

BHARATHIAR UNIVERSITY, COIMBATORE-641 046
B.Sc. GEOGRAPHY (CBCS PATTERN)

(For the students admitted during the academic year 2011-2012 and onwards)

SCHEME OF EXAMINATIONS

Part	Study Components	Course Title	Ins. hrs / week	Exam				Credit
				Dur.Hrs.	CIA	Marks	Total Marks	
	Semester I							
I	Language-I		6	3	25	75	100	4
II	English-I		6	3	25	75	100	4
III	Core I – Fundamentals of Geomorphology-I		5	3	25	75	100	4
III	Core II – Geography of India		5	3	25	75	100	4
III	Allied Paper I Statistics For Geography-I		6	3	25	75	100	4
IV	Environmental Studies #		2	3	-	50	50	2
	Semester II							
I	Language-II		6	3	25	75	100	4
II	English-II		6	3	25	75	100	4
III	Core III – Fundamentals of Geomorphology-II		5	3	25	75	100	4
III	Core IV – Basics of Map Making - Practical		5	3	40	60	100	4
III	Allied Paper II Statistics For Geography-II		6	3	25	75	100	4
IV	Value Education - Human Rights #		2	3	-	50	50	2
	Semester III							
I	Language-III		6	3	25	75	100	4
II	English-III		6	3	25	75	100	4
III	Core V – Climatology		4	3	25	75	100	4
III	Core VI – Population & Settlement		4	3	25	75	100	4
III	Allied : III - Elements of Cartography		5	3	25	75	100	4
IV	Skill Based Subject - Basics in Computers		3	3	20	55	75	3
IV	Tamil @ / Advanced Tamil# (OR) Non-major elective - I (Yoga for Human Excellence)# / Women's Rights#		2	3	50	50	50	2

Semester IV							
I	Language-IV	6	3	25	75	100	4
II	English-IV	6	3	25	75	100	4
III	Core VII – Oceanography	4	3	20	55	75	3
III	Core VIII – Practical – Map Interpretation and Representation of Climatic Data	4	3	40	60	100	4
III	Allied : IV Cartography Practical	5	3	40	60	100	4
IV	Skill Based Subject - Basics of GIS & GPS	3	3	20	55	75	3
IV	Tamil @ /Advanced Tamil # (OR) Non-major elective -II (General Awareness#)	2	3	50		50	2
Semester V							
III	Core IX – Geography of Natural Regions of The World	6	3	25	75	100	4
III	Core X – Geography of Tamilnadu	6	3	20	55	75	3
III	Core XI – Geography of Resources-I	6	3	25	75	100	4
III	Core XII – Remote Sensing and GIS	5	3	25	75	100	4
III	Elective –I	4	3	25	75	100	4
IV	Skill based Subject - Computer Applications in Geography	3	3	20	55	75	3
Semester VI							
III	Core XIII – Geography of Resources-II	6	3	25	75	100	4
III	Core XIV - Environmental Studies and Management	6	3	25	75	100	4
III	Core XV – Surveying & Interpretation of Aerial Photos and Satellite Images : Practical	5	3	40	60	100	4
III	Elective –II	5	3	25	75	100	4
III	Elective - III	5	3	25	75	100	4
IV	Skill based Subject - Computer Applications in Geography Practical	3	3	30	45	75	3
V	Extension Activities @	-	-	50	-	50	2
Total						3500	140

@ No University Examinations. Only Continuous Internal Assessment (CIA)

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List of Elective papers (Colleges can choose any one of the paper as electives)		
Elective – I	A	Urban Geography
	B	Geography of Tourism
	C	Bio Geography
Elective – II	A	Political Geography
	B	Geography of USA
	C	Regional Geography of Middle East
Elective - III	A	Regional Geography of South East Asia
	B	Geography of Japan
	C	Medical Geography

SEMESTER – I
CORE PAPER – I
FUNDAMENTALS OF GEOMORPHOLOGY-I

UNIT I

Meaning of Geography – Branches of Geography – Nature and Scope of Geomorphology – Origin of Earth and Related Theories – Geological Time Scale.

UNIT II

Surface Molding Forces – Endogenic & Exogenic – Diastrophism – Folds – Faults.

UNIT III

Earthquakes and Volcanoes – Definition, Causes, types – Distribution and effects.

UNIT IV

Origin of Continents and Oceans – Wegner's Continental Drift Theory – Plate Tectonics.

