KISAN POST GRADUATE COLLEGE, BAHRAICH (UP) 271801
(Autonomous)

Proposed Structure of syllabus for the
PROGRAM: B. A.
SUBJECT: Geography

Syllabus developed/proposed by

S. No.	Name	Designation	Department	College/University
1	Dr. Pankaj Singh	Assistant professor	Geography	Kisan Post Graduate College, Bahraich
2	Dr. D.K. Gupta (Retd.)	University Nominee	Geography	L.B.S. P.G. College, Gonda
3	Prof. S. N. Singh	Subject Expert	Geography	M.L.K. P.G. College, Balrampur
4	Dr. Rajdev Singh (Retd.)	Subject Expert	Geography	Bajrang P.G. College, Kunda, Pratapgarh
5	Ms. Krishna Kumar	Member	Geography	Kisan P.G. College, Bahraich
6	Dr. Shivendra Pratap Singh	Member	Geography	Kisan P.G. College, Bahraich
7	Dr. P.L. Tripathi	Assistant Professor	Geography	Kisan Post Graduate College, Bahraich
8	Dr. Dharmendra Kumar Tripathi	Member	Geography	Kisan P.G. College, Bahraich
9	Prof. P.K. Singh	Invited Member	Geography	National P.G. College, Lucknow

Semester wise Title of the Papers in UG					
Year	**Semester**	**Course Code**	**Paper Title**	**Theory/Practical**	**Credits**
CERTIFICATE IN Geography					
FIRST	**SEM-I**	A110101T	Physical Geography	Theory	4
		A110102P	Elements of Map and Surveying	Practical	2
	SEM-II	A110201T	Human Geography	Theory	4
		A110202P	Thematic Mapping and Surveying	Practical	2
DIPLOMA IN Geography					
SECOND	**SEM-III**	A110301T	Environment, Disaster Management and Climate Change	Theory	4
		A110302P	Statistical Techniques and Surveying	Practical	2
	SEM-IV	A110401T	Economic Geography	Theory	4
		A110402P	Weather Maps, Geological Maps and Surveying	Practical	2
DEGREE IN Geography					
THIRD	**SEM-V**	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**
	SEM-VI	A110601T	Geography of India	Theory	
		A110602T	Evolution of Geographical Thoughts	Theory	4
		A110603P	Remote Sensing and GIS	Practical	2
		A110604R	Project Report-2	Practical	**3**

Program Outcomes (POs)

PO1: This course provides the basic ideas and concepts of Physical & Human aspect of Geography.

PO2: It will help in developing analytical and critical thinking based on the themes and issues of geography

PO3: It will help in exhaustive understanding of the basic concepts of Geography and an awareness of the emerging areas of the field.

PO4: Acquisition of in-depth understanding of the applied aspects of Geography as well as interdisciplinary subjects in everyday life.

PO5: The application of knowledge gained in the field of Geography in the classroom to the practical solving of societal problems.

Program Specific Outcomes (PSOs)		
First Year	Certificate in Geography	This course intends to orient the learner with the Approaches to the broader discipline of Geography.
Second Year	Diploma in 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.
Third Year	Degree in Geography	Acquisition of in-depth understanding of the applied aspects of Geography as well as Inter disciplinary subjects in everyday life.

PROGRAMME : CERTIFICATE/ BA CLASS:	YEAR: FIRST	SEMESTER: FIRST
SUBJECT: GEOGRAPHY		
COURSE CODE: A110101T	COURSE TITLE: PHYSICAL GEOGRAPHY	

Course outcomes: Students will be able to understand

1. The Earth geomorphic transition from beginning to present day
2. Plate tectonics and related movements
3. Landforms carved by various agents of erosion
4. Oceans system and biogeography of the world

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

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

Unit	Topics	No. of Lectures
	Part I	
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, Isostacy, Earthquakes and Volcanoes, Geosynclines, Continental Drift theory, Concept of Plate Tectonics.	8
III	Rocks, Folding, Faulting, Weathering, Erosion, Cycle of Erosion by Davis and Penck, Drainage Pattern	8
IV	Fluvial, Karst, Aeolian, Glacial, and Coastal Landforms	8
	Part II	
V	Composition and Structure of atmosphere: Insolation, Atmospheric pressure and winds.	8
VI	Airmasses and Fronts, cyclones and anti-cyclones, Humidity, precipitation and rainfall types	7
VII	Ocean Bottoms, composition of marine water temperature and salinity. Circulation of Ocean water-Waves, Currents and Tides, Ocean deposits, Corals and atolls	7
VIII	Biosphere, Biotic succession, Biome, Zoo-geographical regions of the world	6

