MAA PATESWARI UNIVERSITY, BALRAMPUR

B.A

GEOGRAPHY (4 Years)

FACULTY OF ARTS

NATIONAL EDUCATION POLICY 2020

Syllabus as per the guidelines of

State Higher Education Council

(Partially modified : Board of Studies meeting on 21.06.2025)

2025

Maa Pateswari University, Balrampur

B.A Syllabus Structure CBCS (NEP) 2025-26

Subject: Geography (3+1 = 4 Years)

Year	Course Code	Paper Title	Theory/Practical	Credits
First	**Semester 1**			
	A110101T	Physical Geography	Theory	4
	A110102P	Elements of Map and Surveying	Practical	2
	Semester 2			
	A110201T	Human Geography	Theory	4
	A110202P	Thematic Mapping and Surveying	Practical	2
Second	**Semester3**			
	A110301T	Environment, Disaster Management and Climate Change	Theory	4
	A110302P	Statistical Techniques and Surveying	Practical	2
	Semester 4			
	A110401T	Economic Geography	Theory	4
	A110402P	Weather Maps, Geological Maps and Surveying	Practical	2
Third	**Semester 5**			
	A110501T	Regional Geography	Theory	4
	A110502T	Basics of Remote Sensing and GIS	Theory	4
	A110503R	Tour and Tour report	Practical	2
	A110504R	Project Report-1	Practical	3
	Semester 6			
	A110601T	Geography of India	Theory	4
	A110602T	Evolution of Geographical Thoughts	Theory	4
	A110603P	Remote Sensing and GIS	Practical	2
	A110604R	Project Report-2	Practical	3

25 Marks for Internal Assessment,

+ 75 Marks for Practical Examination

+ 75 Marks for Theory Paper

	Course code	Course Title	Credit	T/P	Evaluation	
					CIE	ETE
	A B	C	D	E	F	G
Fourth	**Semester 7**					
	CORE A110701T	Evolution And Development Of Geographical Thought	4	T	25	75
	CORE A110702T	Advance Geomorphology	4	T	25	75
	CORE A110703T	Geography of resources	4	T	25	75
	First Elective (Select any one) A110704T	Bio-Geography	4	T	25	75
	A110705T	Population Geography	4	T	25	75
	Second Elective (Select any one) A110706P	Advance Quantitative techniques	4	P	50	50
	A110707P	Remote Sensing	4	P	50	50
	Semester 8					
	CORE A110801T	Advance climatology	4	T	25	75
	CORE A110802T	Indian: Physical Geography	4	T	25	75
	CORE A110803T	Economic Geography	4	T	25	75
	Third Elective (Select any one) A110804T	General Geography	4	T	50	50
	A110805T	Disaster Management	4	T	50	50
	Fourth Elective (Select any one) A110806P	Field Study Report	4	P	50	50
	A110807P	Geographic Information System (GIS)	4	P	50	50

Note:

1. Do Not Mark any code/Information in column-A, It will be indorsed by the University.
2. **T/P** in Column-E stand for Theory/Practical
3. **CIE** in column-F stand for 'Continuous Internal Evaluation' and depict the maximum internal marks. Respective Examination will be conducted by the university.
4. **ETE** in column-G stand for 'External Evaluation' and depict the maximum external marks. Respective Examination will be conducted by the university.
5. **Column –B** defines the nature of Course/Paper. The word Core herein stands for compulsory subject paper.
6. **Column –D** Depict the credit assigned for the corresponding course/paper.

7. **First Elective:** it Will we a Subject Elective. Student may select one of the two subject paper under this category.
8. **Second Elective:** It will designate a Practical paper or equivalently a field visit or project presentation. In case of field visit, students is required to submit a detailed report of the visit fir the purpose of evaluation. The report should include the observational features and benefits of the visit. In case of project presentation, the student may be assigned to go for a survey/practical or theoretical project/assignment or seminar with presentation.
9. **Third Elective:** It will be a generic elective, the student may study or receive training of the any subject of his interest (depends on the availability in his Institution of enrollment). The generic Elective paper will be evaluated in two parts, first part (05 marks) would be a continuous internal evaluation (03 tests 20+20+10 marks) where as the examination and evaluation of the second part (50 marks) would be arranged by the college itself (01 exam).
10. **Fourth Elective:** It will accommodate a practical paper or industrial training or project Presentation. in case of Industrial training student may be allowed for the summer training and is required to submit a detailed training report including training certificate for the evaluation.
11. **Fifth Elective:** It will be a Subject Elective. Students may select one of the two subject papers under this category.
12. **Sixth Elective:** It will be a practical paper or equivalently a project presentation based on survey/Seminar/assignment. In case of project Presentation, student has two submit an exhaustive report on respective topic and to face an open presentation for the evaluation.
13. **Seventh Elective:** It will be a major Research project or equivalently a research-oriented Dissertation on the allotted topic. The student straight away will be awarded 05 credits if he publishes a research paper on the topic research project or Dissertation.
14. Methodology for the practical examination and examiner appointment will be governed by the clause-13 of the NEP Guideline of MPU Balrampur dated 21-06-2025 except the marks distribution for continuous internal evaluation and external evaluation.

B.A in Geography (4 Years)
Program Specific Outcomes (PSOs)
Program Outcomes

- This course provides the basic ideas and concepts of the physical and human aspects of Geography.
- This course intends to orient the learner with the approaches to the broader discipline of Geography.
- It will help in developing analytical and critical thinking based on the themes and issues of Geography.
- It eventually prepares the students to understand the development of the subject and delve around issues suited to the needs of the contemporary world.
- It will help in exhaustive understanding of the basic concepts of Geography and an awareness of the emerging areas of the field.
- Acquisition of in-depth understanding of the applied aspects of Geography as well as interdisciplinary subjects in everyday life.
- Improvement of critical thinking and skills facilitating.
- The application of knowledge gained in the field of Geography in the classroom to the practical solving of societal problems.
- The program orients students with tradition geographical knowledge along with advance contemporary skills like remote sensing and GIS.

Internal & External Assessment			
Internal Assessment	Marks	Practical/External Assessment	Marks
Mid Semester Test	10	Viva Voce on Practical	15
Class Attendance	05	Lab/field work	45
Assignments	10	Practical Record File	15
Total	**25**	**TOTAL**	**75**

Syllabus Developed by:

S. No.	Name	Designation	Department	College/University
1.	Prof. Sarveshwar Nath Singh Convener B.O.S.	Professor	Geography	Maharani Lal Kunwari Post Graduate College, Balrampur.
2.	Prof. Ranjan Sharma Member B.O.S.	Professor	Geography	Shri Lal Bahadur Shastri Degree College, Gonda.
3.	Mr. Ajay Kumar Member B.O.S.	Associate professor	Geography	Acharya Narendra Dev Kisan Post Graduate College, Babhanan, Gonda.
4.	Dr. Azharuddin Member B.O.S.	Assistant professor	Geography	Maharani Lal Kunwari Post Graduate College, Balrampur.
5.	Dr. Awadhesh Kumar	Assistant	Geography	Shri Lal Bahadur Shastri

	Verma Member B.O.S.	professor		Degree College, Gonda.
6.	Prof. Shivakant Singh Member B.O.S.	Professor	Geography	Deen Dayal Upadhyay Gorakhpur University, Gorakhpur.
7.	Prof. Arvind Singh Member B.O.S.	Professor	Geography	Shivpati Degree College, Shohratgarh.
8.	Prof. Vishal Gupta Member B.O.S.	Associate professor	Geography	Siddharth University, Kapilvastu Siddharth Nagar.

