Choice Based Credit SystemB.A./B.Sc. (Honours)Geography Syllabus Annual Pattern (Revised-2018-19 onwards) Amended 2019-20

Year	CORE COURSE (14)	Skill Enhancement Course(SEC) (2)	Elective: Discipline Specific DSE(4)	Elective: Generic (GE) (4) (Optional)
1st	1. Geomorphology GEOGH101CC 2. Cartographic Techniques (Practical) GEOGH102CC-P **3.** Human Geography GEOGH103CC **4.** Thematic Cartography GEOGH104CC-P			5. Disaster Management GEOGH105EG OR Geography of Tourism GEOGH106EG 6. Spatial Information Technology GEOGH107EG OR Regional Development GEOGH108EG
2nd	1. Climatology GEOGH201CC 2. Statistical Methods in Geography(Practical) GEOGH202CC-P 3. Geography of India GEOGH203CC 4. Economic Geography GEOGH204CC 5. Environmental Geography GEOGH205CC	7. Remote Sensing (Practical) GEOGH207SEC-P Or Advanced Spatial Statistical Techniques GEOGH208SEC-P 8. Geographical Information System(Practical) GEOGH209SEC-P Or Research Methods (Practical) GEOGH210SEC-P		9. Climate Change: Vulnerability and Adaptation GEOGH211EG OR Rural Development GEOGH212EG 10.Industrial Geography GEOGH213EG OR Sustainable Development GEOGH214EG

	6. Field Work and Research Methodology (Practical) GEOGH206CC-P			
3rd	1. Regional Planning and Development GEOGH301CC 2. Remote Sensing and GIS (Practical) GEOGH302CC-P 3. Evolution of Geographical Thought GEOGH303CC 4. Disaster Management Based Project Work (Practical) GEOGH304CC-P		5. Population Geography **GEOGH305EDS1** OR Resource Geography **GEOGH306EDS1** 6. Urban Geography **GEOGH307EDS2** OR Agricultural Geography **GEOGH308EDS2** 7. Geography of Health and Well Being **GEOGH309EDS3** OR Political Geography **GEOGH310EDS3** 8. Hydrology and Oceanography **GEOGH311EDS4** OR Social Geography **GEOGH312EDS4**	

B.A./B.Sc.(Honours)Geography

Note: Practical paper will not have tutorials.

Core Courses

First Year

1. Geomorphology
2. Cartographic Techniques (Practical)
3. Human Geography
4. Thematic Cartography (Practical)

Second Year

1. Climatology
2. Statistical Methods in Geography (Practical)
3. Geography of India
4. Economic Geography
5. Environmental Geography
6. Field Work and Research Methodology (Practical)

Third Year

1. Regional Planning and Development
2. Remote Sensing and GIS (Practical)
3. Evolution of Geographical Thought
4. Disaster Management based Project Work (Practical)

Skill Enhancement Course (any 2)

Second Year

1. Remote Sensing (Practical)
   Or
   Advanced Spatial Statistical Techniques
2. Geographical Information System (Practical)
   OR
   Research Methods (Practical)

Elective Generic Papers (any four)

FIRST YEAR

1. Disaster Management
   Or
   Geography of Tourism
2. Spatial Information Technology
   Or
   Regional Development

SECOND YEAR

3. Climate Change: Vulnerability and Adaptation
   Or
   Rural Development
4. Industrial Geography
   Or
   Sustainable Development

Elective: Discipline Specific DSE Papers (Any Four)

THIRD YEAR

1. Population Geography
   Or
   Resource Geography
2. Urban Geography
   Or
   Agricultural Geography

3. Geography of Health and Wellbeing
   Or
   Political Geography

4. Hydrology and Oceanography
   Or
   Social Geography

B.A./B.Sc.(Honours) Geography

CORE COURSES

1. GEOMORPHOLOGY- GEOGH101CC

Course Code	**GEOGH101CC**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Core**		
Lectures to be Delivered	**90**		

Continuous Comprehensive Assessment (CCA) Pattern: Maximum Marks Allotted: 30

Mid Term Test* (Marks)	Class Test/ Tutorials/Assignments (Marks)	Quiz/Seminars (Marks)	Attendance (Marks)	Total Marks
15	5	5	5	
Total 15	**5**	**5**	**5**	**30**

***** The pattern of examination for conducting the Mid Term Test will be same as prescribed for annual examination.

Annual Examination System:

Maximum Marks Allotted	Minimum Pass Marks	Time Allotted
70	**28**	**3.00 Hrs**

Paper Setting Scheme (Theory Paper)

Section	No of Questions	Syllabus Coverage	Nature of Questions and Answers	Questions to be Attempted	Maximum Marks
A	10	Complete	Objective Type	10(1 mark each)	10
	4	Complete	Short answer type (25-50 words)	4 (3 marks each)	12
B	2	Unit I	Choice based Long answer type	1(12 marks each)	12
C	2	Unit II	Choice based Long answer type	1(12 marks each)	12
D	2	Unit III	Choice based Long answer type	1(12 marks each)	12
E	2	Unit IV	Choice based Long answer type	1(12 marks each)	12
				TOTAL	**70**

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Geomorphology: Definition, Nature and Scope. Interior Structure of the Earth, Theory of Isostasy: Aiary and Pretts's Views	20	7	0
II.	**Earth Movements** Continental Drift, Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes.	15	6	0
III.	**Geomorphic Processes:** Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck).	15	6	0
IV.	**Evolution of Landforms (Erosional and Depositional):** Fluvial, Karst, Aeolian, Glacial,	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Reading List

1. BloomA.L.,2003:*Geomorphology:ASystematicAnalysisofLateCenozoicLandforms*,Prentice-Hallof India, New Delhi.
2. Bridges E.M., 1990:*World Geomorphology*, Cambridge University Press, Cambridge.
3. Christopherson, Robert W., (2011), Geosystems: *An Introduction to Physical Geography*, 8 Ed., Macmillan Publishing Company
4. Kale V. S. and Gupta A., 2001:*Introduction to Geomorphology*, Orient Longman, Hyderabad.
5. KnightonA.D.,1984:*Fluvial Forms and Processes*, Edward Arnold Publishers ,London.
6. Richards K. S., 1982: *Rivers: Form and Processesin Alluvial Channels*, Methuen, London.
7. Selby, M.J., (2005), *Earth's Changing Surface*, Indian Edition, OUP
8. Skinner,BrianJ.andStephenC.Porter(2000),*TheDynamicEarth:AnIntroductiontophysicalGeology*, 4th Edition, John Wiley and Sons
9. Thornbury W. D., 1968: *Principles of Geomorphology*, Wiley.
10. Gautam,A (2010): *Bhautik Bhugol*, Rastogi Publications, Meerut
11. Tikkaa,RN (1989): *Bhautik Bhugol ka Swaroop*, Kedarnath Ram Nath, Meerut
12. Singh, S (2009):*Bhautik Bhugol ka Swaroop*, Prayag Pustak, Allahabad

2. CARTOGRAPHIC TECHNIQUES: PRACTICAL GEOGH102CC-P

Course Code	**GEOGH102CC-P**		
Credits-6	**L**	**T**	**P**
	25	**0**	**130(65)***
Course Type	**Core**		
Lectures to be Delivered	**90**		

Continuous Comprehensive Assessment (CCA) Pattern: Maximum Marks Allotted: 30

Mid Term Test* (Marks)	Class Test/ Tutorials/Assignments (Marks)	Quiz/Seminars (Marks)	Attendance (Marks)	Total Marks
15	5	5	5	**30**
Total 15	**5**	**5**	**5**	

***** The pattern of examination for conducting the Mid Term Test will be same as prescribed for the annual examination (practical paper).

Marks Allocation Scheme Annual Practical (AP) Examination System:

Particulars	Maximum Marks	Minimum Pass Marks	Time Allotted
Written Lab Work	10	**08**	**3.00 Hrs**
Practical Record*	5		
Viva-Voce	5		
Total	**20**		

***Note:** Use of non-programmable calculators and map stencils are allowed in the examination hal**l.** The practical record may be evaluated on the parameters of Punctuality, Neatness, Entirety and indexing

Paper Setting Scheme for Written Lab Work#

Section	No of Questions	Syllabus Coverage	Nature of Questions and Answers	Questions to be Attempted	Maximum Marks
A	10	Complete	Objective Type	10 (I mark each)	10
	4	Complete	Short answer type (25-50 words)	4(3 marks each)	12
B	2	Unit I	Choice based Long answer type	1(7 marks each)	7
C	2	Unit II	Choice based Long answer type	1(7 marks each)	7
D	2	Unit III	Choice based Long answer type	1(7marks each)	7
E	2	Unit IV	Choice based Long answer type	1(7marks each)	7
				Total	**50**

Note: It is mandatory that paper setting of written lab work for annual practical (AP) will be done by the university.

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Cartography – Nature and Scope. History of Cartography	6	0	10(5)*
II.	**Scales** Concept and application Graphical Construction of Plain, Comparative and Diagonal Scales.	6	0	30(15)*
III.	**Map Projections** Graphical Construction of Polar Zenithal Stereographic,Bonne'sandMercator'sProjections,andUniversalTransverse Mercator (UTM) Projection properties and uses	7	0	40(20)*
IV.	**Topographical Map** Interpretation of a Mountain area with the help of Cross and Longitudinal Profiles. Slope Analysis –Wentworth's method	6	0	50(25)*
	Total Hours	**25**	**0**	**130 (65)***

L-Lecture, T-Tutorial and P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Practical Record: A Project File in pencil, comprising on exercise *each* on scale, map projection, interpretation of topographic sheet and slope analysis.

