

Methods of STREAM ORDERING

JAMSHEDPUR WOMEN'S COLLEGE

(A CONSTITUENT AUTONOMOUS COLLEGE OF KOLHAN
UNIVERSITY, CHAIBASA)

COLLEGE WITH POTENTIAL FOR EXCELLENCE BY UGC,
NEW DELHI, JAMSHEDPUR-831001

"A GRADE COLLEGE BY NAAC

DEPARTMENT OF GEOGRAPHY



SYLLABUS

for

MA Two Year Semester Courses

M. A. GEOGRAPHY

2013

TWO YEARS SEMESTER COURSE OUTLINE M.A. - GEOGRAPHY SYLLABUS

Year	Sem	Paper	Name of Paper	Full Marks	Mid Sem	End Sem	Pass marks
1 st Year	I	Paper - I Theory	Geomorphology	100	15+05 =20	80	45
	I	Paper - I Theory II	Geography of resource and Development	100	15+05 =20	80	45
	I	Paper - I Theory II	Regional Geography of Jharkhand	100	15+05 =20	80	45
	I	Paper - IV Theory	Geographic Information System and Remote Sensing	100	15+05 =20	80	45
	I	Paper - V Practical	Practical	100	-	100	50
	I	Paper - VI Practical	Practical Statistical Techniques in Geography	100		100	50
1 st Year	II	Paper - VII Theory	Climatology	100	15+05 =20	80	45
	II	Paper - VIII Theory	History of Geographical Thought	100	15+05 =20	80	45
	II	Paper - IX Theory	Soil and Bio-Geography	100	15+05 =20	80	45
	II	Paper - X Theory	Regional planning and Development	100	15+05 =20	80	45
	II	Paper - XI Practical	Practical : Computer Application in Geography	100	-	100	50
	II	Paper - XII Practical	Practical : Surveying	100	-	100	50

Year	Sem	Paper	Name of Paper	Full Marks	Mid Sem	End Sem	Pass marks
2nd Year	III	Paper - XIII Theory	Oceanography	100	15+05 =20	80	45
	III	Paper - XIV Theory	Global Environmental Issues or Environmental Studies	100	15+05 =20	80	45
	III	Paper - XV Theory	Population Geography or Social and Cultural Geography	100	15+05 =20	80	45
	III	Paper - XVI Theory	Political Geography or Settlement Geography	100	15+05 =20	80	45
	III	Paper - XVII Practical	Practical	100	-	100	50
	III	Paper XVIII Practical	Practical	100	-	100	50
2nd Year	IV	Paper - XIX Theory	Regional Geography of India	100	15+05 =20	80	45
	IV	Paper - XX Theory	Agriculture Geography or Economic Geography	100	15+05 =20	80	45
	IV	Paper - XXI Theory	Urban Geography or Geography of resource and Management	100	15+05 =20	80	45
	IV	Paper - XXII Theory	Geography of Tourism or Regional Geography of the World	100	15+05 =20	80	45
	IV	Paper - XXIII Practical	Practical	100	-	100	50
	IV	Paper - XXIV Practical	Practical Interdisciplinary Research Methods and Techniques-Dissertation	100	-	100	50

M.A. Part - I

There will be two parts M.A. Part - I (previous) and M.A. Part - II (Final) spreading over two academic sessions consisting of four semester and four mid semester of 2400 marks each semester consisting of 6 papers of 100 marks in which 80 marks for semester and 20 marks for mid semester theory examination.

Each semester will have four theory and two practical papers. The final result will be decided on the basis of the marks obtained in both M.A. Part - I & M.A. - II. The duration of examinations in theory papers will be of 3 hours, 4 hours in practical papers of 50 marks and 6 hours for 100 marks.

GEOGRAPHY PAPER - I

Semester - I

Full Marks - 80

Time - 3 hours

GEOMORPHOLOGY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

objectives :-

- It brings a course at the interface of Geography with earth, the students has to be sensitized to background knowledge of Geography and environmental sciences.
- The objective of the course is to familiarize the students with need for understanding of geomorphology with reference to certain fundamental concepts, focusing on the unity of the geomorphology in the earth materials and the processes with or without an element of time. Process component of geomorphology is segmented into the internal and external processes of and landscape evolution.
- Finally a few selected applications of Geomorphology to societal requirements and quality of environment are dealt with.

SI. NO. TOPICS..... PERIODS - 12

Unit-I	Nature and scope of Geomorphology, fundamental concepts: Geological structures and landforms, multi cyclic and polygenetic landforms, theories of land scape development by G.K. Gilbert, comparison between W.M. Davis and Penck.	12
Unit-II	Crustal movement : Secular and sudden, forces of crustal instability, isostasy, plate tectonics, seismicity, vulcanicity, orogenic structures with reference to the evolution of Himalaya.	12
Unit-III	Concept of gradation, agents and process of gradations, mass movement, erosional and depositional process and resultant landscape	8
Unit-IV	Geomorphic processes, dynamics of fluvial, Aeolian, glacial and karst processes and resulting landforms. Environmental geomorphology.	

Books recommended :

1. Ahmad E. (2002) : Physical Geography.
2. Chorley, R SCHUMN, S and Sugden (D.E) (1994) : Geomorphology Landon
3. Dayal, P (2005) : Geomorphology, New Delhi, Rajesh Prakashan (Hindi & English)
4. Dury, G.H (1959) : Face of the Earth
5. Kingh, L.C : Morphology of the Earth Surface.
6. kumar, A : Facets of Geomorphlogy.

PAPER - II

Semester - I Full Marks -80
Time - 3 Hours

GEOGRAPHY OF RESOURCE AND DEVELOPMENT

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :-

I The objectives of this paper is to provide an overview of resource geography and its interface with environment. The course aims to provide an understanding of the existing reality of resource utilization and depletion, further aims to sensitize the students to the concept of sustainable resource use.

SI. NO. TOPICS.....PERIODS - 8

Unit - I	Natural resource : Concept of resource as related to economic, technological & cultural development stages. Classification of resources.	
Unit-II	Resource appraisal - Biotic (Forests, live stock, fisheries, agricultural crops) Abiotic - (land, water, mineral, energy)and population and biodiversity. source development Resources and economic development, Resource conservation and management	8
Unit-III	Population pressure on resources,resource based theories of population, population as a function of food availability, carrying capacity, present state of population.	8
Unit-IV	Concept of sustainable development, parameters of sustainable development. Approaches to the study of sustainable development. Issues and challenges of sustainable development.	8

Books recommended :

1. J.L. Holecheck et. Al. : Natural resources : Economics and policy, Prentice Hall, New Jersey, 2000.
2. R.W Kates and I. Burton (Eds) : Geography, resources and environment, Vol II, University of Chicago Press, Chicago,1986.
3. D.J. Mc Laren and B.J. Skinnet (Eds) : Resources and world development, John Wiley and sons, New York, 1986.
4. M.D. Newson : Land, water and development : River basin

- system and management, Routledge London, 1991.
5. S. Owen, P.L. Owens ; Environment, resources and conservation, Cambridge University Press, New York, 1991.
 6. J. Rees : Natural resources : Allocation, economics and policy Methven, London, 1988.

PAPER- III

Semester - I Full Marks -80
Time - 3 Hours

REGIONAL GEOGRAPHY OF JHARKHAND

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :-

- The aim of the course is to familiarize the students with a meso and micro regions of the country in totality.
- To prepare the students for understanding the region as a dynamic entity emerging from the interaction and interrelationship of the physical and socio- economic elements of the regional structure over time.
- To evaluate the intra regional and inter regional hierarchic space and its implications for the future.