B.A 1st Year, Semester I,

Course I (Theory)

Program /Class: Certificate/ BA	Year: First	Semester: First
Subject : Geography		
Course Code: A110101T	Course Title : **Physical Geography**	
Outcomes - Students will be able to grasp Earth's geomorphic history, plate tectonics, erosion-formed landforms, climate dynamics, and global ocean systems in this course.		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: As per Rule : 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		

Unit	Topics	No. of Lectures
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.	8
II	Origin of continents and oceans, Isostasy, Earthquakes, and Volcanoes, Geosynclines, Plate Tectonics Theory	8
III	Rocks, Folding, Faulting, Weathering, Erosion, Cycle of Erosion by Davis and Penck, Drainage Pattern.	8
IV	Fluvial, Aeolian, Karst, and Glacial, Landforms	8
V	Composition and Structure of atmosphere: Insolation, Heat Budget, Atmospheric pressure and winds.	8
VI	Airmasses and Fronts, cyclones and anti-cyclones, Humidity, precipitation and rainfall types.	7
VII	Ocean Bottoms, temperature, and salinity, Ocean Currents and Tides, and Ocean deposits- Coral and Atolls	7
VIII	Biosphere, Biotic succession, Biome, Zoo-geographical regions of the world.	6

Suggested Readings:

1. Singh, Jagdish & Singh, K.N. : Bhautik Bhugol, Gyanoday Prakashan, Gorakhpur.
2. Singh, Savindra (2018), Physical Geography (Eng./Hindi) Allahabad, India: Prayag Pustak
3. Khullar, D.R. (2012). Physical Geography. New Delhi. India: Kalyani Publishers.
4. Thornbury, W. D. (2004): Principal of Geomorphology. New York, U.S.A.:Wiley.

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. Suggested equivalent online courses:
https://onlinecourses.swayam2.ac.in/cec21_hs03/preview
https://onlinecourses.swayam2.ac.in/nos20_sc25/preview

B.A 1st Year, Semester I,

Course II (Practical)

Program/Class: Certificate/BA/ B.Sc.	Year: First	Semester: First
Subject: Geography		
Course Code : A110102P	Course Title: **Elements of Map and Surveying**	
Course Learning Outcomes : On completion of this course, learners will be able to Understand the basic idea of Map, Scale and Topographic sheets		
Credits: 2	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: As per rule : 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		

Unit	Topics	No. of Lectures
I	Nature of Cartography and scope, Scales–Concept and application; Graphical Construction of Plain, Comparative, and Diagonal Scales.	7
II	Map Projections: Classification, Properties and Uses; Graphical Construction of Polar Zenithal, Stereographic, Bonne's and Mercator's Projections.	7
III	Topographical Map: Coverage, Scale and Topo Symbol, Interpretation Survey of India Topo sheets. Representation of landforms by Contours, Plane Table Surveying.	8
IV	Construction of Profile- Serial, Projected, Superimposed and Composite and slope analysis –(Wentworth method).	8

Suggested Readings:

1. Singh, Sarveshwar Nath (2024): Prayogaatmak Bhugol ke Moolaadhaar (For 1st Year, Semester I), BFC Publications, Lucknow.
2. Sharma, J. P. (2001): Prayogik Bhugol., Rastogi Publication, Meerut 3rd. edition.
3. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.
4. 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

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

B.A 1st Year, Semester II,

Course I (Theory)

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code : A110201T	Course Title: **Human Geography**	
Outcomes : Student will understand the Concept, Nature, Meaning and Scope of Human Geography, and also understand the natural and Cultural Changes in and around the Human Environs and their interrelationship.		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: As per rule : 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		

Unit	Topics	No.of Lectures
I	Concept and Nature, Meaning and Scope of Human Geography. Development of Geographical understanding in India with special reference to Puranas.	7
II	Man and Environment relationship - Determinism, Possibilism and Neo-determinism	7
III	Distribution of population and world pattern, global migration - causes and consequences, concept of over population and under population.	7
IV	Human Settlements: Origin, types (Rural-Urban) characteristics, House types and their distribution with special reference to India.	7
V	Primitive Economics-Food gathering, Hunting, Pastoral herding, Fishing, and primitive agriculture.	8
VI	Cultural Regions, Race, Religion and Language.	8
VII	World Tribes: Eskimos, Kirghiz, Bushman, Masai, Semang, Pygmies.	8
VIII	Indian Tribes: Bhotias, Gaddis, Tharus, Bhil, Gond, Santhal,	8

Suggested Readings:

1. Singh, Jagdish (2018) : Manav Bhugol, Gyanoday Prakashan, Gorakhpur.
2. B N Singh (2019) Manav Bhugol ka Swaroop, Pravalika Publication, Allahabad
3. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
4. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
5. Singh, K. N. and Singh, J. (2001): Manav Bhugol. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
6. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad

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

Course prerequisites: 12th Standard Pass/Open to all

Suggested equivalent online courses: Courses on Swayam / MOOCs
https://onlinecourses.swayam2.ac.in/nou20_hs18/preview

B.A 1st Year, Semester II,

Course II (Practical)

Program/Class: Certificate/BA/B.Sc	Year: First	Semester: Second
Subject: Geography		
Course Code : A110202P	Course Title: **Thematic Mapping and Surveying**	
Outcomes : On completion of this course, learners will be able to understand the basic idea of Map, Scale and Topographic sheets		
Credits: 2	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		

Unit	Topics	No. of Lectures
I	Maps – Classification and Types, Principles of Map Design. Diagrammatic Data Presentation – Line, Bar and Circle.	7
II	Thematic Mapping Techniques – Properties, Uses and Limitations; Areal Data-- Choropleth, Dot, Proportional Circles; Point Data – Isopleths.	7
III	Cartographic Overlays – Point, Line and Areal Data. Thematic Maps – Preparation and Interpretation.	8
IV	Introduction Of Geological Maps, Prismatic Compass Surveying.	8

Suggested Readings:

1. Singh, Sarveshwar Nath (2023): Prayogaatmak Bhugol ke Moolaadhaar (For 1st Year, Semester II), BFC Publications, Lucknow.
2. Sharma, J. P. (2001): Prayogik Bhugol. Rastogi Publication, Meerut 3rd. edition.
3. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,
4. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
5. Sharma, JP. (2008): Prayogatmak Bhugol 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.