Reading List

1. AnsonR.andOrmellingF.J.,1994: *International Cartographic Association: Basic Cartographic Vol.* Pregmen Press.
2. Gupta K.K. and Tyagi, V. C., 1992:*Working with Map*, Survey of India, DST, New Delhi.
3. Mishra R.P. andRamesh,A.,1989:*Fundamentalsof Cartography*, Concept, New Delhi.
4. MonkhouseF.J.andWilkinsonH.R.,1973:*Maps and Diagrams*, Methuen, London.
5. Rhind D.W. and Taylor D.R. F., (eds.),1989: *Cartography: Past, Present and Future*, Elsevier, International Cartographic Association.
6. Robinson A.H., 2009:*Elements of Cartography*, John Wiley and Sons, New York.
7. Sharma J. P.,2010: *Prayogic Bhugol*, Rastogi Publishers, Meerut.
8. Singh R.L. and Singh R.P.B.,1999:*Elements of Practical Geography*, Kalyani Publishers.
9. Sarkar,A.(2015)Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
10. SinghRL&Rana P B Singh(1991)Prayogtmak Bhugol ke Mool Tatva, Kalyani Publishers, New Delhi
11. Sharma,JP(2010)Prayogtmak Bhugol ki Rooprekha, Rastogi Publications, Meerut
12. Singh,RL&Dutta,PK (2012)Prayogatmak Bhugol, Central Book Depot, Allahabad

3. HUMAN GEOGRAPHY- GEOGH103CC

Course Code	GEOGH103CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & annual examination (AE) scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I	**Introduction** Definition, Nature, Major Sub-fields, Contemporary Relevance of Human Geography	20	7	0
II	**Space and Society** Cultural Regions of the world Human Races: Classification(Griffith Taylor) and world distribution Major Religions of the world and distribution Major languages of the world and distribution	15	6	0
III	**Population** World Population Distribution, density and growth, Demographic Transition Theory.	15	6	0
IV	**Settlements** Types and Patterns of Rural Settlements Classification of Urban settlements Trends and Patterns of World Urbanization	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Reading List

1. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
2. Hassan, M.I. (2005) Population Geography, Rawat Publications, Jaipur
3. Daniel, P.A. and Hopkinson, M.F. (1989) The Geography of Settlement, Oliver & Boyd, London.
4. Johnston R; Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
5. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, New York.
6. Kaushik, S.D.(2010) Manav Bhugol, Rastogi Publication, Meerut.
7. Maurya,S.D.(2012) Manav Bhugol, Sharda Pustak Bhawan. Allahabad.
8. Hussain, Majid (2012) Manav Bhugol. Rawat Publications, Jaipur

4. THEMATIC CARTOGRAPHY-Practical- GEOGH104CC-P

Course Code	GEOGH104 CC-P		
Credits-6	L	T	P
	25	0	130(65)*
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Maps–Classification and Types Principles of Map Design.	6	0	10(5)*
II.	**Diagrammatic Data Presentation** Line, Barand Circle.	6	0	30(15)*
III.	**Thematic Mapping Techniques** Properties, Usesand Limitations: ArealData--Choropleth, Dot, Proportional Circles; Point Data, Isopleth.	7	0	40(20)*
IV.	**Cartographic Overlays** Point, Line and Areal Data. Thematic Maps– Preparation and Interpretation.	6	0	50(25)*
	Total Hours	**25**	**0**	**130 (65)***

L-Lecture, T-Tutorialand P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Practical Record: A Thematic Atlas shouldbe prepared ona specific theme with fiveplates ofanystateinIndia.

Reading List

1. Cuff J. D. and Mattson M. T., 1982: *Thematic Maps: Their Design and Production*, Methuen Young Books
2. Dent B.D., Torguson J.S., and Holder T.W., 2008:*Cartography:ThematicMapDesign* (6th Edition),Mcgraw-Hill Higher Education
3. Gupta K. K. and Tyagi V.C., 1992:*Working with Maps*, Survey of India, DST, New Delhi.
4. KraakM.-J. and Ormeling F.,2003: *Cartography: Visualization of Geo-Spatial Data*, Prentice-Hall.
5. MishraR.P. andRameshA.,1989: *Fundamentals of Cartography*, Concept, New Delhi.
6. Sharma J. P.,2010: *Prayogic Bhugol*, Rastogi Publishers, Meerut.
7. Singh R.L.and Singh R.P.B.,1999:*Elements of Practical Geography*, Kalyani Publishers.
8. Slocum T. A., Mcmaster R.B. and Kessler F. C.,2008:*ThematicCartography and Geovisualization* (3rd Edition),Prentice Hall.
9. Tyner J. A.,2010: *Principles of Map Design*, The Guilford Press.
10. Sarkar,A.(2015)Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
11. Singh,LR&SinghR(1977):Manchitra or Pryaogatamek Bhugol ,Central Book ,Depot ,Allahabad
12. BhopalSinghR L and Dutta P K (2012) Prayogatamak Bhugol, Central Book Depot, Allahabad

1. CLIMATOLOGY- GEOGH201CC

Course Code	GEOGH201CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Atmospheric Composition and Structure–Variation with Altitude, Latitude and Season. Insolation and Temperature–Factors and Distribution, Heat Budget, Temperature Inversion.	20	7	0
II.	**AtmosphericPressureandWinds** Planetary Winds,ForcesaffectingWinds,GeneralCirculation, Jet Streams, Monsoon-Origin and Mechanism.	15	6	0
III.	**Atmospheric Moisture** Evaporation, Humidity, Condensation ,Fog and Clouds, Precipitation Types, Stability and Instability; Climatic Regions(Koppen)	15	6	0
IV.	**Airmass and Atmospheric Disturbances** Airmass meaning source region and Classification Tropical Cyclones, Extra Tropical Cyclones	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Reading List

1. Barry R. G. and Carleton A.M.,2001:*Synopticand Dynamic Climatology* ,Routledge ,UK.
2. Barry R. G. and Corley R. J., 1998:*Atmosphere,WeatherandClimate,* Routledge, New York.
3. CritchfieldH.J.,1987: *General Climatology,* Prentice-Hallof India, New Delhi
4. Lutgens F. K., Tarbuck E. J. and Tasa D., 2009:*The Atmosphere: An Introduction to Meteorology*, Prentice-Hall ,Englewood Cliffs, New Jersey.
5. Oliver J.E. and Hidore J. J.,2002: *Climatology: An Atmospheric Science*, Pearson Education ,New Delhi.
6. Trewartha G.T. and HorneL. H., 1980:*AnIntroduction to Climate*, McGraw-Hill.
7. Gupta LS(2000):Jalvayu Vigyan, Hindi Madhyam Karyanvay Nidishalya, Delhi Vishwa Vidhyalaya, Delhi
8. Lal, D S(2006):Jalvayu Vigyan, Prayag Pustak Bhavan, Allahabad
9. Vatal, M(1986):Bhautik Bhugol, Central Book Depot, Allahabad
10. Singh,S(2009):JalvayuVigyan,Prayag Pustak Bhawan, Allahabad

2. STATISTICAL METHODS IN GEOGRAPHY (Practical)- GEOGH202CC-P

Course Code	**GEOGH202CC-P**		
Credits-6	**L**	**T**	**P**
	25	**0**	**130(65)***
Course Type	**Core**		
Lectures to be Delivered	**90**		

Note: CCA and AE scheme is same as in GEOGH102CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Use of Data in Geography: Geographical Data Matrix, Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio).	6	0	10(5)*
II.	**Tabulation and Descriptive Statistics** Frequencies (Deciles, Quartiles), Cross Tabulation, Central Tendency (Mean, Median and Mode, Centro-graphic Techniques, Dispersion (Standard Deviation, Variance and Coefficient of Variation).	6	0	30(15)*
III.	**Sampling:** Purposive, Random, Systematic and Stratified. Theoretical Distribution: Probability and Normal Distribution.	7	0	40(20)*
IV.	**Association and Correlation** Rank Correlation, Product Moment Correlation, and Simple Regression, Residuals from regression	6	0	50(25)*
	Total Hours	**25**	**0**	**130 (65)***

L-Lecture, T-Tutorial and P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Class Record: Each student will submit a record containing five exercises:

1. Construct a data matrix of about (10x10) with each row representing an areal unit (districts or villages or towns) and about 10 columns of relevant attributes of the areal units.
2. Based on the above table, a frequency table, measures of central tendency and dispersion would be computed and interpreted for any two attributes.
3. Histograms and frequency curve would be prepared **on the entire dataset** and attempt to fit a normal curve and interpreted for one or two variables.
4. From the data matrix a sample set (20Percent) would be drawn using, random-systematic and stratified methods of sampling and locate the samples on a map with a short note on methods used.
5. Based on of the samples et and using two relevant attributes, a scatter and regression line would be plotted and residual from regression would be mapped with a short interpretation.

