

Department of Geography, M. D. University, Rohtak

Course outline/Structure and scheme of examination of M.A. Geography four semesters course
with Choice Based Credit System (CBCS) from the Session 2016-17 onwards

M.A. Geography shall be of two years duration spread over four semesters. The duration of examination for theory and practical papers shall be three and four hours respectively. Practical examination shall be conducted by two external examiners out of the panel recommended by the P.G. Board of Studies in Geography. Marks of the internal assessment shall be awarded as per the laid down norms of the university. Soft Core and Open Elective Papers will be floated according to the administrative and academic convenience of the department.

Sem	Paper Code	Nomenclature	Hours Per Week (L +T +P)	Marks			Examination Hours	Credit (L +T +P)
				Internal	End Semester	Total		
1 st	16GEO21C1	Geomorphology	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO21C2	Climatology	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO21C3	Resource Geography	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO21C4	Statistical Methods in Geography	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO21C5	Practical Topographical Sheets and Its Interpretation	06 per student	-	50	50	04	0+0+3
	16GEO21C6	Practical- Computer Aided Statistical Diagrams and Graphs	06 per student	-	50	50	04	0+0+3
	Credits	C=22 F=2	Total Credits=22-24					

Sem	Paper Code	Nomenclature	Hours Per Week (L +T +P)		Marks			Exam Hours	Credit (L +T +P)
					Internal	End Semester	Total		
2nd	16GEO22C7	Geography of World Economy	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22C8	Regional Development and Planning	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22C9	Environmental Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22DA1	Urban Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22DB1	Cultural Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22DC1	Geography of India	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22DD1	Geography of Rural Settlement	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22DE1	Soil Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO22C10	Practical -Digital Cartography	06 per student		-	50	50	04	0+0+3
	16GEO22C11	Practical -Morphometric Analysis	06 per student		-	50	50	04	0+0+3
Soft Open Elective									
	16GEO22SO1	Basics of Geo- Informatics	03 (2+1 +0)	20	80	100	03	2+1+0	
	16GEO22SO2	Geography of India: Systematic and Regional	03 (2+1 +0)	20	80	100	03	2+1+0	
		C=18 D=04 SO=03	Total Credits=18-25						
1. Foundation course (02 credits) ,either in semester I/II to be chosen from the basket provided by the University. 2. Open Elective (03 credits) to be chosen from the basket of Open Electives (OEs) provided by the University.									

Sem	Paper Code	Nomenclature	Hours Per Week (L +T +P)		Marks			Exam Hours	Credit (L +T +P)
					Internal	End Semester	Total		
3rd	16GEO23C12	Remote Sensing and GIS	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23C13	Geography of Transport	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23DA2	Bio Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23DB2	Political Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23DC2	Social Geography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23DD2	Hydrology	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23DE2	Oceanography	04 (3+1 +0)		20	80	100	03	3+1 +0
	16GEO23C14	Practical -Field Work	06 per student		-	50	50	04	0+0+3
16GEO23C15	Practical -GIS	06 per student		-	50	50	04	0+0+3	
Soft Open Elective									
	16GEO23SO3	Introduction to Geography	03 (2+1 +0)	20	80	100	03	2+1+0	
	16GEO23SO4	Sources of Geographical Data	03 (2+1 +0)	20	80	100	03	2+1+0	
		C=14 D=04 SO=03	Total Credits=21-25						
1. Open Elective (03 credits) to be chosen from the basket of Open Electives (OEs) provided by the University.									

Sem	Paper Code	Nomenclature	Hours Per Week (L +T +P)	Marks			Exam Hours	Credit (L +T +P)
				Internal	End Semester	Total		
4 th	16GEO24C16	Geographical Thought	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24C17	Research Methodology	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24DA1	Water Resource Management	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24DA2	Geography of Tourism	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24DA3	Rural Geography	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24DB1	Population Geography	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24DB2	Natural Hazards and Disaster Management	04 (3+1 +0)	20	80	100	03	3+1 +0
	16GEO24DB3	Agricultural Geography	04 (3+1 +0)					
	16GEO24C18	Practical :Aerial Photographs and Its Interpretation	06 per student	-	50	50	04	0+0+3
	16GEO24C19	Practical: Satellite Images and Its Interpretation	06 per student	-	50	50	04	0+0+3
		C=14 D=08	Total Credits=22					
Students will have to opt two soft core papers, one each from 16GEO24DA1,A2,A3 and 16GEO24DB1,B2,B3.								

M.A. Geography Semester-I Session 2016-17 Onwards
16GEO021C1 GEOMORPHOLOGY

Credit: 04 (3+1+0)

End Semester Exam : 80 marks

Internal Assessment : 20 marks

Total : 100 marks Time : 3 hrs.

Learning Objectives:

The objectives of this course are to introduce the concepts in Geomorphology in adequate manner, many facets of surface relief features and to understand various aspects of their growth and evolution on the Earth.

Learning Outcomes:

The course will provide an understanding of the conceptual and dynamic aspects of landform development. Students will also learn the relevance of applied aspects of Geomorphology in various fields.

Unit-I

Geomorphology - Definition, Nature and scope, History and development of geomorphic ideas : Fundamental concepts - uniformitarianism, geological structure, process and stage. The Earth's interior - structure and constitution, Recent Views. Plate tectonics- meaning and concept; plates, plate margins and boundaries; plate motion; Tectonic activities along the boundaries and Distribution of plates.

Unit-II

Endogenetic processes - Faulting, folding and their geomorphic expressions. earthquake concept, causes, classification, intensity and magnitude, Geographical distribution. Vulcanism - concept, mechanism and causes; Volcanoes- classification, volcanic materials; Topography associated with vulcanicity and geographical distribution.

Unit-III

Exogenetic processes : Weathering and mass wasting - meaning and concept, controlling factors, classification and significance. Dynamics of fluvial, aeolian, glacial and karst processes and resulting landforms.

Unit-IV

Applied Geomorphology - meaning; Applications of Geomorphology in Regional planning, engineering projects, mineral exploration and hydrology. Regional Geomorphology of Punjab plain, Aravalli Region and Thar desert of India.

Note :

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire. All questions carry equal marks.

Recommended Readings :

1. Bloom, A.L. (1992) **Geomorphology**, Second Edition, Prentice Hall of India, New Delhi.
2. Dayal, P. (1990) **A Text Book of Geomorphology**, Shukla Book Depot, Patna.
3. Husain Majid (2002), **Fundamentals of Physical Geography**, Second Edition, Rawat Publications, Jaipur and New Delhi.