Sl. No. TOPICS.....PERIODS-10

Unit-I Physical features : Structure, Physiography, Drainage, climate, soils natural vegetation. 10

Unit-II Agriculture, areal pattern and differentiation of different crops. 10

Crop intensity (irrigated and un - irrigated), yield of crop and agricultural productivity of the land, impact of physical, economic and institutional factors (size of land holding, land tenures, agricultural practices etc.) on agricultural productivity of the land.

Unit-III Location of economic activities, types of industries (large scale, medium scale and small scale).relationship to the resource based and foot lose industries, minerals and power resources with special reference to Hydal and Thermal power. Problems related to over utilization of natural water resources in Jharkhand : usar and Sodic soils formation and soil erosion, underground water scarcity, depletion of forest cover and wild life, surface water resource utilities, drinking water flood and droght affected parts and minerals and power resources. 1 0

Unit- IV Human resource development in Jharkhand : Demographic and religious composition (Density, Rural urban distribution of population, sex - ratio, SC / ST population literacy and trend of urbanization). Demographic and socio - economic condiions of tribes (Oraon, Munda and Santhal). Problems of tourism and planning for development. Planning for sustainable development and regional development. 10

Books recommended :

1. Singh, R.L. : India : A Regional Geography, National Geographical society, India, Varanasi, 1971.
2. Ahmad, E : Bihar : A physical, economic and regional geography, Ranchi University, Ranchi, 1965.
3. Tiwary R.K. : Jharkhand ka Bhoogol, Rajesh publication, New Delhi, 2001.
4. Ram, L.N. : A systematic geography of Bihar, Department of Geography, P.U. Patna, 1971.

PAPER - IV

Semester - I Full Marks - 80
Time - 3 Hours

GEOGRAPHIC INFORMATION SYSTEM AND REMOTE SENSING

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :-

- To introduce GIS (geographic information system) as a tool of spatial science
- To indicate the basic elements of GIS and methodology of GIS.
- To outline the steps and areas of application of GIS.
- To familiarize the students with the basics and fundamentals of Remote Sensing.

Sl. No. TOPICS..... PERIODS - 10

Unit-I Remote Sensing : Meaning, definition & Scope, development of Remote Sensing, relevance of Remote Sensing in Geographical studies, Components and Process of Remote Sensing; Source of energy interaction with atmosphere & earth surface, Remote Sensing Platforms & sensors. Indian Space programme
10

Unit-II Satellite Remote Sensing ; Important Remote Sensing Satellite & their characteristics, Satellite Data Acquisition, Geometric & Radiometric collection of Data, satellite imagery Interpretation : Visual & digital interpretation techniques, ground truth collection(Survey), image enhancement techniques, supervised & unsupervised classification, application of Remote Sensing in geographical studies.
10

Unit-III Geography & Geographic information system : Definition & development of GIS, elements of GIS, Computer environment for GIS, Spatial data : Elements & Types of spatial Data, GIS Data format for computer environment raster & vector Data structure: Data conservation, GIS Technology, map projection & cartography: Co-ordinate system, Geo - Referencing of spatial Data, Data input into GIS, Basic principles of computer assisted cartography.
10

Unit-IV GIS Database : Creation of Spatial & Non - Spatial Data

base, Database management system, Data integration & analysis in GIS, Spatial Modeling, Digital elevation models (DEM) integration of GIS with Remote Sensing & Global Positioning system (GPS) Application of GIS & Modern trends in GIS.
10

Books recommended :

1. Campell, J.B. (2003) : Introduction to Remote Sensing. 4th edition. Taylor and Francis, London.
2. Chaunil, D.D. (2004) : Remote Sensing and Geographical Information System (In india), Sharda Pustak Bhawan, Allahabad.
3. Cracknell, A. and Ladson, H. (1990) : Remote Sensing Year Book. Taylor and Francis, London.
4. Curran, P.I. (1985) : Principles of Remote Sensing. Longman, London.
5. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984) : Remote Sensing Indian academy of science, Banglore.
6. Floyd, F. and Sabins, Jr. (1986) : Remote Sensing : principle and Interpretation. W.H. Freeman, New York.

PAPER - V

Semester - I

Full Marks - 100
Time - 6 Hours

PRACTIAL

Objective :-

- To understand the method of collection & analysis of the geographical data and interpret the same.

Sl. No. TOPICAS.....PERIODS-10

Unit-I Nature and scope of cartography, Representation of data by Isopleth, Choropleth. 10 periods (20 marks)

Unit-II Population projection - Line Graph showing population growth. 10 periods (20 marks)

Unit-III Dot method and Proportionate circle showing population density, distribution, spherical diagram, Pyramid diagram, Block Pile, Polygraph

10 periods (20marks)

Unit-IV Water balance, Dispersion, Aridity, Triangular diagram and Wind Rose (Simple and Composed) 10 periods

(20marks)

Unit-V Practical record and viva-voce. Students will be required to submit a practical record. The record will carry 10 marks. They will have to undergo a written test in end semester exam of 80 marksofour hours duration relating to the subject and 10 marks for viva-voce.

It is mandatory examination of the concerned paper at the department. Student shall not be allowed for practical examination without certified record by teacher - in - charge.

10 + 10 = 20 marks

Booksrecommended :

1. Monkhouse : Maps and Diagrams.
2. Singh, R.L. : Elements of practical geography
3. Singh, L.R. : Practical geography
4. Sarkar, A : Practical geography - A systematic approach
5. Kanetkar and kulkarni : Surveying and leveling, part I & II
6. Sharma, J.P.: Prayogik Bhoogol

PAPER - V

Semester - I

Full Marks - 100

Time - 6 Hours

PRACTICAL
STATISTICAL TECHNIQUES IN GEOGRAPHY

Objectives

:-

To introduce some basic statistical producers to the students to be applied to various themes in geography.

- To introduce the assumptions, limitations & interpretationof these produces and results.
- To train the students to handle these statistics towards analyzing the geographicalproblems.

Sl. No. TOPICS..... PERIODS

Unit-I Frequency Distributions, Measures of central tendency : Mean, Median, Mode, Dispersion, Grouped and underground data, standard Deviation.

10 periods (10 marks)

Unit-II Probability; Theory of probability : Law of Addition & Multiplication, sampling : Basic concept & Types: Sample units & Design; sampling frame & producers, standard error.

10 periods (10 marks)

Unit-III Correlation analysis; Karl person's product moment & Spearman's Rank Correlation.

10 periods
(15 marks)

Unit-IV Regression Analysis : Properties, least square method; Chisquare test, models gravity, potential etc.

10 periods
(15 marks)

Unit-V Survey- Physical and socio - economic survey of a distinct geographical region as assigned by the department.

Report and viva - voce (Area to be selected by H.O.D. and teacher - in - charge) Practical record and viva - voce

Students will be required to submit a report. The report will carry 20 marks and 10 marks for viva. They will have to undergo a written test in end semester exam of 50 marks of three hours duration relating to the subject and 20 marks for practical record and viva - voce.

It is mandatory for the students to submit their report work ten days before the date of practical examination of the concerned paper at the department.

Students shall not be allowed for practical examination without certified report by Teacher - in - charge; 30 marks (20+ 10) 20 marks (10 + 10)

Books recommended:

1. Davis Unwn Introduction spatial analysis, London, 1981.
2. Gregoy, S. Statistical methods and the Geography, London, 1978.
3. Hammond, R. and P.S. Me cullagh, Quantitative Techniques in Geography an Introduction, clarendan Press Oxford, 1974.
4. John. P.Cole kand Cuchlaine A. M. King, Quantitative Geography. John Weley, London 1968.
5. Maurice Yeats, An introduction to Quantitative analysis in human geography, Nac Graw Hill, New York, 1974.
6. Peter Haggett, Andrew D. Cliff & Allan Prey, location methods Vol. I and II Edward Arnold, London, 1977.