Reading List

1. Berry B. J. L. and Marble D. F. (eds.): *Spatial Analysis– A Reader in Geography*.
2. Ebdon D., 1977:*Statisticsin Geography: A Practical Approach*.
3. Hammond P. and McCullagh P.S., 1978:*QuantitativeTechniquesinGeography:AnIntroduction,* Oxford University Press.
4. KingL.S., 1969:*StatisticalAnalysisinGeography*, Prentice-Hall.
5. Mahmood A., 1977:*StatisticalMethods in Geographical Studies*, Concept.
6. Pal S. K.,1998:*Statistics for Geoscientists*, Tata McGraw Hill, New Delhi.
7. Sarkar, A. (2013) Quantitative geography: techniques and presentations. Orient Black Swan Private Ltd., New Delhi

8. SilkJ.,1979:*StatisticalConceptsinGeography*, Allen and Unwin, London.
9. Spiegel M.R.: Statistics, *Schaum's Outline Series.*
10. YeatesM.,1974:*An Introduction to Quantitative Analysis in Human Geography*, McGraw Hill, New York.
11. Shinha,Indira (2007)Sankhyiki bhugol. Discovery Publishing House, New Delhi

3. GEOGRAPHY OF INDIA- GEOGH203CC

Course Code	GEOGH203CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Physical Make up** Characteristics and classification of Physiographic Divisions, soil and vegetation, climate	20	7	0
II.	**Population** Growth, Distribution and Density of Population at national level since 1901 Factors affecting population distribution and density Ethnic Composition: Major racial groups, tribal groups and linguistic groups, their classification and characteristics	15	6	0
III.	**Economic** Mineral and power resources distribution and utilization of iron ore, coal, petroleum, Natural gas agricultural production and distribution of rice and wheat Major Industrial region of India	15	6	0
IV.	**Basis of Regionalization of India** Physiographic (R.L.Singh),Socio –cultural(Sopher), Economic (Sengupta)	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Reading List

1. DeshpandeC.D.,1992:*India: A Regional Interpretation,* ICSSR, New Delhi.
2. Johnson,B.L.C.,ed. 2001. *Geographical Dictionary of India*. Vision Books, New Delhi.
3. Mandal R.B.(ed.),1990:*Patterns of Regional Geography –AnIntenationalPerspective.Vol.3 – Indian Perspective*.
4. Sdyasuk Galina and P Sengupta (1967): *Economic Regionalisation of India*, Census of India
5. Sharma,T.C.2003: India-Economic and Commercial Geography. Vikas Publ.,New Delhi.
6. Singh R.L., 1971: *India: A Regional Geography*, National Geographical Society of India.
7. Singh, Jagdish 2003: *India-A Comprehensive & Systematic Geography*, Gyanodaya Prakashan, Gorakhpur.
8. Spate O.H.K .and Learmonth A.T.A., 1967: *India and Pakistan: A General and Regional Geography*, Methuen.
9. Tirtha, Ranjit 2002:*Geography of India,* Rawat Publs.,Jaipur & New Delhi.
10. Pathak, C.R.2003:*SpatialStructure and Processes of Development in India*. Regional Science Assoc., Kolkata.
11. Tiwari,R.C.(2007)Geography of India. Prayag Pustak Bhawan, Allahabad
12. Sharma, T.C.(2013) Economic Geography of India. Rawat Publication, Jaipur

4. Economic Geography- GEOGH204CC

Course Code	GEOGH204CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Nature and scope of Economic Geography Concept and classification of economic activity	20	7	0
II.	Relationship between Economic activities and Environment Theories of Economic activity VonThunen theory and Weber's theory	15	6	0
III.	**Primary & Secondary Activities** Subsistence and commercial Agriculture and mining. Manufacturing (Cotton Textile ,Iron and Steel),	15	6	0
IV.	**Tertiary Activities and Contemporary issues** Major Oceanic Routes: Atlantic, Pacific and Indian Ocean Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Reading List

1. Alexander J.W., 1963:*Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Coe N.M. ,Kelly P.F.and Yeung H.W., 2007:*EconomicGeography:AContemporaryIntroduction*, Wiley-Blackwell.
3. HodderB.W.andLeeRoger,1974:*EconomicGeography*, Taylor and Francis.
4. Combes P., Mayer T. and Thisse J.F.,2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.
5. Wheeler J. O.,1998: *Economic Geography*, Wiley..
6. Durand L., 1961:*Economic Geography*, Crowell.
7. Bagchi-SenS.andSmithH.L.,2006:*Economic Geography: Past, Present and Future*, Taylor and Francis.
8. WillingtonD.E.,2008:*EconomicGeography*,HusbandPress.
9. Clark,GordonL.;Feldman,M.P.andGertler,M.S.,eds.2000:The*Oxford*

5. Environmental Geography- GEOGH205CC

Course Code	GEOGH205CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	Definition and Scope of Environmental Geography Meaning and Components of Environment Ecosystem– Concept, components and Functions	20	7	0
II.	Human-Environment Relationship Environmental determinism and Possibilism Biomes- Definition, Mountain and Desert Regions	15	6	0
III.	Environmental Problems Their Causes Impacts and Management Air and water Pollution Biodiversity Loss	15	6	0
IV.	Environmental Management Initiatives in India Environmental Protection Act, 1982, Environmental Policy of India(2006) Chipko Movement	15	6	0
	Total Hours	**65**	**25**	**0**

Reading List

1. Chandna R. C., 2002:*EnvironmentalGeography*,Kalyani,Ludhiana.
2. CunninghumW.P.andCunninghumM.A.,2004: *Principals of Environmental Science: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
3. Goudie A., 2001: *The Nature of the Environment*, Blackwell, Oxford.
4. Singh,R.B.(Eds.)(2009)BiogeographyandBiodiversity.RawatPublication,Jaipur
5. Miller G. T., 2004: *Environmental Science: Working with the Earth,* Thomson Brooks Cole, Singapore.
6. MoEF, 2006:*National Environmental Policy-2006*,Ministry of Environment and Forests, Government of India.
7. Singh,R.B.andHietala,R.(Eds.)(2014)LivelihoodsecurityinNorthwesternHimalaya:Case studiesfromchangingsocio-economicenvironmentsinHimachalPradesh,India.Advancesin Geographical and Environmental Studies, Springer
8. Odum, E. P. et al, 2005:*Fundamentals of Ecology*, Ceneage Learning India.
9. SinghS.,1997: *Environmental Geography*, Prayag Pustak Bhawan. Allahabad.
10. UNEP,2007:*Global Environment Outlook: GEO4: Environment For Development*, United Nations

Environment Programme.
11.Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer
12.Singh,R.B.(1998)EcologicalTechniquesandApproachestoVulnerableEnvironment, New Delhi, Oxford & IBH Pub..
13.Singh,Savindra2001.*ParyavaranBhugol*,PrayagPustakBhawan,Allahabad.(inHindi)

6. Field Work and Research Methodology (Practical)- GEOGH206CC-P

Course Code	**GEOGH206CC-P**		
Credits-6	**L**	**T**	**P**
	25	**0**	**130(65)***
Course Type	**Core**		
Lectures to be Delivered	**90**		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	**Topic**	**Allotted Time (Hours)**		
		L	**T**	**P**
I.	**Introduction** Field Work In Geographical Studies–Role, Value ,Data and Ethics of Field-Work. Defining the Field and Identifying the Case Study–Rural /Urban/Physical /Human/ Environmental.	6	0	10(5)*
II.	**Field Techniques** Merits,DemeritsandSelectionoftheAppropriateTechnique;Observation(Participant /Non Participant), Questionnaires (Open/ Closed/ Structured/Non-Structured); Interview with Special Focus on Focused Group Discussions; Space Survey (Transects and Quadrants, Constructing a Sketch)	6	0	30(15)*
III.	**Use of Field Tools** Collection of Material for Physical and Socio-Economic Surveys.	7	0	40(20)*
IV.	**Designing the Field Report** Aims and Objectives, Methodology, Analysis, Interpretation and Writing the Report.	6	0	50(25)*
	Total Hours	**25**	**0**	**130 (65)***

L-Lecture, T-Tutorial and P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The duration of the field work should not exceed10 days.

3. The word count of the report should be about **8000to 12,000** excluding figures, tables ,photographs, maps, references and appendices.
4. One copy of the report onA4sizepapershould be submitted in soft binding.

Reading List

1. Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.
2. Dikshit,R.D.2003.The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. EvansM.,1988:"Participant Observation: The Researcher as Research Tool" in *Qualitative Methods In Human Geography*, eds. J. Eyles and D. Smith ,Polity.
4. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.
5. Mukherjee, Neela 2002. Participatory Learning and Action: with100Field Methods. Concept Publs. Co., New Delhi
6. RobinsonA.,1998: "*Thinking Straight and Writing That Way*", in *Writing Empirical Research Reports: ABasic Guide for Students of the Social and Behavioural Sciences*, eds.by F. Pryczakand R. Bruce Pryczak, Publishing :Los Angeles.
7. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2 (2001).
8. StoddardR.H.,1982:*FieldTechniquesandResearchMethodsin Geography*, Kendall/Hunt.

10.Wolcott,H.1995.TheArtofFieldwork.AltaMiraPress,WalnutCreek,CA.

1. Regional Planning and Development- GEOGH301CC

Course Code	GEOGH301CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** DefinitionofRegion,EvolutionandTypesofRegionalplanning:Formal,Functional ,andPlanning.Regionsand Regional Planning; Need for Regional Planning;Types of regional Planning.	20	7	0
II.	**Choice of a Region for Planning** Characteristics of an Ideal Planning Region; Delineation of Planning. Region; Regionalization of India for Planning (Agro Ecological Zones)	15	6	0
III.	**Theories and Models for Regional Planning** GrowthPoleModelof Perroux; Growth Centre Model in IndianContext;Myrdal,Hirschman,Rostow andFriedmann	15	6	0
IV.	**ChangingConceptofDevelopment** Concept of under development; Efficiency-Equity Debate Measuringdevelopment:Indicators (Economic,Social andEnvironmental);Concept of Human development Index.	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Blij H.J.De,1971:*Geography:RegionsandConcepts*,JohnWiley and Sons.
2. ClavalP.l,1998: *An Introduction to Regional Geography*, Blackwell Publishers, Oxford and Massachusetts.
3. Friedmann J. and Alonso W.(1975):*Regional Policy-Readings in Theory and Applications*, MIT Press, Massachusetts.
4. Gore C. G., 1984: *Regions in Question: Space, Development Theory and Regional Policy*, Methuen, London.
5. Gore C. G., Köhler G., Reich U-P. and Ziesemer T., 1996:*Questioning Development; Essays on the Theory, Policies and Practice of Development Intervention*, Metropolis-Verlag ,Marburg.
6. HaynesJ.,2008:*Development Studies*, Polity Short Introduction Series.
7. Johnson E.A.J.,1970:*TheOrganization of Space in Developing Countries*, MIT Press, Massachusetts.
8. Peet R., 1999:*TheoriesofDevelopment*, The Guilford Press, New York.
9. UNDP 2001-04: *Human Development Report*, Oxford University Press.
10. WorldBank 2001-05:*WorldDevelopmentReport*, Oxford University Press, New

2. Remote Sensing and GIS (Practical)- GEOGH302CC-P

Course Code	**GEOGH302CC-P**		
Credits-6	**L**	**T**	**P**
	25	**0**	**130(65)***
Course Type	**Core**		
Lectures to be Delivered	**90**		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** RemoteSensingandGIS:DefinitionandComponents,Development,Platforms andTypes,	6	0	10(5)*
II.	**Aerial Photography and Satellite Remote Sensing** Principles, Types and Geometry of Aerial Photograph;PrinciplesofRemoteSensing,EMRInteractionwithAtmosphere andEarthSurface; Satellites (Landsat and IRS)and Sensors.	6	0	30(15)*
III.	**GIS Data Structures** Types(spatialand Non-spatial),Raster and Vector Data Structure	7	0	40(20)*
IV.	**Image Processing (Digital and Manual)and Data Analysis** Pre-processing(Radiometric and GeometricCorrection),Enhancement(Filtering);Classification(Supervise dandUn-supervised), Geo-Referencing; Editing and Output; Overlays InterpretationandApplicationofRemoteSensingandGIS:Landuse/LandCove r,UrbanSprawl Analysis; Forests Monitoring	6	0	50(25)*
	Total Hours	**25**	**0**	**130 (65)***

L-Lecture, T-Tutorial and P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Practical Record: A project file consisting of two exercises will be done from aerial photos and satellite images (scale, orientation and interpretation) and 3exercises on using any GIS Software on above mentioned themes.

