

MANGALORE UNIVERSITY

M.Sc. GEOGRAPHY

Consolidated Course and Title Programme: M.Sc. in Geography

Preface

The Masters Programme hosted in the Department of Geography at Mangalore University is designed to reflect the knowledge of theories, concepts, techniques and technologies in human and physical aspects of geography. Geography is the study of physical environments and human habitats. It deals with people and places. It covers issues such as global warming and climate change, food and water resources, management of ecosystems, human modifications of land, regional economic disparities, and urban infrastructure from various theoretical positions. Both a physical and a social science, it provides a unique opportunity to obtain a broad exposure to modes of analyzing the many ecological and cultural problems of contemporary society. The department is based in the Faculty of Science, Technology and Education and offers degrees at the Masters (M.Sc.), and Research (Ph.D.) levels.

OBTLE Abbreviations

OBTLE - Outcome Based Teaching and Learning Education

CL - Cognitive Level

Re - Remember

Un - Understand

Ap - Apply

An - Analyze

Ev - Evaluate

Cr - Create

KC - Knowledge Category

Fa - Factual

Co – Conceptual

Pr – Procedural

Me - Meta Cognitive



Programme Outcomes (POs) of Mangalore University for P.G. Programme

PO1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2. Communication: Listen, read, comprehend, speak and write clearly and effectively in person and through electronic media in English/regional language/language of the discipline and exhibit sound domain knowledge including academic concepts and terminologies.

PO3. Self-directed and Life-long Learning: Engage in independent and lifelong learning in the broadest context of socio-technological changes.

PO4. Ethics: Understand different value systems including one's own, as also the moral dimensions of actions, and accept responsibility for it.

General Structure of the M.Sc. Programme

Duration	:	04 Semesters
Minimum credits required	:	92
Number of Core Courses	:	70 credits
Elective Courses within the Department	:	12 Credits
Multi-Disciplinary Electives	:	06 Credits
Dissertation	:	04 Credits

Programme Specific Outcomes (PSOs) of Department of Geography for MSc Geography

PSO1. Understand the major biophysical and social patterns in the world, and the key drivers that give rise to those patterns. (PO1)

PSO2. Demonstrate in-depth knowledge of theories, concepts, techniques and technologies in human and physical aspects of geography, as well as geographic information science and technology, through real-world practical applications at the local, regional, and global scales. (PO3)

PSO3. Apply systems thinking and critical thinking skills to analyze problems and potential solutions in socio-economic-ecological systems at the human-environment interface. (PO1)

PSO4. Practice obtaining, analyzing, and interpreting complex geographic data. (PO3)

PSO5. Practice effective communication of concepts and problems to both scientific and public audiences. (PO2)

PSO6. Work effectively in interdisciplinary and multicultural real-world contexts to combine theory and practice in responding to local to global issues for humans and nonhumans. (PO4)

Scheme and Credits

1st Semester

2nd Semester

Course Code	Course Title	Credits	Course Code	Course Title	Credits
GYH 401	Advance Geomorphology	4	GYH 451	Development of Geographic Thought	4
GYH 402	Advance Climatology	4	GYH 452	Geography of Resources	4
GYH 403	Advance Oceanography	4	GYH 453	Basics of Remote Sensing	4
GYH 404	Economic Geography	4	GYH 454 GYE 455	Geography of Settlements OR Geography of Tourism	4
GYP 405	Techniques in Physical Geography	3	GYE 456 GYE 457 GYP 458	Environmental Geography OR Geography of Tourism OR Resource Conservation and Management	3
GYP 406	Interpretation of Maps	3	GYH 459	Statistical Methods in Geography	3
	-----		GYH 460	Cartographic Methods	3

3rd Semester**4th Semester**

Course Code	Course Title	Credits	Course Code	Course Title	Credits
GYH 501	Urban Geography	4	GYH 551	Agricultural Geography	4
GYH 502	Research Methodology	4	GYH 552	Regional Planning & Development	4
GYH 503	Fundamentals of GIS & GPS	4	GYS 553 Or GYS 554	Population Geography Or Environmental Geography	3
GYS 504 Or GYS 505	Natural Disaster Management Or Coastal Management	4	GYS 555 Or GYS 556	Cultural Geography Or Medical Geography	3
GYE 506 Or GYE 507 Or GYE 508	Geography of India (With Special Reference to Karnataka) Or Medical Geography Or Physical Geography	3	GYP 557	Research Techniques in Human Geography	3
GYP 509	Interpretation of Aerial Photographs and Satellite Imageries	3	GYP 558	Dissertation, field Study Tour	4
GYP 510	Applications in GIS & GPS	3		-----	

Proposed Division of 11 Core Courses based on PSOs

Theoretical Foundations – Modern Geographical Thought, Environmental Geography, Analytical Geomorphology, Urban Geography

Methodological Foundations -, Research Methodology

Contemporary Knowledge – Climatology and Climate Change, Contemporary Human Geography, Disaster management

GI Technology and Tools - Geographic Information Systems, Remote Sensing, Statistics

Proposed Semester Wise Distribution of Courses

Semester I – Core Courses

Course Code	Course Name	Credits	Internal Evaluation	External Evaluation
GYH 401	Advanced Geomorphology	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 402	Advanced Climatology	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 403	Advanced Oceanography	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 404	Economic Geography	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYP 405	Techniques in Physical Geography	03	Mid Sem. Exam	End Sem. Exam
GYP 406	Interpretation of Maps	03	Mid Sem. Exam	End Sem. Exam

Semester II – Core Courses

Course Code	Course Name	Credits	Internal Evaluation	External Evaluation
GYH 451	Development of Geographic Thought	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 452	Geography of Resources	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 453	Basics of Remote Sensing	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYS 454 Or GYS 455	Geography of Settlements Or Geography of Tourism	03	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYP 459	Statistical Methods in Geography	03	Mid Sem. Exam	End Sem. Exam
GYP 460	Cartographic Methods	03	Mid Sem. Exam	End Sem. Exam

Semester II – Elective Courses - Multi-disciplinary Elective

Course Code	Course Name	Credits	Internal Evaluation	External Evaluation
GYE 456	Environmental Geography	03	Assignment, Mid Sem. Exam	End Sem. Exam
		04	Assignment, Mid Sem. Exam	End Sem. Exam
GYE458	Resources Conservation and Management	04	Assignment, Mid Sem. Exam	End Sem. Exam

Semester III – Core Courses

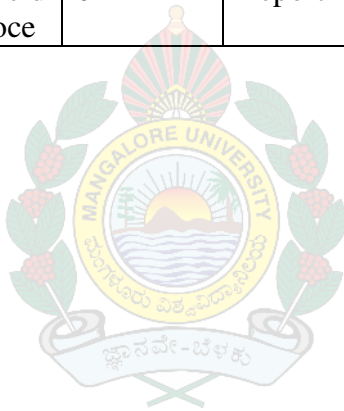
Course Code	Course Name	Credits	Internal Evaluation	External Evaluation
GYH 501	Urban Geography	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 502	Research Methodology	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH 503	Fundamentals of GIS & GPS	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYS 504 Or GYS 505	Natural Disaster Management Or Coastal Management	03	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYP 509	Interpretation of Aerial Photographs and Satellite Imageries	03	Mid Sem. Exam	End Sem. Exam
GYP 510	Applications in GIS & GPS	03	Mid Sem. Exam	End Sem. Exam

Semester III – Elective Courses (Any One)

Course Code	Course Name	Credits	Internal Evaluation	External Evaluation
GYE 506	Geography of India (With Special Reference to Karnataka)	03	Assignment, Mid Sem. Exam	End Sem. Exam
GYE 507	Medical Geography		Assignment, Mid Sem. Exam	End Sem. Exam
GYE 508	Physical Geography		Assignment, Mid Sem. Exam	End Sem. Exam

Semester IV – Core Courses

Course Code	Course Name	Credits	Internal Evaluation	External Evaluation
GYH551	Agricultural Geography	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH552	Regional Planning & Development	04	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH553 OR GYH554	Population Geography Or Environmental Geography	03	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYH555OR GYHH556	Cultural Geography Or Medical Geography	03	Assignment, Seminar Mid Sem. Exam	End Sem. Exam
GYP557	Research Techniques in Human Geography	03	Mid Sem. Exam	End Sem. Exam
GYP558	Dissertation, field Study Tour/Viva-Voce	04	Report	Viva-voce



Semester Wise Course Details

Course Outcomes, Content, Tagging and Reading list of Core and Elective Courses

Semester I

HARD CORE COURSE: GYH 401: Advanced Geomorphology

Course Learning Outcomes:

- CO1. Demonstrate knowledge of the historical evolution and concepts of geomorphology.
- CO2. Analyze the significance of spatial and temporal scales in geomorphology.
- CO3. Analyze critically the theories and models in the real world with different perspectives.
- CO4. Analyze human interventions and effects in geomorphologic processes.
- CO5. Apply conceptual and theoretical measures to analyze geomorphic processes.
- CO6. Apply basic techniques from global to regional level to identify different landforms

Course Content:

- Unit 1:** Geomorphology: Definition and its fundamental concepts. Interior of the earth: structure and convectional currents. Theory of isostasy: Views of Pratt and Airy. Geological time scale. **-10**
- Unit 2:** Theory of Plate tectonics and sea floor spreading, Wegener's theory of continental drift. Earth movements: Organic, epeirogenic movements and resultant landforms: Folds and faults and their types. Volcanoes: reasons, types of eruptions, significance, volcanic activity, products, landforms, geographical distribution and major volcanic eruptions occurred. **-10**
- Unit 3:** Earthquakes: Causes, measuring earthquake, landforms, geographical distribution and key earthquakes so far. Tsunamis: Causes, consequences and major tsunamis taken places. **-10**
- Unit 4:** Process of weathering and mass wasting, landforms produced by – Drainage system and drainage patterns. Glaciers, wind, underground water and sea waves: process of these and land forms produced. Critical study of the concept of cycle of erosion – W.M. Davis and W. Penck –Recent trends in geomorphology. **-12**

Essential Readings

1. Anshert, F., (1996), 'Introduction to Geomorphology', Arnold, London, Sydney, Auckland.
2. Bloom, A. L. (2002), 'Geomorphology: A Systematic Analysis of Late Cenozoic Landforms', Pearson Education Pvt. Ltd., and Singapore.
3. Chattopadhyay, S. 2017. Geomorphological Field Guide Book on Laterites and Backwaters of Kerala (Edited by Amal Kar). Indian Institute of Geomorphologists, Allahabad.
4. Chorley R. J, Schumm, S.A. and Sugden D.E. (1984): Geomorphology, Methuen, London.
5. Cooke, R. U. and Doornkamp, J.C., (1974). Geomorphology in Environmental
Douglas, J. and Spencer, I. (1985): Environmental Change and Tropical Geomorphology, George Allen and Unwin, London.
6. Garner, H.F. (1974): Origin of Landscapes A synthesis in Geomorphology, Oxford University Press, New Delhi.
7. Hart, M.G. (1986): Geomorphology: Pure and Applied, George Allen and Unwin, London.