**PAPER - VII
Semester II**

Full Marks - 80
Time 3 Hours

CLIMATOLOGY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives:

- The aim of the course is to provide an understanding of weather phenomena, dynamics of global climates and generation of climatic information and their application.

SI. TOPICS. ----- PERIODS

Unit-I Nature, Origin & importance of Atmosphere into Lithosphere, Hydrosphere, Cryosphere & Biosphere; Meaning, Definition & scope of climatology, weather & climate components; Composition & structure of the Atmosphere: Pressure and Winds.

10

Unit-II Clouds: Formation & classification; Precipitation: Causes, forms, processes and types; Types and dis tribution of rainfall, air masses and fronts, atmospheric disturbances:Cyclone and Anticyclone.

10

Unit-III Climatic classification of the world: Koppen & Thornthwaite; Major climatic region of the world: study of tropical rain forest, Savana and Desert type of climate; effect of El- Nina and southern Oscillation on Weather and Climate of the World.

10

Unit-IV Global,climatic change: Evidences; Role of "Earth Summit" conferences; climatic cyclones & Theories of climatic change; Greenhouse effect and Global warming, weather forecasting.

10

Books recommended :

1. Anthes, R. (1997) ; Meterology, Prentice Hall Inc.
2. Barry, R.G &. Chorley (1998) : Atmosphere, Weather and climate, London. Routledge.
3. Critchfield, H.J. (1979/1988) : General Climatology, New Delhi, Prentice Hall India.
4. Das, P.J/ (1955) : Monsoon, New Delhi, National Book Trust.
5. Lal, D.S. (1993 / 2004) : Climatology, Allahabad, Chaitnya Publishing House (Hindi & English).
6. Singh, S. (2002) : Climatology, Allahabad, Prayag Publishing House (Hindi & English).

PAPER - VIII

Semester II

Full Marks - 80
Time - 3 Hours

HISTORY OF GEOGRAPHICAL THOUGHT

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :

- To introduce the students to the philosophical and 6.

methodological foundations of the subject and its place in the world of knowledge.

- To familiarize them with the major landmarks in development of geographic thought at different periods of time.

Sl. No. TOPICS PERIODS

Unit-I	Nature of Geography, Place of Geography in the classification of knowledge. Geography and its relations with other disciplines. Geography during Ancient classical period: Contributions of Greeks, Roman and Indian. Periods of discovery and renaissance in Geography.	10
Unit- II	Development of geography during -19th and 20th century in Germany, France and USA. Contributions of Humboldt, Ritter, Ratzel, Blache and E. Semple	10
Unit-III	Positivism, models and paradigms in human Geography. Quantitative Revolution in Geography. Areal differentiation and spatial organization.	
Unit-IV	Radical Geography: Structuralism, Functionalism, Realism, Welfare Geography, Post Modernism.	10

Books recommended :

1. Adhikari, S. (2005) : Fundamentals of Geographical Thought, Allahabad, Chaitanya Publishing House.
2. Chorley, R.J. and Haggett (EDS) (1967): Models in Geography, London, Methuen.
3. Dikshit, R.D. (2002) : Geographical Thought: A Conceptual History of Idea, New Delhi, Prentice Hall (Both English & Hindi).
4. Hartshorne, R. (1994) : The nature of Geography, Jaipur, Rawat Publication.
5. Johnston, R.J. (1997) : Geography and Geographers, London, Arnold.

Hussain, M. (2000) : Evolution of Geographical Thought, Jaipur, Rawat Publication.

PAPER - IX

Full Marks - 80

Time.- 3 Hours

SOIL AND BIO - GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives.

- I The aim of course is to introduce the students to soil which is one of the important elements of the earth which supports the life system. The over use and misuse of soil in recent years have resulted in degradation of soil. Study of soil will help the students to appreciate the inherent limitations of soil to a particular use and managing the soil effectiveness.

The basic objectives of this course are to appraise the students with the interrelationship between man, the environment within which he lives and his linkages with other organisms. Such linkages form ecosystem, which varies in different biomes. The importance of conserving biodiversity to maintain ecological balance has also been emphasized in the course.

Sl. No. TOPICS PERIODS

Unit-I	Nature and scope and significance of soil studies and factors of soil formation. Processes of soil formation & development-soil profiles (Podzols, Chernozems and Laterites). Physical and chemical properties of soils: morphology, texture, structure, water, air, temperature and other properties of soils.	10
Unit-II	Genetic classification of soils, Taxonomic classification of soils-zonal, azonal and intrazonal, concept of soils taxonomy, seventh approximation.	

Soil erosion: types and factors; measures of soil conservation.

10

Unit-III Definitions of biosphere and biogeography
Ecosystem: Meaning, types, components and function of ecosystem.

Ecosystem - Form and function: trophic level, ecological pyramids, energy and nutrients in the ecosystem, food chains and food webs.

Biogeochemical cycle : The Nitrogen cycle, the carbon cycle, the hydrological cycle and the phosphorous cycle. Integration of cycles in nature.

Unit-IV Biodiversity Definitions.

Genetic, species/and Ecosystem Diversity, Importance of biodiversity, species inventory.

Hotspot of Biodiversity with reference to India.

Loss of Biodiversity. Conservation of Biodiversity. Biological diversity and future changes in climate.

10

Books recommended :

1. Backman, H.O. and Brady, N.C., (1960) : The nature and properties of soils, Mc Millan, New York.
2. Bennet, Hugh H. : Soil conservation, Mc Graw Hill. New York.
3. Bunting, B.T. (1972) : The geography of Soils, Hutchinson, London.
4. Clerke G.R. (1957) : Study of the soil in the field, Oxford University Press, Oxford.5
5. Foth H.D. and Turk, L.M. (1972) : Fundamental s of soils science, John Wiley, New York.
6. Govinda Raan, S.V. and Gopala Rao, H.G. (1978) Studies of soil of India, Vikas, New Delhi.

PAPER - X

Semester II

Full Marks - 80

Time - 3 Hours

REGIONAL PLANNING AND DEVELOPMENT

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :

- To understand and evaluate the concept of region in geography and its role and relevance in regional planning.
- To identify the issues relating to the development of the regions through the process of spatial organization of various attributes and their inter relationship.
- To identify the causes of regional disparities in development, perspectives. and policy imperatives.

Sl. No. TOPICS..... PERIODS

Unit-I	Concept of Planning; Types of Planning; Concept of Regional Planning; Region: Types of Region; Methods of Delineation of different types of Region.	8
Unit-II	Regional Planning Theories; Growth pole Theory; Spatial diffusion Theory; Cumulative - Causative Models; Human development index & its indicators; regional disparity in India.	
Unit-III	Planning Regions; Planning regions of India (Macro, Meso & Micro); Planning for command area development; Watershed Management; Drought prone, hill & Tribal area development. Problems and prospects of regional development in India.	12
Unit-IV	Town Planning with special reference of the cities of Jharkhand: Ranchi, Jamshedpur & Dhanbad.	12

Books recommended :

- 1 Bhat L. S : Regional Planning in India (1973). Micro level Planning.
- 2 Friedman J. et. al : Regional development and Planning: A Reader (1967)
3. Johnson, E.A.J. : The organization of space in developing Countries (1970).
4. Kundu, A.et. AL.: Indian economy: The Region dimension (1982).
5. Sharma, N.et.al. : Regional Planning and balanced development.
6. Mishra R.P. : Regional Planning in India.

PAPER - XI

Semester - II

Full Marks 100

Time - 6 Hour

PRACTICAL - COMPUTER APPLICATION IN GEOGRAPHY

Objectives:-

- To introduce the students with the importance of Computers. in Cartography.
- To enable the students to understand map, concept of Computer Mapping.
- To familiarize the students with information technology in Geographical studies.