Suggested Readings:

1. Singh, Savindra (2018), Physical Geography (Eng./Hindi) Allahabad, India: Prayag Pustak
2. Huggett, R.J. (2007): Fundamentals of Geomorphology. New York, U.S.A.: Routledge.
3. Khullar, D.R. (2012). Physical Geography. New Delhi. India: Kalyani Publishers.
4. Strahler, A. H. and Strahler, A N. (2001): Modern Physical Geography (4/E). New York, U.S.A.: John Wiley and Sons, Inc.
5. Thornbury, W. D. (2004): Principal of Geomorphology. New York, U.S.A.: Wiley.
6. Bloom, A. L. (2003). Geomorphology: A Systematic Analysis of Late Cenozoic Landforms, New Delhi, India: Prentice-Hall of India

Suggestive Digital Platforms/ Web Links: https://onlinecourses.swayam2.ac.in/cec21_hs03/preview

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

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	10
2	Mid Semester test	15

Course prerequisites:

Suggested equivalent online courses:

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

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

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME : B A	YEAR: FIRST	SEMESTER: FIRST
SUBJECT: GEOGRAPHY		
COURSE CODE: A110102P	COURSE TITLE: ELEMENTS OF MAP AND SURVEYING	

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

1. Understand the basic idea of Map, Scale and Topographic sheets

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

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

Unit	Topics	No. of Lectures
	Part I	
I	Cartography: Nature and Scope. Scales–Concept and application; Graphical Construction of Plain, Comparative, Diagonal Scales and Vernier scale.	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. Slope Analysis – Wentworth's method.	8
IV	Basics of Surveying: Surveying: meaning, classification, merits and demerits. Plane Table Surveying	8

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): Prayogik Bhugol., 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.

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME : B A	YEAR: FIRST	SEMESTER: SECOND
SUBJECT: GEOGRAPHY		
COURSE CODE: A110201T	COURSE TITLE: HUMAN GEOGRAPHY	

Course outcomes:

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

1. To understand the Concept, Nature, Meaning and Scope of Human Geography
2. To understand the natural and Cultural Changes in and around the Human Environment and their interrelationship

Credits: 4	Core
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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, Principal of change, Principal of Terrestrial of unity, Arial Differentiation.	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
	Part II	
V	Primitive Economics-Food gathering, Hunting, Pastoral herding, Fishing, Lumbering and Primitive agriculture.	8
VI	Cultural Regions, Cultural Diffusion, Race, Religion and Language	8
VII	World Tribes: Eskimos, Kirghiz, Bushman, Masai, Semang, Pygmies	8
VIII	Indian Tribes: Bhotias, Gaddis, Tharus, Bhil, Gond, Santhal, Nagas	8

Suggested Readings:

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. B N Singh (2019) Manav Bhugol ka Swaroop, Pravalika Publication, Allahabad
3. de Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
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. B N Singh (2021) Manav evam Arthik Bhugol, Pravalika Publication, Allahabad
7. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
8. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5th ed.
9. Singh, K. N. and Singh, J. (2001): Manav Bhugol. Gyanodaya Prakashan, Gorakhpur. 2nd edition.
10. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
11. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd., London
12. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography. Prentice-Hall, Englewood Cliffs, New Jersey.
13. B N Singh (2020) Samajik aur Sanskritik Bhugol, Pravalika Publication, Allahabad
14. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
15. Ali, S. Muzafer (1966). Geography of the Puranas. New Delhi, People's Pub. House

Suggestive Digital Platforms/ Web Links:

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	10
2	Mid Semester test	15

Course prerequisites: 12th Standard Pass/Open to all

Suggested equivalent online courses:

Courses on Swayam / MOOCs

https://onlinecourses.swayam2.ac.in/nou20_hs18/preview

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME : B.A	YEAR: FIRST	SEMESTER: SECOND
SUBJECT: GEOGRAPHY		
COURSE CODE: A110202P	COURSE TITLE: THEMATIC MAPPING AND SURVEYING	

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

1. Understand the basic idea of Map, Scale and Topographic sheets

Credits: 2	Core
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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	Instrumental Survey: Prismatic Compass	8

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. Sharma, J. P. (2001): Prayogik Bhugol., 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, New Delhi,.
5. Singh, L.R. (2006): Fundamentals of Practical Geography, ShardaPustakBhawan, Allahabad.
6. Sharma, JP. (2008): PrayogatmakBhugol Ki Rooprekha, Rastogi Publications- Meerut.