4. Singh Savindra (1993), **Physical Geography**, Prayag Pustak Bhawan, Allahabad.

_____ (1998), **Geomorphology**, Prayag Pustak Bhawan, Allahabad.

5. Strahler, A.N. and Strahler, A.H.(1996), **Introducing Physical Geography**, John Willey and Sons, New York.

6. Strahler, A .N. (1988), **Earth Sciences**, Harper and Row Publishers, N.D.

7. Thornbury, W.D. (1991), **Principles of Geomorphology**, John Wiley, New Delhi.

8. Wooldridge, S. W and Morgan, R.S. (1991), **An Outline of Geomorphology**, Orient Longmans, Calcutta.

M.A. Geography Semester-I Session 2016-17 Onwards
16GEO21C2 CLIMATOLOGY

Credit: 04 (3+1+0)

End Semester Exam: 80 marks

Internal Assessment: 20 marks

Total: 100 marks Time: 3 hrs.

Learning Objectives

The atmosphere and climate are a critical part of the earth system, and climatic variability and change are central to the issue of current and future global environmental change. The broad objective of the course is to introduce to the students the fundamentals of atmospheric phenomena, global climate systems and climate change.

Learning Outcomes

On successful completion of this course, students should be able to understand the mean global atmospheric circulations and disturbances, world climate systems, climatic variability and change.

Unit-I

Nature and Scope of Climatology; Climatic elements – atmospheric temperature, pressure, moisture, general atmospheric circulations jet stream.

Unit-II

Weather system and disturbances – air-mass, fronts, cyclones, tornades; Ocean atmospheric interaction- El Nino, Monsoon winds.

Unit-III

Global climate system - Approaches to climatic classification; Classification of Koppen, and Thornthwaite; Major Climates of the world-tropical and polar.

Unit -IV

Climatic changes - evidences, possible causes, global warming acid rain and problems of acid rain.

Note: The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings:

1. Aggarwal, S.K. (1972), **Fundamentals of Ecology**, Ashish Publishers, New Delhi.
2. Barry, R.G. and Chorley, R.J., **Atmosphere, Weather and Climate**, ELBS, Methuen &

Co. Ltd. London.

3. Bhutani, Smita, (2000) Our Atmosphere, Kalyanai Publishers, New Delhi.
4. Critchfield, H.J. (1987) **Climatology**, Prentice Hall of India, New Delhi.
5. Griffith, J.F. and Driscell, D.M. (1982) **Survey of Climatology**, Charles Merrill.
6. Lal, D.S. (1993) **Climatology**, Chaitanya Publishing House, Allahabad.
7. Riehl, H. (1968), **Introduction to Atmosphere**, McGraw Hill, New York.
8. Robinson, P.J. and Henderson Sellers (1986) **Contemporary Climatology**, Longman, London.
9. Trewartha, G.T. (Latest edition) **Introduction to Climate**, McGraw Hill, New York.

M.A. Geography Semester-I Session 2016-17 Onwards
16GEO21C3 RESOURCE GEOGRAPHY

Credit : 04 (3+1+0)
End Semester Exam: 80 marks
Internal Assessment: 20 marks
Total: 100 marks Time: 3 hrs.

Learning Objectives:

It is an introductory course of resource geography which is aimed at providing knowledge about the concepts of resources, classification, models of natural resource processes, their use and misuse, conservation and management of resources for sustainable development.

Learning Outcomes:

Students will become sensitized to concept and classification of resources, use or misuse and will learn conservation methods and techniques.

Unit-I

Nature, Scope and Significance of Geography of Resource; Definition and Concept of Resources, Classification of Resources.

Unit-II

Models of Natural Resource Processes: Zimmermann's Primitive and Advance Models of Natural Resource Process, Kirk's Decision Model, Brookfield System Model.

Unit-III

Use and Misuse of Resources: Soil Resource; Water Resource; Forest Resource and Mineral Resources; Future Prospects of Natural Resources.

Unit-IV

Conservation and Management of Natural Resources : Meaning and Concept of Conservation of Natural Resources; Resource Conservation and Management Methods of Natural Resources- Soil Resource, Water Resource, and Forest Resource; Problems of Natural Resource Management in India.

Note:

The question paper will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire Syllabus. All questions carry equal marks.

Recommended Readings:

1. Eliot Hurst, M.E. (1972) **A Geography of Economic Behaviour: An Introduction**, Duxbury Press, California.
2. Guha, J.L. and P.R.Chattroj (1994) **Economic geography- A Study of Resources**, The World Press Pvt. Ltd. Calcutta
3. Haroon Mohamad. (2007) **Geography of Resources**, Vasundhara Parkashan, Gorakhpur. (Hindi Edition)
4. Martin, R.H. and F.L. Warren. (1959) **Natural Resources**. McGraw Hill Book Co. London.
5. Maurya, S.D. (2015) **Economic Geography**. Parwalika Publications, Allahabad (Hindi Edition).
6. Negi, B.S.(2000) **Geography of Resources**, Kedar Nath and Ram Nath, Meerut
7. Owen, Oliver, S.(1971) **Natural Resource Conservation : A Ecological Approach**. Mc Million New Delhi.
8. Ramesh, A. (1984) **Resource Geography (Ed.) R.P. Misra**, Contribution to Indian Geography, Vol 5, Heritage Publishers, New Delhi.

9. Singh, A and Raja, M. (1982) **Geography of Resources and Conservation** (Hindi Edition) Pargati Parkashan, Meerut.
10. Zimmermann, E. W. (1951) **World Resources and Industries**, Harper and Brothers, New Delhi.

M.A. Geography Semester-I Session 2016-17 onward
16GEO21C4 STATISTICAL METHODS IN GEOGRAPHY

Credit : 04 (3+1+0)

End Semester Exam : 80 marks

Internal Assessment : 20 marks

Total: 100 marks Time : 3 hrs.

Learning Objectives:

Statistical methods are applied in geography in order to make precise and unambiguous statements. These are used to describe and explain various geographical patterns and relationships.

Learning Outcomes:

Keeping in view the nature of data and purpose of study, students would be able to make a rational choice amongst listed various statistical methods. .

Unit-1

Statistics, Geography and Statistics; Significance of Statistics in geographical studies; Primary and Secondary Data; Levels of data measurement: Nominal, Ordinal, Interval, and Ratio.

Unit-II

Measures of Central Tendency: Arithmetic Mean, Median, Mode and their geographical significance; Centographic techniques: Mean Centre, Median Centre and Standard Distance.

Unit-III

Measures of dispersion and concentration: Mean deviation, Standard Deviation; Coefficient of Variation, Lorenz Curve and Gini's Coefficient; Location Quotient.

