: Equatorial system, Horizon system; Geographical co-ordinates and grid system; UTM grids.	**19**
II	**Survey**. Curvature of the earth and its effect on survey and levelling; Geographical Positioning System (GPS); Trigonometrical surveying; Calculation of height by Levelling.	**19**
III	**Map Projections**. Choice and classification of map projections; Derivations of formulae for construction of: Conical equal area with One and Two standard parallels (Lambert's and Alberôs); International Map projection.	**19**
IV	**Science of Cartography**. History and development of Cartography; Science of cartography and communication theory; Sources of cartographic data; Cartographic techniques and methods in preparation of diagrams and maps; Thematic mapping; soil and vegetation maps, Environmental maps and Population maps (rural and urban); Atlas Mapping; Pre- and -post census mapping; Automation and computer cartography.	**18**

SuggestedReadings:

1. Aylmer Johnson. 2004 Plane and Geodetic Surveying. CRS Press
2. Dorling, D. and Fairborn, D. (1997): Mapping. Ways of Representing the World. Longman,

Harlow.
3. Fraser Taylor, D.R. (1980): The Computer in Contemporary Cartography. John Wiley and Sons, New York.
4. Fraser Taylor, D.R. (ed.) (1983): Graphic Communication and Design in Contemporary Cartography. John Wiley and Sons, New York.
5. Griffith, D. A. and Amehein (1997): Statistical Analysis for Geographers. Prentice Hall, Englewood Cliffs, New Jersey.
6. Gupta K.K and Tyagi, V.C., 1992: Working with Map, Survey of India, DST, New Delhi
7. Kanetkar, T.P. and Kulkarni, S.V. (1967): Surveying and Levelling, Part II, A.V.G. Prakashan, Poona.

SuggestedContinuousEvaluationMethods:

- Testwithmultiplechoicequestions/shortandlonganswerquestions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VII
Subject- Geography		
Course Code: **A040705T**	Course Title: **Computer Mapping**	

Course outcomes:

- To enable students to use GIS as a decision support system for different geographical applications
- Students will learn about Modern science and technology that have made tremendous progress in all possible fields.
- Computer Mapping is a newly emerged field in Geospatial Technology.
- Students will get adequate professional knowledge and computer skills so as to enable the students to take up career in the field of Geospatial Technology.
- The students will be able to understand and prepare thematic maps using digital platform.

Credit:4	Course Type ï Generic Elective V
Max. Marks: 100(30+70)	Min. Passing Marks:40

Unit	Topics	No. of Lectures Total=60
I	Understanding of Diagrams: Meaning and concept, Kinds of Diagrams; One Dimensional, Two Dimensional, Three Dimensional Distribution Maps and Cartograms	**15**
II	Methods of Drawing Distribution Maps **Qualitative Methods:** Simple shade method, Pictorial, Choro-schematic or symbol and Naming Method)	**15**

III	**Quantitative Methods:** Choropleth, Isopleth, Dot Method, Diagrammatic Method,	**15**
IV	Cartograms: Value area cartograms, Traffic-flow cartograms, Isochronic Cartograms, Equal cost- distance cartograms	**15**

Suggested Readings:

6. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London.
7. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
8. Robinson, A., Sale, R. Morrison, J. and Muehrcke, P. C. (1984): Elements of Cartography, John Wiley and Sons, New York
9. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
10. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VIII
Subject- Geography		
Course Code: **A040801T**	Course Title: **Social and Cultural Geography**	

Course outcomes:

- Acquire a general understanding of the major concepts and approaches in the fields of social and cultural geography.
- Gain an appreciation for the role that social power plays in the formation of socio-spatial
- identities and the processes of place-making.
- Develop the ability to critically assess the material and symbolic aspects of cultural.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w

Unit	Topics	No. of Lectures=75
I	Social Geography: Nature, Meaning &Development;Philosophical Bases of Social Geography (Positivism,Structuralism); Social Structure & Social Processes; Concept of Social Space.	**19**
II	Elements of Social Geography: Ethnicity, Tribe, Dialect,Language, Caste & Religion; Socio-Cultural Regions of India;Linguistic	**19**

	Elements in India.	
III	Cultural Geography: Nature, Meaning & Development; Culture: Definition, Elements & Components; Culture Areas &CulturalRealm.	**19**
IV	Racial Elements in India's Population; Tribes of India (Jaunsar Babar, Bhil, Gond, Toda, Naga); Tribes of World (Eskimo, Pigmy,Bushman).	**18**