Reading List

1. Campbell J. B.,2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen J. R.,2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.

3. Joseph,G.2005:*Fundamentals of Remote Sensing*, United Press India.
4. LillesandT.M.,KieferR.W.andChipmanJ.W.,2004:*RemoteSensingandImageInterpretation*, Wiley.(Wiley Student Edition).
5. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
6. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
7. Singh R.B. and Murai S., 1998:*Space-informatics for Sustainable Development*, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B.A., 2000:*ElementsofPhotogrammetry:WithApplicationsinGIS*,McGraw- Hill.
9. Sarkar ,A.(2015)Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi

3. Evolution of Geographical Thought - GEOGH303CC

Course Code	GEOGH303CC		
Credits-6	L	T	P
	65	25	0
Course Type	Core		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Meaning nature and scope of geography A brief introduction to emergence of geography as scientific discipline Contribution of Greeks and Romans	20	7	0
II.	Modern– Evolution of Geographical Thinking and Disciplinary Trends in Germany, France ,Britain, United States of America.	15	6	0
III.	Debates–Environmental Determinism and Possibilism, Systematic and Regional	15	6	0
IV.	Trends – Quantitative Revolution, Behaviouralism, Systems Approach, Radicalism, Feminism;	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Reading List

1. Arentsen M.,StamR.andThuijisR.,2000:*Post-modernApproachestoSpace*,ebook.
2. Bhat, L.S. (2009) Geography in India (Selected Themes). Pearson
3. Bonnett A., 2008:*WhatisGeography?*Sage.
4. Dikshit R.D.,1997: Geographical Thought: A Contextual History of Ideas, Prentice–Hall India.
5. Hartshone R., 1959:*Perspectivesof Nature of Geography*, R and Mac Nally and Co.
6. Holt-JensenA.,2011: *Geography: History and Its Concepts: A Students Guide*, SAGE.
7. Johnston R.J.,(Ed.): *Dictionary of Human Geography*, Routledge.
8. JohnstonR.J.,1997:*GeographyandGeographers,Anglo-AmericanHumanGeographysince1945*, Arnold, London.
9. Kapur A.,2001: *Indian Geography Voice of Concern*, Concept Publications.
10. Martin Geoffrey J., 2005: *All Possible Worlds: A History of Geographical Ideas*, Oxford.
11. Soja,Edward1989.*Post-modernGeographies*,Verso,London.Reprinted1997:RawatPubl.,Jaipur and New Delhi.

4.Disaster Management based Project Work(Practical) - GEOGH304CC-P

The Project Report based on any two fields based case studies among following disasters and one disaster

Preparedness plan of respective college or locality:

Course Code	**GEOGH304CC-P**		
Credits-6	**L**	**T**	**P**
	25	**0**	**130(65)***
Course Type	**Core**		
Lectures to be Delivered	**90**		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	Flood and Flash Flood/Could	6	0	10(5)*
II.	Cyclone and Hailstorms	6	0	30(15)*
III.	Earthquake and Landslides	7	0	40(20)*
IV.	Human Induced Disasters: Fire Hazards, Road Accident	6	0	50(25)*
	Total Hours	**25**	**0**	**130 (65)***

L-Lecture, T-Tutorial and P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Reading List

1. Governmentof India.(1997)Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council,Ministry of Urban Development, Government of India.
2. Kapur,A.(2010)VulnerableIndia: A Geographical Study ofDisasters,SagePublication,New Delhi.
3. Modh, S. (2010) Managing Natural Disaster:Hydrological, Marine andGeological Disasters, Macmillan,Delhi.
4. Singh, R.B. (2005) RiskAssessment andVulnerabilityAnalysis, IGNOU, New Delhi.Chapter 1,2 and 3
5. Singh,R.B.(ed.),(2006)NaturalHazardsandDisasterManagement:Vulnerabilityand Mitigation, Rawat Publications, New Delhi.
6. Sinha,A.(2001).DisasterManagement:LessonsDrawnand StrategiesforFuture,New UnitedPress, New Delhi.
7. Stoltman,J.P.etal.(2004)International Perspectives on Natural Disasters, KluwerAcademic Publications.Dordrecht.

8. SinghJagbir(2007) "DisasterManagementFuture ChallengesandOppurtunities", 2007.Publisher-I.K.InternationalPvt.Ltd.S-25, GreenParkExtension,UphaarCinemaMarket,New Delhi,India (www.ikbooks.com).

Skill Enhancement Course (Any 2)

5. Remote Sensing (Practical) GEOGH207SEC-P

Course Code	**GEOGH207SEC-P**		
Credits-4	**L**	**T**	**P**
	15	**0**	**90(45)***
Course Type	**Skill Enhancement**		
Lectures to be Delivered	**60**		

Continuous Comprehensive Assessment (CCA) Pattern: Maximum Marks Allotted: 30

Mid Term Test* (Marks)	Class Test/ Tutorials/Assignments (Marks)	Quiz/Seminars (Marks)	Attendance (Marks)	Total Marks
15	5	5	5	
Total 15	**5**	**5**	**5**	**30**

***** The pattern of examination for conducting the Mid Term Test will be same as prescribed for annual examination (practical paper).

Marks Allocation Scheme annual examination (AP) Practical:

Particulars	Maximum Marks	Minimum Pass Marks	Time Allotted
Written Lab Work	10	**8**	**3.00 Hrs**
Practical Record*	05		
Viva-Voce	05		
Total	**20**		

***Note:** Use of non-programmable calculators and map stencils are allowed in the examination hal**l.** The practical record may be evaluated on the parameters of Punctuality, Neatness, Entirety and indexing

Paper Setting Scheme for Written Lab Work#

Section	No of Questions	Syllabus Coverage	Nature of Questions and Answers	Questions to be Attempted	Maximum Marks
A	10	Complete	Objective Type	10 (1 Mark each)	10
	4	Complete	Short answer type (25-50 words)	4 (3 Marks each)	12
B	2	Unit I	Choice based Long answer type	1(7Marks each)	7
C	2	Unit II	Choice based Long answer type	1(7 Marks each)	7
D	2	Unit III	Choice based Long answer type	1(7 Marks each)	7
E	2	Unit IV	Choice based Long answer type	1(7 Marks each)	7
				Total	**50**

Note: It is mandatory that paper setting of written lab work for annual examination practical (AEP) will be done by the university.

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**

I.	**Introduction** Remote Sensing: Definition and Historical Development; Platforms and Types; Aerial Photography	3	0	10(5)*
II.	**Satellite Remote Sensing** Principles, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS); Sensors	4	0	20(10)*
III.	**Image Processing** Pre-processing (Radiometric and Geometric Correction); Enhancement (Filtering); Classification (Supervised and Un-supervised)	4	0	30(15)*
IV.	**Satellite ImageInterpretation.** Application of Remote Sensing: Land Use Land Cover.	4	0	30(20)*
	Total Hours	**15**	**0**	**90(45)***

L-Lecture, T-Tutorialand P-Practical and Practices

Practical Record: A project file consisting of 5 exercises on using any method on above mentioned themes.

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Reading List

1. Bhatta , B. (2008) Remote Sensing and GIS, Oxford University Press, New Delhi.
2. CampbellJ. B.,2007: *IntroductiontoRemote Sensing*,Guildford Press
3. Chauniyal, D. (2010) SudurSamvedanaAvamBhaugolikSuchnaPranali, ShardaPustak Bhawan, Allahabad.
4. Jensen, J. R. (2005) Introductory Digital Image Processing: A Remote Sensing Perspective, Pearson Prentice-Hall.
5. Joseph,G.2005:*Fundamentals of Remote Sensing*,United Press India.
6. LillesandT.M.,KieferR.W.andChipmanJ.W.,2004:*RemoteSensingandImageInterpretation*, Wiley.(Wiley StudentEdition).
7. Li, Z., Chen, J. and Batsavias, E. (2008) Advances in Photogrammetry, Remote Sensing and Spatial Information Sciences CRC Press, Taylor and Francis, London
8. Mukherjee, S. (2004) Textbook of Environmental Remote Sensing, Macmillan, Delhi.
9. NagP.andKudra,M., 1998: *Digital Remote Sensing*,Concept, NewDelhi.
10. SinghR.B. andMuraiS., 1998:*Space-informatics for SustainableDevelopment*, Oxford and IBH Pub.