Unit-IV

Correlation and regression: Scatter diagram, correlation by Spearman's Rank Difference and Karl Pearson's Product Moment, Significance testing of Correlation; Regression analysis regression equations construction of regression line, computation of residuals and mapping.

Note :

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings :

1. David M. Smith (1975), **Patterns in Human Geography**, Penguin, Harmondsworth.
2. Ebdon, D (1983), **Statistics in Geography : A Practical Approach**, Blackwell, London.
3. Gregory, S. (1978) **Statistical Methods and the Geographer** (4th Edition), Longman, London.
4. Gupta, S.P., **Statistical Methods**, Sultan Chand and Sons, Latest Edition.
5. Mathews, J.A. (1987), **Quantitative and Statistical Approaches to Geography**, Practical Manual, Pergamon, Oxford.
6. Pal, S.K. (1998), **Statistics for Geoscientists; Techniques and Applications**, Concept Publishing Company, New Delhi.
7. Peter, J. Taylor (1977), **Quantitative Methods in Geography**, Houghton Mifflin Company, Boston.
8. Robert Hammond and Patrik Mc. Cullagh (1974), **Quantitative Methods in Geography**, Clarendon Press, Oxford.
9. Yeates, Mauris (1974), **An Introduction to Quantitative Analysis in Human Geography**, McGraw Hill , New York.

M.A. Geography Semester-I Session 2016-17 Onwards
16GEO21C5 PRACTICAL: TOPOGRAPHICAL MAPS AND INTERPRETATION

Credit: 03 (0+0+3)
Time: 4 Hours
Max. Marks: 50
Distribution of marks:
Lab work test: 30
Record on lab work: 10
Viva Voce: 10

Learning Objectives

To develop the skill of map interpretation through identification of physical and cultural features using conventional signs.

Learning Outcomes

Students should be able to understand the importance and uses of maps and the relationship and juxtaposition of features therein.

Unit - I

Introduction to Maps: Definition and Types of Maps, Map scale, Conventional map symbols, Importance and uses of maps

Unit - II

Interpretation of Topographical maps: Topographical maps and their types, Basic information on Topographical sheets, Conventional Signs, Identification of Physical and Cultural details on Survey of India Toposheets.

Note:

The question paper shall contain six questions in all, including three questions from each unit. Candidate(s) are required to attempt three questions in all selecting at least one question from each unit. All questions carry equal marks.

Recommended Readings :

1. Robinson A. H. 2009. **Elements of Cartography**. New York: John Wiley and Sons.
2. Sharma J. P. 2010. **Prayogic Bhugol**. Meerut: Rastogi Publishers.
3. Singh R. L. and Singh R. P. B. 1999. **Elements of Practical Geography**. Noida: Kalyani Publishers.
4. Sarkar, A. 2015. **Practical Geography: A Systematic Approach**. New Delhi: Orient Black Swan Private Ltd.
5. Singh, R. L. and Rana P. B. Singh. 1991. **Prayogtmak Bhugol ke Mool Tatva**. New Delhi: Kalyani Publishers.
6. Sharma, J. P. 2010. **Prayogtmak Bhugol ki Rooprekha**. Meerut: Rastogi Publications,
7. Singh, R. L. and P. K. Dutta, 2012. **Prayogtmak Bhugol**, Allahabad: Central Book Depot.

M.A. Geography Semester-I Session 2016-17 Onwards
16GEO21C6 PRACTICAL: COMPUTER AIDED STATISTICAL DIAGRAMS AND GRAPHS

Credit : 03(0+0+3)
Time : 4 Hours
Max. Marks : 50
Distribution of marks:
Lab work test : 30
Record on lab work : 10
Viva Voce : 10

Learning Objectives:

It is a major technical course for the students to improve their abilities of using different kind of data and related statistical diagrams and graphs. The course aims to guide students to grasp the use of computer in Geography.

Learning Outcomes:

Successful completion of this course will provide the students learning outcomes like an ability to analyse, classify and prepare data for drawing statistical diagrams through computer.

Unit - I

Introduction to Computer: Components of Computer—Hardware and Software; Use of Computers in Geography.

Unit – II

Introduction to Microsoft Excel: Input of data, Bar Diagram, Pie Diagram, Scatter Diagram, Line Graph. Placement of heading and sub-heading, legend, Font size, Style, Bold, Italics, Changes from colour to different shade pattern. Different weight, colour and pattern to X and Y coordinates. Page layout. Ascending and Descending order.

Note :

The question paper shall contain six questions in all, including three questions from each unit. Candidate(s) are required to attempt three questions in all selecting at least one question from each unit. All questions carry equal marks.

M.A. Geography Semester-II Session 2016-17 onwards

16GEO22C7 GEOGRAPHY OF WORLD ECONOMY

Total Credit : 04 (3+1+0)
End Semester Exam : 80 marks
Internal Assessment : 20 marks
Total : 100 marks
Time : 3 hrs.

Learning Objectives:

This course offers an introduction to the ways in which economic activities are organized over the earth's surface. We all are witnessed to rapidly increasing integration of state economies. The economic processes operating at different geographical scales are depending on the complex economic-political-social interactions that are framed at the global level. The course explores the processes of globalization and seeks to provide understanding of today's increasingly interdependent world.

Learning Outcomes:

Students would be able to understand how in an increasingly globalized world, economic activities occur unevenly over geographical space; how local places and global economy are intertwined, and how the regime of neoliberal policies are generating uneven geography of capitalist development.

Unit-I

Economic Geography: The Stuff of Economic Geography, A brief history, Why Economic Geography?
Modes of Theorizing in Economic Geography: Political Economy, Poststructuralist Economic Geography

Unit-II

Capitalism, Fundamental Concepts: Use-value, Exchange Value, Capital, Capital and Labour, Capital Accumulation, Capital Accumulation by Dispossession.
Capitalism in Twentieth Century: Organized Capitalism, Disorganized Capitalism.
Neo-Liberalism.

Unit-III

World Economy and the Capitalist mode of production, The Basic Elements of World Economy: A Single Market, a Multiple State System, the Three-tier structure; A Space-Time Matrix of the World Economy, Dynamics of World Economy, Spatial Structure of the World Economy.

Unit-IV

Economic Development: Globalization or Internationalization, Patterns of International Trade, WTO and Developing Countries.

Note :

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings:

1. Aoyama, Yuko et.al. (2011), **Key Concepts in Economic Geography**, London: Sage.
2. Benko, Georges and Ulf Strohmayer (2004), **Human Geography**, London: Arnold.
3. Daniels, Peter et.al. (2003). **Human Geography**, New Delhi: Pearson.