8. John R.hails., 1977. “Applied Geomorphology” Elsevier Scientific publishing Company, New York.
9. Nair, K. K.(2007) Quaternary geology and geomorphology of coastal plains of Kerala, Geological Survey of India.
10. Prasannakumar,V.(2007)Geomorphology International Centre for Kerala Studies, University of Kerala.
11. Sharma, H. S. (ed.) (1991): Indian Geomorphology, Concept, New Delhi.
12. Spark B.W. (1972) Geomorphology, Longman, New York.
13. Strahler A.H. and Strahler, A.N. (1998) Introducing Physical Geography, John Wiley and Sons, Inc. New York.
14. Thornbury, W.D. (1960) Principles of Geomorphology”, John Wiley and Sons, New York.



HARD CORE COURSE: GYH 402: Advanced Climatology

Course Learning Outcome:

- CO1. Understand the fundamentals climatology and climate change.
- CO2. Evaluate climate change scenarios and their impacts
- CO3. Analyses observed and projected trends and impacts of climate change.
- CO4. Evaluate the whole framework of international negotiations on climate change with reference to India's position
- CO5. Demonstrate local specific adaptation and mitigation strategies to curb climate change risk

Course Content:

- Unit 1:** Definitions, nature, scope and content of climatology. Elements of weather and climate. Origin, composition and structure of atmosphere. Temperature: Solar radiation principles, solar budget, greenhouse effects, horizontal and vertical distribution of temperature & inversion of temperature. Global warming and global cooling. -12
- Unit 2:** Atmospheric pressure: Pressure gradient, Coriolis Effect, horizontal and vertical distribution of air pressure and pressure belts. Winds: planetary, monsoons, local winds, jet streams. Mechanism of monsoon. Humidity and precipitation. El-Nino and la Nina phenomena, el-nino-southern oscillation (ENSO). -12
- Unit 3:** Air masses: Definition, nature, source region, classification of air masses. Fronts - frontogenesis and frontolysis, classification of fronts, frontal zones. Cyclones: types, tropical cyclones-Origin, types and structure of tropical cyclone. Distribution of tropical and temperate cyclones, features of temperate cyclone, source region, and origin of temperate cyclone. Polar front, study of weather disturbances through satellites. -16
- Unit 4:** Classification of world climates: Koppen's & Thornthwaite classification. Changes in world climate: Global warming, depletion of ozone layer & greenhouse effect. Weather forecasting, problems and prospects of weather forecasting in India. -14

Essential Readings

1. Adger, W. N. 2006. Vulnerability, Global Environmental Change, 16 (3), 268-281
2. Barros, Vicente R. (eds.), 2014. Climate Change 2014. Impacts, Adaptation and Vulnerability: Global and Sectoral Aspects. Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Part B; Regional Aspect), Cambridge University Press, New York.
3. Barry, R.G. and Chorley, R.J. 2003. Atmosphere, Weather and Climate, Routledge, London
4. Brewster, E. N. 2010. Climate Change Adaptation: Steps for a Vulnerable Planet, New York, Nova Science
5. Critchfield, H. J. 1983. General Climatology. Prentice Hall India Ltd (2010 Reprint)
6. IPCC, 2013. Climate Change 2013: The Physical Science Basis, the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA,
7. John E Hobbs, 2016. Applied climatology: A study of Atmospheric Resources, Elsevier, London
8. Lal, D. S. 2003. Climatology, Allahabad: Sharda Pustak Bhawa
9. Oliver, J.E. 1993. Climatology: An Atmospheric Science, Pearson Education India, New Delhi
10. Trewartha G. T., 1980. An Introduction to Climate, McGraw Hill Company, New York.

HARD CORE COURSE: GYH 403: Advanced Oceanography

Course Learning Outcome:

- CO1. Understand the fundamentals of oceanography and ocean floor.
- CO2. Evaluate ocean relief of submarine and chemical properties.
- CO3. To understand the movements and circulation of ocean water.
- CO4. To understand and evaluate ocean deposits and its impact of human on the marine environment.

Unit 1: Scope and Content of Oceanography: Configuration of Ocean Floor- Continental Shelf, Slope, Ocean Plains and Ocean Deeps. **-13**

Unit2: Origin of Submarine: Relief-Submarine Relief of the Atlantic, the Pacific and the Indian Ocean. Physical and Chemical Properties of Ocean waters: Composition, Temperature and Salinity. **-14**

Unit 3: Movements and Circulation of Ocean Water: Waves, Tides, Currents and their Effects. Coastal Ecology-Coastal Dunes and Mangroves. **-13**

Unit 4: Ocean Deposits: Types and Distribution, Coral Reefs: Origin, Types and Theories of Origin of Coral Reefs (Darwin, Dally and Murray). Impact of Humans on the Marine Environment. Recent Trends in Oceanography. **-14**

References:

1. Lal. D.S. (2003) Oceanography, Sharada Pustak Bhavan, Allahabad 02.
2. King Cuchalaine A.M. (2000) Oceanography for geographers, Edward Arnold publications, London.
3. Savindra Singh (2004): physical geography, Prayog Pustak Bhavan, Allahabad -02
4. Siddharth (2005) Oceanography: A brief introduction, Rawat Publishers. New Delhi.
5. Sharma RC (2000) Oceanography for Geographers, Chaitanya Publishers, Allahabad -02
6. Vattal and Sharma (2003), Oceanography for Geographers, Chaitanya Publishers, Allahabad -02
7. Yadav A.S. (2002): Geography of Minerals of Oceans, concept Publishers, New Delhi,
8. Basu S.K. (2003): Hand book of oceanography, Global vision, Delhi.
9. Garisson Tom (1999): Oceanography, Cole, Wadsworth, New York.
10. Sharma and Vattal (1962) Oceanography for Geographers, Chaitanya Publication House, Allahabad.
11. Turman Harold (1985); Introductory Oceanography, Bell & Howell Co. London.
12. <http://drs.nio.org/drs/index.jsp>

HARD CORE COURSE: GYH 404: Economic Geography

Course learning outcomes:

- CO1. Analyse how the economy is organized within the power space relation.
- CO2. Understand the key drivers of economic change
- CO3. Evaluate critically how different theories and models are applicable in the economic development of different regions.
- CO4. Demonstrate the interdependence of different sectors of economy.
- CO5. Evaluate the process of global shift and identities in the capitalist economy.
- CO6. Analyse how the changing political powers and policies achieving regional identities.

- Unit 1: Nature, scope and importance of economic geography, evolution of economic geography, approaches to economic geography, concept of economy, spatial structure of the economy, economy and economic geography. -13
- Unit 2: Primary economic activities: Hunting, fishing, food gathering, herding, timbering, agriculture and mining. Commercial economic activities: Dairying, mixed farming, poultry, and plantations. Fishing: marine, fresh water and aquaculture. Issues and challenges for the development of fishing. -14
- Unit 3: Knowledge-based technologies: Electronic age, spatial information technology, telecommunication, high tech-transport, effects of liberalization, privatization and globalization (LPG) on economic activities in the world and India. -14
- Unit 4: Economic development: Growth and development, definition, concept, contents of development and sustainable development. Human resource development: Concept, measurement, indicators and components. - 13

Essential Readings

1. Alexander J. W., 1963: Economic Geography, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Bagchi-Sen S. and Smith H. L., 2006: Economic Geography: Past, Present and Future, Taylor and Francis.
3. Berry, B.J.L. et al. (1976) : Geography and Economic Systems, Prentice Hall, Englewood Cliff.
4. Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
5. Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press.
6. Gautam, A. 2010. Advanced Economic Geography. Sharda Pustak Bhawan, Allhabad. Hodder B. W. and Lee R., 1974: Economic Geography, Taylor and Francis. Hudson, R. 2005. Economic Geography. Sage Publication, New Delhi.
7. Jones & Darkenwald (1960): Economic Geography, New York
8. Knowled, R. and Wareing, J. 1992. Economic and Social Geography. Rupa and Company, Calcutta. Knox, P. 2003. The Geography of World Economy. Arnold, London.
9. Naresh Kumar (1991) Geography of Transportation, Concept Publications. Rostov, W.W. (1960): The Stages of Economic Growth, Cambridge Univ. Press, London.
10. Saxena, H.M. 2013. Economic Geography. Rawat Publications, Jaipur.
11. Sharma T.C. and Countinho. O (1998) – Economic and Commercial Geography of India, Vikas Publishing house, Delhi.
12. Wheeler, J.O. et.al. (1995): Economic Geography, John Wiley, New York.
13. Willington D. E., 2008: Economic Geography, Husband Press.
14. World Bank (2009): World Development Report, Washington D.C.

CORE COURSE: GYP 405: Techniques in Physical Geography

Course learning outcomes:

CO1: Understand the different types of profile drawing.

CO2: Analyse the morphometric and stream order bifurcation ratio in techniques in physical geography.

CO3: Evaluate the slope analysis.

CO4: Understand the Smith and Wentworth's method.

CO5: understand the different types of climatic graphs.

Unit 1: Profile: Definition and Uses, Profile Drawing and Types of Profiles. – 13

Unit 2: Morphometric Analysis (linear features). Morphometry, Stream Ordering, Bifurcation Ratio and Drainage Density. – 14

Unit 3: Slope Analysis: Meaning, Definition- Smith's Method and Wentworth's Method. - 14

Unit 4: Climatic graphs: Hyther-graphs, Climo-graphs and Ergo-graph. - 13

Reference:

1. Monkhouse F.J and Wilkinson HR (1952) Maps and Diagrams, their compilations and concentration, Muthuen & Co. London.
2. Harwel JD, Newson MD. (1973)- Techniques in Physical Geography, Mc. Millan Edu. Ltd. London.
3. Mishra RP. And Ramesh A (1968) – Fundamentals of Cartography, Prasaranga, University of Mysore, Mysore.
4. Robinson & Marison (1995), Elements of Cartography USA.
5. R.L. Singh (2010) Practical Geography, Sharada Pustak Bhavan, 11, University Road, Allahabad, UP - India

CORE COURSE: GYP 406: Interpretation of Maps

Course Learning Outcomes:

- CO1: Understand the history and evolution of maps.
CO2: Understand the basic assumptions behind the making of maps.
CO3: To describe the physical features of any area.
CO4: Analyse topography through the interpretation of contours.
CO5: Interpret Indian daily weather maps.