B.A 2nd Year, Semester III,

Course I (Theory)

Programme/Class: Diploma/B.A/B.Sc	Year: Second	Semester: Third
Subject: Geography		
Course Code **:** A110301T	Course Title: **Environment, Disaster Management and Climate Change**	
Outcomes: Students will be able to understand Environment, Climate Change, Disaster Management basics. It also includes appraisal, conservation, impacts of Climate Change, global disaster management efforts		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		

Unit	Topics	No. of Lectures
I	Concepts & components of Environment, Ecology and ecosystem. Indian traditional Knowledge in Environment and disaster Management.	8
II	Bio-diversity and its conservation, sustainable development.	8
III	Deforestation, soil erosion, soil exhaustion, Desertification, Air pollution, water pollution Disposal of solid waste.	8
IV	Ganga Action Plan, Tiger project, Tehri dam & Narmada Valley project.	8
V	Science of Climate Change: Understanding Climate Change; Green House Gases and Global Warming.	8
VI	Global Climatic Assessment – IPCC, Impacts of Climate Change, National Action Plan on Climate Change.	7
VII	Disasters, Hazards, Risk, Vulnerability, Type of Disasters, Disaster Management Disaster management cycle	7
VIII	Flood, Drought, Cyclone, Earthquake,Tsunami, Landslide, Chemical and Nuclear Disasters. Do's and Don'ts During Disasters.	6

Suggested Readings:

1. Singh, R.B. (1993) Environmental Geography. Delhi, India: Heritage Publishers.
2. Government of India. (2011). Disaster Management in India. Delhi, India: Ministry of Home Affairs.
3. Singh, Savendra (2019) Pryavaran Bhugol, Pravalika Publication, Allahabad
4. Kapur, A. (2010). Vulnerable India: A Geographical Study of Disasters. Delhi, India: Sage Publication.
5. Singh, Savendra (2019) Apada Prabandhan, Pravalika Publication, Allahabad.
6. Ramkumar, M. (2009). Geological Hazards: Causes, Consequences and Methods of Containment. New Delhi, India: New India Publishing Agency.
7. Climate Change: Agriculture and Water; Flora and Fauna; Human Health
8. Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia

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

B.A 2nd Year, Semester III,

Course II (Practical)

Program/Class: Certificate/BA/B.Sc	Year: Second	Semester: Third
Subject: Geography		
Course Code : A110302P	Course Title: **Statistical Techniques and Surveying**	
Outcomes: Students will be able to understand the difference between qualitative and quantitative data and its nature, method of sampling and its graphical representation		
Credits: 2	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		

Unit	Topics	No. of Lectures
I	Use of Data in Geography: Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement	8
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).	8
III	Sampling: Probability sampling Non-probability sampling. Correlation: Rank Correlation and Product Moment Correlation.	7
IV	Instrumental Survey: Sextant	7

Suggested Readings:

1. Berry B. J. L. and Marble D. F. (eds.): Spatial Analysis – A Reader in Geography.
2. Ebdon D., 1977: Statistics in Geography: A Practical Approach. 3.
3. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
4. Singh, Sarveshwar Nath (2024): Prayogik Syankhikiye Taknik (For 2nd Year, Semester III), BFC Publications, Lucknow.
5. Bansal SC,(2020) Shodh vidhitantra va sankhikiya Vishyan, RK Books Publication, New Delhi.
6. Mahmood A., 1977: Statistical Methods in Geographical Studies, Concept.
7. Pal S. K., 1998: Statistics for Geoscientists, Tata McGraw Hill, New Delhi.
8. Sarkar, A. (2013) Quantitative geography: techniques and presentations. Orient Black Swan Private Ltd., New Delhi

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

B.A 2nd Year, Semester IV,

Course I (Theory)

Program/Class: Certificate/BA/B.Sc	Year: Second	Semester: Fourth
Subject: Geography		
Course Code : A110401T	Course Title: **Economic Geography**	

Course Learning Outcomes
On completion of this course, learners will be able to:
- Define Meaning, concepts and approaches of Economic Geography
- Understand the nature of Economic activities, Resource Distribution
- Understand the Effect of globalization on developing countries.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
I	Meaning, concepts and approaches of Economic Geography; agricultural region of the world (Derwent Whittlesey).	8
II	Resource: meaning, concept and classification. Spatial organization of economic activities	8
III	Economic organization of space, Forestry, fishing and mining activities.	7
IV	Agricultural typologies, agricultural land use model (J.H. Von Thunen)	7
V	Types of industries; Factors of location of industries; iron and steel industry, cotton textiles and sugar; Theory of industrial location (Alfred Weber).	8
VI	World transportation: Sea routes and major transcontinental railways.	8
VII	WTO and International trade: Patterns and trends	7
VIII	Effect of globalization on developing countries.	7

Suggested Readings:

1. Singh Jagdeesh : Aarthik Bhugol, Gyanoday Prakashan, Gorakhpur.
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, New York.
3. Clark,G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA.
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): Aarthik Bhugol Ke Mool Tattava, Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chattoraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff , New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.

10. Knowles, R, Wareing, J. (2000): Economic and Social Geography Made Simple, Rupa and Company, New Delhi.
11. Sokal, Martin 2011. Economic Geographics of Globalisation: A short Introduction. Cheltenham, UK : Edward Elgar.
12. 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

B.A 2nd Year, Semester IV,

Course II (Practical)

Program/Class: Certificate/BA/B.Sc	Year: Second	Semester: Fourth
Subject: Geography		
Course Code : A110402P	Course Title: **Weather Maps, Geological Maps and Surveying**	

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

- Identify the various Survey Operations and Survey Instruments
- To understand the idea of Basic and applied Instrumental surveying

Credits: 2	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
I	Weather Maps, Study and Interpretation of Weather Map, Weather Forecasting.	7
II	Geological Maps: Types, Signs, Bed and Bedding plane, Rock Outcrop, Dip, Strike etc. Construction of Geological Sections.	7
III	Instrumental Survey: Indian Clinometer.	8
IV	Instrumental Survey: Dumpy Level	8

Suggested Readings:

1. Sharma, JP (2001) Prayogik Bhugol, Rastogi Publication, Meerut
2. Singh, Sarveshwar Nath (2023): Prayogaatmak Bhugol ke Moolaadhaar (For 2nd Year, Semester IV), BFC Publications, Lucknow.
3. Natrajan, V. (1976): Advanced Surveying, B.I. Publications., Mumbai.
4. Pugh, J.C. (1975): Surveying for Field Scientists, Methuen and Company Ltd., London, First Publication.
5. Punmia, B.C.(1994): Surveying, Vol I, Laxmi Publications Private Ltd, New Delhi.
6. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions), Kalyani Publishers, Ludhiana and New Delhi.
7. Venkatramaiah, C. (1997): A Text Book of Surveying, Universities Press, Hyderabad..