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME: B A	YEAR: SECOND	SEMESTER: THIRD
SUBJECT: GEOGRAPHY		
COURSE CODE: A110301T	COURSE TITLE: Environment, Disaster Management and Climate Change	

Course outcomes: The course aim is to give basic understanding of concept Environment, Climate Change and Disaster Management.

- Understanding of the concept of appraisal and conservation of Environment and Natural Resources.
- It will help in developing understanding about various Impacts of Climate Change.
- This course shall introduce the basic concepts related to disaster Management.
- This paper shall help in understanding Global effort in field of disaster management.

Credits: 4	Core
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
I	Concepts & components of Environment, Ecology and ecosystem. Indian traditional Knowledge in Environment and disaster Management	8
II	Science of Climate Change Understanding Climate Change, Impact of Climate Change in Agriculture	8
III	Green House Gases, Global Waring Global Climatic, Assessment – IPCC, Impacts of Climate change, National Action Plan on Climate Change	8
IV	Bio-diversity and its conservation, Deforestation and desertification, sustainable Development, Earth Suit 1992, Kyoto protocol, Sustainable development Goal	8
	Part II	
V	Environmental Degradation, Environmental Pollution, Water Pollution, Air Pollution, E–waste and Soil waste management	8
VI	Disasters, Hazards, Risk, Vulnerability, Type of Disasters, Flood, Drought, Cyclone, Earthquake, Landslide	7
VII	Component of Disaster reduction and management, Pre disaster stage, Post disaster stage, Disaster mitigation, Disaster Management, Disaster Management Cycle	7
VIII	Impact of Industrialization on Environment, Environmental Education Ganga Action Plan, Tiger project, Tehri dam & Narmada Valley project	6

Suggested Readings:

1. Casper J.K. (2010). Changing Ecosystems: Effects of Global Warming. New York, USA: Infobase Pub.
2. Hudson, T. (2011). Living with Earth: An Introduction to Environmental Geology. Delhi, India: PHI Learning Private Limited.
3. Miller, G.T. (2007). Living in the Environment: Principal, Connections, and Solutions. Belmont, Australia: Brooks/ Cole Cengage Learning.
4. Singh, R.B. (1993) Environmental Geography. Delhi, India: Heritage Publishers.
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 Home Affairs.
7. Singh, Savendra (2019) Pryavaran Bhugol, Pravalika Publication, Allahabad
8. Kapur, A. (2010). Vulnerable India: A Geographical Study of Disasters. Delhi, India: Sage Publication.
9. Singh, Savendra (2019) Apada Prabandhan, Pravalika Publication, Allahabad.
10. Ramkumar, M. (2009). Geological Hazards: Causes, Consequences and Methods of Containment. New Delhi, India: New India Publishing Agency.
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; Social Vulnerability.
13. Impact of Climate Change: Agriculture and Water; Flora and Fauna; Human Health
14. Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia.
15. The Climate Change Policy Framework: Global Initiatives UNFCCC and COPs; National and Local Action Plan on Climate Change.
16. Government of India. (2008). Vulnerability Atlas of India. New Delhi, India: Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India
17. Modh, S. (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Delhi, India: Macmillan.
18. Bansal SC,(2020) Jalvayu vigyan evam Samudra Vigyan, Meenakshi Publication, Meerut.
19. Bansal SC,(2019) Prayavarnekadhyan, Meenakshi Publication, Meerut.

Suggestive Digital Platforms/ Web Links:

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignments	10
2	Mid semester test	15

Course prerequisites: 12th Standard Pass/Open to all

Suggested equivalent online courses:

Further Suggestions:

Any remarks/ suggestions:

BA 2ND YEAR, SEM. III		
PROGRAMME: B A	YEAR: SECOND	SEMESTER: THIRD
SUBJECT: GEOGRAPHY		
COURSE CODE: A110302P	COURSE TITLE: STATISTICAL TECHNIQUES AND SURVEYING	

Course outcomes: Students will be able to understand

1. To differentiate between qualitative and quantitative information.
2. To understand the nature of various data.
3. To understand sampling methods for data collection.
4. To present data through graphical and diagrammatic formats.
5. To use the concept of probability mainly the normal distribution.