Sl.No. TOPICS.....PERIODS

- Unit-I Computers: Definition, characteristics; Hardware & software; Number system; operating systems; introduction to DOS, WINDOWS, WORD & EXCEL; computer & Geographic Data: Scale of Measurement, location Data and Data structure: 10 (15 marks)
- Unit-II Computers in Cartography: Hardware & software for

computer mapping; application of computer cartography, Simple exercises for representation of Geographic Data: Histogram, Bar Graphs, Line Graph, Multiple Line Graph, Scatter Diagram & Pie Diagram.

10 (15 marks)

Unit-III Computation of Central Tendency values; Quartile; Standard Deviation; 'r' Value & Trend Line, with the help of Computers. 10 (15 marks)

Unit-IV Importance of Information Technology in geographical studies; advantages of Internet, Browsing & Surfing the geographical sites; Web pages & Down loading files. 10 (15 marks) , Field works based on allotted area / Practical Record & Viva -Voce

Unit-V Organize field visit to collect field data. Field work report should be prepared based on collected data and it should be submitted in practical examination. Main objective of the field work is to provide the students with the understanding of ground reality of a chosen. site i.e. village | town | tourist site by observation. Three hours duration relating to the subject of written test in end semester practical examination.

Practical record and viva- voce. 15+5=20

20 marks (10 + 10)

Book recommended:-

1. D.J. Unwin & J.A Dawson(1987): Computer programming for Geographers, Longman, London.
2. Monmonier, M.S. (1982) : Computer assisted cartography, Prentice Hall.
3. David J. Maguire (1989): Computers in Geography, Longman scientific & Technical, London.
4. Paul Mather (1993) : Computer application in geography John Wiley & Sons, New York U.S.A.

5. Cole & King (1968) : Quantitative Geography.
6. Hagget Peter (1990) : Geography a modern synthesis Harper international, New York.

PAPER -XII

Semester -II Full Marks - 100
Time - 6 Hours

PRACTICAL

Objectives:-

- To develop a skill among the students to prepare maps and to make the student understand the techniques of mapping.

Sl. No. TOPICS.....	PERIODS
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Unit-I Surveying: Definition, Nature & Scope; Types of surveying; selected surveying instruments; Procedure & Methods of surveying; Plane table : Importance, Use, Methods & procedure of surveying.	10 (25 marks)
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Unit-II Prismatic Compass : Bearing methods & precautions of using the instruments; methods of prismatic compass surveying; Correlation & plotting of bearings; closing error: Elimination of error, (Bowditch method); Use & importance of Indian Clinometer.	10 (25 marks)
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Unit-III Levelling, different types or level instruments; Dumpy level; Procedure of surveying by Dumpy level profile making.	
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OR

Use of theodolite; Procedure of Theodolite surveying; Measurement of angles: Horizontal and vertical; methods of theodolite surveying; preparation of base map by the use of surveying instruments.	10 (25 marks)
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Unit-IV Practical Record and viva - voce Students will be required to submit a Practical Record. The record will carry 15 marks. They will have to undergo a written test in end semester exam of 75 marks of four hours

duration relating to the subject and 10 marks for viva voce. It is mandatory for the students to submit their certified record by teacher - in - charge before the examination of the concerned paper at the department: (15+10 marks)

Books recommended :

1. Gregory, S. Statistical methods and the geographers. Longman S. London, 1963.
2. Khan, Z.A. Text book of practical geography concept publishing Co. New Delhi.
3. Lawrence, G.R.P. Cartographic methods Methuen, London, 1968.
4. Monhouse, F.J. & H. R. Wilkinson. Maps and diagrams. Methuen, London, 1994.
5. Pal, S.K. Statistics for geoscientists Techniques and Approaches. Concept, New Delhi, 1998.
6. Sarkar, A.K. Practical Geography - A systematic approach. Orient Longman, Calcutta, 1997.

**M.A. PART - II
PAPER - XIII**

Semester - III

Full Marks - 80
Time - 3 Hours

OCEANOGRAPHY

Four questions are to be answered out of eight or ten questions.
Each question is of 20 marks.

Objectives :-

The objectives of the course are to introduce the students to the many facts of Oceans, such as evolution of the oceans, physical and chemical properties of sea water, atmospheric and oceanographic circulation, the fascinating world of marine life and characteristics of marine environment and the impact of man on the marine environment.

Sl. No. TOPICS.....PERIODS

Unit-I	Basic Oceanography ; Bottom relief : Pacific Ocean, Atlantic Ocean & Indian Ocean.	10
Unit-II	Physical and chemical properties of sea water, interlinks between atmospheric circulation and circulation patterns the oceans, surface currents, Thermohaline, waves and tides.	10
Unit-III	Ocean current: Cause, Types, currents of Pacific, Atlantic & Indian ocean; Effects of ocean currents; El - Nino, La Nina & Southern Oscillation.	10
Unit-IV	Ocean deposits: Types & distribution; coral reefs & atolls; Theories of their formation & laws of sea.	10

Books recommended:

- Davis Richard J.A. : "Oceanography -An introduction to the Marine Environment" Wm. C. Brown Iowa. 1986.
- Duxbury C.A. and Duxbury B. : An introduction to the World Ocean. C. Brown Iowa 2nd ed. 1996.

- Garrison, T. : "Oceanography -An introduction to the Marine science". Books / Cole, Pacific Grove, USA, 2001.
- Gross, M. Grant: Oceanography, A view of the Earth, prentice Hal Inc. New jersey, 1987.
- King, C.A.M. Oceanography for Geographers, 1962.
- Sharma, R.C. "The Oceans" Rajesh N. Delhi, 1985.

PAPER - XIV

Semester - III

Full Marks - 80
Time - 3 Hours

GLOBAL ENVIRONMENT ISSUES

Four questions are to be answered out of eight or ten questions.
Each question is of 20 marks.

Objectives :-

- The present syllabus of this paper includes study of various aspects of environment and problems in the context of present situation. In the process of Globalization, the changing nature will make aware of the students about the new dimensions of global environmental issues with reference, to India.

Sl. No. TOPICS.....PERIODS -12

Unit-I	Population growth, Technology & environment. Global economic pressures, scarcity of natural resources, global resources crisis. Hazard in the environment: concept of hazard, vulnerability & disaster, dimensions of disaster; risk assessment & causes; effects & loss sharing adjustments of Typical hazards: A. Tectonic hazards - Earthquake & volcano B. Geomorphological hazards - Landslides & River Bank erosion C. Hydrological hazards - Flood and Drought D. Biophysical hazards - Epidemics E. Technological hazards Industrial accidents & Nuclear radiation Leakage.	12
Unit-II	Global Concerns: Global warming & its various implications; Acid Rain & Ozone depletion.	8

Unit-III Biodiversity definitions, Genetic, Species and Ecosystem diversity, Importance of Biodiversity, Species Inventory, Hotspot of Biodiversity with reference to India. Loss of biodiversity, Conservation of biodiversity: Biological Diversity and future changes in climate.

12

Unit-IV Environmental policy; Legislation on Water, Air, Noise, Environmental protection Act with spatial reference to Legislation in India; Environmental Assessment(EIA); Environmental Management Planning (EMP). 8

Books recommended:

1. Adams, W.M. 1995 : Green development: Environmental sustainability in the third world, Routledge, London.
2. Alexander, D. 1993 : Natural Disasters, Research press, New Delhi.
3. Allaby, M. 1996; Basics of environmental science, Routledge, London.
4. Baarsches, W.H. 1996 : Eco - facts and Eco - fiction: Understanding the environmental debate, Routledge, London.
5. Blaikie, P.Cannon, To Davis, I. and Wisener, 1994 : At risk: natural Hazards, Peoples vulnerability and Disasters, out ledge, London. .
6. Bryant, E. A. 1991 : Natural Hazards, Cambridge University, Press, Cambridge,

OR

PAPER - XIV

Semester - III

Full Marks - 80
Time - 3 Hours

ENVIRONMENTAL STUDIES

Four questions are to be answered but of eight or ten questions. Each question is of 20 marks.