4. Dicken, P. (2003), **Global Shift: Reshaping the Global Economic Map in the 21st Century**, New Delhi: Sage Publications.
5. Gwynne, Robert et.al. (2003), **Alternative Capitalism**, London: Arnold.
6. Harvey, David (1982), **The Limits to Capital**, Oxford: Basil Blackwell.
7. Harvey, David (1990), **The Condition of Postmodernity**, Oxford: Blackwell.
8. Harvey, David (2008), **A Brief History of Neoliberalism**, Oxford: Oxford University Press.
9. Harvey, David (2015), **Seventeen Contradictions and the End of Capitalism**, London: Profile Books.
10. Hudson, Ray (2005), **Economic Geographies**, New Delhi: Sage Publications.
11. Johnston, R.J. et.al. (eds.) (2003), **Geographies of Global Change**, Oxford: Blackwell.
12. Knox, Paul et.al. (2003), **The Geography of the World Economy**, London: Arnold.
13. Leyshon, Andrew et.al. (2011), **The Sage Handbook of Economic Geography**, London: Sage.
14. Mackinnon, Danny and Andrew Cumbers (2011), **Introduction to Economic Geography**, London: Routledge.
15. Polanyi, Karl (1957), **The Great Transformation**, Boston: Beacon Press.
16. Singh, Sachinder (2013), "Unmasking Neoliberalism: From Welfare Commitments to Market Commitments", **Transactions, Institute of Indian Geographers**, vol.35, no.2, pp.157-172.
17. Taylor, P.J. and Collin Flint (2000), **Political Geography: World Economy, Nation-State and Locality**, New York: Prentice Hall.
18. World Bank (2002), **Globalization, Growth and Poverty: Building an Inclusive World Economy**, New York: Oxford University Press.

MA Geography Semester-II Session 2016-17 onwards
16GEO22C8 REGIONAL DEVELOPMENT AND PLANNING

Credit: 04 (3+1+0)
End Semester Exam: 80 marks
Internal Assessment: 20 marks
Total: 100 marks
Time: 3 hrs

Learning Objectives

Regional Development and planning are the core areas of geographical inquiry. Decentralised planning has a profound role in managing the evolved situation.

Learning Outcomes

The student will get familiarised with the theoretical foundations and conceptual grounding of this branch; understand and evaluate the concept of region in geography and its role and relevance in regional planning; and to comprehend the regional development and planning process in India.

Unit I

Conceptual and theoretical framework: Concept of development, regional development; concept of region and regional planning; geography and regional planning; selection of indicators and measures of regional disparities.

Unit II

Regional Growth Theories: Friedman's core-periphery theory; polarisation and trickle-down effect theory of Hirschman; circular and cumulative causation model of Myrdal; growth pole theory of Perroux.

Unit III

Planning process: types of planning; regional planning and its rationale, principles and objectives. Regions for Planning: characteristics, hierarchy, need, and demarcation; Planning regions of India.

Unit IV

Experiences of regional development and planning in India - multi level planning (state, district, block and panchayat level planning); Regional Policies in the Indian Five Year Plans; planning policies for regional development; regional backwardness: criteria, strategy and programmes for backward area development.

Note:

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings:

1. Bhatt, L.S. 1972. *Regional Planning in India*. Statistical Publishing Society, Calcutta.
2. Chand, M and V.K. Puri. 1985. *Regional Planning in India*. Allied Pub. Pvt. Ltd. New Delhi.
3. Coates, B.R. and R.J. Johnston. 1977. *Geography and Inequality*. Oxford University Press, Oxford.
4. Government of India. 2013. *Report of the Committee for Evolving a Composite Development Index of States* Ministry of Finance. http://finmin.nic.in/reports/Report_CompDevState.pdf
5. Friedmann, J. and William Alonso. 1967. *Regional Development and Planning: a Reader*. MIT Press, Cambridge Massachusetss

6. Kuklinski, A.R. ed. 1972. *Growth Poles and Growth Centres in Regional Planning*. Monton, The Hague.
7. Misra R.P. et al. eds. 1974. *Regional Development Planning in India*, Vikas, New Delhi.
8. Mohan, Krishna. 2005. *Addressing Regional Backwardness: An Analysis of Area Development Programmes in India*, New Delhi: Manak Publications.
9. Raza, Moonis. 1988. *Regional Development*, Heritage, New Delhi.
10. Singh, Nina. 2015. "Regional Backwardness in India: An Exploration of Demographic Indicators". *Population Geography*, vol.37, No. 1&2, pp. 13-24.
11. Surya Kant and Nina Singh. 2015. *Geography Development Public Policy: Select Essays of Gopal Krishan*. RK Books, New Delhi.
12. Kant, Surya et al. 2004. *Reinventing Regional Development*. Rawat Publications, Jaipur.
13. Sundram, K. V. 1977. *Urban and Regional Planning in India*. Vikas Publishig House Pvt Ltd, New Delhi.

M.A. Geography Semester-II Session 2016-17 onwards
16GEO22C9 ENVIRONMENTAL GEOGRAPHY

Credit: 04 (3+1+0)
End Semester Exam : 80 marks
Internal Assessment : 20 marks
Total : 100 marks
Time : 3 hrs.

Learning Objectives:

The basic objectives of the course are to apprise the students about our environment, to understand its interrelationship with man and his linkages with other organisms, which varies in different biomes. Also, to sensitise the students with the Environmental problems and degradations.

Learning Outcomes:

The Students will learn the importance of conserving biodiversity to maintain ecological balance as well as national and international concerns on various environmental issues.

Unit-I

Environmental Geography: Nature and scope of environmental geography, fundamental concepts of environmental geography; Approaches and methods in Environmental Geography; Relationship with other branches of knowledge, Environment and Ecology: Meaning, structure and type of Environment, Ecology - meaning, scope and concepts. Sub-vision of ecology.

Unit-II

Ecosystem: Meaning and concepts of ecosystem, Classification and components of eco-system, trophic structure, ecological pyramid, energy flow and biogeochemical cycle; Ecological regions of India.

Unit-III

Environmental pollution- meaning, types, sources, causes and impacts; Air, Water and Land pollutions; Environmental Degradation – Nature, process, types and causes of environmental degradation; Green house effect, Global warming, Ozone depletion and Desertification.

Unit-IV

Environmental management- concept, methods and approaches. Management of soil, forest and mineral resources; Disaster Management; Conservation of natural resources; Emerging environmental problems and issues in India, Environmental policies, programmes, awareness and movements in India.

Note :

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire. All questions carry equal marks.