2. Advanced Spatial Statistical Techniques- GEOGH208SEC-P

Course Code	**GEOGH208SEC-P**		
Credits-4	**L**	**T**	**P**
	15	**0**	**90(45)***
Course Type	**Skill Enhancement**		
Lectures to be Delivered	**60**		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Statistics and Statistical Data: Spatial and non-spatial; indices of inequality and disparity (Lorenz Curve) .	3	0	10(5)*
II.	**Probabilitytheory** probabilitydensityfunctionswithrespecttoNormal,Binomialand	4	0	20(10)*
III.	**Sampling** Sampling plansforspatialandnon-spatial data, samplingdistributions; sampling estimates for large and small samples tests involvingmeans and proportions.	4	0	30(15)*
IV.	**Correlation and Regression Analysis:** Rank order correlation and product moment correlation; linear regression, residuals from regression, and simple curvilinear regression.	4	0	30(20)*
	Total Hours	**15**	**0**	**90(45)***

L-Lecture, T-Tutorialand P-Practical and Practices

Note: Any Statistical Software Package (SPSS,MS Excel, R, etc.) may be used for practice.

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Reading List

1. BartJamesEandGerldM.Barber,1996:ElementaryStatisticsforGeographers,TheGuiefordPress, London.
2. Eldon,D.,1983: StatisticsinGeography: A PracticalApproach,Blackwell,London.
3. Cressie,N.A.C.,1991: Statisticsfor Spatial Analysis,Wiley, New York.
4. Gregory,S.,1978:StatisticalMethodsand the Geographer (4th Edition), Longman,London.
5. Haining,R.P.,1990:SpatialDataAnalysisintheSocialandEnvironmentalScience,Cambridge University Press, Cambridge.
6. McGrew,Jr.andCahrles,B.M.,1993:AnIntroductiontoStatisticalProblemSolvinginGeography, W.C. Brocan Publishers, New Jersey.
7. Mathews,J.A.,1987:QuantitativeandStatisticalApproachestoGeography:A PracticalManual Pergamon, Oxford.

8. S.K.,1998:StatisticsforGeoscientists:TechniquesandApplications,ConceptPublishingCompany, New Delhi.
9. Wei, W.S.,1990: Time Series Analysis: Variate and Multivariate Methods , Addison Wesley Publishing.
10. Yeates,Mauris,1974:AnIntroductionto QuantitativeAnalysisinHumanGeography,McGrawhill, New York.

6. Geographical Information System (Practical)- GEOGH209SEC-P

Course Code	**GEOGH209SEC-P**		
Credits-4	**L**	**T**	**P**
	15	**0**	**90(45)***
Course Type	**Skill Enhancement**		
Lectures to be Delivered	**60**		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Meaning and ScopeofGIS Components ofGIS HistoryofGeographicInformation System(GIS)	3	0	10(5)*
II.	**Data Types** GIS Data Structures: Types (spatial and Non-spatial) RasterandVectorData	4	0	20(10)*
III.	**Spatial referencing system** Concept of Georeferencing Editing and attribute data integration	4	0	30(15)*
IV.	**GIS based Exercises on** Georeferencing, Subsetting, Extraction of Land Use/Land Cover layers of any area and thematic mapping	4	0	30(20)*
	Total Hours	**15**	**0**	**90(45)***

L-Lecture, T-Tutorial and P-Practical and Practices

Practical Record: A project file consisting of 5 exercises on using any GIS Software on above mentioned themes.

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Reading List

1. Bhatta, B. (2010) Analysis of Urban Growth and Sprawl from Remote Sensing,Springer, Berlin Heidelberg.41
2. Burrough,P.A.,andMcDonnell,R.A. (2000)PrinciplesofGeographicalInformationSystem-Spatial InformationSystemandGeo-statistics.OxfordUniversity Press
3. Chauniyal, D.D. (2010) SudurSamvedanevamBhogolikSuchanaPranali, ShardaPustak Bhawan,Allahabad
4. Heywoods,I.,Cornelius,SandCarver,S.(2006)AnIntroductiontoGeographicalInfromation system.PrenticeHall.
5. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.
6. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.

7. Sarkar,A.(2015)Practical geography:Asystematicapproach.OrientBlackSwanPrivateLtd., NewDelhi
8. Singh, R.B. and Murai, S. (1998) Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.

4. Research Methods (Practical) - GEOGH210SEC-P

Course Code	GEOGH210SEC-P		
Credits-4	L	T	P
	15	0	90(45)*
Course Type	Skill Enhancement		
Lectures to be Delivered	60		

Note: CCA and AE scheme is same as in GEOGH102CC-P

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Geographic Enquiry** Concept, Framing Research Questions, Objectives and Hypothesis; Literature Review	3	0	10(5)*
II.	**Data Collection** Type and Sources of Data; Methods of Collection;Preparing Sample Questionnaire	4	0	20(10)*
III.	**Data Analysis** Data Tabulation Data Analysis (Qualitative and Quantitative) Data Representation Techniques (Maps and Diagrams)	4	0	30(15)*
IV.	**Structure of a Research Report** Abstract, Main Text; References and Bibliography	4	0	30(20)*
	Total Hours	**15**	**0**	**90(45)***

L-Lecture, T-Tutorial and P-Practical and Practices

* As per the weightage assigned to the P (Practical and Practices) category in the CBCS regulations 2 hours practical work has been treated equal to 1 credit hour.

Reading List

1. Creswell J., 1994: *Research Design:Qualitativeand QuantitativeApproaches* SagePublications.
2. Dikshit,R.D.2003.The ArtandScienceof Geography: IntegratedReadings.Prentice-Hallof India, New Delhi.
3. EvansM.,1988:"Participant Observation:TheResearcherasResearch Tool"in *QualitativeMethods inHumanGeography*,eds.J.EylesandD.Smith,Polity.
4. Misra,R.P. (2002) Research Methodology, Concept Publications, New Delhi.
5. Mukherjee, Neela 1993. Participatory RuralAppraisal: Methodology and Application.Concept Publs. Co., New Delhi.
6. Mukherjee, Neela 2002. Participatory LearningandAction: with100Field Methods. Concept Publs. Co., New Delhi
7. RobinsonA.,1998: "*ThinkingStraight andWritingThatWay*", in*Writing Empirical Research Reports:ABasicGuideforStudents of theSocial andBehavioural Sciences*, eds.by F. Pryczakand R. BrucePryczak,Publishing:LosAngeles.
8. SpecialIssueon"DoingFieldwork" *The Geographical Review* 91:1-2 (2001).
9. StoddardR.H.,1982:*FieldTechniquesandResearchMethodsin Geography*,Kendall/Hunt.
11. Wolcott,H.1995.TheArtofFieldwork.AltaMiraPress,WalnutCreek,CA.
12. Yadav,H.(2013)ShodhPravidhiEvamMatratamakBhugol,RajaPublications,Delhi.

Elective Discipline Specific (any four)

8. Population Geography- GEOGH305EDS1

Course Code	**GEOGH305EDS1**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time		
		L	**T**	**P**
I.	**Introduction** Definition, Nature and Scope of population geography Sources of Data with special reference to India (Census, Vital Statistics and National Sample Survey Organization (NSSO).	20	7	0
II.	**Population** Size, Distribution and Growth – Determinants and Patterns. Theories of Growth – Malthusian Theory and Demographic Transition Theory.	15	6	0
III.	**Population Dynamics** Fertility, Mortality and Migration – Measures, Determinants and Implications. Population Composition and Characteristics – Age-Sex Composition; Rural and Urban Composition; Literacy.	15	6	0
IV.	**Contemporary Issues** Ageing of Population; Declining Sex Ratio; Rural Depopulation.	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. BarrettH.R.,1995:*Population Geography*, Oliver andBoyd.
2. Bhende A.andKanitkarT.,2000: *PrinciplesofPopulation Studies*,HimalayaPublishingHouse.
3. ChandnaR.C.andSidhuM.S.,1980:*An Introduction toPopulation Geography*,Kalyani Publishers.
4. Clarke J. I., 1965:*PopulationGeography*, Pergamon Press, Oxford.
5. Jones,H.R.,2000: *Population Geography*,3rd ed.Paul Chapman,London.
6. Lutz W., Warren C.S. and Scherbov S.,2004:*The EndoftheWorldPopulationGrowth in the 21st Century*, Earthscan
7. Newbold K. B., 2009: *Population Geography:Tools andIssues*, Rowmanand Littlefield Publishers.
8. PacioneM.,1986:*PopulationGeography:ProgressandProspect*, Taylor and Francis.
9. Wilson M.G.A., 1968: *PopulationGeography*, Nelson.
10. Panda B P (1988):JanasankyaBhugol,M P Hindi GranthAcademy,Bhopal
11. Maurya S D (2009) JansankyaBhugol, ShardaPutakBhawan, Allahabad
12. Chandna,RC(2006),JansankhyaBhugol,KalyaniPublishers,Delh

Resource Geography- GEOGH306EDS1

Course Code	**GEOGH306EDS1**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	Natural Resource: Concept its Different Classification.	20	7	0
II.	Distribution, Utilisation, Problems and Management: Land Resources Water Resources Forests Resources	15	6	0
III.	Natural Resources Appraisal Depletion and Degradation of Natural Resources, Causes and Impacts (Land Water and Forest)	15	6	0
IV.	Uses and Misuse of Natural Resources Conservation of Natural Resources Sustainable Resource Development	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Cutter S. N.,Renwich H. L.and Renwick W., 1991:*Exploitation,Conservation,Preservation:A GeographicalPerspective onNaturalResourcesUse*, JohnWiley andSons, NewYork.
2. GadgilM.and Guha R., 2005:*TheUseandAbuseofNature:Incorporating ThisFissuredLand:An EcologicalHistory ofIndia andEcology andEquity*, OxfordUniversity Press. USA.
3. HolechekJ. L.C.,Richard A., Fisher J. T.and ValdezR., 2003:*NaturalResources:Ecology, Economics andPolicy*, Prentice Hall, New Jersey.
4. JonesG.andHollierG.,1997:*Resources,Society and EnvironmentalManagement*,Paul Chapman, London.
5. KleeG., 1991:*ConservationofNatural Resources*,Prentice Hall,Englewood.
6. Mather A. S.and Chapman K., 1995: *EnvironmentalResources*,JohnWiley andSons,New York.
7. Mitchell B., 1997: *Resource andEnvironmentalManagement*,LongmanHarlow,England.
8. OwenS. and OwenP. L.,1991: *Environment,ResourcesandConservation*, CambridgeUniversity Press, New York.
9. Rees J., 1990:*NaturalResources:Allocation,EconomicsandPolicy*, Routledge.London.