Objectives:

The present syllabus of this paper includes study of various aspects of environment and problems in the context of present situation. In the process of Globalization, the changing nature will make aware of the students about the new dimensions of global environmental issues with reference to India.

Sl.No. TOPICS..... PERIODS

Unit-I Bases. Meaning and scope of environmental geography; Approaches to study of environment; Types of environment, environment and society, environment and development. 10

Unit-II Biogeography and Ecosystem. Definition, scope and significance of biogeography; basic ecologicq principles, Geo - biochemical cycles: carbon, nitrogen, oxygen and phosphorus cycles, Biome and biomass, biodiversity; depletion and conservation. 10

Unit-III Hazards and change. Environmental hazards; natural hazards: Landslides soil erosion, Drought and Floods, Earthquake & volcanoes, man-made hazards: Technological hazards, global climatic changes, global warming, green house effects, ozone depletion 10

Unit-IV Pollution and Management. Environmental pollution: Pollutants, sources and types of pollution; environmental management. Environmental policy; Legislation on Water, Air, Noise, Environmental protection Act with spatial reference to Legislation in India; Environmental Assessment (EM); Environmental Management Planning (EMP). 10

Books recommended:

- 1 Anjuneyulu, Y. (2002): Environmental impact assessment methodologies. B.S; Publications, Hyderabad.
2. Anjuneyulu, Y. (2004) : Introduction Environmental science. B.S. Publications, Hyderabad

3. Athavale, R. N. (2003) : Water harvesting and sustainable supply in India. Rawat publication Jaipur.
4. Bilas, R. (1988) : Rural water resource utilization and planning. Concept publishing. Company, New Delhi.
5. Blaikie, P., Cannon, T. and Davis, I., (eds.) (2004) : At risk : Natural hazards, Peoples vulnerability and Disasters. Routledge, London.
6. Clarke, J.L. Curson, P., Kayastha S. L. and Nag R (eds.) (1991) : Population and Disaster. Basil Blackwell, USA.

PAPER - XV

Semester - III	Full
Marks	-80
	Time - 3 Hours

POPULATION GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :-

To introduce the students to the complex dimensions of population.

To understand and evaluate the association between demographic and socio - economic attributes of population and the resultant levels of social well being and economic development.

To understand the role and relationship between population and environment in an ever changing space time continuum.

Sl. No. TOPICS..... PERIODS

Unit-I Nature, scope & development of population geography;

Source & types of Population Data: Census, sample survey & vital registration system; Theories of Population: Classical & modern. 10

Unit-II World Population: Growth, causes & consequences; factors affecting population distribution; Demographic Transition theory; migration types & determinants. 10

Unit-III Population characteristics: Fertility & mortality; Age & sex structure; Occupational structure; Human resource development & human development index. 10

Unit-IV Population resource region in India ; Population growth and distribution in India; Density types; Population problems. India's population policies, population and environment, implications for the future. 10

Books recommended :-

1. Builasborrow, Richard F. and Daniel Hogan (Population and deforestation in the humid Tropies international unions for the Scientific study of population, Begium, 1999. .
2. Bogue, D.J. Principles in Demography, John Wiley, New York, 1969.
3. Bose, Ashish et. All; Population India's development (1947 2000); vikash publication House, New Delhi, 1974.
4. Census of India. India: A state profile, 1999.
5. Chandna, R.C. Geography of population concepts. Determinants and patterns, Kalyani publishers, New York. 2000.
6. Clark, John 1., Population geography, pergamon press, oxford, 1973.

**OR
PAPER-XV**

Semester - III	Full Marks, - 80
	Time - 3 Hours

SOCIAL AND CULTURAL GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives:

- The objectives of the course is to familiarize the students with the need for understanding of various dimensions of Social and cultural geography with reference to certain fundamental concepts.
- To introduce the students to the complex dimensions of social and cultural geography.
- To understand and evaluate the association between demographic and cultural attributes of population and the resultant levels of social well being and economic development.

Sl. TOPIC.....PERIODS

Unit-I	Social geography: Nature, Meaning & development; philosophical bases of social geography (Positivism, structuralism); Social structure & social processes; concept of social space.	10
Unit-II	Elements of social geography : Ethnicity, tribe, dialect, language caste & region ; socio - cultural regions' of India; Linguistic elements in India.	10
Unit-III	Cultural geography: Nature, Meaning & development; culture: Definition, elements & components, cultural areas & cultural realm.	10
Unit- IV	Racial elements in India's Population; Tribes of India: Gujjar,Bhil, Tribes of world (Eskimo, pigmy, Bushman).	10

Books recommended :-

1. Ahmad, Aijazuddin, social geography, Rawat publication, New Delhi, 1999.
2. De Blij S.d. Human geography. John Wiley and Son, New York.
3. Dreze Jean, Amartya Sen, economic development and social opportunity , Oxford University press, New Delhi, 1996.
4. Dubey, S.C. : Indian society, National trust, New Delhi, 1991.

5. Gregory, D. and UJ. larry. (eds.)Social relations and spatial structures, McMillan, 1985.
6. Haq, Mahbulul : Reflection on human development. Oxford University press, New Delhi.

PAPER - XVI

Semester - III

Full Marks - 80

Time - 3 Hours

SETTLEMENT GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :

- The objectives of the course is to familiarize the students with the need for understanding of various dimensions of settlement geography with reference to certain fundamental concepts

Sl. TOPICS PERIODS

Unit-I	Settlement geography: Meaning, Definition and scope; Approaches to the study; Theories of evolution of Human Settlement; Size & distributions with Theoretical models; Settlement Hierarchy: Christaller & Losch; Hierarchy of settlement in India.	10
Unit-II	Site & Situation of Rural settlement; The evolution of street pattern in rural settlements; Morphological characteristics of rural settlement; The evolution of field boundaries & the field patterns, fold housing, folk architecture & Traditional building material.	10
Unit-III	Urban settlements; Their site & situation; size & spacing of urban settlement; Christallers system of urban Hierarchy & spacing of cities; Morphological characteristics of urban settlement; models of urban settlements; problems of urban housing & emergence of slums.	10

Unit-IV Urbanization & Urban functions; Concept of urbanization; Factors of urbanization; Trends of urbanization in the World; Functional classification of towns & cities; Rural - urban fringe; Urban problems & urban planning; Urban planning & management. 10

Books recommended :

1. Dickison, R. E. 1968 : City and region: A geographical interpretation, Routledge and Kegan Paul Ltd. London.
2. Ghosh, S. 1998 : Introduction to settlement Geography, Orient Longman Ltd. Calcutta : 158p.
3. Hardoy, J.E Mittin., D. & Satterthwaite, D. 1992 : Environmental problems in the World cities, Earthscan Pub. Ltd. London.
4. Hudson, F.S. 1970 : Geography of settlement, Macdonald and Evans Ltd. Iymouth: 3 -12, 61 - 70, 79 - 101.
5. Hussain, M. 1994 : Human geography,. Rawat Pub. Co., New Delhi: 485p.
6. Mandai, R.B. 1988 : Systems of rural settlement in developing countries, concept Pub. Co., New Deihl.

OR
PAPER - XVI

Semester - III Full Marks - 80
Time - 3 Hours

POLITICAL GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :-

- The objectives of the course is to familiarize the students with the need for understanding of various dimensions of political geography with reference to certain fundamental concepts.