Unit 1: Interpretation of SOI Topomaps: Conventional Signs and Symbols- Marginal Information- Physiography – Natural and Man Made Drainage – Natural and Human Induced Vegetation – Transportation and Settlements.

- 14

Unit 2: Interpretation of Indian Daily Weather Maps, Sources of Weather Data IMD- Satellite and Modern Remote Wireless Techniques of Data Collection. Atmospheric Pressure Gradient and Isobar Trends- Wind Direction – Wind Rose – Other Weather Phenomena.

-14

Unit 3: Identification of Rocks - Five each in Igneous, Sedimentary, and Metamorphic Rocks. Identification of some Minerals and rocks (select 5).

-13

Unit 4: Drawing One and Two Point Perspective Block Diagrams. Sketches and Photographs of Landforms.

– 13

References:

1. Monkhouse F.J. & H.R. Wilkinson (1952) Maps and Diagrams, their compilations and concentration, Methuen & Co. London.
2. Ashis Sen (1997) Systematic Practical Geography, Oriental Longman Ltd. Kolkata
3. Namowitz S.N. & Donald B. Stone (1965) Earth Science – The World We Live in 3rd Edition, D. Vam North and company Inc. New Hersy, USA, pp. 3-59
4. Mishra R.P. (1969) Fundamentals of Cartography, Prasanga University of Mysore.
5. Harwell J.D. & M.D. Newson (1973) Techniques in Physical Geography, Macmillan Edn, Ltd. London.
6. R.L. Singh (2010) Practical Geography, Sharada Pustak Bhavan, 11, University Road, Allahabad, UP - India

Semester II

HARD CORE COURSE: GYH 451: Development of Geographic Thought

Course Learning Outcomes:

- CO1.** Understand historical evolution of the discipline geography
- CO2.** Analyze the relationship between geographical thought and practice
- CO3.** Analyze the relationship between geographical scholarship and larger socio-political processes
- CO4.** Evaluate the intermingling of imperialism and geographical knowledge
- CO5.** Understand one's own geographical perspective in relation to border historical discourses and concepts
- CO6.** Demonstrate geographical issues from a Third World perspective
- CO7.** Demonstrate the inclusive nature of 21st century geographical discourses

Unit 1: The field of geography: Definition and meaning of geography: Nature and scope of geography. Geography as a social and natural science. Evaluation of geographic thought. Limits in geography. Traditions in geography: Area differentiation, landscape theme, Environment theme, spatial distribution and geometric theme. Inter-disciplinary and intra-disciplinary approaches in geography.

Unit 2: Pioneers and their contributions to geography: Ancient period – greek, romans, Indians and Chinese. Medieval period - Arabs and geographical discoveries. Modern period – Alexander von Humboldt, Carl Ritter and Darwin. School of geography – German, French, British, American and Russian.

Unit 3: Dualism and dichotomies in geography – Determinism, possibilism, neo determinism and social determinism. Quantitative revolution. Geographical models–need, features, types and classification. Theory building. Geographical paradigms.

Unit 4: Explanations in geography-cognitive, cause & effect, temporal & functional, systems analysis and regional concepts. Modern themes in geographical thought – positivism, pragmatism, functionalism, existentialism, idealism, realism, marxism, radicalism, behaviouralism, and humanism.

References:

1. Adhikari S. (2004) Fundamentals of Geographic thought, concept publishers, New Delhi.
2. Dikshit R.D. (2001). Geographical Thought: A Conceptual History of ideas, Prentice Hall publishing Company, New Delhi-2
3. Harvey ME (2002) theme in Geographical thought, R.K. Publications and distributors, Ansari Road, New Delhi – 2.
4. Majid Hussain (2001) Evolution of Geographic thought, Rawat Publications, New Delhi-02
5. David Harvey (2000) Explanations in Geography, Macmillan, New York.
6. Peter Hagget (1972): Geography: A Modern Synthesis
7. Frazier J.W. (1982); Applied Geography, Prentice Hall, New Delhi.
8. Singh. I (2006): Diverse aspect of Geographical thought: ALFA Publications, New Delhi.
9. Dikshit R.D. (1997) Geographical Thought: A Contextual History of Ideas, Prentice hall of India, New Delhi.

HARD CORE COURSE: GYH 452: Geography of Resources

Course Learning Outcomes:

- CO1.** Understand the kind of resources and its consciousness.
- CO2.** Identify the types of soil, factors and its conservation.
- CO3.** To know the importance of water and forest resources.
- CO4.** Illustrate the livestock region major fishing ground in the world.
- CO5.** Analyse the classification of minerals and their distribution and its conservation.

Unit 1: Consciousness and Definition of Resources: The Concept of Resource- Wealth- Resistance and Neutral Stuff. Resource Creating Factors, Classification of Resources. -11

Unit 2: Soil: Soil Formation, Factors Influencing Soil Formation, Soil Characteristics and Soil Profile, Classification of Soil (zonal types) Soil erosion, Soil Conservation. -11

Unit 3: Water and Forest Resources: Water Resources and its Development in India, Water Conservation, water cycle and water budget. Forest Types and Distribution, Forest Products-Timber and Paper, Forest Decay, Forest Conservation. **Livestock:** Livestock Rearing in the World and Live Stock Regions, Live Stock Products: Milk, Meat and Wool. Major fishing Grounds of the world. - 20

Unit 4: Mineral Resources: Classification of Major Minerals, their Distribution and Production, Petroleum, Coal, Iron Ore, Bauxite and Copper. Mineral conservation and Mineral Policy of India. -12

References:

1. Guha J.L. and Chattoraj (2004), A New approach to economic geography, A study of resources, the world Press pvt. Ltd. Calcutta.
2. Zimmerwan- World resources and industries
3. Khanna K.K. and Gupta V.K (1993) Economic and Commercial Geography, Sultan Chand, New Delhi.
4. Mallappa P. (2004) Udyam Saupahmagalu, Chetan Book House, Mysore.
5. Roy. PR. (2001) Economic Geography- A study of Resources, New Central Book Agency, (p) ltd. Calcutta.
6. P. Hagget (1997), Geography, A Modern Synthesis, Haper and Roo publications, New York.
7. Dubey RN. And Negi BS (2002)- Economic Geography of India, Kitabmahal, Allahabad.
8. http://www.nationmaster.com/graph/geo_nat_res-geography-natural-resources

HARD CORE COURSE: GYH 453: Basics of Remote Sensing

Course Learning Outcomes

- CO1: Understand the history and evolution of Remote Sensing
- CO2: Identify and use various sources of satellite imageries from web platforms
- CO3: Illustrate the features of remote sensing data
- CO4: Carry out image processing using different software
- CO5: Analyse spatial data from imageries
- CO6: Analyse the temporal changes from imageries and prepare various thematic maps

Unit 1: Remote Sensing: Definition, electromagnetic radiation (EMR) and electromagnetic spectrum, interaction of EMR with the atmosphere and with the surface feature. Atmospheric window, spectral signature of common land covers (minerals, rocks, water, vegetation and urban area) concept and types of resolutions. History of remote sensing.

Unit 2: Fundamentals of Aerial Photography: Classification of aerial photographs on the basis of height and tilt, components of the camera, film, aerial platforms. Elements of Aerial photo interpretation: Formats of Imageries: Digital and Analog data.

Unit 3: Sensor & Platforms: Sensors: active and passive sensors, electro mechanical and optical sensors. Platforms: types, characteristics, payload of launch vehicles, -SLV, PSLV, GSLV, AGSLV, orbit positioning issues, errors induced due to platform disturbances. Microwave remote sensing: thermal remote sensing, interferometry SAR, SLAR. Future of remote sensing, Digital image processing, Organizations into remote sensing,

Unit 4: Application of Remote Sensing: Disaster mitigation and management, geology, soil mapping, ocean resource mapping, EIA, wetland management, forest resource management.

Essential Readings:

1. Bossler J.D (2002), Manual of Geospatial Science and Technology, Taylor and Francis, London.
2. Girard M.C and Girard C.M (2003), Processing of Remote Sensing Data, Oxford & IBH, New Delhi.
3. John R. Jensen (2000), Remote Sensing of the environment: An earth resource perspective, Pearson publication.
4. Lillesand T M., and Kiefer R W., (2000), Remote Sensing and Image interpretation, New York,
5. John.Wiley and Sons. Pradip Kumar Guha (2013), Remote Sensing for the beginner, Third Edition, East-West Press, New Delhi.
6. Suresh S and Mani K., (2017), Application of Remote Sensing in understanding the relationship Between NDVI and LST, IJRET, Vol. 6, Issue: 02.

SOFT COURSE: GYS 454: Geography of Settlements

Course learning outcomes:

CO1. Understand the significance and recent trends in settlements geography.

CO2. Access the functional classification of the settlements.

CO3. Evaluate the urban settlements and imphological Indian cities.

CO4. Analyse the theories of urban settlements and selected Indian cities.

Unit 1: General Introduction, Evolution & Distribution of Settlements: Nature, Scope, Significance and Recent Trends in Settlement Geography. **Evolution of Settlements in India:** Emergence of Village Settlements, Origin and Growth of Towns; Basic and Non-Basic Concepts in Settlement formation. Distribution of Settlements, Spacing of Settlements - Application of Models of Christaller and Losch. -14

Unit 2: The Functional classification of Settlements: Rural and Urban Settlements. **Rural Settlements** - Types of Rural Settlements, House Types, Morphology and Functions of Rural Settlements; Rural Service Centers and their Role in Urbanization Process. Indian Rural Settlements in Different Micro-Environmental Conditions: (a) Mountains (b) Desert Region (c) In the vicinity of Urban Centers. -13

Unit 3: Urban Settlements - Classification of Urban Places: Non-Functional and Functional. Morphology of Indian Cities and Its Comparison with Western Cities; Functional Relations between Urban Settlements and their umlands. -13

Unit 4: Theories in Settlement Geography – CBD, Centrifugal and centripetal forces theory, Urban Fringe, Urban structures theories. Rank size relationship. **Settlement Geography of selected Indian Cities:** Mumbai, Kolkata, Bangalore, Delhi, Chennai, Hyderabad, Pune, Lucknow, Patna, Jaipur and Chandigarh. -13

References:

1. Hudson, F. S. (1976) Geography of Settlements, Macdonald, London.
2. Northam Ray, M. (1979). Urban Geography, John Wiley and Sons, New York.
3. Ambrose, Peter, 1970: Concepts in Geography, Vol.-I, Settlement Pattern, Longman.
4. Baskin, C., (Translator) 1996: Central Places in Southern Germany, Prentice-Hall Inc. Englewood Cliffs New Jersey.
5. Haggett, Peter, Andrew D. Cliff and Allen Frey (Ed.) 1979: Locational Models Arnold Heinemann.
6. King, Leslie, J., 1986: Central Place Theory, Saga Publications, New Delhi.
7. Mayer, M. Harold and Clyde F. Kohn (Ed.) 1967 Readings in urban Geography, Central Book Depot, Allahabad.
8. Mitra, Asok, Mukherjee S and Bose, R., 1980: Indian Cities Abhinav Publications, New Delhi.
9. Nangia, Sudesh, 1976: Delhi Metropolitan Region, K.B. Publications, New Delhi.
10. Prakasa, Rao, V. L. S., 1992: Urbanization in India: Spatial Dimensions, Concept Publishing Co., New Delhi.
11. Ramachandran, R., 1992: Urbanization and Urban Systems in India, Oxford University Press, New Delhi.
12. Singh, R. L. and Kashi Nath Singh (Ed.) 1975: Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi.