Suggested Readings:
1. Ahmad,Aijazuddin, Social Geography, Raw atPublication, New Delhi, 1999 .
2. De Blij. B.d. Human Geography. John Wiley and Son, New York.
3. Dreze Jean, Amartya Sen, Economic Development and Social Opportunity, Oxford University press, New Delhi, 1996 .
4. Dubey, S.C.: Indian Society, National Book Trust, New Delhi,1991.
5. Gregory, D. and UJ. Larry. (eds.) Social relations and Spatial Structures, McMillan,1985
6. Haq, Mahbubul: Reflection on Human Development. Oxford University Press.New Delhi
7. Maloney, Clarence: People of South Asia, Winston, New York, 1974 .
8. Planning Commission, Government of India: Report on Development of Tribalareas.1981
9. Rao, M.S.A.: Urban Sociology in India. Orient Longman, 1970 .
10. Schwartzberg Joseph: An Historical Atlas of South Asia. University of Chicago Press. Chicago, 1978 .
11. Sen, Amartya and Dreze Jean, Indian Development Selected Regional Perspectives. Oxford University Press, 1996 .
12. Smith, David: Geography: A Welfare Appraoch. Edward Arnold, London, 1977.
13. Sopher, David: An Exploration ofIndia. Cornell University Press. 1980 .
14. Subba Rao. personality of India: Pre and Proto Historic Foundation of India and Pakistan, M.S. University, Baroda, Vadodara, 1958.

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VIII
Subject- Geography		
Course Code: **A040802T**	Course Title: **Political Geography**	

Course outcomes:

- Students become familiar with key concepts in contemporary political geography, including the state, the nation, territory, boundaries, power, and scale;
- Use geographic concepts to critically analyze how human agency interacts with the physical environment to shape and reshape political geographic outcomes;
- Advance your understanding of the political geography literature;
- Engage quality information about political issues contemporary political issues and explore your role within them;
- Use the ideas of political geography to develop a position on a contemporary issue and take a public stance on that issue.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w	

Unit	Topics	No. of Lectures=75
I	Meaning, approaches, historical development, recent trends in political geography; geopolitics. Nations, states and nation states; Frontiers and boundaries; Capital cities, core and periphery regions.	**19**
II	Electoral Geography-Geography of Voting, Geographic Influences on voting pattern, Geography of representation. Gerrymandering	**19**
II	Political Geography of resource conflicts: Water sharing disputes, disputes and conflicts related to forest rights and minerals	**19**
IV	Politics of Displacement: Issues of relief: Compensation and rehabilitation with reference to Dams and special economic zones	**18**

Suggested Readings:

1. Cohen, Samuel (1964): Geography and Politics in Divided World. Random House, New York.
2. De Blijj, H. J. and Glassner, M. (1968): Systematic Political Geography. John Wiley and Sons, New York.
3. Dikshit, R.D. (1987): Political Geography and Geopolitics. Tata McGraw Hill, New Delhi.
4. Dikshit, R.D. (2000): Political Geography: A Contemporary Perspective. Prentice-Hall, New Delhi.
5. Siddiq, M. (1997): Indian in the Indian Ocean: A Geopolitical Study, Rawat Publications, Jaipur
6. Moddie, A.E. (1961): Geography Behind Politics. Hutchinson, London.
7. Pannikar, K.M. (1959): Geographical Factors in Indian History. 2 vols. Asia Publishing House, Bombay.
8. Pearcy, G. E. and Fifield, R. (1948): World Political Geography, Thomas Y Crowell, New York
9. Pounds, N.J.G. (1972): Political Geography. McGraw Hill Publication., New York.
10. Short, John R. (1982): An Introduction to Political Geography. Routledge, London
11. Sukhwal. B.L. (1987): Modern Political Geography of India. Sterling Publication, New Delhi

Suggested Continuous Evaluation Methods:

- Test with multiple choice questions / short and long answer questions

Programme/Class: B.A./B.Sc.	Year: IV	Semester: VIII
Subject- Geography		
Course Code: **A040803T**	Course Title: **Agriculture Geography**	

Course outcomes:

- The students will be able to understand and analyse the historical perspective of agriculture.
- The students will be able to analyse the agriculture development and productivity and its impacts on various sectors
- The students will be able to get updated knowledge of contemporary issues and strategies.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4 T-1/w