Sl. No. TOPICS.....PERIODS

Unit-I Definition, Nature and scope; Geography, Politics,

geopolitics & political geography; History and development of political geography; Approaches to the study of political geography. 10

Unit-II Concept of nation, state and Nation - state; Geographic characteristics of states; size, shape, location, cores and capitals ; nation building / nationalism. Geographic elements and the state.: Physical elements; Human elements; economic elements. Definition of frontier & boundaries; Distinction between frontier & Boundaries; Genetic, functional & morphological classification of boundaries. 10

Unit-III Global Geo-strategic views: Mahan, Mackinder, Spykman & Heartland and Rim land.

The changing patterns of the World powers, perspectives on core periphery concept, conflicts and cooperation. 10

Unit-IV Political geography of contemporary India with special reference to : The changing political map of India, centripetal & centrifugal forces; stability; inter state issues (like water disputes & riparian claims) and conflict resolutions insurgency in border states; emergence of New 'states, political geography of SAARC Region. 10

Books recommended :-

1. Cohen, Samuel (1964) : Geography and politics in divided world. Random House, New York.
2. De Blij, H. J. and Glassner, M. (1968) : Syst. political geography. J.W. and Sons, New York.
3. Dikshit, R.D. (1987) : political geography and geopolitics. Tata McGraw Hill, New Delhi:
4. Dikshit, R.D.. (2000) : political geography: A contemporary perspective. P. - Hall, New Delhi.

5. Siddiq, M. (1997) : Indian in the Indian Ocean: A geopolitical study, Rawat publications, Jaipur.
6. Moodie, A.E. (1961) : Geography behind politics. Hutchinson, London.

PAPER - XVII

Semester - III Full Marks - 100
Time - 6 Hours

PRACTICAL

Objectives :-

To familiarize now topographical maps or plans of any area are prepared to enhance the skill of the students in the field of survey for revenue purposes and understand the principles of map making.

Sl. No.	TOPICS.....	P E R I O D S
Unit-I	Globular Projection, Gnomonic projection (Polar, Equatorial and Oblique). Sinusoidal' (Interrupted) Projection; Mollweide projection (Simple and Interrupted)	10(20 marks)
Unit-II	Landuse map, Ergograph, Band graph, Economic diagrams.	10 (20 marks)
Unit-III	Traffic flow diagrams, Rail approachability and road accessibility maps, cross road traffic diagrams.	10 (20 marks)
Unit - IV	Interpretation of Toposheet, Aerial Photographs & Satellite Imagery; Geographical information system. 10 (20 marks)	
Unit-V	Practical Record and Viva - voce.	

Students will be required to submit a practical record. The record will carry 10 marks. They will have to undergo a written test in end semester exam of 80 marks of four hours duration relating to the subject and 10 marks for viva-voce. It is mandatory for the students to submit their record work ten days before the date of practical examination of the

concerned paper at the department.
Student shall not be allowed for practical examination without certified record by teacher-in-charge.

(10+ 10=20 marks)

Books recommended :-

1. Clendinning, J. principles and use of surveying instruments 2nd edition, Blocked, A, 1958.
2. Clendinning, J. principles and use of surveying end edition, 1960.
3. Hotine, Major M. the re - triangulation of Great Britain, Empire survey review, 1935.
4. Mishra, R.P. and Ramesh A. Fundaments of cartography revised edition, concepts publication, New Delhi.
5. Monkhouse, Maps and Diagrams Methuen, 1971.
6. Negi Balbir, Singh Practical geography, third revised ed. Kedar Nath and Ram Nath Meerut and Delhi, 1994.

PAPER - XVIII

Semester - III Full Marks 100
Time - 6 Hours

PRACTICAL

Objectives:-

To develop a skill among the students to prepare maps, keeping in view the principles of cartography and also user requirements.

To make the-students understand the techniques of mapping.

Sl. No. TOPICS..... PERIODS

Units-I	Block diagrams (One and two perspective).	10 (20marks)
Unit-II	Profiles (Serial, Superimposed, projected and composite) Hypsographic and Altimetric frequency curves and their interpretation.	10 (20 marks)
Unit-III	Preparation of slope analysis maps.10 (20 marks)	

Unit-IV Morphometric analysis; stream ordering scheme (strahler and Horton's Scheme), Bifurcation ratio, Drainage density, stream line surface.

10 (20 marks)

Unit-V Practical Record and Viva - voce. Students will be required to submit a practical record. Therecordwillcarry10 marks. They will. have to undergo a written test in end semester exam of 80 marks of four hours duration relating to the subject and 10 marks for viva voce.

It is mandatory for the students to submit their record work ten days before the date of practical examination of the concerned paper at the department.

Student shall not be allowed for practical examination without certified record by teacher-in-charge.

(10+ 10=20 marks)

Books recommended :

1. Sharma, J.P. : Prayogik Bhoogol
2. Singh, R.L. : Elements of Practical Geography
3. Singh L.R. : Practical Geography

PAPER -XIX

Semester - IV

Full Marks - 80

Time - 3 Hours

REGIONAL GEOGRAPHY OF INDIA

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives:-

- To understand India in terms of various regional divisions, their important characteristics, intra - regional and inter regional linkages, to analyses the natural and human resource endowments, their conservation and management.
- To sensitize the students with development issues and policies and programmes designed for regional development.

SI. No. TOPICS..... PERIODS

Units-I Structure and relief, drainage, various seasons & weather, mechanism of Indian Monsoon & Major Climatic Regions, Vegetation arid soil.

10

Unit-II Types of Agriculture: Major crops (Wheat, rice, Tea), Green (green revolution achievements and short comings, need of 2nd green revolution), White, Yellow and Blue revolution and agro climatic regions.

10

Unit-III Mineral. & Power resources (Iron ore, Manganese, Bauxite, Coal, Petroleum and Hydel Power); Major industries (Textile, Iron & Steel, Sugar); industrial complexes and regionalization, Industrial policy of India with Multinational liberalization.

10

Unit-IV Network of Roads, Railways, Waterways, Airways and Pipelines; development of communication technology; growing Importance of ports in national and foreign trade; Indian trade & Trade Balance. Macro region; detailed study of the Chhotanagpur Plateau region

10

Books recommended:

1. Chatterjee, S.P. (1999) : A Physical Geography, Publication Division, Govt: Of India, New Delhi.
2. Jhullar, D.R.(2006) : A Comprehensive Geography, New Delhi, Kalyani publishers.
3. Kundu, A: and Raza M. (1986) : Indian Economy: Regional Dimension.
4. Mishra R.P, et al (1974) : Regional development and planning in India - A strategy, Mysore institute of development, studies.
5. Mitra, A (1990): Levels of Regional development of India, Census of India, Part IA.
6. Rao, M.S,A. : Urbanization and social change.

PAPER - XX

Semester - IV

Full Marks - 80

Time - 3 Hours

AGRICULTURAL GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives:-

The course is meant to provide an understanding dimensions of agriculture and the emerging issues. The course is further aimed at familiarizing the students with global and regional level problems and also equip them for comprehending the Indian situation.

Sl. No.	TOPICS.....	PERIODS
Unit- I	Nature, Scope, significance & development of agriculture geography; Approaches to the study of agriculture geography; methods & types of cultivation.	10
Unit:II	Determinants 'of agricultural land use; land holding & land tenure systems; land reforms; intensity of cropping; oiversification; efficiency & productivity; crop combination regions of India.	10
Unit-III	Theories of agricultural location based on several multi dimensional factors; Von thunes's theory of agricultural location & its Recent Modifications; Whittlessey's classification of agricultural regions; land use & land capability.	10
Unit-IV	Agriculture in India; food deficit & food surplus regions, nutritional index; Specific problems in Indian agriculture & heir management; agricultural policy in India:	10

Books recommended:

- Dumont, R. (1970) : Types of rural economy: Studies in Worldagriculture, Douglas Manin, London Methuen.
- Gregor, H.P. (1970) : Geography of Agriculture. Prentice - Hall, New Delhi.
- Husain, M. (1996) : Systematic agricultural Geography, Rawat publication, Jaipur.