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

B.A 3rd Year, Semester V,

Course I (Theory)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Fifth
Subject: Geography		
Course Code: A110501T	Course Title: **Regional Geography**	

Course outcomes: Students will be able to understand

- To understand the concept of Region and Regional Planning.
- To familiarize the students with Theories and Models for Regional Planning.
- To develop understanding about concept of Development, Sustainable Development and Multi level planning.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
I	Definition of Region, Evolution and objectives of regional planning. Planning practices in Ancient India.	8
II	Types of Regional planning, Formal, Functional, and Planning Regions.	8
III	Delimitations of Region and Regional Planning.	8
IV	Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow and Friedmann.	8
V	Sustainable Development, Concept of Development and Underdevelopment.	8
VI	Efficiency-Equity Debate: Definition, Components and Sustainability for Development.	7
VII	Indicators (Economic, Social and Environmental).	7
VIII	Need for regional planning in India, Five Year Plans and Regional Planning, multi- level planning in India.	6

Suggested Readings:

1. Agyeman, Julian, Robert, D. Bullard and Bob,Evans. (Eds.) (2003). Just Sustainabilities: Development in an Unequal World. London: Earthscan. (Introduction and conclusion.).
2. Singh, Sarveshwar Nath (2025): Pradeshik Bhugol, BFC Publications, Lucknow.
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

……

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

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

B.A 3rd Year, Semester V,

Course II (Theory)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Fifth
Subject: Geography		
Course Code : A110502T	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 Information System

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
I	Remote Sensing: Definition, Type, Scope and Historical Development. Types of Satellites.	7
II	Electro-magnetic radiation: Characteristics, spectral regions and bands. Stages or Process of Remote Sensing.	7
III	Remote sensing satellites: Platform and sensors. Resolution: Spatial, Spectral, Temporal, Radiometric Resolution.	8
IV	Remote Sensing data processing and applications: Visual and digital image processing techniques.	8
V	Remote Sensing applications in Urban Planning, Agriculture, Forestry, Land use/Land cover Mapping, Oceanic Studies and Disaster Management.	6
VI	Introduction to GIS: Definition, concept and history of GIS.	8
VII	Computer fundamentals for GIS, GIS Packages like ARC GIS, ERDAS, QGI etc.	8
VIII	Coordinate system, Datum, Raster and vector data.	8

Suggested Readings:

1. Choniyal, D D, (2016) Sudur Samvaden evam Bhogolic Suchna Pranali ke sighant, Sharda Pustak Bhavan, Allahabad.
2. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4 th edition. John Wiley and Sons, New York
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, New Delhi.
5. Nag Prithvish and Kudrat M. (1998): Digital Remote Sensing, Concept Publishing Company, New Delhi
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

B.A 3rd Year, Semester V,

Course III (Practical)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Fifth
Subject: Geography		
Course Code :A110503R	Course Title: **Tour and Tour report**	

Course outcomes: Students will be able to understand The variation among geographical locations.

- Interaction with people with different natural and cultural settings.
- Study physical and human geography of area being visited.
- Learn to prepare tour report

Credits: 2	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
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)	30

Suggested Readings:

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

Suggested Continuous Evaluation Methods:

The following shall be the guidelines and structure of Educational tour;

Geographical Excursion Committee

1. All faculty members shall organize geographical excursion as 'tour in-charge' in rotation according to departmental seniority list.
2. There shall be Geographical Excursion Committee headed by HOD in University and Principal in colleges. Tour in-charge shall act as convener of committee and shall convene a meeting at the beginning of session or semester. All other teachers of department shall be member of committee. Four/Five meritorious students based on last available examination result shall be invited by the tour in-charge to participate in meeting as members of committee.
3. Committee shall:
   a) Review the tour plan.
   b) Confirm that all arrangements shall be made in advance before tour departure.
   c) Listen to the opinion of students and give recommendations to tour in-charge accordingly.
   d) Review academic nature of tour and evaluate day wise tour plan and academic activity as submitted by Tour in-charge.

Structure of the tour party

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

member from Geography or any other departments/female non teaching staff) shall accompany with tour party.

Responsibility of tour in-charge

1. Tour shall at least of 6 days stay at location with inter region variation.
2. Tour in-charge shall submit tentative day wise activity report in advance to HOD in University and Principal in colleges.
3. Tour in-charge shall coordinate with Institutes/Colleges/ Universities/Research institutes etc in location where tour is being planned for following activities like;
   a) Interaction of students.
   b) Lectures on various local physical and cultural attributes of the area by the experts.
   c) Local visit with faculty members having academic understanding of the area.
4. Lectures by tour in-charge on physical and human characteristics of area being visited for educational tour.
5. Survey with students with at least one instrument like Dumpy Level, Sextant, Theodolite, GPS etc.
6. Questionnaire survey on various socio-cultural or any other aspects. Questionnaire must be prepared in advance and shall be shared during Geographical Excursion Committee meeting.
7. Tour in-charge shall collect undertaking from all students which shall be counter signed by their guardian.
8. Tour in-charge will prepare list of students accompanying the tour with their information like mobile number, address, guardian contact information and one recent color photo. One copy will also be submitted to the head in universities and Principal in colleges.
9. Teacher shall always try to minimize tour expenditure of students by;
   a) Using concession train reservation and avoiding buses if possible.
   b) Making stay arrangements of students in advance in youth hostels/lodges/guest house etc.
   c) Try to visit few important locations only with objective of spot study and avoiding unnecessary travel for sightseeing.
10. After the completion of tour there shall be presentation by students regarding learning outcomes and experiences under the supervision of tour in-charge. Presentation shall be attended by Geographical Excursion Committee members along with other faculty members, staff, students etc.
11. All students shall submit tour report under supervision of Tour in-charge for evaluation. Tour report shall portray all activities conducted and places visited for the purposes of study.
12. In case of any incident/injury where one or more than one student can't join tour party in return journey. One teaching/non teaching staff member shall stay with student until student's guardian arrives or alternative arrangement is not made by the college. In case tour in-charge stays the other teacher/staff member shall act as tour in-charge for remaining tour period according to seniority.

Exemption of Students from Tour

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

TA, DA and other expenses

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

Suggested equivalent online courses

B.A 3rd Year, Semester V,

Course III (Practical)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Fifth
Subject: Geography		
Course Code : A110504R	Course Title: **Project Report-1**	

Course outcomes: Students will be able to understand
- In-depth knowledge of research methodology.
- Learn to prepare Project Report

Credits: 3	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
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 Faculty member.	30

Suggested Readings:

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

Suggested Continuous Evaluation Methods:
Seminar, Presentations, VIVA

Suggested equivalent online courses

B.A 3rd Year, Semester VI,

Course I (Theory)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Sixth
Subject: Geography		
Course Code : A110601T	Course Title: **Geography of India**	

Course Learning Outcomes
On completion of this course, learners will be able to:
- Understand the importance of "Ek Bharat Shrestha Bharat"
- Understand the wider aspects of Geography of India

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w	

Unit	Topics	No. of Lectures
I	Space relationship of India with neighbouring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Ek Bharat Shrestha Bharat: A Geographical Prospective.	8
II	Mechanism of Indian monsoons and rainfall patterns, Tropical cyclones, and western disturbances; Floods and droughts; Climatic regions; Natural vegetation; Soil types and their distributions.	8
III	Resources: Land, surface and groundwater, energy, minerals, biotic and marine resources; Forest and wildlife resources and their conservation; Energy crisis.	7
IV	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.	7
V	Cultural Setting: Historical Perspective of Indian Society; Racial, linguistic and ethnic diversities; religious minorities; major tribes, tribal areas, and their problems; cultural regions.	8
VI	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.	8
VII	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.	6
VIII	Settlements: Types, patterns, and morphology of rural settlements; Urban developments; Morphology of Indian cities; Functional classification of Indian cities; Conurbations and metropolitan regions; urban sprawl; Slums and associated problems; town planning; Problems of urbanization and remedies.	8

Suggested Readings:

1. Chauhan, P.R. and Prasad, M. (2003): Bharat Ka Vrihad Bhugol, 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, New Delhi.
8. Rao, B.P. (2007): Bharat kee Bhaugolik Sameeksha, Vasundhara Prakashan, Gorakhpur.
9. Sharma, T.C. and Coutinho, O. (2003): Economic and Commercial Geography of India, Vikas Publishing House Private Ltd. New Delhi.
10. Singh , J. (2003): India: A Comprehensive Systematic Geography. Gyanodaya Prakashan, Gorakhpur

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

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

B.A 3rd Year, Semester VI,

Course II (Theory)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110602T	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 renowned Geographers
- Understand the concept of evolution of Geographical Thought.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
I	Contribution of Indian Geographers in Ancient India.	7
II	Early Origins of Geographical Thinking, Concepts of distributions; relationships, interactions, area differentiation and spatial organization in Geography	7
III	Dualisms in geography; systematic & Regional geography, physical & human geography, Systematic and with regional geography. The myth and reality about dualisms.	8
IV	Contribution of Greek & Roman geographers in ancient world.	7
V	Contribution of Arab geographers in Middle ages, Renaissance period in Europe. Renowned travelers and their geographical discoveries.	8
VI	German school of thought - Kant, Humboldt, Ritter, Richthofen, Ratzel, Hettner French school of thought - Contribution of Blache & Brunhes.	8
VII	Soviet geographers, American school - Contribution of Sample, Hunthington & Carl Sauer. British school - Contribution of Mackinder, Herbertson & L.D. Stamp.	7
VIII	Paradigms in Geography, Thomas Kuhn theory about the growth and development of science. Application of Kuhn Model in Geography.	8

Suggested Readings:

1. Jagdeesh Singh : Bhaugolik Chintan Ka Kram Vikash, Gyanoday Prakashan, Gorakhpur.
2. Dube, B. (1967): Geographical Concepts in Ancient India, National Geographical Society of India,Varanasi
3. Getice, A., Getis, J. and Fellman, J. D. (2007): Introduction to Geography. 10th edition. McGraw Hill, New York.
4. Hartshorne, R. (1959): Perspective on the Nature of Geography, John Murray, London
5. Harvey, D. (1969): Explanations in Geography. Arnold, London.
6. Holt-Jensen, A. (1980): Geography: Its History and Concepts. Harper and Row Publishers, London.
7. Husain, Majid. (2002): Evolution of Geographical Thought, Rawat Publications, Jaipur.

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

B.A 3rd Year, Semester VI,

Course III (Practical)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110603P	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 GIS Technique
- Understand the use of various image processing Software
- Basic idea of Geographical Information System

Credits: 2	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
I	Overview of image processing & GIS Packages (Including open source Software's). – ARC GIS, ERDAS, MAP INFO, ILWIS, GEOMEDIA, IDRISI, GRASS, SAGA, QGIS.	5
II	Creation of Shape File in GIS Software's. Coordinate system and projections in GIS Software's. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure.	5
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.	10
IV	Downloading of Remote sensing Images from various online platforms (like Bhuvan, USGS, ASF, Copernicus etc). Land use Classification (Supervised and Unsupervised) using downloaded images and GIS Packages.	10

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, New York.
7. 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.

B.A 3rd Year, Semester VI,

Course III (Practical)

Program/Class: Certificate/BA/B.Sc	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110604R	Course Title: **Project Report-2**	

Course outcomes: Students will be able to understand
- In-depth knowledge and application of RS and GIS technology in research.
- Learn to prepare Project Report.

Credits: 3	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: As per rules : 40

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

Unit	Topics	No. of Lectures
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 students independently. 2. Student shall choose supervisor according his/her research interest and specialisation of Faculty member.	30

Suggested Readings:

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

Suggested Continuous Evaluation Methods:
Seminar, Presentations, VIVA

Suggested equivalent online courses

B.A 4th Year, Semester VII

Course Code : A110701T: **Core**	Year : **Fourth**	Semester : **Seventh**
Course Title : **EVOLUTION AND DEVELOPMENT OF GEOGRAPHICAL THOUGHT**		

Unit I. The field of Geography: its place in the classification of sciences. Periods of the development of geographic thoughts in Ancient India. Cosmogony and Cosmology in Ancient India .Main aspects of Geography in Ancient India.

Unit II. Contribution of different scholars during ancient, medieval and modern period. Geography in the 20th century: Conceptual and methodological developments and changing paradigms.

Unit III. Dualisms in Geography : Systematic & Regional geography, Physical and Human Geography. The myth and reality about dualisms. Reginoal geography: concept of region, regionalisation and regional method

Unit IV. Laws , Theories and Models, The Quantitative Revolution. Concepts in Geography: Determinism, Possibilism, Neo Determinism, Probabilism, Positivism, Structuralism, Behaviourism, Post-modernism .

Books Recommended:

1. Singh, J., Bhaugolik Chintan Ke Mulaadhaar, Gyanoday Prakashan, Gorakhpur.
2. Anuchin, V., Directions in Geography.
3. Bunge, W., Theoretical Geography.
4. Claval, P., Epistomology and History of Geographical Thought, in progress in Human Geography, Vol.4
5. Dickinson, R.E., The Makers of Modern Geog., London, 1969.
6. Dickinson, R.E., The Making of Modern Geography.
7. Davis, V.K., Conceptual Revolution in Geography.
8. Freeman. T.A., A Hundred Years of Geography: Introduction to Behavioral Geography.
9. Amedas, Douglas, An Introduction to Scientific Reasoning in Geog., John Wiley, 1971.
10. Hartshorne, R., Perspectives on Nature of Geography, Rand MacNally, 1959.
11. Johnstone, R.J., The Future of Geography, Methuen, London, 1988.

B.A 4th Year, Semester VII

Course Code : A110702T : **Core**	Year : **Fourth**	Semester : **Seventh**
Course Title : **Advance Geomorphology**		

Unit I. **Fundamental Concepts in Geomorphology:**

- Geological structures and landforms
- Principles of uniformitarianism
- Cycle of Erosion - concepts of Davis and Penck

Unit II. **Earth Movements:**

- Isostasy-Dectine of Isostasy; Views of Airy and Pratt
- Continental Drift Theory-concept of Wegener
- Plate Tectonics-concept and related views
- Mountain Building Theories-concepts of Kober, Daly and Holmes.

Unit III. **Exogenic Processes:**

- Weathering and soil formation
- Dynamics of fluvial process and resulting landforms.
- Dynamics of glacial process and resulting landforms.
- Dynamics of Aeolian process and resulting landforms.

Unit IV. **Applied Geomorphology:**

- Terrain classification and its application* Oil exploitation
- Engineering projects
- Drainage network analysis-Stream order, Sinousity index and Drainage density

Books Recommended:

1. Singh, Savindra, Geomorphology, Vasundhara Prakashan, Daudpur Gorakhpur.
2. Blooms, A.L., Geomorphology-A Systematic Analysis of late Cennozoic landforms.
3. Cotton, Geomorphology.
4. Dowie, Isostasy.
5. Jolly., Surface History of the Earth.
6. Ollier, C.D., Weathering.
7. Sparks, B.W., Geomorphology.
8. Steers, J.A., Unstable Earth.
9. Strahler, A.H. & Strahler, A. H., Elements of Physical Geography.
10. Thornbury, W.D., Principles of Geomorphology.
11. Von Engeln., Geomorphology.
12. Wooldridge, S.W., & Morgan, R.S., An Outline of Geomorphology.