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

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

Unit	Topics	No. of Lectures
	Part I	
I	**Use of Data in Geography:** 1. Significance of Statistical Methods in Geography; 2. Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio	8
II	**Tabulation and Descriptive Statistics:** 1. Frequency Distribution Table 2. Cross Tabulation 3. Graphical Presentation of Data (Bar diagram, Histograms, Frequency Curve and Cumulative Frequency Curves) 4. Measurement of Central Tendencies (Mean, Median and Mode) 5. Measurement of Partitions (Deciles, Quartiles and Percentiles) 6. Dispersion (Standard Deviation, Variance and Coefficient of Variation	8
III	**Sampling:** 1. Probability sampling Non-probability sampling. Correlation: 2. Rank Correlation and Product Moment Correlation	7
IV	**Instrumental Survey:** 1. 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. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York
4. Sharma, JP (2001) PrayogikBhugol, Rastogi Publication, Meerut
5. Hammond P. and McCullagh P. S., 1978: Quantitative Techniques in Geography: An Introduction, Oxford University Press.
6. Sharma, PM, (2009) Bhugol Me sankhkiyaVidhyan, Rajasthan GranthAccademy, Jaipur
7. Bansal SC,(2020) ShodhvidhitantravasankhikiyaVishyan, RK Books Publication, New Delhi.
8. King L. S., 1969: Statistical Analysis in Geography, Prentice-Hall.
9. Mahmood A., 1977: Statistical Methods in Geographical Studies, Concept.
10. Pal S. K., 1998: Statistics for Geoscientists, Tata McGraw Hill, New Delhi.
11. Sarkar, A. (2013) Quantitative geography: techniques and presentations. Orient Black Swan Private Ltd., New Delhi
12. Silk J., 1979: Statistical Concepts in Geography, Allen and Unwin, London.
13. Spiegel M. R.: Statistics, Schaum's Outline Series.
14. Yeats M., 1974: An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.

Suggestive Digital Platforms/ Web Links:

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

PROGRAMME: B A	YEAR: SECOND	SEMESTER: FOUR
SUBJECT: GEOGRAPHY		
COURSE CODE: A110401T	COURSE TITLE: ECONOMIC GEOGRAPHY	

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

1. Define Meaning, concepts and approaches of Economic Geography
2. Understand the nature of Economic activities, Resource Distribution
3. Understand the Effect of globalization on developing countries.

Credits: 4	Core
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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
	Part II	
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. B N Singh (2021) ManavevamArthikBhugol, 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, 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. 16
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): AarthikBhugolKeMoolTattava, ShardaPustakBhawan, 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, and 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,

Suggestive Digital Platforms/ Web Links:https://onlinecourses.swayam2.ac.in/cec21_hs03/preview
https://onlinecourses.swayam2.ac.in/nos20_sc25/preview

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	10
2	Mid semester exam	15

PROGRAMME : B A	YEAR: SECOND	SEMESTER: FOUR
SUBJECT: GEOGRAPHY		
COURSE CODE: A110402P	COURSE TITLE: WEATHER MAPS, GEOLOGICAL MAPS AND SURVEYING	

Course outcomes:

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

1. Identify the various Survey Operations and Survey Instruments
2. To understand the idea of Basic and applied Instrumental surveying

Credits: 2	Core
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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. 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, First Publication.
6. Punmia, B.C.(1994): Surveying, Vol I, Laxmi Publications Private Ltd, New Delhi.
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 New Delhi.
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, New York.

PROGRAMME : B A	YEAR: THIRD	SEMESTER: FIFTH
SUBJECT: GEOGRAPHY		
COURSE CODE: A110501T	COURSE TITLE: REGIONAL GEOGRAPHY	

Course outcomes:

Students will be able to understand

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

Credits: 4	Core
Max. Marks: 25+75	**Min. Passing Marks: 40**

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

Unit	Topics	No. of Lectures
	Part I	
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 Per roux; Myrdal, Hirschman, Rostov and Friedman.	**8**
	Part II	
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.	**8**

Suggested Readings:

1. Agyeman, Julian, Robert, D. Bullard and Bob, Evans. (Eds.) (2003). Just Sustainability: Development in an Unequal World. London: Earthscan. (Introduction and conclusion.).
2. Anand, Subhash.,(2011). Eco development: Glocal Perspectives. New Delhi, India: Research India Press. 20
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 Guil ford 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, Prakash Rao , 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. Friedman, J. and Alonso W. (1975). Regional Policy - Readings in Theory and

Applications. Massachusetts, USA: MIT Press.