7. Urban Geography- GEOGH307EDS2

Course Code	GEOGH307EDS2		
Credits-6	L	T	P
	65	25	0
Course Type	Discipline Specific Elective		
Lectures to be Delivered	90		

Note: CCA & ESE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Urban geography: Definition, nature and scope Patterns of Urbanisation in developed and developing countries	20	7	0
II.	**Classification of cities** Functional classification of cities: Quantitative and Qualitative Methods	15	6	0
III.	**Urban Issues** Problems of housing, slums, civic amenities (water and transport) Concept of Smart Cities	15	6	0
IV.	**Case studies** Delhi, Kolkata and Chandigarh with reference to Land use and Urban Issues	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. FyfeN.R.andKenny J.T.,2005: *The UrbanGeographyReader*,Routledge.
2. GrahamS. and Marvin S.,2001:*SplinteringUrbanism:NetworkedInfrastructures,Technological Mobilities and the UrbanCondition*, Routledge.
3. HallT., 2006: *Urban Geography*,TaylorandFrancis.
4. KaplanD. H.,Wheeler J. O.and Holloway S.R., 2008:*UrbanGeography*, JohnWiley.
5. KnoxP.L.andMcCarthy L.,2005:*Urbanization: AnIntroduction to Urban Geography*, Pearson Prentice HallNew York.
6. KnoxP.L.andPinchS.,2006: *UrbanSocial Geography:AnIntroduction*, Prentice-Hall.
7. PacioneM.,2009:*UrbanGeography:A GlobalPerspective*,TaylorandFrancis.
8. Sassen S.,2001: *The GlobalCity:NewYork,Londonand Tokyo*, Princeton UniversityPress.
9. RamachandranR(1989):Urbanisation andUrban SystemsofIndia,OxfordUniversity Press,New Delhi
10. Ramachandran,R., 1992: *The Study of Urbanisation*, OxfordUniversity Press, Delhi
11. Singh,R.B.(Eds.)(2001)UrbanSustainabilityintheContextofGlobalChange,SciencePub., Inc.,Enfield(NH),USAandOxford &IBH Pub.,NewDelhi.
12. Singh,R.B.(Ed.)(2015)Urbandevelopment,challenges,risksandresilienceinAsianmegacities. AdvancesinGeographicaland EnvironmentalStudies,Springer

Agricultural Geography- GEOGH308EDS2

Course Code	**GEOGH308EDS2**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOG 0101 CC

CourseContentandCreditScheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Definition, nature and scope Land use/ land cover:Concept and classification.	20	7	0
II.	**Determinants of Agriculture** Physical, Technological and Institutional	15	6	0
III.	**Agricultural Systems of the World** Whittlesey's classificationof Agricultural region Agricultural Land use model of VonThuenen, its modification and relevance.	15	6	0
IV.	**Agricultural Regions of India** Agro-climatic and Agro-ecological Regions. Agricultural Revolutions in India: Green, White and Blue	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Basu, D.N., andGuha, G.S., 1996: *Agro-Climatic RegionalPlanning inIndia*, Vol.I& II, Concept Publication,New Delhi.
2. Bryant, C.R., Johnston,T.R,1992: *Agriculturein theCityCountryside*, Belhaven Press, London.
3. Burger,A., 1994: *Agricultureof theWorld*, Aldershot, Avebury.
4. Grigg,D.B.,1984: *Introduction toAgricultural Geography*, Hutchinson, London.
5. Ilbery B.W.,1985: *Agricultural Geography:A Social andEconomic Analysis*, Oxford University Press.
6. Mohammad,N.,1992:*NewDimension in Agriculture Geography*, Vol. I to VIII, Concept Pub., New Delhi.
7. Roling, N.G.,and Wageruters, M.A.E.,(ed.) 1998: *FacilitatingSustainable Agriculture*,Cambridge University Press, Cambridge.
8. Shafi,M.,2006: *AgriculturalGeography*,DoringKindersley India Pvt. Ltd., New Delhi

9.Singh,J., andDhillon,S.S.,1984: Agricultural Geography,TataMcGrawHill,NewDelhi.

10.TarrantJ.R.,1973:*Agricultural Geography*, DavidandCharles, Devon.

8. Geography of Health and Well being- GEOGH309EDS3

Course Code	GEOGH309EDS3		
Credits-6	L	T	P
	65	25	0
Course Type	Discipline Specific Elective		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** PerspectivesonHealth:Definition;linkageswithenvironment, development andhealth; Driving forcesinhealthandenvironmentaltrends:populationdynamics,urbanization, povertyand inequality	20	7	0
II.	**EnvironmentalQualityandHealth** Humanactivitiesand its implication on environment: Landuseandagriculturaldevelopment;industrialization;transportandenergy.	15	6	0
III.	**ExposureandHealthRisks** Air pollution; household wastes; water; housing; workplace. Health and Disease as related to Environmental Context with special reference to India.	15	6	0
IV.	**ClimateChangeandHumanHealth** Changes in climate system – heat and cold and its impact on Human being. Biological disease agents: food production and nutrition	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

ReadingList:

1. AkhtarRais(Ed.),1990: EnvironmentandHealthThemesinMedicalGeography,Ashish PublishingHouse,NewDelhi.
2. AvonJoanL.andJonathanAPatzed.2001: EcosystemChangesandPublicHealth,Baltimin, JohnHoplingUnitPress(ed).
3. Bradley,D.,1977:Water,WastesandHealthinHotClimates,JohnWileyChichesten.
4. ChristalerGeorgeandHristopolesDionissios,1998:SpatioTemporalEnvironmentHealth Modelling,BostonKluwerAcademicPress.
5. Cliff,A.D.andPeter,H.,1988: AtlasofDiseaseDistributions,BlackwellPublishers,Oxford.
6. Gatrell,A.,andLoytonen,1998: GISandHealth,TaylorandFrancisLtd,London.
7. HardhamT.andTannavM.,(eds):UrbanHealthinDevelopingCountries;Progress,Projects, Earthgoan,London.
8. MurrayC.andA.Lopez,1996:TheGlobalBurdenofDisease,HarvardUniversityPress.
9. MoellerDadewed.,1993:EnvironmentalHealth,Cambridge,HarwardUniv.Press.
10. Phillips,D.andVerhasselt,Y.,1994:HealthandDevelopment,Routledge,London.
11. Tromp,S.,1980:Biometeorology:TheImpactofWeatherandClimate onHumansandtheir Environment,HeydonandSon.

Political Geography- GEOGH310EDS3

Course Code	GEOGH310EDS3		
Credits-6	L	T	P
	65	25	0
Course Type	Discipline Specific Elective		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Concept,NatureandScope. AttributesofState–Frontiers, Boundaries, Shape, Size, Territory and Sovereignty Conceptof Nation,State and Nation State Geopolitics	20	7	0
II.	**Electoral Geography** Geography ofVoting,GeographicInfluencesonVotingpattern,Geography of Representation,Gerrymandering.	15	6	0
III.	**PoliticalGeography ofResourceConflicts** WaterSharingDisputes,DisputesandConflictsRelated toForestRights and Minerals.	15	6	0
IV.	**PoliticsofDisplacement** Issuesofrelief,compensationandrehabilitation withreference toDams and SpecialEconomicZones	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Agnew J.,2002:*MakingPolitical Geography,* Arnold.
2. Agnew J., MitchellK.andToalG.,2003:*A Companion toPolitical Geography*,Blackwell.
3. Cox K. R., Low M.and RobinsonJ., 2008: *TheSageHandbookofPolitical Geography,* Sage Publications.
4. Cox K., 2002: *PoliticalGeography:Territory,State andSociety*,Wiley-Blackwell
5. GallaherC.,et al,2009: *Key ConceptsinPoliticalGeography*,SagePublications.
6. GlassnerM.,1993:*PoliticalGeography*,Wiley.
7. JonesM., 2004:*AnIntroductiontoPoliticalGeography:Space,Place andPolitics,* Routledg .
8. MathurHM andMMCernea(eds.)Development,DisplacementandResettlement–FocusonAsian Experience,Vikas,Delhi
9. Painter J. andJeffrey A., 2009:*PoliticalGeography*,SagePublications.
10. Taylor P. andFlint C., 2000:*PoliticalGeography*,PearsonEducation.
11. VermaMK(2004):Development,DisplacementandResettlement,RawatPublications,Delhi
12. HodderDick,SarahJLlyodandKeithSMcLachlan(1998),*LandLockedStatesofAfricaand Asia*(vo.2),FrankCass

9.Hydrology and Oceanography- GEOGH311EDS4

Course Code	**GEOGH311EDS4**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Hydrological Cycle: humanimpactonthehydrologicalcycle; Hydrologicalinputandoutput: Precipitation,interception,evaporation,evapo-transpiration,infiltration,ground-water,runoff andoverlandflow.	20	7	0
II.	**RiverBasinsandtheir Problems** Characteristics ofriverbasins,basinsurface run-off,measurementofriverdischarge;floods.	15	6	0
III.	**Ocean Floor Topography and Oceanic Movements** Waves,Currentsand Tides. OceanSalinity andTemperature: DistributionandDeterminants.	15	6	0
IV.	**OceanResources:** Coral ReefsTypesTheoriesofOrigin Marine Deposits and Classification	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Andrew.D.wardandStanley,Trimble(2004):EnvironmentalHydrology,2nd edition,Lewis Publishers,CRCPress.
2. Karanth,K.R.,1988:GroundWater:Exploration,AssessmentandDevelopment,Tata-McGraw Hill,NewDelhi.
3. Ramaswamy,C. (1985):Reviewoffloodsin Indiaduringthepast75years:A Perspective.Indian NationalScienceAcademy,NewDelhi.
4. Rao,K.L.,1982: India'sWaterWealth2ndedition,OrientLongman,Delhi,.
5. Singh, VijayP. (1995): Environmental Hydrology. KluwarAcademicPublications, The Netherlands.
6. AnikouchineW. A. andSternberg R. W., 1973: *The World Oceans: An Introduction to Oceanography*, Prentice-Hall.
7. GarrisonT., 1998:*Oceanography*,WordsworthCompany, Belmont.
8. Kershaw S., 2000: *Oceanography: An EarthScience Perspective*, Stanley Thornes, UK.
9. PinetP.R.,2008:*InvitationtoOceanography*(FifthEdition),JonesandBarlettPublishers,USA,UK and Canada.
10. SharmaR.C.andVatalM.,1980:*OceanographyforGeographers*,ChaitanyaPublishingHouse, Allahabad.
11. SverdrupK.A.andArmbrust,E.V.,2008:*AnIntroductiontotheWorldOcean*,McGrawHill, Boston.

12. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Landscape ecologyand water management.ProceedingsofIGURohtakConference,Volume2.AdvancesinGeographicaland EnvironmentalStudies,Springer

Social Geography- GEOGH312EDS4

Course Code	GEOGH312EDS4		
Credits-6	L	T	P
	65	25	0
Course Type	Discipline Specific Elective		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time		
		L	T	P
I.	**Introduction** SocialGeography:Concept,NatureandScope.	20	7	0
II.	**PeoplingofIndia** Technology andOccupationalChange; Migration.	15	6	0
III.	**SocialCategories** Caste,Class,Religion,Race and Gender andtheirSpatialdistribution in India	15	6	0
IV.	**Geographiesof WelfareandWell-being** Conceptand Components– Healthcare,Housing and Education. SocialGeographiesofInclusion andExclusion,Slums,CommunalConflictsand Crime.	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. AhmedA., 1999:*SocialGeography*,Rawat Publications.
2. Casino V. J.D., Jr., 2009)*SocialGeography:ACriticalIntroduction*,Wiley Blackwell.
3. CaterJ.andJonesT.,2000:*SocialGeography:AnIntroductiontoContemporaryIssues*,Hodder Arnold.
4. HoltL.,2011:*GeographiesofChildren,YouthandFamilies:AnInternationalPerspective*,Taylor& Francis.
5. Panelli R., 2004:*Social Geographies: From Difference to Action*, Sage.
6. RachelP.,BurkeM.,FullerD.,GoughJ.,MacfarlaneR.andMowlG.,2001:*IntroducingSocial Geographies*,Oxford University Press.
7. SmithD.M.,1977: *Humangeography:AWelfareApproach*,Edward Arnold,London.
8. SmithD.M.,1994: *Geography and SocialJustice*,Blackwell,Oxford.
9. SmithS.J.,PainR.,MarstonS.A.,JonesJ.P.,2009:*TheSAGEHandbookofSocialGeographies*, SagePublications.
10. Sopher,David (1980): *AnExploration ofIndia*,CornellUniversity Press, Ithasa
11. Valentine G., 2001: *Social Geographies: Space and Society*, Prentice Hall.

Elective Generic Papers

6. Disaster Management- GEOGH105EG

Course Code	**GEOGH105EG**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Disasters: Concepts, Hazards, Risk and Vulnerability Classification of Disaster	20	7	0
II.	**Natural Disasters in India** Flood, Landslide, Drought, Cyclone, Earthquake and Tsunami: Causes, Impact and Distribution	15	6	0
III.	**Human Induced Disasters in India** Fire, Road accidents, DID (Development Induced Disasters): Causes, Impact and Distribution	15	6	0
IV.	**Response and Mitigation to Disasters**: Mitigation and Preparedness, NDMA and NIDM Indigenous Knowledge and Community-Based Disaster Management Do's and Don'ts During and Post Disasters	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Governmentof India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disaster:Hydrological,MarineandGeological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU,New Delhi. Chapter 1, 2 and 3
5. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, 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. Dordrecht.

Geography of Tourism- GEOGH106EG

Course Code	**GEOGH106EG**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOG101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Concept nature scope and issues of geography of Tourism Geographical Parameters of Tourismby Robinson.	20	7	0
II.	**Type of Tourism** Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage Tourism	15	6	0
III.	**Recent Trends of Tourism** International and Regional; Domestic Tourism (India); Eco-Tourism, Sustainable Tourism, Impact of Tourism on Economy; Environment; Society	15	6	0
IV.	**Tourismin India** Tourism Infrastructure: A Case Study of Himachal Pradesh National TourismPolicy	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects. Kanishka, New Delhi.
2. Hall, M. and Stephen, P. (2006) Geography of Tourismand Recreation – Environment, Place and Space, Routledge, London.
3. Kamra, K. K. and Chand, M. (2007) Basics ofTourism: Theory, Operation and Practise, Kanishka Publishers, Pune.
4. Page, S. J. (2011) TourismManagement: An Introduction, Butterworth-Heinemann-USA. Chapter 2.
5. Raj, R. and Nigel, D. (2007) Morpeth Religious Tourismand Pilgrimage Festivals Management: An International perspective by, CABI, Cambridge, USA, www.cabi.org.
6. Tourism Recreation and Research Journal, Center for Tourism Research and Development, Lucknow
7. Singh Jagbir (2014) "Eco-Tourism" Published by - I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

6.Spatial Information Technology- GEOGH107EG

Course Code	**GEOGH107EG**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Discipline Specific Elective**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Definitions,ConceptandHistoricalDevelopment	20	7	0
II.	**SpatialInformation/Data** Webdatasources;Registrationandprojection; Datastructures;Data interpolationandmodeling.	15	6	0
III.	**Workingofspatialinformationsystem** FunctionsofSpatialinformationsystem:Informationretrieval; Topologicalmodeling;Networks; Overlay;Dataoutput.	15	6	0
IV.	**Application** ApplicationofSpatialInformationTechnology in Geography	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. C.EsperançaandH.Samet,AnoverviewoftheSANDspatialdatabasesystem,toappearin CommunicationsoftheACM,1997.http://www.cs.umd.edu/~hjs/pubs/sandprog.ps.gz
2. G.Hjaltason and H.Samet, RankinginSpatialDatabasesinAdvancesinSpatialDatabases—4th Symposium,SSD'95,M.J.EgenhoferandJ.R.Herring,Eds.,LectureNotesinComputer Science951,Springer-Verlag,Berlin,1995,83-95.http://www.cs.umd.edu/~hjs/pubs/incnear.ps
3. H. Samet, Spatial DataStructures in Modern Database Systems: The Object Model, Interoperability,andBeyond,W.Kim,Ed.,Addison-Wesley/ACM Press,1995,361-385. http://www.cs.umd.edu/~hjs/pubs/kim.ps
4. H.Samet,ApplicationsofSpatialDataStructures:ComputerGraphics,ImageProcessing,and GIS,Addison-Wesley,Reading,MA,1990.ISBN0-201-50300-0.
6. H.Samet,TheDesignandAnalysisofSpatialDataStructures,Addison-Wesley,Reading,MA, 1990.ISBN0-201-50255-0.
7. H.SametandW.G.Aref,SpatialDataModelsandQueryProcessinginModernDatabase Systems:TheObjectModel,Interoperability, andBeyond,W.Kim,Ed.,Addison-Wesley/ACM Press,1995,338-360.http://www.cs.umd.edu/~hjs/pubs/kim2.ps

8. C. D. Tomlin, GeographicInformation Systems and Cartographic Modeling, Prentice-Hall, EnglewoodCliffs,NJ,1990.ISBN0-13-350927-3.

Regional Development - GEOGH108EG

Course Code	GEOGH108EG		
Credits-6	L	T	P
	65	25	0
Course Type	Discipline Specific Elective		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Conceptof Region, Types of Regions: Formal, Functional and Vernacular Need of Regional Planning	20	7	0
II.	**Choice of a Region for Planning** Characteristics of an Ideal Planning Region Delineation of Planning Region Regionalization of India for Planning (Agro Ecological Zones)	15	6	0
III.	**Strategies/Models for Regional Planning** Growth Pole Model of Perroux Growth Centre Model in Indian Context	15	6	0
IV.	**ProblemRegions and Regional Planning** Backward Regions and Regional Plans- Special Area Development Plansin India DVC-Its Success Story and the Failures	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. Adell,Germán(1999)LiteratureReview:TheoriesandModelsOfThePeri-Urban Interface:A ChangingConceptualLandscape,Peri-urbanResearchProjectTeam, DevelopmentPlanning Unit,UniversityCollegeLondonat
2. Bhatt,L.S.(1976)MicroLevelPlanning inIndia.KBPublication,Delhi
3. DeshpandeC.D.,1992:*India: A Regional Interpretation*, ICSSR, New Delhi.
4. DrezeJ.andA.Sen,IndianDevelopment:SelectRegionalPerspectives(Oxford:Oxford UniversityPress,1996).
5. Ses,Amratya(2000)DevelopmentasFreedom.RandomHouse,Toronto
6. Raza,M.,Ed.(1988).RegionalDevelopment.ContributionstoIndianGeography.NewDelhi, HeritagePublishers.
7. Rapley,John(2007)UnderstandingDevelopment:TheoryandPractice inthe3rdWorld.Lynne Rienner,London.
8. Schmidt-Kallert,Einhard(2005)AShortIntroductiontoMicro-RegionalPlanning,Foodand AgricultureOrganizationoftheUnitedNations(FAO)at
9. SdyasukGalinaand PSengupta(1967): *Economic Regionalisation of India*,CensusofIndia