B.A 4th Year, Semester VII

Course Code : A110703T : **Core**	Year : **Fourth**	Semester : **Seventh**
Course Title : **GEOGRAPHY OF RESOURCES**		

Unit I. Nature, Scope and significance of geography of resources. Definition and concept of natural resources, Classification of resources.

Unit II. Characteristics of natural resouces: Resources conservation and management with reference to land and forest resource.

Unit III. Water resources-Hydrologic Cycle, Fresh water resources, surface and underground water supplies, problems of water supplies. Marine resources, major fishing grounds of the world, fish distribution and exploitation. India's natural resource: water resouce, conservation and management and its utilization.

Unit IV. Energy resources- Conventional energy resources-coal, petroleum, nonconventional-solar and geothermal energy.

Books Recommended:

1. Singh, J., Sansadhan Bhugol, Gyanoday Prakashan, Gorakhpur.
2. Ali, S.A., Resouces for Future Economic Growth, New Delhi, 1979.
3. Dehends, William, W., The Dynamics of Natural Resource Utilization in D. Meadow (Ed.), Massachusetts, 1972.
4. Duncan, G., Resouce Utilization and Conservation, New York, 1975.
5. Earl, D.K., Forest Energy and Economic Development, Oxford, 1975.
6. Ranner, G.T., Conservation of Natural Resources, New York, 1942.
7. Zimmerman, E.W., Introduction of World Resources (edited by H.L. Honker, The Ohio State University, New York, 1964.
8. Zimmermann, E.N., World Resources & Industries, New York.

B.A 4th Year, Semester VII

Course Code : A110704T : **First Elective**	Year : **Fourth**	Semester : **Seventh**
Course Title : **BIO GEOGRAPHY**		

Unit I. Meaning and scope of Biogeography, Biogeography and related sciences, Approaches to the study of Biogeography, relevance and significance of Biogeography, environmental factors affecting distribution of flora and faunas.

Unit II. Soils as an ecological factor, Soil forming factors, Soil components, Soil properties, Soil profile and horizon, Soil erosion and conservation, concept and types of ecosystem.

Unit III. Biomes with special reference to Tropical rain forests, Tropical Monsoon decidous forest, Tropical and Temperate grass lands biomes, zoogeographical regions.

Unit IV. Evolution, Dispersal and distribution of plants, forest consevation in India, wild life conservation in India, Biodiversity, concept types and importance.

Books Recommended:

1. Simmon, I.G., Biogeography: Natural and Cultural, Longman, London 1974.
2. Watts, David, Principles of Biogeography, London.
3. Odum, eugene P., Fundamentals of Ecology, Philadelphia.
4. Newbigin, M.I., Plant and Animal Geography, London.
5. Cloudsley- Thompson, J.L., Terrestrial Environment, London.
6. Allee, W.C., & Schmidt, K.P., Ecological Animal Geography, New York.
7. Jones, R.L., Biogeography: Structure, Process Pattern and Change within a Biosphere.
8. Mathur, M.S., Essentials of Biogeography, New York.
9. Darlington, P., Zoogeography, New York.
10. Huggett, R.J., Fundamentals of Biogeography, Routledge, U.S.A., 1998.
11. Cox, C.B. and More, P.D., Biogeography: An Ecological and Evolutionary Approach, London, 2000.

B.A 4th Year, Semester VII

Course Code : A110705T : **First Elective**	Year : **Fourth**	Semester : **Seventh**
Course Title : **POPULATION GEOGRAPHY**		

Unit I. Nature, Scope, significance, approaches to study Population Geography, recent trends, Sources of population data; The Census, Vital Registration and other Sources, Problems relating to compatability of data, Population distribution and density in the world.

Unit II. Population Dynamics: Growth, fertility and mortality measurement, Theories of Growth: Malthusian theory, Social Capillary and demographic transition theory. Migration: Types, determinant and consequences, pattern of international migration. Theories of Migration: Ravenstein and Lee's laws.

Unit III. Population Composition/ Characteristics: Sex Composition - measures, determinants and distribution. Declining Sex Ratio, Age Composition: various systems of age goupings, determinants and distribution; Ageing of population, Occupational structure, determinants of work force, types of workers.

Unit IV. Population and resources: Over population, Under population, Optimum population, Ackerman's scheme of Population-Resource Regions, population problems with special reference to India: food, housing , unemployment and poverty, population policies, National Population Policy (NPP), 2000.

Books Recommended:

1. Bhende, A.A., & Kanitkar, (2014), Principles of Population Studies, Himalayan Pub. H., Mumbai.
2. Bogue, D.J., Principles of Demography, New York, 1969.
3. Chandna, R.C., Geography of Population: Concepts Determinants and Pattern, Kalyan Pub. Ludhiana, 2014.
4. Clarke, J.I. Population Geography, Oxford, 1981.
5. Coontz, S.H. Population Theories and the Economic Interpretation.
6. Garnier, B.J., Geography of Population, Longman Group Limited, London, 1966.
7. Jones, H.R., A Population Geography, London, 1981.
8. Siddiqui. F.A., Regional Analysis of Population Structure, New Delhi. 1984.
9. Smith, T., Fundamentals of Population Study, New York, 1960.
10. Trewartha, G.T., A Geography of Population: World pattern, New York, 1969.
11. Wood, R. Population Analysis in Geography, Longman, London, 1979.
12. Zelinsky, W.A., Prolong to Population Geography, Prentice Hall, New Jersey, 1966.
13. Tiwari, Ram Kumar, Jansankhya Bhugol, Pravaalika Publication, Allahabad.

B.A 4th Year, Semester VII

Course Code : A110706P : **Second Elective**	Year : **Fourth**	Semester : **Seventh**
Course Title : **ADVANCE QUANTITATIVE TECHNIQUES**		

Correlation analysis: Karl Pearson's Product moment, Spearman's Rank Correlation, Coefficient and their limits; test of significance on correlation co-efficient, scatter diagram.

Simple linear regression and multiple regression anaysis: regression lines and residuals; Methods of constructing regression lines, properties of least square estimates, coefficient of determination.

Test of significance: Chi-square test, student 't' test, variance estimate test.

Test for Distributions in Space; nearest neighbour analysis; spacing of settlement.

Books Recommended:

1. Singh, S.N., Prakritik evam Samajik Vigyanon mein Sankhyiki, Kaushal Publishing House, Prayagraj Road, Ayodhya.
2. Gregory, S., Statistical Method for Geography, Longman, 1975.
3. Berry, B.J.L., & Marble, D.F., Spatial Analysis: A Reader in Statistical Geography, New Jersey, 1968.
4. Cole, J.P., & King, C.A.M., Quantitative Methods in Geography, New York, 1968.
5. King, L.I., Statistical Analysis in Geography, New Jersey.
6. Johnson, R.J., Multivariate Statistical Analysis in Geography, 1978.
7. Elhance, D.N., Elementary staistics.
8. Pal, S.K., Statistical Methods in Geography.
9. Alvi, Zamiruddin., Statistical Geography.