Recommended Readings:

1. Anderson J.M. (1981): Ecology for Environmental Science : Biosphere, Ecosystems and Man, Arnold, London.
2. Awasthi, N.M. and Tiwari, R.P.L. (1995) :ParyavaranBhugool (Environmental Geography), Madhya Pradesh Hindi Granth Academy, Bhopal.

3. Goudie, Andrew (1984) : The Nature of the Environment, Oxford Katerpring Co. Ltd.
4. Nobel and Wright (1996) : Environmental Science, Prentice Hall, New York.
5. Odum, E.P. (1971) : Fundamental of Ecology, W.B. Sanders, Philadelphia.
6. Saxena, H.M. (1994) :PrayavaranevnParisthitikiBhugool (Geography of Environment and Ecology) Rajasthan Hindi Granth Academy, Jaipur.
7. Singh, Savinder (1991) : Environmental Geography, PrayagPustakBhawan, Allahabad.
8. Singh, R.B. (ed.) (1989) : Environmental Geography, Heritage, New Delhi.
9. Strahler, A.N. and Strahler, A.H. (1973) : Environmental Geosciences : Interaction between natural systems and Man,John Wiley and Sons, New York.
10. Strahler, A.H. and Strahler A.N. (1977) : Geography and Mans Environment, John Wiley, New York.
11. William, M.M. and John, G. (1996) : Environmental Geography - Science, Landuse and Earth System, John Wiley and Sons, New York.

MA Geography Semester-II Session 2016-17 onwards

16GEO22DA1 URBAN GEOGRAPHY

Credit: 04 (3+1+0)

End Semester Exam: 80 marks

Internal Assessment: 20 marks

Total: 100 marks Time: 3 hrs.

Learning Objectives

What is urban geography these days? Cities have become the centre of social, political, and economic activities that now govern the lives of the majority of human kind. There are new geographical patterns forming within and between cities. They serve both as the cores of, and means for connecting, events taking place on the local, regional, national, and international levels, with all these tiers spatially interacting.

Learning Outcomes

It will help students gain a better understanding of the the process of urbanization and origin, growth of urban settlements with various theoretical viewpoints in the literature explaining them. They would be able to understand the key aspects of cities and get an indication of the breadth of material that can be covered when examining cities.

Students will also get sensitized to the evolving urban planning visions.

Unit-I

Urban Geography: definition, nature, scope, and recent trends; Urban revolutions and growth of towns and cities in the world (with particular reference to India).

Unit-II

Urbanisation processes and patterns in an era of globalisation; urbanisation process in India: colonial legacy, the post-independence characteristics; phases of urban development with location of economic activities in cities; urban form and structure: pre-industrial, industrial and post industrial societies.

Unit-III

Aspects of urban places: Location, site and situation - definition, nature and significance; urban ecological processes; urban systems and the growth of cities: the rank-size distribution of cities, primate city distribution, central place theory of Christaller; the urban fringe.

Unit-IV

Urban planning visions: the garden city, the radiant city; conserving urban landscapes; sustainability and the city; city environments and living conditions; urban development strategy with particular reference to India.

Note:

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings:

1. Badcock, Blair. 2002. *Making Sense of Cities: A Geographical Survey*. Arnold, London.
2. Bala, Raj. 1986. *Urbanisation in India*, Rawat Publishers, Jaipur.
3. Bansal, S.C. 2008. *Urban Geography* (Hindi Edition), Meenakshi Prakashan, Meerut.
4. Bansal, S.C. 2010. *Urban Geography*. Meenakshi Prakashan, Meerut.
5. Beall, Jo and Sean Fox. 2009. *Cities and Development*. Routledge, London.
6. Carter, Harold (1995), *The Study of Urban Geography*. 4th edn, Arnold, London.
7. Fyfe, Nicholas R. and Judith T. Kenny. 2005. *The Urban Geography Reader*. Routledge, New York.
8. Hall, Tim and Heather Barrett. 2012. *Urban Geography*. 4th edn. Routledge, London.
9. Pacione, Michael. 2001. *Urban Geography-A Global Perspective*. Routledge, London.
10. Ramachandran, R. 1989. *Urbanisation and Urban Systems in India*. Oxford, New Delhi.
11. Singh, K. and F. Steinberg. eds. 1987. *Urban India in Crisis*. New Age International, New Delhi.
12. Smailes, A.E. 1953. *The Geography of Towns*. Hutchinson, London.

MA Geography Semester-II Session 2016-17 onwards
16GE022DB1 CULTURAL GEOGRAPHY

Credit: 04 (3+1+0)
End Semester Exam: 80 marks
Internal Assessment: 20 marks
Total: 100 marks Time: 3 hrs

Learning Objectives

Cultural Geography is an important area of geography. It helps to understand the culture and its development as well as differences in various cultures of the world.

Learning Outcomes

The student will keep up to date with the theoretical aspects and conceptual base of this branch; understand and evaluate the concept of culture in geography and its role and relevance in society; The student will be able to understand the cultural environment and various cultural regions of the world.

Unit-I

The Nature Meaning & Scope of Cultural Geography. The evolutionary approach in cultural geography. The Framework of cultural Geography. The evolution of cultural Geography-The contribution of Otto Schluter and Carl Sauer.

Unit-II

Cultural Geography: Elements & Components; Cultural Areas & Cultural Realm. Environment and Culture: Concept of cultural areas and cultural regions. Cultural adaptation and Environmental perception. Man as modifier of the earth

Unit-III

Spatial Structure. Focus on similarities and differences of various cultures with respect to racial, religious, linguistic and demographic, characteristics in Indian context. Studies of the socio-cultural characteristics of contemporary societies within their manifested

Unit-IV

Human races: Habitat economy and Society of tribal groups. Racial Elements in India's Population; Tribes of India (Bhil, Gond, Toda, Naga); Tribes of World (Eskimo, Pigmy, Bushman).

Note:

The question paper will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Suggested Readings:

Ahmad, Aijazuddin, **Social Geography**, Rawat Publication, New Delhi, 1999 .

De Blij. B.d. **Human Geography**. John Wiley and Son, New York.

Dreze Jean, Amartya Sen, **Economic Development and Social Opportunity**, Oxford University press, New Delhi, 1996

Dubey, S.C.: **Indian Society**, National Book Trust, New Delhi, 1991.

Gregory, D. and UJ. Larry. (eds.) **Social relations and Spatial Structures**, McMillan, 1985

Haq, Mahbubul: **Reflection on Human Development**. Oxford University Press. New Delhi

Maloney, Clarence: **People of South Asia**, Winston, New York, 1974 .