SOFT COURSE: GYS 455: Geography of Tourism

Course Learning Outcomes:

- CO1. Understand spatial distribution of resources in the evolution of tourism
- CO2. Assess partialities, tourism development and its critiques
- CO3. Critique worldwide economic, cultural, political and technological exchanges and connections that tourism brings
- CO4. Rate tourism as a key sustainable sector in country's economic growth
- CO5. Evaluate socio-cultural, economic and environmental impacts of tourism
- CO6. Design sustainable tourism management plan using GST for tourism development

Unit 1: Geography of tourism: Definition, nature, scope and extent. Concept of tourism, importance of tourism. Relationship between geography and tourism, Tourism promotion – Ecotourism, agro-tourism, heritage tourism and adventure tourism. Factors affecting tourism – Physical and cultural factors. Tourism motivation, tourism as an industry.

Unit 2: The Classification of tourism and tourists: Types of tourism – Domestic and international tourism- Adventure, wildlife, medical, pilgrimage, business, leisure, pleasure, eco and cultural tourisms. Comparison between mass and alternative tourism. Tourist's types – local, national and international. Impact of tourism – Economic impact, physical and environmental impact, socio-cultural impact.

Unit 3: Infrastructural approach for the development of tourism – Mode of transportation, agencies, guides, license, hotels, resorts, youth hostels, home stays, govt. TB, Role of foreign capital and impact of globalization on tourism, environmental law and tourism government policies for planning and promotion of tourism in India. State level tourism planning in India with special reference to Karnataka.

Unit 4: Case Studies – Major tourist centers. Hill Station – Mount Abu, Shimla, Kudremukha. Beach Points – Mangaluru, Vizag, Panaji, marina beach. Historical Centers – Badami, Bijapur, Mysore, Ellora and Tajmahal. Religious Centers – Shirdi, Kanyakumari, Tirupathi and Dharmastala. Dams - T B dam, Bhakra Nangal, DVC. National Parks – Dachigam national park, Gir national park, Nanda devi national park, Periyar national park.

Essential Readings

1. Beeton, S. 2006, Community Development through Tourism, Landlinks Press.
2. Bhatia A.K, 1996, Tourism Development: Principles and Practices, Sterling publishers, New Delhi,
3. Bhatia, A.K, 1991, International Tourism-Fundamentals and Practices, Sterling, New Delhi,
4. Buckley, R. (2009): Ecotourism: Principles and Practices, CABI
5. Dora Smolic Jurdana, 2006, Planning city tourism development – principles and issues, Tourism and hospitality management, volume no 12, no 2,
6. Holden Andrew, 2000, Environment and Tourism, Routledge, London Hunter C and Green H, 1995, Tourism and the Environment: A Sustainable Relationship Routledge, London,
7. Milton D.1993, Geography of World Tourism Prentice Hall, New York.

8. Mishra Jitendra Mohan. Sampad Kumar Swain, 2011, Tourism: Principles and Practices, Oxford University Press, ISBN0198072368, 9780198072362
9. Mustafa Mohammadi, Zainab Khalifah, 2010, Local People Perception towards Social, Economic, Environmental Impacts of Tourism, Asian Social Science, Volume No. 6, No.121
10. P K, Manoj, 2010, Tourism in Kerala: a study of the imperatives and impediments with focus on Eco-tourism. "Saaransh" RKG Journal of Management (ISSN: 0975-4601). 1. 78-82,
11. Robinson, H.1996, Geography of Tourism Macdonald and Evans, London,
12. Shiji O, 2017, Urban tourism- the case of India, International Journal of Advanced Education and Research, Volume No 2,
13. Stephen Williams, 1998, Tourism Geography, Routledge, London,
14. Suresh, K.T. (1994): Tourism Policy of India: An Exploratory Study, Equations, Bangalore
15. Tribe, J. (2009): Philosophical Issues in Tourism. Channel View Publications



ELECTIVE COURSE: GYE 456: Environmental Geography

Course Learning Outcomes:

- CO1. Understand the environment from different perspectives
- CO2. Examine the geographical explanations for biological diversity of the world
- CO3. Develop an environment perceptive when approaching complex development issues.
- CO4. Evaluate the vulnerability of ecosystem services
- CO5. Demonstrate methodological procedure for conducting Environment Impact Assessment
- CO6. Appreciate and recognize the complexity and value of ecosystem

Unit 1: Nature and interdisciplinary aspect of environmental geography. Ecological approaches. Definition and meaning of environment, habitat. Ecological niche. Bio-sphere and biodiversity.

Unit 2: Ecosystem: Structure and functioning of ecosystem, pond as a ecosystem, food chains, food webs, food pyramid. Biomes – equatorial to tundra i.e., 11 types. Man and environmental relationships. Resource use and ecological imbalance with reference to soil, forests and energy resources. Manmade ecosystem - Urban, ecotourism, national parks and sanctuaries. Depletion of ozone, greenhouse effect and acid rain.

Unit 3: Man induced changes in environment: Environmental pollution, i.e. Air, water, noise, solid waste with special reference to India. Environmental hazards, i.e. earth as warehouses, flood, famines, landslides, avalanches, forest fires, impact of green revolution and extinction of species.

Unit 4: Principles of environmental management- Environmental policy of India, (post 2000AD). Environment impact assessment (EIA). Global summits and agencies of environment conservation.

Essential Readings:

1. Anderson J.M. (1981): Ecology for Environmental Science: Biosphere, Ecosystems and Man, Arnold, London.
2. Balakrishnan, M., 1998. Environmental Problems and Prospects in India, in Das, R.C., et. al. Oxford & IBH Pub., New Delhi.
3. Canter Chary, L. W. 1996: Environmental Impact Assessment, 2nd edition, McGraw Hill, New York
4. Chichester: Marsh, W.M. and Grossa, J.M. (1996): Environmental Geography: Science, Land use and Earth Systems, John Wiley & Sons.
5. Das, M.C. 1993, Fundamentals of Ecology, Tata Mc Graw Hill, New Delhi.
6. Farmer, A. 1997. Managing Environmental Pollution, Routledge, London
7. Gilpin, A. 1996: Dictionary of Environment and Sustainable Development, John Wiley and Sons Ltd.,
8. Goudie, Andrew (1984) : The Nature of the Environment, Oxford Katerpring Co. Ltd. Huggett, R.J. 2002. Fundamentals of Biogeography, Routledge, London & New York.

9. Maryk, Theodore .1996. Major Environmental Issues Facing 21st Century, Prentice Hall.
Middleton N.1995: The Global Casino: An .Introduction to Environmental Issues, John Wiley and Sons Inc., New York
10. Nobel and Wright (1996): Environmental Science, Prentice Hall, New York.
11. Odum, E.P. (1971): Fundamental of Ecology, W.B. Sanders, Philadelphia.
12. Roberts, N. 1994.The Changing Global Environment, 3rd edition, Blackwell Pub. Co., London.
13. Sharma, P.D. 1975. Ecology and Environment, Rastogi Publication, Meerut.
14. Singh, R.B. (ed.) (1989): Environmental Geography, Heritage, New Delhi.
15. Singh, R.B. and Misra, S. 1996: Environmental Laws in .India: .Issues and Responses, Rawat Pub., New Delhi:
16. Slaymaker, A. & Spencer T. 1998: Physical Geography & Global Environmental Change, Longman, UK.
17. Speth, I.G.2005. Global Environmental Challenges – Transitions to a Sustainable World, Orient Longman, New Delhi
18. Strahler, A.H. and Strahler A.N. (1977) : Geography and Mans Environment, JohnWiley, New York.
19. Strahler, A.N. and Strahler, A.H. (1973) : Environmental Geosciences : Interaction between natural systems and Man, John Wiley and Sons, New York.
20. William, M.M. and John, G. (1996) : Environmental Geography - Science, Land use and Earth System, John Wiley and Sons, New York.



ELECTIVE COURSE: GYE 457: Geography of Tourism

Course learning outcomes:

- CO1. Understand spatial distribution of resources in the evolution of tourism.
- CO2. Assess spatialities, tourism development and its critiques.
- CO3. Critique worldwide economic, cultural, political and technological exchanges and connections that tourism brings.
- CO4. Rate tourism as a key sustainable sector in country's economic growth
- CO5. Evaluate socio-cultural, economic and environmental impacts of tourism.
- CO6. Design sustainable tourism management plan using GST for tourism development.

Unit 1: Geography of Tourism: Definition, Nature, Scope and Extent. Concept of Tourism, Importance of Tourism. Relationship between Geography and Tourism, **Tourism Promotion** – Ecotourism, Agro-tourism, Heritage tourism and Adventure tourism. **Factors affecting Tourism** – Physical and Cultural factors. Tourism motivation, tourism as an industry. – 14

Unit 2: The Classification of Tourism and Tourists: Types of Tourism – Domestic and International Tourism - Adventure, Wildlife, Medical, Pilgrimage, Business, Leisure, Pleasure, Eco and Cultural Tourisms. Comparison between Mass and Alternative Tourism. **Tourists types** – Local, National and International. **Impact of Tourism** – Economic Impact, Physical and Environmental Impact, Socio-Cultural Impact. – 13

Unit 3: Infrastructural Approach for the development of Tourism – Mode of transportation, Agencies, Guides, License, Hotels, Resorts, Youth Hostels, Home stays, Govt. TB., Role of Foreign Capital and Impact of Globalization on Tourism, Environmental Law and Tourism Government Policies for Planning and Promotion of Tourism in India. State level tourism planning in India with special reference to Karnataka. – 13

Unit 4: Case Studies – Major Tourist Centers. **Hill Station** – Mount Abu, Shimla, Kudhuremukha. **Beach Points** – Mangalore, Vizag, Pangim, Marino Beach. **Historical centers** – Badami, Bijapur, Mysore, Ellora and Tajmahal. **Religious Centers** – Shiradi, Kanyakumari, Tirupathi and Dhamastala. **Dams** - T B Dam, Bhakranangal, DVP. **National Parks** – Dachigam National Park, Gir National Park, Nanda Devi National park, Periyar National park. – 14

References:

1. Bhatia A.K (1996): Tourism Development: Principles and Practices. Sterling Publishers, New Delhi.
2. Inskeep. E (1991): Tourism Planning: An Integrated and Sustainable Development Approach Van.
3. Kaul R.K (1985): Dynamics of Tourism and Recreation, Inter- India, New Delhi.
4. Kaur, J. (1985): Himalyan Pilgrimages and New Tourism, Himalyan Books, New Delhi
5. Lea, J. (1988): Tourism and development in the third world
6. Milton, D. (1993): Geography of World Tourism, Prentice Hall, New York
7. Peace, D. G. (1987): Tourism To-Day: A geographical Analysis, Harlow, Longman
8. Robinson, H. A.(1996): A geography of tourism, McDonald and Evans, London
9. Sharma, J. K. (ed.)(2000) : Tourism, Planning and Development- A new perspective, Kanishka
10. Singh, R. L. and Kashi Nath Singh (Ed.) 1975: Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi.