8.Climate Change: Vulnerability and Adaptation- GEOGH211EG

Course Code	**GEOGH211EG**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Elective Generic**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	**T**	**P**
I.	**Introduction** Concept and understanding of Climate Change Green House Gases and Global Warming	20	7	0
II.	**Climate Change and Vulnerability** Physical Vulnerability Economic Vulnerability Social Vulnerability	15	6	0
III.	**Impact of Climate Change on** Agriculture and Water Flora and Fauna Human Health	15	6	0
IV.	**Adaptation and Mitigation** Global Initiatives with Particular Reference to South Asia. National Action Plan on Climate Change; Local Initiatives (Urban Local Bodies, Panchayats)	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorial and P-Practical and Practices

Further Readings

1. IPCC.(2007)ClimateChange2007: Impacts,AdaptationandVulnerability.Contribution ofWorking GroupIItotheFourthAssessmentReport oftheIntergovernmentalPanelon ClimateChange.
2. IPCC (2014)*ClimateChange2014:Impacts,Adaptation,andVulnerability.Part A: Global and SectoralAspects.ContributionofWorking Group IItotheFifth AssessmentReport ofthe IntergovernmentalPanel on Climate Change*CambridgeUniversity Press,Cambridge,United Kingdomand New York, NY, USA.
3. IPCC (2014)*ClimateChange2014:Impacts,Adaptation,andVulnerability.Part B:Regional Aspects.ContributionofWorkingGroupII tothe FifthAssessmentReportoftheIntergovernmental Panel on Climate Change*CambridgeUniversity Press,Cambridge,UnitedKingdomandNew York, NY, USA.
4. Palutikof, J. P., vander Linden, P. J.andHanson, C.E.(eds.), Cambridge University Press, Cambridge,UK.
5. OECD.(2008) ClimateChange Mitigation:WhatDoweDo?Organisation andEconomicCo-operation and Development.
6. UNEP.(2007)GlobalEnvironmentOutlook: GEO4:EnvironmentforDevelopment,UnitedNations Environment Programme.

7. Singh,M.,Singh,R.B.andHassan,M.I.(Eds.)(2014)Climatechangeandbiodiversity:Proceedings of IGURohtakConference, Volume 1. Advances in Geographical and Environmental Studies, Springer
8. Sen Roy, S. and Singh, R.B. (2002)Climate Variability, Extreme Events and Agricultural Productivityin MountainRegions,Oxford&IBHPub.,NewDelhi.

Rural Development- GEOGH212EG

Course Code	GEOGH212EG		
Credits-6	L	T	P
	65	25	0
Course Type	Elective Generic		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

CourseContentandCreditScheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** DefiningDevelopment:Inter-DependenceofUrbanandRuralSectorsoftheEconomy NeedforRuralDevelopment, GandhianApproachofRuralDevelopment.	20	7	0
II.	**RuralEconomicBase** PanchayatirajSystem,AgricultureandAlliedSectors. AreaBasedApproachtoRuralDevelopment: DroughtProneAreaProgrammes, PMGSY.	15	6	0
III.	**TargetGroupApproachtoRuralDevelopment** MNREGA, JanDhanYojana Rural Connectivity	15	6	0
IV.	**ProvisionofServices** PhysicalandSocio-EconomicAccesstoElementaryEducation andPrimary HealthCare Microcredit	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

Reading List

1. GilgA.W.,1985:*AnIntroductionto Rural Geography*, Edwin Arnold, London.
2. Krishnamurthy,J.2000:*RuralDevelopment-ProblemsandProspects*,RawatPubls.,Jaipur
3. Lee D.A.andChaudhriD.P.(eds.),1983:*RuralDevelopmentandState*,Methuen,London.
4. MisraR.P.andSundaram,K.V.(eds.),1979:*RuralAreaDevelopment:Perspectivesand Approaches*, Sterling, New Delhi.
5. Misra,R.P.(ed.),1985:*RuralDevelopment:CapitalistandSocialistPaths*,Vol.1,Concept, New Delhi.
6. PalioneM.,1984:*RuralGeography*,HarperandRow,London.
7. RamachandranH.andGuimaraesJ.P.C.,1991:*IntegratedRuralDevelopmentinAsia–Leaning from Recent Experience*, Concept Publishing, New Delhi.

8. RobbP.(ed.),1983:*RuralSouthAsia:Linkages,ChangeandDevelopment*,CurzonPress.
9. UNAPDI1986:*LocalLevel Planning and Rural Development: Alternative Strategies*.(United NationsAsian&PacificDevelopmentInstitute,Bangkok),ConceptPubls.Co.,NewDelhi.
10. WanmaliS.,1992:*RuralInfrastructureSettlementSystemsandDevelopmentoftheRegional EconomyinSouthIndia*,InternationalFoodPolicyResearchInstitute,Washington,D.C.
11. Yugandhar,B.N.andMukherjee,Neela(eds.)1991:*StudiesinVillageIndia:IssuesinRural Development*, Concept Publs. Co., New Delhi.

9. Industrial Geography- GEOGH213EG

Course Code	GEOGH213EG		
Credits-6	L	T	P
	65	25	0
Course Type	Elective Generic		
Lectures to be Delivered	90		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours)		
		L	T	P
I.	**Introduction** Definition, NatureandScopeofIndustrialGeography	20	7	0
II.	**Types,GeographicalCharacteristicsandLocationofIndustries** Weber'sTheory, Smalland MediumIndustries,HeavyIndustries:CoalandIronbasedindustries,RuralbasedIndustries	15	6	0
III.	**Industrial Complexes** Mumbai-Pune Industrial Region, Bengaluru-ChennaiIndustrialRegion ChotaNagpurIndustrialRegion	15	6	0
IV.	**ImpactofIndustrializationinIndia** Environmental Social Economic IndustrialPolicyofIndia	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

ReadingList

1. AlexanderJ.W.(1979).EconomicGeography,PrinticeHallofIndiaPvt.Ltd.,New Delhi.
2. GohChengLeong(1997)."Humanand economicgeography",Oxford University Press,New York.
3. Thoman,R.S.,ConklingE.C.andYeates, M.H.(1968). Geography of EconomicActivity,McGraw HillBookCompany,1968.
4. Miller,E.(1962)Geography ofManufacturingPrinticeHall-EnglewoodCliff,New Jersey
5. GunnarAlexandersson(1967)."Geography ofManufacturing,PrenticeHall,New Jersey Truman,A.Harishorn,John W.Alexander(2000)" EconomicGeography",Prentice HallofIndia Ltd., New Delhi.
6. Singh,Jagdish 2003: *India-AComprehensive&SystematicGeography*, GyanodayaPrakashan, Gorakhpur.
7. Tirtha,Ranjit 2002:*Geography of India*,Rawat Publs.,Jaipur & New Delhi.
8. Pathak, C.R.2003:*SpatialStructure andProcessesofDevelopment inIndia*.RegionalScience Assoc., Kolkata.

9. Tiwari,R.C.(2007)Geography ofIndia.PrayagPustak Bhawan,Allahabad
10.Sharma, T.C.(2013) EconomicGeographyof India. RawatPublication,Jaipur

Sustainable Development- GEOGH214EG

Course Code	**GEOGH214EG**		
Credits-6	**L**	**T**	**P**
	65	**25**	**0**
Course Type	**Elective gENERIC**		
Lectures to be Delivered	**90**		

Note: CCA & AE scheme is same as in Paper GEOGH101CC

Course Content and Credit Scheme

Unit	Topic	Allotted Time (Hours		
		L	**T**	**P**
I.	**Introduction** Sustainable Development: Definition, Components, Limitations and Historical Background.	20	7	0
II.	**The Millennium Development Goals** National Strategies and International Experiences Sustainable Regional Development Need and examples from any two Ecosystems	15	6	0
III.	**Inclusive Development** Education, Health; Climate Change Theroleofhigher educationinsustainability SustainableLivelihoodModel Policies and Global Cooperation for Climate Change	15	6	0
IV.	**SustainableDevelopmentPoliciesandProgrammes** Rio+20,Financing for Sustainable Development; National Environmental Policy, Clean Development Mechanism (CDM).	15	6	0
	Total Hours	**65**	**25**	**0**

L-Lecture, T-Tutorialand P-Practical and Practices

ReadingList

1. Agyeman,Julian, RobertD.Bullard andBobEvans(Eds.)(2003)Just Sustainabilities:Development in an UnequalWorld.London:Earthscan.(Introductionandconclusion.).
2. Ayers, Jessica and David Dodman(2010)“Climatechange adaptationand developmentI:thestateofthe debate”.Progressin DevelopmentStudies10 (2):161-168.
3. Baker,Susan(2006)SustainableDevelopment.MiltonPark,Abingdon,Oxon;New York,N.Y.: Routledge.(Chapter2,“The conceptofsustainabledevelopment”).
4. Brosius,Peter(1997)“Endangeredforest,endangeredpeople: Environmentalist representations of indigenous knowledge”,HumanEcology25: 47-69.
5. Lohman,Larry (2003)“Re-imaginingthepopulation debate”.CornerHouseBriefing28.
6. Martínez-Alier, Joan et al (2010) “Sustainablede-growth:Mapping the context, criticisms andfuture prospectsofanemergentparadigm”Ecological Economics69: 1741-1747.
7. Merchant,Carolyn(Ed.)(1994)Ecology.Atlantic Highlands,N.J:HumanitiesPress.(Introduction,pp1-25.)
8. Osorio,Leonardoetal(2005)“Debates onsustainabledevelopment:towardsaholisticviewofreality”. Environment, Development and Sustainability 7: 501-518.
9. Robbins,Paul (2004)PoliticalEcology:ACriticalIntroduction.BlackwellPublishing.