UNIT V

Rocks – Types – Igneous, Sedimentary and Metamorphic – Interior of Earth.

BOOKS FOR REFERENCE:

1. Arthur N. Strahler (1989), Physical Geography, Prentice Hall, New Jersey, U.S.A.
2. Worcestor Phillip G.(1972), A Text Book of Geomorphology, East West Edition.
3. Woobridge & Morgan, An Outline of Geomorphology, Longman London.
4. Monkhouse F.J. (1976) Principles of Physical Geography, Hodder & Stroughton, London.
5. Thornbury W.D. (1969), Principles of Geomorphology, Jhon Willey and Sons New York.

SEMESTER – I
CORE PAPER-II

GEOGRAPHY OF INDIA

UNIT I

Location – Physiography – Drainage – Climate – Major Soil Types – Natural Vegetation.

UNIT II

Agriculture: Irrigation: Sources and types – Distribution of Major crops – Rice, Wheat, Sugarcane, Cotton, Jute, Tea, Coffee & Oilseed – Agricultural Problems – Green Revolution.

UNIT III

Minerals – Distribution of iron ore, Bauxite, Manganese, Mica – Atomic Minerals. Power Resources - Hydel Power - Multipurpose Projects – Thermal Power – coal, Petroleum - Nuclear Power.

UNIT IV

Industries : Iron & Steel, Cotton & Jute textiles, Sugar & Cement.

UNIT V

Population : Growth, Distribution and Problems – Transport: Surface, Water & Air – Foreign Trade.

BOOKS FOR REFERENCE

1. Gopal Singh (1970), Geography of India, Atma Ram & Sons.
2. Sharma T.C. & Coutinho O. (1983), Economic and Commercial Geography of India, Cikas Publishing House.
3. Mamoria (1980), Economic and Commerical Geography of India, Shiva Lal Agarwala & Co, New Delhi.
4. Dubey R.N. & Negi EconomicGeography of India.
5. Sigh R.L.(1987), India a Regional Geography, UBS Publishers & Distributors Ltd.,
6. Spate OHK (1960) India & Pakistan. Methuen & Co., London.
7. Memoria (1966) Agricultural Geography of India, Rawat Publishers, New Delhi.

SEMESTER-II

CORE PAPER-II

FUNDAMENTALS OF GEOMORPHOLOGY-II

UNIT I

Gradational Process: Aggradation and Degradation – Weathering and Mass Wasting –
Types – Resultant features.

UNIT II

Drainage pattern

Agents of Erosion : Running water – Erosional & Depositional Landforms

Concept of Normal Cycle of Erosion by Davis

UNIT III

Glaciers – Types – Erosional & Depositional Landforms.

UNIT IV

Wind – Aeolian Landforms – Wave – Coastal Landforms.

UNIT V

Work of Underground Water – Karst Landforms.

Applied Geomorphology

BOOKS FOR REFERENCE

1. Arthur N. Strahler (1989), Physical Geography, Prentice Hall, New Jersey, U.S.A.
2. Worcestor Phillip G.(1972), A Text Book of Geomorphology, East West Edition.
3. Woobridge & Morgan, An Outline of Geomorphology, Longman London.
4. Monkhouse F.J. (1976) Principles of Physical Geography, Hodder & Stroughton, London.
5. Thornbury W.D. (1969), Principles of Geomorphology, Jhon Willey and Sons New York.

SEMESTER – II
CORE PAPER - IV

BASICS OF MAP MAKING - PRACTICAL

UNIT I

Maps – importance and role in Geography – Types and uses of Maps – Types of Scales: Linear and comparative Scales.

UNIT II

Enlargement, Reduction and Combination of Maps – Measurement of area and distance – Bearing and Directions.

UNIT III

Representation of Relief – different methods – Interpolation of contours – Cross section of selected features.

UNIT IV

Profiles: Serial, Superimposed, Projected, Composite profiles – River profile – Longitudinal and transverse.

UNIT V

RECORD.

BOOKS FOR REFERENCE

1. Rangunandan Singh & Kanuja, Map work and Practical Geography, Centrl Books depot Allahabad.
2. R.L.Singh (1979), Elements of Practical Geography, Kalyani Publishers, New Delhi.
3. Monkhouse: Mapwork.
4. Bygott.J. (1955), Mapworkd and Practical Geography, University Totorial Press-Londong.
5. Buch T.W. – Maps – Topographical and Statistical, Oxford Lavender Press – London.
6. Monkhouse & Wilkinson (1966), Maps and Diagrams, Methunen Press, London.