Planning Commission, **Government of India**: Report on Development of Tribal areas. 1981

Rao, M.S.A.: **Urban Sociology in India**. Orient Longman, 1970 .

Schwartzberg Joseph: **An Historical Atlas of South Asia**. University of Chicago Press. Chicago, 1978 .

Sen, Amartya and Dreze Jean, **Indian Development Selected Regional Perspectives**. Oxford University Press, 1996 .

Smith, David: **Geography: A Welfare Approach**. Edward Arnold, London, 1977 .

Sopher, David: **An Exploration of India**. Cornell University Press. 1980 .

Subba Rao. **personality of India: Pre and Proto Historic Foundation of India and Pakistan**, M.S. University, Baroda, Vadodara, 1958.

M.A. Geography Semester-II Session 2016-17 onwards
16GEO22DC-1 GEOGRAPHY OF INDIA

Total credit:04

End Semester Exam: 80 marks

Internal Assessment: 20 marks

Total: 100 marks Time: 3 hrs.

Learning Objectives

To describe various geographical aspects of land, people and economy of Indian sub continent.

Learning Outcomes

The students will appreciate the relevance of geographical knowledge of India to understand the contemporary issues.

Unit-1

Physiographic division of India; Drainage systems" Mechanism of Indian monsoons and climatic regions of India: types of soils and natural vegetation.

Unit-II

Growth of population, Distribution and density of population ; Demographic attributes; sex-ratio, literacy rate and work force; population problems and policies.

Unit-III

characteristics of Indian agriculture and its development since independence; Agricultural region of India; Major industrial regions of India; domestic and international trade patterns; Transportation network.

Unit-IV

Evolution of administrative map of India since independence; Disputes of river water sharing amongst states with reference to SYL; Inter -linking of rivers; Terrorism problems of internal security; Population explosion and food security.

Note:

The question paper shall consist of five units. First four units of question paper shall contain two question from each unit. candidate is required to attempt on e question from each unit. Unit five shall be compulsory and shall contain eight short type questions covering the entire syllabus. All questions carry equal marks.

Recommender Readings:

1. Spare, O.H.K. and A.T.A. learnmonth: Geography of India and Pakistan, Methuen London (first Indian Edition, 1984, Munshiram Manoharlal, New Delhi) 1967.
2. Gautam A: Advanced Geography of India, Sharda Pustak bhawan, allahabad,2009.
3. Sharma,T.C. and Coutinho, O: Economical and commercial Geography of India,Vikas publishing house Pvt. Ltd. New Delhi,1988.
4. Chandna, R.C.: Geography of Population, Kalyani Publishers, 1998.
5. Tirtha, Ranji : Emerging India, Conpub. Ann Arbour, U.S.A. Michigan, 2006.

M.A. Geography Semester-II Session 2016-17 onwards
16GEO22DD1 GEOGRAPHY OF RURAL SETTLEMENT

Credit: 04

End Semester Exam: 80 marks

Internal Assessment: 20 marks

Total: 100 marks Time: 3 hrs.

Learning Objectives

The objective of the paper is to give to the students the basic ideas about the rural settlements, historical development during ancient, medieval and modern times, morphology of rural settlements, functions and rural settlement planning in India.

Learning Outcomes

The present paper shall enhance the knowledge of students about the historical development, patterns, types and functional systems of rural settlements.

Unit-I

Definition, Nature and Scope of Rural Settlement Geography; Trends in Rural Settlement Geography with special reference to India; Approaches to Rural Settlement Geography

Unit-II

Culture-Historical Perspective; Archaeological finds and settlements - Mesopotamia, the Nile valley, the Indus valley; Historical Development of Rural Settlements (based on major cultural periods) in India. Analysis of Place Names and environments.

Unit-III

Morphology of Rural Settlements in India: Religio-Ritual Model, Secular-Dominance Model; Types and Patterns of Rural Settlements in India and Causes of Diverse Types of Rural Settlements.

Unit-IV

Functions of Rural Settlements; Rural service centers; their nature and hierarchy; Basics of Rural Settlement Planning; Rural Settlement Planning of India.

Note:

The question paper will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings :

1. Alam, S. M. et. al. (1982), **Settlement System of India**, Oxford and IBH Publication Co. New Delhi.
2. Chisholm, M. (1967), **Rural Settlements and Land Use**, John Wiley, New York.
3. Clout, H.D. (1977) **Rural Geography of Settlements**, Mac Donald & Evans, New York.
4. Hudson, F.S. (1976), **A Geography of Settlements**, Mac Donald & evans, New York.

5. Mandal, R.B. (1988), **System to Rural Settlements in Developed Countries**, Concept Publication, New Delhi.
6. Mandal, R.B. (2001), **Introduction to Rural Settlements**, Concept Publication, New Delhi.
7. Misra, H.N. (1987) **Rural Geography**, Vol. IX, Contributions to Indian Geography, Heritage Publishers, New Delhi.
8. Singh, R.L. and K.N. eds. (1975), **Readings in Rural Settlements Geography**, NGSI, Varanasi
9. Singh, R.L. (1976), **Geographic Dimensions of Rural Settlements**, NGSI, Varanasi
10. Singh, R.Y. (1994), **Settlements**, NGSI, Varanasi. 11. Singh, R.Y. (2005), **Adhiwas Bhugol**, (in Hindi) Rawat Publication, New Delhi.
12. Wanmali, S. (1983), **Service Centres in Rural India**, B.R. Publication, New Delhi.

M.A. Geography Semester-II Session 2016-17 onwards

16GEO22DE1 SOIL GEOGRAPHY

Credit: 04 (3+1+0)

End Semester Exam : 80 marks

Internal Assessment : 20 marks

Total : 100 marks Time : 3 hrs

Learning Objectives

The aim of this course is to apprise the students to various aspects of soil which being one of the important element of the Earth, supports the life system.

Learning Outcomes

Students will be familiarized and enhance their knowledge about the soils, its properties, development and degradation. They will understand the management and conservation of soil resource with reference to India along with its importance.

Unit - I

Soil Geography: meaning, nature, and scope; its relationship with Pedology. Soil forming factors: parent material, organic, climatic, topographic, and time; Soil components: inorganic materials, organic matter, soil air, and soil water.

Unit - II

Processes of soil formation and soil development: physical, biotic and chemical. Soil Profile and its development; Pedogenic Regimes: podsolization, laterization, calcification and salinization.

Unit - III

Physical properties of soils: morphology, texture, structure, water, air, temperature and other properties of soil; Chemical properties of soil and soil reaction; Genetic classification of soils; Taxonomic classification of soils: zonal, azonal and intra-zonal soils, their characteristics. Spatial distribution of Indian soils.