Suggestive Digital Platforms/ Web Links:

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

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

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	**10**
2	Mid Semester test	**15**

Course prerequisites:

Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/aic19_ge05/preview

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME : B A	YEAR: THIRD	SEMESTER: FIFTH
SUBJECT: GEOGRAPHY		
COURSE CODE: :A110502T	COURSE TITLE: BASICS OF REMOTE SENSING AND GIS	

Course 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
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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
	Part II	
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 Samvad enevam Bhogolic Suchna Pranali ke siddhant, Sharda Pustak Bhavan, Allahabad.
2. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation.4th 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

Suggestive Digital Platforms/ Web Links:

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	10
2	Mid semester test	15

Course prerequisites:

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

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

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME : B A	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
Max. Marks: 100	Min. Passing Marks: 40

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

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 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 onenon 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.

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

12. 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
13. 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
14. 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.

PROGRAMME : B A	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
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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 specialization of Faculty member.	**30**

PROGRAMME : B A	YEAR: THIRD	SEMESTER: SIX
SUBJECT: GEOGRAPHY		
COURSE CODE: A110601T	COURSE TITLE: GEOGRAPHY OF INDIA	

Course 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
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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
	Part II	
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.	8
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 KaVrihadBhugol, Vasundhara Prakashan, Gorakhpur.
2. Farmer, B.H. (1983): An Introduction to South Asia. Methuen, London
3. Gautam, A. (2006): Advanced Geography of India, ShardaPustakBhawan, 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 KaBhugol, 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 keeBhaugolikSameeksha, VasundharaPrakashan, 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
11. Singh, J. (2001): Bharat: BhougolikAadharAvamAyam, 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, 7th edition.
14. Sukhwal, B.L. (1987): India: Economic Resource Base and Contemporary Political Patterns. Sterling Publication, New Delhi
15. Tiwari, R.C. (2007): Geography of India, PrayagPustakBhawan, Allahabad.
16. Wadia, D. N. (1959): Geology of India. Mac-Millan and Company, London and student edition, Madras.
17. Khullar, D.R. (2007): India: A Comprehensive Geography, Kalyani Publishers, New Delhi.

Suggestive Digital Platforms/ Web Links:

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	10
2	Mid semester test	15

Course prerequisites:

Suggested equivalent online courses: https://onlinecourses.swayam2.ac.in/nou20_ag10/preview

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME : B A	YEAR: THIRD	SEMESTER: SIX
SUBJECT: GEOGRAPHY		
COURSE CODE: A110602T	COURSE TITLE: EVOLUTION OF GEOGRAPHICAL THOUGHT	

Course 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
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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
Part II		
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. 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, 31 first edition.
4. Dikshit, R. D. (2003): Geographical Thought. A Critical History of Ideas. Prentice-Hall Of India,New Delhi. (in English and Hindi).
5. Dube, B. (1967): Geographical Concepts in Ancient India, National Geographical Society of India,Varanasi
6. Getice, A., Getis, J. and Fellman, J. D. (2007): Introduction to Geography. 10th edition. McGraw Hill, New York.
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. 5th edition.
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.

Suggestive Digital Platforms/ Web Links:

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

Suggested Continuous Evaluation Methods (Max. Marks: 25)

S.No.	Assessment Type	Max. Marks
1	Assignment	10
2	Mid semester test	15

Course prerequisites:

Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/cec21_lg06/preview

Further Suggestions:

Any remarks/ suggestions:

PROGRAMME :B A	YEAR: THIRD	SEMESTER: SIX
SUBJECT: GEOGRAPHY		
COURSE CODE: A110603P	COURSE TITLE: REMOTE SENSING AND GIS	

Course 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
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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

PROGRAMME : B A	YEAR: THIRD	SEMESTER: SIX
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
Max. Marks: 25+75	Min. Passing Marks: 40

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

Unit	Topics	No. of Lectures
	Part I	
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