SEMESTER III
CORE PAPER V

CLIMATOLOGY

UNIT I

Atmosphere : Composition - Structure – Green house effect
Insolation – Heat balance.
Inversion of temperature
Factors affecting the horizontal distribution of temperature .

UNIT II

Atmospheric pressure– Thermal and dynamic origin – pressure gradient - Vertical and Horizontal distribution
Wind – General circulation – planetary winds – Seasonal winds – Local winds

UNIT III

Humidity
Condensation – forms of condensation
Precipitation – forms of precipitation – types of rainfall.

UNIT IV

Air masses – types.
Fronts – types.
Cyclone - types
Extra tropical cyclones - Tropical Cyclones and Tornadoes

UNIT IV

Koppen’s Climatic Classification.
Extreme Weather – Case studies.

BOOKS FOR REFERENCE:

1. Trewartha Glen T & Horn Lyle H. An Introduction to climate Mc Graw Hill.
2. Critchfield – Climatology Prentice Hall of India.
3. Lake P – Physical Geography.
4. Singh S – Physical Geography Prayag Publishers, Allahabad.

**SEMESTER III
CORE PAPER VI**

POPULATION AND SETTLEMENT

UNIT I

Population Geography – Scope – Content
Factors affecting population distribution
Population distribution : World – India.

UNIT II

Population growth – Factors affecting Population growth
Demographic Transition
Population composition and Structure
Fertility and Mortality rates.

UNIT III

Human Migration – Factors – Causes & Consequences – Types of Migration –
Population and Resource based theories – Malthus – Ricardo – Optimum – Transitional theory.

UNIT IV

Settlements-Types
Site and situation
Classification of settlements : Functional – Census
Urban land use theories : Concentric – Sector – Multiple Nuclei.

UNIT V

Urban centres : Growth and development – associated problems
Metropolis, Megalopolis and Conurbation
Functional zones of Coimbatore , Chennai & Delhi.

REFERENCE BOOKS:

1. Peripillou. A. Human Geography – Longman's London 1966.
2. Money De. Pattern of settlements even brothers London.
3. Mayor HN & Kohn. CF Reading in Urban Geography.
4. Carter Harold. The study of Urban Geography, London.

SEMESTER III
ALLIED PAPER III

ELEMENTS OF CARTOGRAPHY

Unit I

Maps: Definition, types, uses – scope and content of cartography – branches of cartography – development of cartography from ancient to recent period.

Unit II

Geographic coordinates – types of north – problems of transforming spherical surface to plane surface

Map projections – classification and types including UTM – properties, limitations.

Unit III

Data for representation: source – data types – techniques of data collection – coding and classification.

Unit IV

Map design and layout – principles and problems – symbolization – point, line and area symbols. Lettering – forms, styles, sizes – positioning of lettering – Standardization of geographical names.

Unit V

Map compilation and generalization – base map compilation, generalization and finalization.

BOOKS FOR REFERENCE:

1. Robinson A.H. (1953), Elements of cartography, John Wiley, London.
2. Raize, (1982) principles of cartography, Mc Graw Hill & company, New York.
3. Mishra R.P & Ramesh (1989) Fundamentals of cartography, concept publication Delhi.
4. Lawrence G.R.P (1979) cartographic methods, Methuen, London.
5. Monk house F.J. (1967) maps and diagrams, Methuen, London.

B.Sc. GEOGRAPHY
Skill Based Subject
Paper I :Basics in Computers

1) **Introduction**

- History of Computers
- Meaning of Computers
- Advantage of Computers

2) **Uses of Computers**

- In Business
- Industry
- At Home
- At Play
- In Education
- In Training
- In Entertainment
- In Arts
- In Science
- In Engineering
- In Mathematics

3) **Types of Computers**

- According to purpose
 - General Purpose
 - Special Purpose
- According to type
 - Anolog Computer
 - Thermometer
 - Speedometer
 - Digital Computer
 - Hybrid Computer
- Super Computer
 - Main Frame
 - Mini Computer
 - Micro Computer

4) **Parts of a Computer**

- Input Devices
 - Key Boards
 - Mouse, Joystick
 - Optical Scanner
 - Light Pen
 - Touch Screen
 - Voice Data
 - Swart Cards
- The Central Processing Unit
 - Main Memory
 - ❖ Arithmetic Logic Unit
 - ❖ Control Unit