Unit - IV

Evaluation of land and soil: Parametric and non parametric systems, Land capability classification, Soil survey and Mapping, field study of soil profile and their characteristics; Soil erosion, degradation, and conservation with special reference to India.

Note :

The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Suggested Readings

1. Backman, H.O and Brady, N.C. (1960): The Nature and Properties of Soils, McMillan, New York.
2. Basile, R.M. (1971): A Geography of Soils, William C. Brown, Dubuque, Ia.
3. Bennet, Hugh H.: Soil Conservation, McGraw Hill, New York.
4. Bunting, B.T. (1973): The Geography of Soils, Hutchinson, London.
5. Clarke G.R. (1957): Study of the Soil in the Field, Oxford University Press, Oxford.
6. De N.K. and Ghosh, P.(1993): India:A Study in Soil Geography, Sribhumi Publishing Co., Calcutta.
7. Foth H.D. and Turk, L.M. (1972): Fundamentals of Soil Science, John Wiley, New York.
8. Govinda Rajan, S.V. and Gopala Rao, H.G. (1978): Studies on Soils of India Vikas, New Delhi.
9. James S. Gardiner (1977), Physical Geography, Harper's College Press, New York.
10. McBride, M.B. (1999): Environmental Chemistry of Soils, Oxford University Press, New York.

M.A. Geography Semester-II Session 2016-17 onwards
16GEO22C10 PRACTICAL: DIGITAL CARTOGRAPHY

Credit:03 (0+0+3)
End Semester Exam:50
Lab Record: 30
Lab Test:10
Viva-Voce:10
Time: 4hrs

Learning Objectives

Modern science and technology have made tremendous progress in all possible fields. Geospatial technology has been emerged a new spatial information technology. Digital Cartography is a newly emerged field in Geospatial Technology. The main objective of the course is to impart adequate professional knowledge and computer skills so as to enable the students to take up career in the field of Geospatial Technology.

Learning Outcome

After the completion of the semester students will be able to understand and prepare maps.

Unit I

Introduction to Softwares

Basic introduction to GIS softwares; (QGIS, ArcGIS, etc.), Raster (grid format) and vector (point, line and polygon) data models.

Unit II

Mapping and Map Essentials

Dot, Choropleth and Isopleths mapping; Proportional circles, and bar diagrams in a map. Map elements- title, legend, lat.long, scale, direction, source, name of projection and layout creation.

Note :

The question paper shall contain six questions in all containing three questions from each unit. Candidates are required to attempt three questions in all selecting at least one question from each unit. All questions carry equal marks.

Recommended Readings:

11. Robinsin, A., Morrison,J.L.,Muehrcke.P.C. and Guptil,S.C.(2002) Elements of Cartography, John Willey.
12. Taylor, D.R.F.(1985) Education and Training in Contemporary Cartography, John Willey.
13. Jil D., Charles W., Mohsen,M. (2016)Cartographic Grounds: Projecting the Landscape Imaginary, Princeton Press, New York
14. Cynthia,A.B. (2005) Designing Better Maps-A Guide for GIS Users, ESRI Press, New York.
15. Walford, N.(1995): Geographical Data Analysis, John Wiley & Sons, New York.
16. Nag, P. et al (1992): Thematic Cartography and Remote Sensing, Concept Publishing Co., New Delhi.

M.A. Geography Semester-II Session 2016-17 onwards
16GEO22C11 PRACTICAL: MORPHOMETRIC ANALYSIS

Credit: 03
Distribution of Marks
Lab Work Test : 30
Record on Lab Work : 10
Viva-Voce : 10
Total Marks : 50 Time: 4 hrs.

Learning Objectives:

The course will provide opportunity to the students learn morphometric techniques in general and in the case of a drainage basin in particular.

Learning Outcomes:

Students would be able to understand the usefulness of morphometric techniques in the case of a drainage basin.

Unit - I

Morphometric Analysis of Drainage Basin- Types and its Geographical Significance, **Linear Aspects:** Stream Ordering Based on Horton and Strahler, **Areal Aspects:** Stream Frequency and Drainage Density. (04 Exercises)

Unit- II

Relief Aspects: Hypsometric Curve and Integral Hypsometric Curve, Clinographic Curve, **Slope Analysis-** Average Slope (Wentworth's method), Relative Relief (Smith's method), **Profile Analysis** -Longitudinal profile. (06 Exercises)

Note:

The question paper shall contain six questions in all, including three questions from each unit. Candidate(s) are required to attempt three questions in all selecting at least one question from each unit. All questions carry equal marks.

Recommended Readings:

1. Monkhouse, F.J. and H.R. Wilkinson (1980), **Maps and Diagrams**, B.I. Publications, Bombay.
2. Singh, R.L. (1979), **Elements of Practical Geography**, Kalyani Publishers, New Delhi.
3. Singh, S. (1997), **Geomorphology**, Prayag Pustak Bhawan, Allahabad.

MA Geography Semester-II Session 2016-17 onwards
Foundation Course: 16GEOFE
GEOGRAPHY IN EVERYDAY LIFE

Credit: 02 (2+0+0)
End Semester Exam: 30 marks
Internal Assessment: 20 marks
Total: 100 marks Time: 3 hrs.

Learning Objectives

With spatial turn in the other social sciences and humanities and cultural turn in geography the spatial structure has begun to be seen not merely as an arena in which social life unfolds but rather as a medium through which social relations are produced and reproduced. All this has strengthened geography as a multidisciplinary and interdisciplinary discipline. Geography deepens understanding of many contemporary issues and challenges - climate change, food security, energy choices – that cannot be understood without a geographical perspective. It serves vital educational goals: thinking and decision making with geography helps us to live our lives as knowledgeable citizens, aware of our own local communities in a global setting. What we need is a global sense of the local, a global sense of place.

Learning Outcome

On completion of the course a student should be able to understand how geography permeates each and every aspect that concerns our living on this earth. They would know how Geography can use its versatility and multi-factor approach, co-existence between physical and human aspects, construction of ideas around space which are politically and administratively relevant, to its best advantage.

Unit I

Geography and Environment; Geography and Social Sciences; Geography and Development; Geography and Planning

Unit II

Geography and Governance; Geography and Globalization; Geography and Disasters; Geography and Cartography

Note: (i) The question paper will have three units. First two units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt two questions in all selecting one from each unit. Unit III shall be compulsory and shall contain five short answer type questions covering entire syllabus in which candidates will be required to attempt any five out of eight questions. All questions carry equal marks.