Unit	Topics	No. of Lectures=75
I	**Approaches Parametres and Agricutural Systems:** Nature, scope and significance; Evolution in Historical perspectives; Approaches; commodity, systematic, regional and ecological; Determinants of agricultural development: Physical, technological, institutional; World Agricultural Systems	**19**
II	**Models and Agricultural Regionalization:** Cropping Pattern and their Measurements-crop concentration, crop diversifications measurement of agricultural efficiency, agricultural productivity; agricultural location models	**19**
III	**Agricultural Development and Planning in India:** Agriculture during plan periods; Diffusion of agricultural innovations; Green revolution and its effect on economy, society and environment, agro-climatic regions and their planning; Measurement and levels of Development; problems and prospects of Indian Agriculture.	**19**
IV	**Contemporary Issues in Indian Agriculture:** Nutrition, Malnutrition and Hunger, Rural poverty and Unemployment, Poverty alleviation strategies; Food aid and Nutrition programmes; Food Security and its components; Sustainable Agriculture	**18**

SuggestedReadings:

1. Basu, D.N., and Guha, G.S. 1996: Agro-Climatic Regions in India, Vil. I & II, Concept Publication, New Delhi
2. D. Chauhan. 2010. Agricultural Geography, Ritu Publication
3. Dumont, R.(1970): Types of Rural Economy: Studies in World Agriculture, Douglas Manin, London Methuen
4. Gregor, H. P. (1970): Geography of Agriculture. Prentice-Hall, New York.
5. Husain, M. (1996): Systematic Agricultural Geography, Rawat Publications, Jaipur.
6. Misra, R. P. (1967): Diffusion of Agricultural Innovations, University of Mysore, Mysore.
7. Mohammad, A.(1978): Studies in Agricultural Geography, Rajesh Publications, New Delhi
8. Mohammad, N., 1992: New Dimension in Agricultural Geography, Vol. I to VIII, Concept Publication, New Delhi
9. Morgan, W. B. and Norton, R.J.C. (1971): Agricultural Geography. Methuen, London.
10. Sauer, O. C. (1969): Agricultural Origins and Dispersals. MIT Press, Cambridge.

11. Shafi, M. (2006): Agricultural Geography, Pearson Education, New Delhi.
12. Shafi, M.(2000): Agricultural Geography of South Asia, McMillan, Delhi
13. Singh, J. and Dhillon, S.S. (2000): Agricultural Geography. Tata McGraw Hill, New Delhi.
14. Singh, S. (1994): Agricultural Development in India: A Regional Analysis, Kaushal Publications, Shillong.
15. Tarrant J.R., 1973: Agricultural Geography, David and Charles, Dev

SuggestedContinuousEvaluationMethods:

- Testwithmultiplechoicequestions/shortandlonganswerquestions

Programme/Class: B.A./B.Sc.	Year: IV	Semester:VIII
Subject- Geography		
Course Code: **A040804P**	Course Title: **Land Surveying and GPS(Practical)**	

Course outcomes:

- Learn the usages of survey instruments.
- Brings direct interaction of different types of surveying instruments like Dumpy level and Theodolite with environment.
- Develop an idea about GPS Surveying and Mapping using Hand held GPS
- Develop an idea about different types of thematic mapping techniques.

Credits: 5	Course Type-Core Course
Max. Marks: 100 (30+70)	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 1P-4/w

Unit	Topics	No. of Lectures=75
I	**Theory and Principles:** Surveying: Definition, Classification, objectives, Principles, Plane Table and Geodetic surveys, Triangulation: Principles, Base line measurement, extension of Base	**19**
II	**Field Work:** Levelling by Dumpy level; Resection: (two point and three point problem) by plane table, Horizontal and inclined range Determination by Telescope alidade; Triangulation by Theodolite	**19**
III	**GPS Theory:** Overview of Global Positioning System : GPS Receivers, Satellite Constellations, Segments, Antennas, Signal Codes and errors; Accuracy of GPS measurements; Application of GPS	**19**
IV	**Field Work:** GPS Surveying and Mapping: Field exercise using	**18**

	Hand held GPS	

SuggestedReadings:

8. Aylmer Johnson. 2004 Plane and Geodetic Surveying. CRS Press
9. Dorling, D. and Fairborn, D. (1997): Mapping. Ways of Representing the World. Longman, Harlow.
10. Fraser Taylor, D.R. (1980): The Computer in Contemporary Cartography. John Wiley and Sons, New York.
11. Fraser Taylor, D.R. (ed.) (1983): Graphic Communication and Design in Contemporary Cartography. John Wiley and Sons, New York.
12. Griffith, D. A. and Amehein (1997): Statistical Analysis for Geographers. Prentice Hall, Englewood Cliffs, New Jersey.
13. Gupta K.K and Tyagi, V.C., 1992: Working with Map, Survey of India, DST, New Delhi
14. Kanetkar, T.P. and Kulkarni, S.V. (1967): Surveying and Levelling, Part II, A.V.G. Prakashan, Poona.

SuggestedContinuousEvaluationMethods:

- Testwithmultiplechoicequestions/shortandlonganswerquestions