ELECTIVE COURSE: GYE 458: Resources Conservation and Management

Course learning outcomes:

- CO 1: Understand the history and evolution of resources.
- CO 2: Justify the importance of water and forest resource management.
- CO 3: Understand spatial distribution of mineral resources.
- CO 4: Evaluate the contemporary issues on soil resource management.
- CO 5: Suggest water conservation plans to attain sustainable development.

Unit 1: Consciousness and definition of resources: The concept of resource-wealth-resistance and neutral stuffs. Resource creating factors, classification of resources. -11

Unit2: Soil: soil formation, factors influencing soil formation, soil characteristics and soil profile, classification of soil (zonal types) soil erosion, soil conservation. -11

Unit 3: Water and Forest Resources: Water resources and its development in India, water conservation, water cycle and water budget. Types of forests and their distribution, forest products –timber and paper, decay of forests, conservation of forests and distribution, forest products-timber and paper, forest decay, forest conservation. -11

Unit 4: Mineral resources: Classification of major minerals, their distribution and production, petroleum, coal, iron ore, bauxite and copper. Mineral conservation and mineral policy of India. -12

References:

1. Guha J.L. and Chattoraj (2004), A New approach to economic Geography, A study of Resources, the World Press Pvt. Ltd. Calcutta.
2. Zimmerman- World resources and industries
3. Khanna K.K. and Gupta V.K (1993) Economic and Commercial Geography, Sultan Chand, New Delhi.
4. Mallappa P. (2004) Udyam Sampanmulagalu, Chethan Book House, Mysore
5. Roy. PR. (2001) Economic Geography- A study of Resources, New Central Book Agency, (p) Ltd. Calcutta.
6. P. Hagget (1997), Geography, A Modern Synthesis, Haper and Rao publications, New York.
7. Dubey R.N. And Negi B.S. (2002)- Economic Geography of India, Kitab Mahal, Allahabad.
8. http://www.nationmaster.com/graph/geo_nat_res-geography-natural-resources

CORE COURSE: GYP 459: Statistical Methods in Geography

Course Learning Outcomes:

CO1. Understand the basic concept of statistical methods.

CO2. Analyse the significance of spatial measures of dispersion in statistics.

CO3. Analyse the measures of central tendency models in the real world with different perspectives.

CO4. Understand the concept of process of data.

Unit 1: Processing of Data: Data, Preparation of Frequency Table, Graphical Presentation of Frequency, Histograms, Frequency Polygon and Ogive Curves. -13

Unit 2: Measurement of Central Tendency: Mean, Median and Mode, Meaning, Computation and Uses. -14

Unit 3: Measures of Dispersion: Mean Deviation, Standard Deviation, Quartile Deviation and Coefficient Variation, Quartiles, Deciles and Percentiles. -14

Unit 4: Measures of Association: Correlation- Meaning and Methods, Rank Order Correlation, Product Moment Correlation and Regression Coefficients. -13

References:

1. Haymond and Mccullah (1974), Quantitative techniques in geography, An introduction, Oxford London.
2. Aslam Mohamed (1977), Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
3. Gupta CB. (1979), An introduction to statistical methods, Vikas publishing house pvt. Ltd. New Delhi.
4. Murray R. Spiegel (1972): Theory and problems of statistics, Mc. Grawhill Book co. New York.
5. Singh RL. (1979) elements of Practical Geography, Kalyani Publishers, New Delhi

GYP 460: Cartographic Methods

Course learning outcomes:

- CO1. Identify major elements of map
- CO2. Analyze methods representing geographic data
- CO3. Evaluate graphs and diagrams
- CO4. Analyze thematic maps

Unit 1: Representation of Geo-eco-socio-data: Proportional symbols-mono and multiple dots, circles- Spheres and cubes.. -14

Unit 2: Block Pile Diagrams – Pie Diagrams - Flow diagrams. -13

Unit 3: Graphs-Triangular Graphs, Semi-log and Log-log graphs. Population Pyramid. -13

Unit 4: Preparation of Choropleth, Isopleth, Choro-chromatic and choro-schematic maps. - 14

References

1. Monkhouse F.J. & H.R. Wilkinson (1952) Maps and Diagrams, their compilation and concentration, Methuen & Co, London
2. . Harwell J.D & M.S. Newson (1973) Techniques in Physical Geography, Macmillan Edn. Ltd, London.
3. Mishra R.P. & Ramesh A (1968) Fundamentals of Cartography, Prasaraanga, University of Mysore.
4. Menno-Jan Kraak & Ferjan Ormeling (2003) Cartography Visualization of Geospatial Data, Pearson Edn Pvt. Ltd. (Singapore) New Delhi.
5. Nag P (1992) Thematic Cartography and Remote Sensing, concept Publishing Co. New Delhi.

III SEMESTER

HARD CORE COURSE: GYH 501: Urban Geography

Course Learning Outcomes:

- CO 1. Understand the historical conditions that determine the process of urbanization.
- CO 2. Analyze the plurality in understanding 'the urban'
- CO 3. Analyze the complexities power matrix that govern the urban life
- CO 4. Analyze the social and spatial inequalities in urban life
- CO 5. Formulate environmental and humanistic strategies influencing urban policy interventions

- Unit 1:** Nature of urban geography-Definition of urban settlements (towns, cities and metro etc.)
-Census definition of settlements, (India)-Urbanization through times-Current factors, trends of urbanization in the world and India. Growth of the world and Indian cities.
- Unit 2:** Urban population density and land value curves- Urban land use – vertical and horizontal growth of cities, concentric, zonal and multiple nuclei theories of urban structure.
- Unit 3:** Urban functions- Basic and non-basic urban hierarchy- Rank-size Rule – central place theory functional classification of towns by C.D. Harris and H.J. Nelson. Urban issues & challenges: Water supply, traffic congestion, solid waste, smog, sewage and drainage system
- Unit 4:** Concept of city, region and urban hinterland – Urban sprawl, urban slums, urban crimes and their trends with reference to India, concept and issues of Peri-urbanization. Elements of urban planning, Urban renewal, Policies of urban development in India, master plans CDP of Bangalore 2015.

Essential Readings:

1. Friedmann, J. 1988. Life space and economic space: Contradictions in regional development.
2. Friedmann, J. (ed.) Life Space and Economic Space: Essays in Third World Planning, 93–107.
3. New Brunswick, NJ: Transaction.
4. Hardoy, J. E., Mitlin. D. Satterthwaite. D. (1992). Environmental Problems in Third World Cities,
5. Earthscan, Great Britain. Harold Carter 1995, The Study of Urban Geography, Arnold, London
6. Harvey, D. 1973. Social Justice and the City. London: Edward Arnold.
7. Jensen, J.R. (2007). Remote Sensing of the Environment: An Earth Resource Perspective, Prentice-Hall, NJ, USA.
8. Marcotullio, P. McGranahan. G. (2007). Scaling Urban Environmental Challenges: From Local to Global and Back, Earth scan, Great Britain.
9. Michael. (2009). Urban Geography: A Global Perspective, Taylor & Francis, Great Britain. Ramachandran R 1992, Urbanization and Urban Systems in India, Oxford University Press, Delhi.
10. Singh R Y 2002, Geography of Settlement, Rawat Publication, Jaipur.
11. Singh S B, (1996), "New Perspectives in Urban Geography, M.D Publication, New Delhi.
12. Sivaramakrishnan 1996, Urbanization in India, Concepts Publishing Company, New Delhi.
13. Vaysali Singh 2011, Urban Geography, Alfa Publication, New Delhi.

HARD CORE COURSE: GYH 502: Research methodology

Course Learning Outcomes

- CO1. Identify researchable area/topic in geography
- CO2. Develop a research proposal
- CO3. Execute different methods of data collection and analysis
- CO4. Communicate research findings through appropriate mediums
- CO5. Connect real world with theory and methods

- Unit - I** Research: Meaning, Definitions, objectives, characteristics and types.
Steps involved in Research. Research Ethics -13
- Unit - II** Forms of Research: Paper, Article, workshop, seminar, conference and symposium. Thesis writing: Its characteristics and format. Research Approaches. Developing the Objectives Significance of Research -14
- Unit - III** Research Methods: Research Methods versus Methodology. Research and Scientific Method. Problems Encountered by Researchers in India. Sampling techniques for geographical analysis -14
- Unit- IV** Research Process: Identification of problem, Review concepts and theories, Review previous research finding, Formulate hypotheses, Design research (including sample design), Data Collection (Execution), Data Analyse, Testing of hypotheses, Generalization and Interpretation, Report writing Conclusions, Bibliography. -13

References:

Text Books

1. Gilbert, N. 2001: **Researching Social Life**, Sage, London.

References:

2. Flowerdew, R. and D. Martin 2005: **Methods in Human Geography: A Guide for students doing a research project**, Prentice Hall, New York.
3. Clifford, N.J. and G. Valentine 2003: **Key methods in Geography**, Sage, London.
4. Leedy, P. D. and J.E. Ormrod 2001: **Practical Research: Planning and Design**,

Web resources:

- <http://computer.org> - <http://www.acm.org>
- <http://www.intute.ac.uk/socialsciences/>

HARD CORE COURSE: GYH 503: Fundamentals of Geographical Information System (GIS) and GPS

Course Learning Outcomes:

- CO1: Understand the history and development of spatial technology
- CO2: Locate the significance of GIS in contemporary world
- CO3: Explore and generate GIS data from open source
- CO4: Analyze methodological aspects of GIS
- CO5: Apply GIS in different real-world situations

Unit 1: Basic spatial perspective and GIS concepts: GIS definitions, concept of spaces, approaches and components, history and development of GIS. Spatial & Non-spatial Data: Data information, data type, data sources, characteristics of spatial and non-spatial data, raster and vector data models, geographical matrix, data stream.