(ii) Internal Assessment of 10 marks will be 'Map Filling' about the location of important places, landforms, and geographical features in India and the world. The unit three shall be compulsory and shall contain five short answer type questions covering entire syllabus.

Recommended Readings

- Daniels, Peter, Michael Bradshaw, Denis Shaw, and James Sidaway. 2012. An Introduction to Human Geography. 4th edition. Pearson Education Ltd. Harlow, England.
- Herod, Andrew. 2009. Human Geography: the basics, Routledge, New York.
- Hopper, Paul. 2012. Understanding Development: Issues and Debates, Polity Press. Cambridge, UK,.
- Kant, Surya and Nina Singh ed. 2015. Geography Development Public Policy: Select Essays of Gopal Krishan. RK Books, New Delhi.
- Kapur, Anu. 2010. Vulnerable India, Sage Publications, New Delhi.
- Knox, Paul. 2014. Atlas of Cities. Princeton University Press.
- Oxford Atlas of the World. 2015. 22nd edition. Oxford University Press.

M.A. Geography Semester-II Session 2016-17 onwards

Open Elective: 16GEO22SO1

BASICS OF GEOINFORMATICS

Credit: 03 (3+0+0)

End Semester Exam: 80 marks

Internal Assessment: 20 marks

Total: 100 marks Time: 3hrs

Learning Objectives

This course is designed to give students an exposure to basics of geospatial technologies. It offers to learn the techniques of generation and management of earth surface information. An inter and multi disciplinary approach has been used to make subject interesting and useful for students. Latest technology of GPS is included to understand use of modern day navigation and surveying.

Learning Outcomes

Students will be able to learn the use of latest geospatial technology. It will help them to understand the spatial phenomena in a better manner with availability of real time and accurate information. These technologies being modern and interdisciplinary in nature will enable the students to apply this knowledge in various fields of life.

Unit – I

Aerial Photography

Aerial photography: history and development, advantages and limitations; Classifications of aerial photographs; Geometry of an aerial photograph; Scale of an aerial photograph; Availability and procurement of aerial photographs in India; Aerial photograph vs map.

Unit – II

Remote Sensing.

Introduction to Remote Sensing; electromagnetic radiation; stages of remote sensing; energy interactions in atmosphere; energy interactions with earth surface features and spectral signatures. Remote Sensing applications in land use/land cover, urban, environment, forest and disaster studies.

Unit – III

Remote Sensing

Remote Sensing platforms: airborne and space borne; satellite orbits: geostationary and near polar; Image data characteristics: resolutions- spatial, spectral, radiometric and temporal; Sensors and their types; Satellite missions of ISRO .

Unit – IV

GIS and GPS

Geographic Information System (GIS): definition and applications; GIS and remote sensing integration; components and elements of GIS; representation of earth surface features in GIS; introduction to Global Positioning System; GPS satellites constellations; GPS segments; Applications of GPS.

Note (i): Open Elective to be chosen from the basket of Open Electives (OEs) provided by the University.

(ii) The question paper will have five units. First four units of question paper will contain two questions from each unit. Candidate(s) are required to attempt one question from each unit. Unit-V shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings:

[Paul Wolf](#), [Bon DeWitt](#), and [Benjamin Wilkinson](#). Elements of Photogrammetry with Application in GIS. USA: Mc-Graw Hill Education.2014.

Avery, T.E., and G.L. Berlin. Fundamentals of Remote Sensing and Airphoto Interpretation, Macmillan, New York.1992.

Campbell, J.B. Introduction to Remote Sensing, Guilford, New York.1996.

Curran, Paul J. Principles of Remote Sensing, Longman, London & New York. 1985.

Joseph, G. Fundamentals of Remote Sensing, Universities Press Hyderabad. 2005.

Lillisand, T.M. and P. W. Kiefer. Remote Sensing and Image Interpretation, New York. John Wiley & Sons.1986.

Burrough, P.A. and McDonnell, R.A. Principles of Geographic Information System. Oxford: Oxford University Press. 1998.

Chang, Kang-tsung. Introduction to Geographic Information Systems. New Delhi: Tata McGraw-Hill.2006.

Doberstein, Dan. Fundamentals of GPS Receivers: A Hardware Approach. New York: Springer

MA Geography Semester-II Session 2016-17 onwards
Open Elective 16GEO22SO2
GEOGRAPHY OF INDIA: SYSTEMATIC AND REGIONAL

Credit: 03 (3+0+0)
End Semester Exam: 80 marks
Internal Assessment: 20 marks
Total: 100 marks Time: 3 hrs

Learning Objectives

History, geography and culture have comprised to make India into a major force in South Asia. The course provides an insight into different aspects of India's regional vitality towards unity, stability and progress.

Learning Outcomes

The student will get familiarised with the geographic dimensions of India in terms of its political and administrative characteristics; aspects of its regional vitality; and formation of regions.

Unit-I

India: a historical-geographical expression; Size, location, and boundaries; Physical environment; Historical setting.

Unit-II

Unity in diversity of India: Unifying mechanism and divisive streaks; Evolution of the administrative map of India since Independence.

Unit-III

Regional vitality of India; multiculturalism in India; the Indian diaspora; India's cultural landscape.

Unit -IV

Regionalisation schemes of India: Physiographic (S.P. Chatterjee); Climatic (Koeppen and Trewartha); Agricultural (Jasbir Singh and C.B. Mamoria); and Industrial (B.N. Sinha).

Note (i): Open Elective to be chosen from the basket of Open Electives (OEs) provided by the University.

(ii) The question paper will have five units. First four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

Recommended Readings:

1. Ahmad, Aijazuddin. 1999. *Social Geography*. Rawat Publication, New Delhi.
2. Chandna, R.C. 2002. *Geography of Population*. 5th edn. Kalyani Publishers, Delhi.
3. Deshpande, C.D. 1992. *India: A Regional Interpretation*, ICSSR and Northern Book Center, New Delhi.
4. Hussain, M. 2014. *Geography of India*. 5th edn. McGraw Hill Education, New Delhi.
5. Singh, Jagdish. 2003. *India: A Comprehensive Systematic Geography*. Gyanodya Prakashan, Gorakhpur.
6. Spate O.H.K. & A.T.A. Learmonth. 1967. *Geography of India and Pakistan*, Methuen, London.
7. Sukhwai, B. L. 1971. *India: A Political Geography*. Allied Publishers, New Delhi.
8. Tirtha, Ranjit. 2000. *Emerging India*. Rawat Publications, Jaipur.
9. Tiwari, R.C. 1999. *Geography of India*. Prayag Publishers, Allahabad.
10. Wadia, D. N. 1953. *Geology of India*. Macmillan & Co., London.