B.A 4th Year, Semester VII

Course Code : A110707P : **Second Elective**	Year : **Fourth**	Semester : **Seventh**
Course Title : **REMOTE SENSING**		

- Stereoscopic Vision Test.
- Format and stereoscopic Orientation of Aerial Photographs.
- Determination of scale and Stereoscopic area.
- Determination of Principal Point and Conjugate Principal Points, Direction of Flight Line and Air Base.
- Calculation of Photographic coverage for a Planning Area.
- Mapping Land Use change Detection.
- Height Determination Methods
- Land use Measurement Method
- Preparation of Landcover and Landuse Map
- Interpretation of Aerial Photographs.
- Population Census with Aerial Photographs.

Books Recommended:

1. American society of Photogrammetry: Mannual of Photographic Interpretation, Banta Pub. Co., Wisconsin, 1960.
2. Avery, T.E., Interpretation of Aerial Photographs, Minnipolis, 1962.
3. Barett, E.C., & Curtis, L.F., Introduce. of Environ. Remote Sensing, 1976.
4. Dury, G.M., Map Interpretation, Issac Pitsman, London, 1952.
5. Cunan, R.J., Principles of remote sensing, London, 1985.
6. Hord, R.M., Remote sensing: Methods and Applications, N.Y., 1986.
7. Lender, D.R., Aerial Photographic, Mc Graw Hill, N.Y., 1960.
8. Lunder, D., Aerial Photography Interpretation: Principles and applications, McGraw Hill, N.Y., 1959.
9. Lilles & Klefer, Remote sensing & Image interpretation.
10. Reeves, R.G.(Ed.) Mannual of Remote sensing (Vol.2) Virginia, 1975.
11. Sabins, F.F., Remote Sensing: Principles & Interpretation. 1982.
12. Smith, H.T.V., Aerial Photographs & their Application, N.Y., 1943.
13. Spurs, S.H., Photogrammetry & Phote Interpretation, N.D., 1960.
14. Stershew, A.I., Aerial Photography.
15. Thomas, E.A., Interpretation of Aerial Photographys, Minnesota.
16. Tomar, M.A., & Maslakar, A.R., Aerial Photographs in Land use & Forest Survey, Dehradun, 1974.
17. Usill, G.W. (Revised by Hearn, G.S.G.) Pract. Surveying, London, 1960.
18. White, L.P., Aerial Photography & Remote Sensing for soil survey.
19. James, B. Camp bell, Introduction to Remote Sensing-2 nd Edi. Taylor & Francis, London.

B.A 4th Year, Semester VIII

Course Code : A110801T : **Core**	Year : **Fourth**	Semester : **Eighth**
Course Title : **ADVANCE CLIMATOLOGY**		

Unit I. Nature and scope of climatology and its relationship with meteroralogy. The atmospere: Structure and composition, insolation, heat-balance of the earth. Distribution of temperature: Temporal, vertical and horizontal, Green House effect.

Unit II. Atmospheric Equilibrium: Stability and instability, potential temperature and evapotranspiration. Distribution of atmospheric pressure and winds: Jetstreams - their origin, types and distribution, monsoon winds.

Unit III. Climatic Phenomena: Air masses and fronts, origin, growth, classification. Frontogenesis, types and weather associated with fronts. Cyclones, and anticyclones, Global warming.

Unit IV. Climatic Classification: Koppen's Thornthwaites- A critical appraisal of each classification, Climates of the World: Tropical, Temperate, Desert, Interpretation and generation of climatic information, soils, agricultural activities.

Books Recommended:

1. Barry & Perry., Synophic Climatology.
2. Blair, T.A., Climatology-General and Regional.
3. Chorley, R.J. & Barry, R.G., Atmospheric Weather and climate.
4. Donn, W.L., Meteorology.
5. Jackson, I.J., Climate, Water and Agriculture in the Tropics, 1977.
6. Kendrew, W.G., Climtes of the Continents.
7. Lal, D.S., Climatology.
8. Mather, J.R., Climatology: Fundamental and Application, 1974.
9. Patterson., Introduction to Meterology.
10. Rama Sastery, A.A., Weather & Weather fore casting.
11. Rummey, G., Climatology and the world's climate.
12. Stringer., Foundation of Climatology.
13. Stringer., Techniques in Climatology.
14. Trewartha. G.T., An Introduction to Climate.

B.A 4th Year, Semester VIII

Course Code : A110802T : **Core**	Year : **Fourth**	Semester : **Eighth**
Course Title : **INDIAN: PHYSICAL GEOGRAPHY**		

Unit I. Physiography: Stratigraphy of India- A Brief Review. Bases of Physiographic Divisions of India; Evolution of Extrapeninsula: Its Geological Structure, Relief and the Evidences Regarding its Present Day Evolution; Peninsula: Structure and Releif; Indo-Gangetic Plain: Evolution, Structure and Relief; Coasts: Western Coast and Eastern Coast.

Unit II. Drainage: Evolution of Extra-peninsular Drainage- A Critical study of Indo-Brahm Theory: The Ganga River System, System and Pattern of Peninsular Drainage. The Godavari River System; differences between the Himalayan and Peninsular Drainage.

Unit III. Climate: Origin and Mechanisms of Indian Monsoon- A Critical Review of Classical and Modern Views Regarding its Origin: Effects of El-Nino on Indian Monsoon. Koppen's and Thornthwaite classification of Climate.

Unit IV. Soils and Forests: Problems of Soil- Soil Erosion and Conservation; Saline and Alkaline Soils- their measures of reclamtion; Problems of Indian Forestry; Forest Development Programs.

Books Recommended:

1. Singh, J., Bharat : Bhaugolik Aadhar evam Aayaam, Gyanoday Prakashan, Gorakhpur.
2. Puri, G. S., Indian forest Ecology, New Delhi.
3. Ray Chaudhary, S.P. Land and soil, New Delhi.
4. The Gazetteer of India Vol.1.
5. Krishnan, M.S., Geology of India and Burma
6. Das, P.K., The Monsoon, New Delhi
7. Wadia, D.N., Geology of India, London.

B.A 4th Year, Semester VIII

Course Code : A110803T : **Core**	Year : **Fourth**	Semester : **Eighth**
Course Title : **ECONOMIC GEOGRAPHY**		

Unit I. Meaning and scope of Economic Geography. Approach to the study of economic geography, recent trends, changing relationship between Economics and Economic Geography, Economic Development, Indicators of Socio-Economic Development, Rostow's Model of Stages of growth and development.

Unit II. Economic Activities: Characteristics an importance of Primary, Secondary and Tertiary economic activities. Classification of Agricultural system- Whittlessey"s classification and Von-Thunen model of Agricultural Location.

Unit III. Manufacturing Activities: Significance and types, Factors of Industrial Location, Iron and Steel Industry, Cotton Textile Industry. Theories of Industrial Location; Weber's and Smith models.

Unit IV. Energy, Resources: Convectional Energy resources-Coal, Petroleum, Nonconventional energy resources-Solar Energy, World Energy Crises, International Trade: Problems and Prospects, World trade Organization (WTO), Central Place Theories of Christallar and Losch.