Unit 2: Data Collection: Data capture & geo-processing sources, input methods for spatial & non-spatial data, editing, re-projection, geometric transformation, geo-referencing, display. Map scale precision & accuracy. Database management system: Characteristics, components, data quality: Definition, components of geographic data quality. Accuracy, precision, error and uncertainty. Data assessment and evaluation. Linking spatial & non-spatial data. Database types: Hierarchical, network, relational and object oriented.

Unit 3: Manipulation and Analysis of Data: Measurement of lengths, perimeter and areas, queries, buffer analysis, topology, neighborhood operations, network operations, overlay analysis, location-allocation analysis problems, and surface analysis. Interpolation and its methods.

Unit 4: Global positioning system: Concept, GPS reference systems, components space segment, control segment, user segment. GPS signal propagation and quality, GPS observations: Pseudo ranges, differential GPS, relative positioning, errors in GPS observations, GPS observation techniques-Static, rapid static, Pseudo kinematic, kinematic, real time kinematic (RTK).

Essential Readings:

1. Abdul-Rahman, Alias, Pilouk, and Morakot (2008), Spatial Data Modelling for 3D GIS, Chang, K, Introduction to Geographic Information Systems. (5th Ed.), McGraw Hill.
2. Hanan Samet (2006), Foundations of Multidimensional and Metric Data Structures, Morgan Kaufmann Publishers.
3. Okabe, A., Boots, B., Sugihara, K. and Chiu, S. N (2000) Spatial Tessellations – Concepts and Applications of Voronoi Diagrams (2nd Ed.), John Wiley and Sons.
4. Paul A. Longley, Michael F. Goodchild, David J. Maguire, David W. Rhind, Geographic Information Systems and Science, John Wiley & Sons Ltd.
5. Peter A. Burrough, Rachael A. McDonnell and Christopher D. Lloyd (2014), Principles of Geographical Information Systems, International Third Edition, Oxford University Press, United Kingdom,
6. Raper, J (2000), Multi-Dimensional Geographic Information Science, Taylor and Francis. Springer.
7. Worboys and Duckham (2004), GIS: A Computational Perspective, CRC Press,

SOFT COURSE: GYS 504: Natural Disaster management

Course Learning Outcomes:

- CO1. Identify major natural disaster
- CO2. Analyze the causes and consequence of disaster
- CO3. Execute different preventing methods
- CO4. Connect real world with methods

Unit 1: Environment hazards & disasters: Meaning & approaches, Causes and consequences of disaster: Physical, economic and cultural, National and International organizations into disaster management. **Types of environmental hazards and disaster:** Natural disaster- Earthquake, tsunamis, landslides, volcanic eruption, cyclones, tornados, floods, droughts, heat waves and cold waves. Man induced hazards- Soil erosion, release of toxic chemicals, nuclear explosion, population explosion and resultant environmental disasters. -15

Unit 2: Emerging approaches to Disaster management: (1) Pre-disaster stage (Preparedness)- hazard zonation maps-predictability and forecasting warning, land use zoning, Information, Education & Communication (IEC) Disaster resistance house construction, Population reduction in vulnerable area and awareness. (2) Emergency Stage- Rescue training for search and operation at national and regional level, ground management plan preparation, immediate relief, Assessment surveys. (3) Post disaster stage rehabilitation – Political administrative aspects, social aspect, economic aspect, cultural aspect and environmental aspects. -15

Unit 3: Natural Disaster mitigation: Relief measure, role of GIS in Relief measures, role of GPS in search and rescue, role of Remote sensing in prediction of hazards and disasters, measures of adjustment of natural hazards. -12

Unit 4: Disaster in Indian context: A regional survey of Land Subsidence, Coastal Disaster, Cyclonic Disaster & Disaster in Hills, terror attacks, communal clashes, Remedial measures. National and international policies for disaster management. - 12

References:

1. R.B. Singh (Ed), 1990, Environmental Geography, Heritage Publishers New Delhi
2. Savinder Singh, 1997, Environmental Geography, Prayag Pustak Bhawan.
3. Kates, B.I & White, 1978, G.F The Environment as Hazards, oxford, New York.
4. R.B. Singh (Ed), 2000, Disaster Management, Rawat Publication, New Delhi.
5. H.K. Gupta (Ed), (2003), Disaster Management, Universities Press, India.
6. R.B. Singh, (1994), Space Technology for Disaster Mitigation in India (INCED), University of Tokyo.
7. Dr. Satender, (2003), Disaster Management t in Hills, Concept Publishing Co., New Delhi.
8. A.S. Arya Action Plan For Earthquake, Disaster, Mitigation in V.K. Sharma (Ed) (1994), Disaster Management IIPA Publication New Delhi.
9. R.K. Bhandani An overview on Natural & Man made Disaster & their Reduction ,CSIR, New Delhi
10. M.C. Gupta, (2001), Manuals on Natural Disaster management in India, National Centre for Disaster Management, IIPA, New Delhi.

SOFT COURSE: GYS 505: Coastal Management

Course Learning Outcomes:

- CO1. Analyze critically the theories and models in the real world with different perspectives.
- CO2. Analyze human interventions and effects in coastal area.
- CO3. Apply conceptual and theoretical measures to coastal management
- CO4. Apply basic techniques from global to regional level to identify the problems of coastal area

Unit 1: Coastal Management: Physical Aspects: Definition of coastal zone and related nomenclature. Coastal processes: Wave, tide and wind. Coastal currents and cells. Coastal morpho dynamics: Micro, macro and biogenic forms. Systems of change in coasts: cyclical and progressive. Classification of coasts based on processes and sediment characteristics. -14

Unit 2: Coastal biogeography: Special reference to sea weeds, mangroves, dune vegetation and corals, their ecological and economic significance. Natural coastal hazards and their management: Sea level rise, erosion, sedimentation and tropical cyclones. Techniques of monitoring changes in coastal processes and landforms. -14

Unit 3: Coastal Management: Human Aspects: Coastal regulations with special reference to India. Human utilization of coasts, environmental impacts and management: Navigation, mining, fishing and fish-processing, off-shore oil exploitation, reclamation and tourism. Coastal engineering and its impacts: Ports and harbors, measures for prevention of erosion and sedimentation. -14

Reference:

1. Bird, E.C.F. 2000. An Introduction to Coastal Geomorphology, John Wiley and Sons Ltd. New York: 340 p. [Topics 2.3, 4.4]
2. Carter, R.W.G. 1988. Coastal Environments: An Introduction to the Physical, Ecological and Cultural Systems of Coastlines, Academic Press, London: 617p. [Topic 2.3]
3. Chow, V.T, Maidment, D.R. and Mays, L.W. 1988. Applied Hydrology, McGraw-Hill, New York: 572 p. [Topic 3.2]
4. Garrison, T. 1993. Oceanography: An Invitation to Marine Science, Wadsworth Pub. Co., Belmont: 540 p. [Topics 4.1, 4.2, 4.3]
5. Johnson, H.D. and Baldwin, C.T. 1996. 'Shallow clastic seas.' In Reading H.G. (editor): Sedimentary Environments: Processes, Facies and Stratigraphy, 3rd edition, Blackwell Science Ltd. Oxford: pp 232–280. [Topic 2.3]
6. Knighton, D. 1998: Fluvial Forms and Processes: A New Perspective, Arnold, London: 385p. [Topics 2.1, 2.2]
7. Morisawa, M. 1985. Rivers, Longman, London: 222p. [Topics 2.1, 2.2, 3.1]
8. Murthy, K.S. 1998. Watershed Management in India, 3rd edition, Wiley Eastern Ltd. / New Age International Ltd., New Delhi: 198p. [Topic 3.4]
9. Newson, M. 1992. Land Water and Development, River Basin Systems and their Sustainable Management, Routledge, London: 350p. [Topic 3.4]

ELECTIVE COURSE: GYE 506: Geography of India

Course learning outcome:

- CO1. Identify major physiographic divisions of India
- CO2. Evaluate climate change scenarios and their impacts
- CO3. Analyze the agriculture development of India.
- CO4. Analyze distribution of mineral resource in India
- CO5. Apply conceptual and theoretical measures to coastal management

Unit 1: Physical Setting of India: Location, Physiographic Divisions, Natural Drainage Systems and their Distribution. Climate: seasons & climatic regions. Soils: Types, Distribution, Erosion and Conservation. Natural Vegetation: Types and Distribution, Degradation and Conservation. -14

Unit2: Agriculture: Major Agricultural Crops: Rice, Wheat, Cotton, Sugarcane, Maize, Jowar, Tea, Coffee, Rubber, Mulberry Crops. Green Revolution in India, and Food Security in India. Irrigation: Major River Projects. -13

Unit 3: Distribution, production and trade of important Minerals & Power resources: Iron Ore, Manganese, Mica, Copper, Bauxite, Coal, Petroleum, Natural Gas, Atomic Energy, Hydral and Thermal Power. Growth, Development and Distribution of Major Industries: Iron & Steel, Engineering, Cement, Paper, Fertilizers, Cotton Textiles, Silk, Knowledge-based Industries: Compu. Industrial Regions of India. -14

Unit 4: Growth & Development of Transportation Transport System: Roads, Railways, Airways and Inland Water. Population: Growth and Distribution, Composition and Density, Literacy, Sex Ratio, Fertility & Mortality & Health Services. -13

References:

1. Khullar DR. (2009): India: A Comprehensive Geography, kalyani Publishes, New Delhi, Hyderabad, Kolkata.
2. Alka Gautam (2009) Geography of India, Sharada pustak bhawan, University Road, Allahabad – UP.
3. Sharma TC & Coutinho O (2005) : Economic and Commercial geography of India, Vikas Publishing House Ltd., New Delhi-14
4. Tiwari RC. (2008) Geography of India, Prayag pustak Bhavan, 20-A, University Road, Allahabad- UP
5. Pritivish Nag & Smita sengupta (1992) Geography of India, Concept Publishing Company, New Delhi – 59.
6. Ranganath (2007) Geography of India, Vidhyanidhi Prakashan, Station Road, Gadag-01.
7. Phani Deka & Abani Bhagabati (1992) Geography: Economic and Regional, Wiley Eastern Limited, Ansari Raod, Daryaganj, N. Delhi-01.
8. Majid Husain (2008): Geography of India, Tata Mc. Graw hill publishing co. ltd. N. Delhi.