- Mishra R.P. (1967) : Diffusion of agricultural innovations, University of Mysore, Mysore.
- Mohammad, A. (1978) : Studies in agricultural geography, Rajesh publications, New Delhi
- Morgan, W.B. and Norton, R.J.C. (1971) : agricultural geography. Methuen, London.

OR

PAPER - XX

Semester - IV

Full Marks - 80

Time - 3 Hours

ECONOMIC GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives :-

- The economy of the world is changing in recent times. The change in primary, secondary and tertiary stage is dynami in nature. In view of this, the objectives of this course are to integrate the various factors of economic development to acquaint the students about dynamic aspects of economic geography.

SINo. TOPICS.....PERIODS

Unit-I	Meaning, Scope and approaches to economic geography; main concept of economic geography, relation of economic geography with other branches' of social sciences. Factors of location of economic activities physical, social, economic and cultural, classification of economics, sectors of economy (primary, secondary and tertiary).	10
Unit-II	Mineral Resources; Iron ore & Bauxite;- Power resources; Coal, Petroleum and Hydroelectricity; principal crops : Wheat, Rice, Sugarcane & Tea.	10
Unit-III	Agricultural regions of the world (Derwent Whittlessey) ; Theory of agricultural location (Von thunen); Theory of	

industrial location (Weber); Major Industries: Iron & Steel, Textiles & Sugar; Industrial regions of the World. 10

Unit-IV World transportation: Major Trans-continental railways, sea & air routes, International trade: Patterns & Trends, Major trade Blocks: NAFTA, EEC, ASEAN etc. 10

Books recommended:-

1. Alexander, I.W. (1988) : Economic Geography. Prentice Hall, New Delhi.
2. Boesch, H. (1964) : A Geography of World Economy, Von Nostrand, New York.
3. Bryson, Henry, N. Keeble and Martin, R. (eds.) (1999): The Economic Geography Reader. Producing and consuming global Capitalism. John Wiley and Sons, Inc, New York.
4. Clerk, G.L., Gertler, M.S. and Feldman, M.P. (eds.) (2000) : -The Oxford Handbook of Economic Geography. Oxford University press, USA.,
5. Coe, N. (2007) : Economic Geography: A Contemporary introduction. Blackwell publishers, Inc., Massachusetts. .
6. Gautam, A. (2006) : Aarthik Bhoogol ke Mool Tattva, Sharda Pustak Bhawan, Allahabad.

PAPER - XXI
Semester - IV

Full Marks - 80
Time - 3 Hours

URBAN GEOGRAPHY

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives:

The objectives of this course is to make the students understand the process of urbanization and origin, growth and classification of urban settlements with relevant theories and models.

- Examine the changing economic base and structure of the contemporary cities.
- Relate urbanization process and the evolution of urban systems.
- Examine the contemporary urban issues and suggest new urban planning and urban policy perspectives.

Sl. No. TOPICS..... PERIOD

- Unit-I Urban Geography: Meaning, nature and Scope; Changing paradigms or recent trends in urban geography. Origin and growth of urban settlement: bases and process of urbanization and development Classification of urban settlement on the basis of size and function. 8
- Unit-II Organization of Urban space: Urban morphology and land use structure of Indian cities, theories of internal structure of cities- theories of Burgess, Hoyt, Harris and Ullman. Modern urban landscape: Urban expansion, concepts of rural urban fringe/Umland, Global cities, Urban footprints. 8
- Unit-III Trends of urbanization and urban regions of India Contemporary urban issues: Urban poverty, urban renewal, urban sprawl, slums, transportation, housing, urban infrastructure. 8
- Unit-IV Study and preparation of Master Plan of selected cities. (Master Plans. A case study of Jamshedpur and Ranchi Cities). 8

Books recommended :

1. Alam, S.M. : Hyderabad - Secunderabad twin cities Asia publishing House, Bombay: J 964.
2. Berry, B. J. L. and, Horton F. F. Geographic perspectives on Urban systems. Prentice Hall; Englewood cliff, New Jersey, 1970.

3. Carter: The study of urban geography, Edward a Arnold publishers,London,1972.
4. Dickinson, R. E. : City and~ion, Routledge, London, 1964.
5. Dwyer, D.J. (ed.) : The city as centre of change in Asia, University of Hong Kong Press, Hongkong, 1971.
6. Gibbs, J. P. : Urban research methods D.Van Nostrand Co.Inc.Princeton,NewJersey,1961.

OR

PAPER - XXI

Semester - IV

Full.Marks - 80

Time - 3Hours

GEOGRAPHY OF RESOURCE AND MANAGEMENT

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks. .

Objectives :-

- To understand concepts and approaches of natural resourcemanagement.
- To examine use and misuse of various resource and to analysis future prospects.
- To study various methods and approaches of conservation and management of natural resources.

Sl. No.TOPICS.....PERIODS

Unit-I Concept of resource as related to economic: Tec nological & cultural development stages; classification of resources according to conditions; distinction between dive sit& disparity; resource appraisal.

10

Unit-II Pattern & use of major resources; Land resources: Use & misuse; protective measures to check soil erosion, water resources; Domestic & industrial use, use in irr gation & water transport, Forest resources: Patterns of e isting use & misuse, 'regeneration through social foestry & joint forest management.

10

Unit-III Human resource development & patterns of use; Disparities in development between the developed & developing countries; disparities arising from internal & international policies. 10

Unit-IV Mineral & power resources (iron Ore & coal); Industrial regions of the world; industrial location theories: Weber, Losh & Isard; Resource Planning, conservation & management; conservation for benefit of all; Environmental sustainable & sustainable development ofresources. 10

Books recommended :

1. Brereton, E. 1992 : Resource use and management, Cambridge U Press, Cambridge.
2. Elliotte, J.A. 1994: An introduction to sustainable development, The developing World, Routledge, London.
3. Mitchell, B. 1997 : Resources and environment, management, Addison Wesley London Ltd., Harlow.
4. Pickering, K. and Owen, L.A. 1997: An introduction to global environmental issues, 2nd edition, Routledge, London.
5. Johnston, R.J., Taylor, P. J. and Watts, M. J. (editors) :1995 : Geographic of Global change : Remapping the world in the Twentieth century, Blackwell, Oxford: 440p.
6. United Nations populations fund 1997 : India towards population and development goals, oxford University Press, New Delhi.

PAPER - XXII

Semester - IV

Full Marks - 80

Time - 3 hours

GEOGRAPHY OF TOURISM

Four questions are to be answered out of eight or ten questions. Each question is of 20 marks.

Objectives:

- Geography of tourism is the most important and comparatively developed branch of geography. The present syllabus of this paper include study of various aspects of tourism problems and ecotourism in the context of present situation.
- In the process of globalization, the changing nature of tourism will aware of the students about the new dimensions of tourism. This will further help to improve tourism at local level.

SI. No.	TOPICS.....	PERIODS
Unit-I	Concept of leisure & tourism; Types of tourism Meaning, definition, Scope & Significance of geography of tourism; Geographical basis of tourism, classification of tourism. Tourism as an interdisciplinary subject.	
Unit- II	mpact of tourism: Physical factors, socio - cultural factors, religious factors, historical factors, economical factors and other factors.	
Unit- III	Development of tourism in India Its growth, development a projection for the future, impact of liberalization National tourism policy in India Tourism in Jharkhand. Tourism Organizations - Government and Non government. Map study-Geographical features and natural wealth of India from the point of view of tourism. Wild life sanctuaries, Beach and mountain resorts. WorldHeritage sites in India man - made and natural, their importance in Indian tourism. Geographical & historical tourism in India, Hill stations, sea beaches, sanctuaries and national parks, water bodies Lakes, waterfalls, snow fields, Forts, capital places and other historical places.	10
Unit-IV	Aims and objectives of International tourism. Identification of trends in World tourism.	