Books Recommended:

1. Prof. Singh, J., Aarthik Bhugol Ke Mul Tatv, Gyanoday Prakashan, Gorakhpur.
2. Boesch, H., A Geography of world Economy.
3. Brian, J. L., Berry et al., The Geography of Economic Systems.
4. Barlow, M. H. & R. G. Newton., Patterns and Processes in Man's Economic Environment.
5. Chisholm, M., Geography and Economics.
6. Jones, C. F., Economic Geography.
7. Grigg. D. B., Agricultural Systems of the World: An Evolutionary.
8. LI oyd, P. & P. Dickens., Location in Space; A Theoretical Approach to Eco. Geo.
9. Strahler, A. N. & A. Straher., Geography and Man's Environment.
10. Thoman, R. S. & E. C. Conking., The Geography of Economic Activity.
11. Thoman, R., "Econ. Geog." in International Encyclopaedia of S. Science.
12. Miller, E. & E. Willard., A Geography of Manufacturing.
13. Mc. Carty. H. & J. B. Lindberg., A preface of Economic Geography.
14. Von Royan, W., Fundamentals of Economic Geography.
15. William Von Royen, et. al., Fundamentals of Economic Geography.
16. Zimmerman, E. W., World resources and Industries.
17. Hartshon, T. A., Economic Geography.
18. Majid Hussian, Economic Geography.

B.A 4th Year, Semester VIII

Course Code : A110804T : **Third Elective**	Year : **Fourth**	Semester : **Eighth**
Course Title : **GENERAL GEOGRAPHY**		

Unit I. **Basic Concepts:** Definition of Geography; General Geography, Regional Geography, Systematic Geography; Solar System; Motions of Earth-Rotation and Revelution; Concept of Latitude and Longitude; International Date Line; Calculation of Time.

Unit II. **Components of Earth System:** Atmosphere, Lithosphere, Hydrosphere, Biosphere, Composition and Structure of Atmosphere; Interior of the Earth; Weather and Climate; Wind Circulation; Hydrological Cycle; Ecosystem, Food Chain and Food Web.

Unit III. **Regional Geography:** Concept of Region; Components of Natural Regions; Natural Regions of the world; Man and Environment Relationship in Equatorial Region, Temperate Region and Polar Region.

Unit IV. **Environment:** Concept of Environment- Physical and Cultural Environment; Hazards and Disasters, Social and Economic Disaster; Global Warming and Climate Change.

Books Recommended:

1. Hussian Majid, Fundamentals of Physical Geography, Rawat Pub, New Delhi.
2. Singh Savindra- Environmental Geography, Prayag Pustak Bhawan, Allahabad.
3. Blij H. E. Dc Geography, Regions and Concept, John Wiley and Sons.
4. Lal D. S. Climatology, Sharda Pustak Bhawan, Allahabad.
5. Gohchenglenong, Certificate Physical and Human Geography, latest addition.
6. Singh Savindra & Singh, J, Disaster Management- P. Pub., Allahabad.
7. Campbell J. B., Introduction to Remove Sensing, G., Ford press.

B.A 4th Year, Semester VIII

Course Code : A110805T : **Third Elective**	Year : **Fourth**	Semester : **Eighth**
Course Title : **DISASTER MANAGEMENT**		

Unit I. Disaster-meaning and concept; hazards, risk and vulnerability. Disaster: its management- plants, managing environment. Disaster its effect on different social groups; poverty and vulnerability. Disaster management: prevention, preparedness and mitigation.

Unit II. Disaster- classification of disaster; Natural disaster - earthquake, floods, drought and global warming; causes, consequences and mitigation. Natural disaster - Examples from India.

Unit III. Disaster- man made disaster, their types - technological and industrial disasters. Social disasters: causes, consequences and mitigation. Man made disasters - Examples from India.

Unit IV. Disaster management - relief and response; reconstructin and rehabilitation. Disaster - Strategies for survival, types of strategies. Importance of information in disaster management, significance of remote sensing and GIS. Planning in the context of disaster management.

Books Recommended:

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi. Building Materials & Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disaster, Sage Pub. New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disaster, Delhi.
4. Singh, R. B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
5. Singh, R. B (ed), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publication, New Delhi.
6. Sinha, A. (2001). Disaster Management: Lessons Drawn And Strategies for Future, New United Press, New Delhi.
7. Stoltman, J. P. et al. (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications.
8. Singh Jagbir (2007) "Disaster Management Future Challenges and Oppurtunities", 2007. Publisher- I. K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India.

B.A 4th Year, Semester VIII

Course Code : A110806P : **Fourth Elective**	Year : **Fourth**	Semester : **Eighth**
Course Title : **FIELD STUDY REPORT**		

Field study Report will be prepared by the students under guidence of the teachers. The teacher will guide proper precedure for the Field Study Report on the basis of the following points.

1. Selection of the problem.
2. Aims and objectives.
3. Hypotheses
4. Selection of the study area.
5. Methodology:
    1. Preparation or Questionnaire
    2. Personal Interviews
    3. Preportation of survey chart
    4. Tabulation and calculation.
6. Data interpretation and preparation of Field Study Report.

The students will select any village or a sector of urban centres such as slum, popular settlements etc. for Field Study Report. The Report should be prepared in about 50 pages.

B.A 4th Year, Semester VIII

Course Code : A110807P : **Fourth Elective**	Year : **Fourth**	Semester : **Eighth**
Course Title : **GEOGRAPHIC INFORMATION SYSTEM (GIS)**		

Fundamentals of GIS

Introduction of GIS: Definition, Information technology in geography, history and development in GIS, components of GIS, advantages of GIS over traditional techniques. Application of GIS in geographical studies. Geographic data - human cognition of the spatial world, maps and other representation of the world. Types of information in a digital map: scale projection and georeferencing. Spatial Data - Geographic data and information, spatial - non-spatial data. GIS data formats, raster and vector data, their merits and demerits.

Lab Work:

Lab I: Introduction to Arc View's Modular Structure

Task Set I : Basic software and operating system concept,
Task Set 2: Introduction to Arc View

Lab II: Projection and Cartography

Task Set I: Basic concepts of projection,
Task Set 2: Concept of the theme in Arc View,
Task set 3: Cartographic design concepts

Lab III: Vectore Data Model:

Task Set I: The vector data model: points.
Task Set 2: The Vector data model: Lines and Polygons.
Task Set 3: Joining tabular data to spatial data.
Task Set 4: Creating Visualization

Lab IV: Digitizing and Data Automation

Task Set 1: Digitizing in Arc View
Task Set 2: Creating a map.
Task Set 3: Creating a table and entering data

Lab V: Geo-coding: Matching addresses with locations

Tasl Set 1: Gep-coding

Lab VI: Spatial Analysis

Task Set 1: Classification
Task Set 2: Distance measure and Buffers

Books Recommended:

1. Cromley, R.G., Digital Cartography, Prentice Hall, N. Jersey, 1992
2. Fraser Taylor, D.R., "Geographical Information System", Pergmon Press, U.K., 1991.
3. Maquire, D.J., Good Child, M.F., and Rhind, D.W., "Geographical Information Systems: Principles and Application", Taylor and Francis Publication Washington, 1991.
4. Monmnier, M.S., Computer Assisted Cartography: Principles and Prospects, P. Hall, New Jersey, 1982.
5. Peuquet, D.J., and Markle, D.F., "Introductory Reading in Geographical Information System", Taylor and Francis Publication, Washington, 1990.
6. Shahab Fazal, GIS Basics, New age International Publisher.