9. Singh R.L. (1971); India A Regional Geography, Natinal Geographical Society of India, Varanasi, UP.
10. Jadish Sing (2003): India: A comprehensive systematic geography, Gyanodaya Prakashan Gorakhapur- UP.
11. India: Year Books- 2005-2010.
12. <http://www.mapsofindia.com/geography/>



ELECTIVE COURSE: GYE 507: Medical Geography

Course Learning Outcomes:

- CO1. Understand health issues in its spatial context
- CO2. Extrapolate influence of place and location on human health
- CO3. Analyze spatial patterns of disease and health care provisions
- CO4. Apply geographical concepts and techniques to health related problems
- CO5. Apply geographical knowledge to health policy advocacy specifically to third world diseases
- CO6. Assess/Evaluate methods applied to infer causal relationships between spatial variability in environment and health outcomes.

Unit- 1 Concepts and Traditions: Definition, scope, elements, growth of medical Geography methods and techniques.

Unit-2 Human-Environment Interaction: Health and environment-concept of health, geographical approaches of health, natural environment and health- Inorganic and organic, social environment and health: Food intake, perception of diseases, treatment of diseases, Socio-economic conditions and health.

Unit-3 Modernization, population change and health: Disease classification- genetic, communicable, non-communicable, occupational, deficiency diseases, WHO classification of diseases. Diseases diffusion: Meaning, factors/barriers, phases, types of diffusion. Epidemiological Transition The theory of epidemiological transition (Omran theory) factors of transition- Demographic, changes in risk factors, practices of modern medicine & Indicators.

Unit- 4 Global Inequalities in Health resources: Concept of health care, levels of health care, social context of disease, health care accessibility and utilization, health care system worldwide, health care services in India, health care policy in India.

Essential Readings:

1. Aikat, B.K. (1985) Tropical diseases in India, Arnold Meinemann, Delhi, 1st Edition
Akhtar Rais (1990), Environmental population and health problems, Ashish Publishers Home, New Delhi.
2. Ansari, S.H. (2005), "Spatial Organization of health care facilities in Haryana" NGJI, Vol 51, PP 3-4, 51- 61.
3. Chakrabarti, N., (1954), "Some factors influencing the mortality of cholera. Calcutta," Medical Journal, Vol. 51.
4. Determinants of Health: A New Synthesis. John Frank. Current Issues in Public Health, 1:233240, 1995
5. Egles, J. and Woods, K.J. (1983) The Social Geography of Medicine and Health, Groom Helm London, 1st Edition
6. K. Chaubey, "Epidemic of HIV/AIDS in India: A Study in Medical Geography. "Annals of NAGI, Vol. XXV No.1, 2005 pp 28-33. Learmonth, A.T.A. (1985) Diseases in India, Concept Pub. Company, New Delhi, 1st Edition
7. Misra, R.P., (2007), Geography of Health, Concept Publishing Company, New Delhi, 2007.

8. Robert G. Evans, Morris Barer, and Theodore Marmor.(1994). “Why are Some People Healthy and Others Not? The Determinants of the Health of Populations”. Aldine Transaction, USA.
 9. Shafi, M. (1967), “Food Production, efficiency and Nutrition in India.” The Geographer, Vol. pp. 23-27.
 10. Siddiqui, M.F. (1971), “Concentration of Deficiency Diseases in Uttar Pradesh. The Geographer, Vol. 18 pp 90-98.
 11. Singhai, G.C. (2006), Medical Geography, Vasundhra Publication, Gorakhpur,2006.
- Wilkinson R G. (1996). “Unhealthy Societies: The Afflictions of Inequality”, Routledge, London.



ELECTIVE COURSE: GYE 508: Physical Geography

Course learning outcomes:

- CO1: Understand spatial observation of the earth surface.
- CO2: Understand development and future of physical geography.
- CO3: Analyse the importance of GIS and remote sensing.
- CO4: Analyse the scientific method in physical geography.
- CO5: understand the history and evolution of universe.

Unit 1: Profile: Definition and Uses, Profile Drawing and Types of Profiles. – **13**

Unit 2: Morphometric Analysis (linear features). Morphometry, Stream Ordering, Bifurcation Ratio and Drainage Density. – **14**

Unit 3: Slope Analysis: Meaning, Definition- Smith's Method and Wentworth's Method. – **14**

Unit 4: Climatic graphs: Hyther-graphs, Climo-graphs and Ergo-graph. – **13**

Reference:

1. Monkhouse F.J and Wilkinson HR (1952) Maps and Diagrams, their compilations and concentration, Muthuen & Co. London.
2. Harwel JD, Newson MD. (1973)- Techniques in Physical Geography, Mc. Millan Edu. Ltd. London.
3. Mishra RP. And Ramesh A (1968) – Fundamentals of Cartography, Prasaranga, University of Mysore, Mysore.
4. Robinson & Marison (1995), Elements of Cartography USA.
5. R.L. Singh (2010) Practical Geography, Sharada Pustak Bhavan, 11, University Road, Allahabad, UP - India

GYP 509: Interpretation of Aerial Photo and Satellite Imagery

Course learning outcomes:

- CO1. Identify the difference between aerial photographs and satellite imagery
- CO2. Analyze methods interpreting aerial photographs and satellite imagery
- CO3. Analyze aerial photograph with stereoscope
- CO4. Analyze satellite imagery and produce different thematic maps.

Unit 1: Comparison of features in toposheets, aerial photographs and satellite imageries. Determination of scales of aerial photographs. - 13

Unit 2: Procedure of taking aerial photographs, types of aerial photographs, medium of aerial photographic interpretation, test for stereographic view. - 14

Unit 3: Elements of aerial photographs, stereographic interpretation of aerial photographs and manual preparation of land use maps. - 14

Unit 4: Interpretation of satellite imagery, identification of features through signatures, color identifications. Preparation of thematic maps using the satellite imagery. - 13

References:

1. Paul R. Wolf (1999) Elements of Photogrammetry, Mc. Grawhill, International Book Company, New Delhi.
2. Averte and GL. Berrin (2001) Fundamentals of Remote Sensing and Aerial Photo interpretation, McMillan, New York.
3. Singh and Sharma (2004) Introduction of Remote Sensing, Rawath Publications, New Delhi
4. George Joseph (2002) Fundamentals of Remote Sensing, University press Pvt. Ltd. Hyderabad-29
5. A Verte and GL. Berrin (2001); Fundamentals of Remote Sensing and Aerial Photo Interpretation, Mc. Millan, New York.

GYP 510: Applications of GIS & GPS

Course learning outcomes:

CO1. Define data structure in GIS

CO2. Analyze geographical change analysis using geo processing tool

CO3. Production of thematic maps in Arc GIS

CO4. Collecting points and tracking the routes in GPS

Unit 1: Identification of spatial data: Point, line and polygon features, representation of spatial features: Raster and vector data model, data structure. -13

Unit 2: Overlay analysis, change analysis and buffer analysis. Scanning, integration of attribute data. Geographic analysis, digital terrain models- Application. - 14

Unit 3: Introduction to arc-view, GIS software: Digitizing, attribute data editing, query building and executing, typology, symbology and layout. Data representation: Dot map, choro-pleth, located bar and pie maps. - 14

Unit 4: Introduction to GPS, finding latitude, longitude and altitude, tracking in GPS, routing in GPS. -13

References:

1. Peter A. Burrough and Rachael A. McDonnell (1998) Principles of Geographic Information systems, Oxford University Press, New York.
2. Aronoff S. (1989) Geographic Information System, A Management Perspective, WDL Publications, Ottawa, Canada
3. Ian Heywood, Sarah Cornelius, Steve Carver (2003), An Introduction to Geographic Information System, Pearson Education Ltd., India
4. Chrisman N.R. (1997) Exploring Geographic Information System, Wiley, New York.
5. www.gisdevelopment.net/tutorials/human008.html
6. www.gislounge.com/remotesensing.html.

SEMESTER IV

HARD CORE COURSE GYH 551: Agricultural Geography

Course Learning Outcomes:

- CO1. Understand the spatial distribution of agricultural phenomena.
- CO2. Analyzing the agricultural practice and cultural development.
- CO3. Evaluate the inter relationship between geographical knowledge and agricultural practice in everyday living.
- CO4. Evaluate the effects of agricultural policy measures in regional disparities.
- CO5. Demonstrate the ability of analysing agricultural problems in their own perspective.
- CO6. Demonstration of appreciation for the contribution of agricultural sector in the economic development.

Course Content:

Unit1: Definition, nature, scope, and significance of agricultural geography; Origin & evolution of agriculture, approaches: Commodity, systematic, regional and systems approaches. –14

Unit 2: Determinants of agriculture: Physical, socio-economic, cultural, institutional, technological and political. Land holding and land tenure systems, land use policy and planning, irrigation and dry-farming, command area development. – 13

Unit 3: Measures of agriculture: Cropping pattern, crop combinations, crop diversification, and intensity of cropping, degree of commercialization, agricultural efficiency and productivity, HYV seeds. Classification of agriculture: Whitley's classification of world agriculture, Von-Thunen's theory of agriculture and its relevant modifications, game theory & decision making. Role of WTO in agriculture. – 14

Unit 4: Green revolution, white revolution, blue revolution, yellow revolution, horticulture & floriculture. Agriculture: Sustainable development. Remote sensing & agriculture. Emerging impact on agriculture: Food security, salinization and land degradation. Employment in agricultural sector, use of modern technologies. – 13

Essential Readings

1. Mohammad Shafi (2006): Agricultural Geography, Dorling Kindessley (India) Pvt. Ltd. New Delhi.
2. Negi. B.S. (2003) Indian Agriculture: problems, Progress & Prospects, Vikas publishing house Pvt. Ltd. S. Ansari Road, Daryagani, New -Delhi-2.
3. Majid Hussain (2000): Agricultural Geography, Ed Anmol Publishing Pvt. Ltd. Ansari Road, Daryagani, New Delhi-2.
4. Shafi M. (1999): Agricultural Geography, Kedarnath Ram Nath, 132, RG College road, Meerat UP-1.
5. Singh & Dhillon (2000): Agricultural Geography, Prayog Pustak Bhavan, 20 A, University Road, Allahabad-211002, UP.

6. Jasbir Singh (2001): Agricultural geography, Prayog Pustak Bhavan, 20 A, University Road, Allahabad-211002, UP
7. Memonia CB (1998): Agricultural Problems in India: Prayog Pustak Bhavan, 20 A, University road, Allahabad-211002, UP.
8. Majid Husain (2007): Systematic Agricultural Geography, Rawath Publications, Jawahar Nagar, Jaipur, New Delhi – 92.
9. Goh Cheng Leong & Gillian C. Morgan (2009): Human and Economic Geography, Oxford University Press, New Delhi, New York.
10. The Hindu Publications: 2005 to 2010; Survey of Indian Agriculture.