International Organizations

- (A) International Air Transport Association (IATA)
- (B) Universal Federation of Travel Agents Association (UFTAA)
- (C) Pacific Area Travel Association (PATA)
- (D) International Civil Aviation Organization (ICAO)
- (E) World Tourism Organization (WTO) 10

Books recommended:

1. Bhatia A.K. : International tourism
2. Bhatia A.K. : Tourism development
3. Dev Manj : India - A tourism Paradise
4. Dhar Pramnath : Development of tourism and Travel Industry.
5. Gupta V.N. : tourism IN India.
6. Negi Jagmohan : tourism development and resource

OR

PAPER - XXII

Semester - IV.

Full Marks - 80

Time - 3 Hours

REGIONAL GEOGRAPHY OF THE WORLD

Four questions are to be answered out of eight or ten questions.
Each question is of 20 marks.

Objectives:

- To understand the grouping of a few countries as regions based on geographical, historical, political compulsions and cultural similarities and to explore the forward and backward linkage of regions with the rest of the world.

SI. No. TOPICS..... PERIODS

Unit-I	Asia : Physiographic, Climate, Soil, Natural vegetation, Agriculture; Minerals, Population & Industrial regions, important countries - Japan & Srilanka.	10
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- Unit-II Africa: Physiographic, Climate, Soil, Natural vegetation, Agriculture; Minerals, Population & Industrial regions; important countries - Egypt & South Africa. 10
- Unit-III North & South America: Physiographic, Climate, Soil, Natural vegetation, Agriculture; Minerals, Population & Industrial regions; important countries - Canada & Brazil. 10
- Unit-IV Europe, Oceania & Antrctica : Physiographic, Climate:, Soil, Natural vegetation, Agriculture; .Minerals, Population & Industrial regions; important countries-U.K. & Australia. 10

Books recommended:

1. Percy G.E. & Field R.H. World political Geography Thomas Y.C. Comp., New York.
2. Fenneman : Physiography of Western U.S., Mc Graw -] Hall Book Company, Inc. New York.
3. Alexander, John, W. : Economic Geography, Prentice Hall of India, New Delhi, 1988.
4. Chatterjee, S.P. : Economic Geography of India. Allied Book Agency, Calcutta, 1984.
5. Eckarsley, R (ed.) : Markets, the state and Environment. McMillan, London, 1995.
6. Estall, R.C. and R.C. Buchanam : Industrial Activity and Economic Geography.

PAPER - XXIII

Semester - IV

Full Marks - 100
Time - 6 Hours

PRACTICAL

Objectives:

- To develop a skill among the students to prepare maps, keeping in view the principles of cartography and also user requirements.
- To make the students understand the techniques of mapping.

- | Sl. No. | TOPICS..... | PERIODS |
|------------|---|------------------|
| Unit-I | Geological Maps and their interpretation. | 6,8,12,16,17,22. |
| | | 10 (20 marks) |
| Unit-II | Designing of Map, drafting technique, drafting materials.Base map compilation for Thematic mapping, Tlematic map series, Thematic Atlases. | |
| | | 10 (20 marks) |
| Unit - III | Mapping of Spatial Data; Mapping of Point Data; Graduated Mapping; Mapping of line Data, Flow Line Mapping of Area Data. | |
| | | 10 (20 marks) |
| Unit-IV | Mapping of volume data; Choropleth Mapping, Dissymmetric Mapping, Isopleth Mapping, Dot Mapping, Multivariate Mapping. | |
| | | 10 (20 marks) |
| Unit-V | Practical Record and Viva - voce. Students will be required to submit a practical record. The record will carry 10 marks. They will have to undergo a written test in end semester exam of 80 marks of four hours duration relating to the subject and 10 marks for viva - voce. It is mandatory for the students to submit their record work ten days before the date of practical examination of the concerned paper at the department. Student shall not be allowed for practical examination without certified record by teacher-in-charge. | |
| | | (10+10=20 marks) |

Books recommended :

1. Clendinning, J. principles and use of surveying instruments 2nd edition, Blocked, A, 1958.
2. Clendinning, J. principles and use of surveying end edition, 1960.
3. Hotine, Major M. the re - triangulation of Great Britain, Empire survey review, 1935.
4. Mishra, R.P. and Ramesh A, : Fundaments of a Cartography revised edition, Concepts publication, New Delhi.

5. Monkhouse, Maps and Diagrams Methuen, 1971.
6. Negi Balbir, Singh practical Geography, third revised Ed. Kedar Nath Meerut and Delhi, 1994.

PAPER - XXIV

Semester :-IV

Full Marks -100

Time - 6 Hours

PRACTICAL - INTERDISCIPLINARY RESEARCH
METHODS AND TECHNIQUES - DISSERTATION

Objectives:

- The objective of this course are to train the students in the art of socio - economic database techniques. The techniques of research methodology are necessary for accurate geographical positioning. Field work is useful to provide the students with the understanding of ground reality by observation and with help of a specially prepared questionnaire.

A. Introduction to Research Methodology

Sl. No. TOPICS.....PERIODS - 10

Unit-I Framework of research. Concept & significance of research in geography; Basic components of research, defining a research problem, construction of research design, Hypothesis formulation Concepts of pure and applied research, scientific approach to geographic research.

(10 marks)

Unit-II Data collection: Geography as a observational science, methods of field observation, role of field methods in geographic studies, Techniques for primary data collection, preparation of questionnaires, interview and telephonic enquiries. Data collection from secondary sources. Drafting of data collection sheets for use in geographic research 10

(10 marks)

Unit-III Data analysis and Interpretation; Processing and tabulation of data coding and classification of data, construction of tables. Cartographic analysis of data. Techniques Of data representation by quantitative maps. Statistical analysis of data; main statistical tool used in geographic research. Basic principles and procedures of correlation, Application & relevance of statistical & cartographic techniques. 10

(10 marks)

Unit-IV Analysis, Writing & Dissemination; Production & Arrangement of Data; Analysis of data & maps; Quantitative & qualitative interpretations; writing manuals (Arranging themes, Maintaining coherence, Cross-comparison, concluding, referencing, Noting); Writing A research paper / report, Dissertation.

Practical Record & viva - voce (10 marks) 10 marks

10

B. Project report / Dissertation & Viva - voce.

Unit-V Project report / Dissertation & Viva- voce. 40+10=50 Marks

Students will be required to submit a dissertation. The dissertation will carry 40 marks. They will have to undergo a written test in end semester exam of 40 marks of three hours duration relating to the subject of dissertation

It is mandatory for the students to submit their record work ten days before the date of practical examination of the concerned paper at the department. Student shall not be allowed for practical examination without certified record by teacher-in charge.

Books recommended :

1. Ahuja, R. (2001) : Research Methods, Rawat publications, Jaipur and New Delhi.

2. Bhattacharya, D.K (2005) : Research Methodology, Excel Books, New Delhi.
3. Blackburn, J. and Holland, J. (eds.) (1998) : Who changes, Institutionalizing publication in development. It publications, London.
4. Blaxter, L., Hughes, C. AND Tight, M. (1996) : How to research. Open University press, Buckingham.
5. Crang, Mike (1999) : Cultural Geography. Routledge, London.
6. Daniels, P., Bradshaw, M., et al. (2000) : Human Geography : Issues for the 21st Century. Prentice Hall, London, and Pearson publishers; Singapore. Indian reprint, 2003.