HARD CORE COURSE GYH 552: Regional Planning and Development

Course Learning Outcomes:

- CO1: Understand the significance of decentralized planning
- CO2: Understand the planning process at each level of Local Institutions
- CO3: Evaluate role of the Local Governments in the planning
- CO4: Comprehend the advantages of local level planning with people's participation
- CO5: Create a spatial data base for local level planning

Course Content:

- Unit 1:** Concept of region: Types, hierarchy and characteristics of regions, delineation methods of regions – Formal, functional and nodal. Geography and regional planning. Concept and scope of regional planning. Regional approaches. Principles, methods, techniques of regional planning, need for planning. – 14
- Unit 2:** Conceptual and theoretical frame work of regional planning: Growth pole and growth foci. Planning processes: Sectoral, multilevel, decentralized planning. Integrated area development planning (IADP). Planning for tribal and hill areas, drought prone areas, command areas and watershed. Planning for metropolitan region: CDP, satellite towns, urban green belt. – 13
- Unit 3:** Concept of development, indicators of development. Regional imbalance. Regional development strategies. Problems and issues in regional planning. Sustainable development of regions. Regionalization of India: Based on natural, economic and administration (macro and meso levels only). – 14
- Unit 4:** Theories of regional development: Central place theory, diffusion theory (Hegerstand's). The role of locational theories in regional planning process. An evaluation of regional disparities / imbalances – backward regions of India. Identification of backward areas, planning backward area. Causes and consequences regional disparities. Measures of disparities. Harnessing the information through GIS, remote sensing, GPS for regional planning and development. – 13

Essential Readings:

1. Action Programme for the 11 FYP, New Delhi: Planning Commission.
2. Administrative Reforms and Public Grievances website, <http://arc.gov.in/6-1.pdf>
3. Company Concept Publishing Company. Experiences, New Delhi: Concept Publishing Company. Future. New Delhi: Second Administrative Reforms Commission. Retrieved from Department of Government of India. (2006).
4. Report of the Expert Group: Planning at the grassroots level – An Government of India. (2007). Sixth Report on Local Governance: An Inspiring journey into the Hooja, Rakesh and Prakash Chand Mathur. (Eds.) (1991), District and Decentralized Planning, <http://www.indiaenvironmentportal.org.in/files/Man%20and%20development%202.pdf> ISS. (1994), Decentralized Planning and Panchayati Raj, New Delhi: Institute of Social Sciences.

5. Isaac, Thomas and Richard, W. Franke. (Eds.) (2000). Local Democracy and Development: People's Campaign for Decentralization in Kerala, New Delhi: Leftward. Jaipur: Rawat Publications.
6. John, M.S. and Jos Chathukulam. (2002), Building Social Capital through State Initiative – Meghalaya), Man and Development. Retrieved from Mishra, S.N. et.al. (2000), Decentralised Planning and Panchayati Raj Institutions, New Delhi: Mittal Publications.
7. Participatory Planning in Kerala, Economic and Political Weekly, Vol. XXXVII, No.20, 18 May.
8. Rai, Manoj, et. al. (Eds.) (2001). The State of Panchayats: A Participatory Perspective, New Delhi: Samskriti.



SOFT COURSE GYS 553: Population Geography

Course Learning Outcomes:

- CO1. Analyse the scale, issues and nature of relationship between humans and environment on different geographical levels.
- CO2. Evaluate constraints to population development and mobility.
- CO3. Demonstrate knowledge and critical understanding of the key population indicators and concepts.
- CO4. Demonstrate capabilities for effective communication of population information and relevant arguments to the society.
- CO5. Evaluate theories of human migration to explain historical and current patterns.
- CO6. Assessing the linkages existing between various demographic parameters to explain the current population problems at the regional level.

Unit1: Nature and scope of population geography, population geography and demography, Sources of population data. Density and distribution of population and its pattern in the world, factors influencing distribution of the world population. -14

Unit 2: Population change: Growth of population in the world and India, components of population change, fertility, mortality and migration. Determinants of fertility and mortality, demographic transition theory. -13

Unit 3: Migration- Meaning and types, causes and consequences, theories of migration – Ravenstein & Lee. -13

Unit 4: Population and resources, optimum population, population resource regions, Malthusian population theory, population policy of India. -14

Essential readings

1. Beaujeu, Garnier, J. (1966): Geography of Population, Longman, London
2. Bogue, D.J. (1969): Principles in Demography, John Wiley, New York.
3. Bose, A. et al. (1974): Population in India's Development (1947-2000), Vikas Publication House, New Delhi.
4. Chandna, R. C. (2000): Geography of Population, Kalyani Publ., New Delhi.
5. 22 Clarke, J.I. (1972): Population Geography, Pergamon Press, Oxford
Clarke, John I. (1973): Population Geography, Pergamon Press, Oxford.
Crook, Nigel (1997): Principles of Population and Development, Pergamon Press, New York.
6. Garnier, B. J. (1970): Geography of Population, Longman, London.
7. Ghosh, S. (1998): Settlement Geography, Orient Longman Ltd., Kolkata
8. Jones, H.R., (2000): Population Geography, Paul Chapman, London
9. Mamoria, C.B. (1981): India's Population Problems, KitabMahal, New Delhi.
10. Mitra, Ashok (1978): India's Population Problems and Control (Vol. I & II), KitabMahal, New Delhi.
11. Srinivasan, K. and Vlassoff, M. (2001): Population and Development Nexus in India, Challenges for the new Millennium, Tata McGraw Hill, New Delhi.
12. Sundaram K. V and Nangia, Sudesh (eds.) (1986): Population Geography, Heritage, New Delhi.
Trewartha, G.T. (1969): A Geography of Population: World Patterns, John Wiley, New York.
Wood, R. (1979): Population Analysis in Geography, Longman, London.
13. Zacharia, E. and Sinha, V.C. (1986): Elements of Demography, Allied Publishers Pvt. Ltd., New Delhi
14. Zelinsky, W. (1966): A prologue to population Geography, Prentice Hall India, New Delhi.

SOFT COURSE GYS 555: Cultural Geography

Course Learning Outcome

CO1. Locate the sub discipline of Social and Cultural Geography within the discipline

CO2. Critically understand the key concepts of Social and Cultural Geography

CO3. Demonstrate knowledge of key methods in analysing cultural geography

CO4. Apply concepts and evaluate emerging issues in contemporary cultural context

Unit 1: Nature of cultural geography- Concept and meaning of culture-elements of culture, convergence and divergence of culture-cultural change. – 13

Unit2: Cultural diversity: Human races-Caucasoid, mongoloids and negroids- World's major regions-major languages of the World, and India's cultural Regions. Ethnic groups, case study, bushman, pygmies and eskimos. tribals of India. -14

Unit 3: Major human activities and cultural and occupations of man; Agriculture including its origin & diffusion, industrialization and its impact on culture and modernization broad features and impact in culture. -13

Unit 4: Culture and social well-being: Cultural indicators and human development index (HDI) at global, India and Karnataka Level. Human settlements: Rural and urban settlement patterns. Economic and social characteristics- Impact of technology on human settlements. Emerging issues of aged population and their care. -14

Essential Readings:

1. Ahmad, A. 1999. Social Geography, Rawat Publication, New Delhi, 2019
2. Ahmed, A. 1993. (ed) Social Structure and Regional Development: A Social Geography. Perspective, Rawat Publications, Jaipur
3. Anderson, K. Domosh M., Pile, S., Thift, N (eds). 2002. Handbook of Cultural Geography. Sage Cosgrove Denis (1984) Social Transformation and Symbolic Landscape, Croom Helen, London.
4. Crang, Mike.1998. Cultural Geography, Routledge, London Feasibility reports. By KILA Pannikar, K.M. 1959. Geographical Factors in Indian History, Bharatiya Vidya Bhavan, Bombay Pannur writings. Africa in Kerala. Ente Hridathile Adivasi Personality of India
5. Rachel, Pain. (eds). Introducing Social Geographies, Arnold Hodder group, London & Oxford University Press Raza, M. and Ahmed, A. 1990. An Atlas of Tribal India, Concept Publishing Co, Delhi.
6. Robertson Ian and Penny Richards, .2003. Studying Cultural Landscapes, Oxford University Press, London and New York.

GYP 557: Research Techniques in Human Geography

Course Learning Outcomes:

CO1: understand network analysis and shortest path matrix in research techniques in human geography.

CO2: understand population potential and Centographic analysis in techniques in human geography.

CO3: Analyse the nearest neighbor and functional classification of towns.

CO4: Analyse the crop combination and crop diversification method in research techniques.

CO5: evaluate the crop intensity.

Unit1: Network analysis: Alfa, beta and gamma indices, accessibility matrices: 'C' matrix and shortest path matrix. - 13

Unit 2: Nearest neighbor analysis, location quotient, rank size relationship, functional classification of towns. - 14

Unit3: Analysis of crop combination and mapping – J.C. Weaver's, and Doi's. Crop diversification and crop intensity. -14

Unit 4: Index of diversification, population potential and centographic analysis. -13

References:

1. Aslam Mohamood (1977) Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi
2. Gupta C.B. (1979) An Introduction to Statistical Methods, Vikas Publishing House Pvt. Ltd. New Delhi.
3. Murray R.
4. Toffee R. Transportation Geography, Prentice Hall Publication, New York.

GYP558: Dissertation, field Study Tour

Course Learning Outcomes

- CO1: Design and execute a meaningful research project that demonstrates spatial thinking
CO2: Articulate research or project objectives and questions clearly and situate research within an academic or Scholarly context
CO3: Understand the challenges of empirical geographical research
CO4: Able to deal with practical research problems
CO5: Narrate the research process clearly in the form of a formal multi-chapter master's dissertation in a structured format.
CO6: Defend her/his thesis in any scholarly engagements

Unit 1: Methods of field investigation and its importance in geography. -14

Unit 2: Field work of different areas and levels (Micro-Meso-Macro). -13

Unit 3: Collection of field data, sampling methods and preparation of questionnaires. -14

Unit 4: Data input, processing, representation, analysis and interpretation (Using computer and GIS techniques) report writing. -13

Note:

1. Field study tour is a part of IV semester. Study tour is compulsory and to be conducted between end of the III semester and in the beginning of the IV semester for a duration of two weeks. Study tour report submission is compulsory.
2. Viva-Voice based on dissertation and study tour report.

References:

1. Ahuja (2004) Research Methods, R.K. Books, New Delhi
2. Kothari (1990) Research Methodology – Wiley Eastern Ltd. New Delhi.
3. Gopal M.H. (1970) Introduction to Research Procedure in Social Science, Asia Publishing House, Bombay.
4. Young Pauline V. (1980) Scientific Survey and Research, Prentice Hall, New Delhi.
5. Limb (2001) Quantitative Methodologies for Geographer R.K. Books, New Delhi.
6. Mishra R.P. (2001) Research Methods in Geography, R.K. Books, New Delhi.
7. Pal (2005). Computing Techniques in Geography, R.K. Books, New- Delhi.