- Secondary Storage Storage Devices
- ❖ Magnetic Disk
- ❖ Optical Disk
- ❖ Magnetic Tape
- Output Devices
- Printers
- Plotters
- Screen
- Robot
- 5) **Computer Hardware and Software**
- Meaning of Hardware
- Meaning of Software
- Classification of Software
- ❖ Systems Software
- ❖ Application Software

References:

- 1) Alexis Leon, Mathews Leon, "Introduction to Computers", Leon Techworld. 1999
- 2) Horowitz. E. and Sahani.S, "Fundamentals of Computers Algorithms"
- 3) Jaiswals. A, "Fundamentals of Computers"
- 4) Rajaraman. V "Fundamentals of Computers"
- 5) Ram.B, "Computer Fundamentals"

**SEMESTER IV
CORE PAPER VII**

Oceanography

Unit –I

Oceanography : Definition, scope & importance

General distribution of land & water

General relief of the oceans

Unit II

Bottom relief of Atlantic, Pacific & Indian oceans

Unit –III

Temperature of ocean water: Horizontal & Vertical distribution of temperature

salinity : Horizontal distribution of salinity

. Ocean currents : types- current circulation in Atlantic, Pacific & Indian oceans.

Unit -IV

Waves & Tides : Types and causes

Theories regarding their origin : The equilibrium theory, progressive wave theory, stationary wave theory.

Unit -V

Deposits on the ocean floor – Terrigenous & Pelagic deposits – Distribution; Coral reefs & Islands – distribution & structure of coral reefs.

Books for reference:

1. Philip Lake (1949) Physical Geography, Cambridge, at the university press.
2. Peter K. Weyl (1970) John Wiley & Sons, Inc. New York,
3. R.C. Sharma & M.Vatal (1970) Oceanography for Geographers, Chaitanya Publishing house, Allahabad- 2.
4. Harold V. Thurman (1990) Macmillan Publishing Company, New York.

SEMESTER IV

CORE PAPER VIII

MAP INTERPRETATION AND REPRESENTATION OF CLIMATIC DATA - PRACTICAL

UNIT I

Survey of India Maps

Conventional signs and symbols

Topographic maps– Cartographic appreciation – Interpretation of Topographic maps

UNIT II

Weather Maps:– Signs and Symbols - Station model – Interpretation of Indian Daily

Weather Report

UNIT III

Climatic Graphs :– Climograph – Taylor’s climograph - Hythergraph and Ergo graph.

UNIT IV

Climatic Diagrams : Rainfall Dispersion Diagram

Wind Rose diagrams : Simple, Star, Octagonal and Compound

UNIT V

RECORDS – 20 MARKS.

BOOKS FOR STUDY

R.L. Singh; Elements of Practical Geography.

John Boycott; Map work and Practical Geography

Ragunandan Singh & K. ananjia – Map work and Practical Geography.

William Bayley Lipton – Landforms and Topographic maps.

Vaidyanathan .R – Index to the study of Topographic maps.

Misra. R.P. Fundamentals of Cartography.

SEMESTER IV

ALLIED PAPER IV

CARTOGRAPHY- PRACTICAL

UNIT I

Map Setting

Map Reading.

UNIT II

Projections – Cylindrical & Conical.

Construction, Uses & Properties.

UNIT III

Projections – Zenithal & Conventional (Sinusoidal and Mollweide)

Construction, Uses & Properties.

UNIT IV

Mapping of socio economic data.

UNIT V

Record.

SEMESTER IV

Sill Based Subject

BASICS OF GIS AND GPS

UNIT I

GIS: Development – Scope – Components of GIS

UNIT II

Types of data: Spatial and attribute data – Raster and Vector data Models – their characteristics.

UNIT III

Methods of data input – Storage – Data quality – Data out put.

UNIT IV

Data analysis – Application of GIS in various fields.

UNIT V

GPS – Satellites – Segments – Receivers – Errors and Biases – Measurement – Application.

Reference :

- (i) Ahmed, El Rabbany (2000): Introduction to Global Positioning System, Artech House Publishers, London.
- (ii) Anji Reddy, M(2001): Remote Sensing and Geographical Information System, B.S. Publishers, Hyderabad.
- (iii) Burrroughs, P.A.(1986): Principles of Geographic Information Systems for Land Resources Assessment, Oxford University Press, London.
- (iv) Heywood, Ian et.al.(2003): An Introduction to Geographical Information Systems, Pearson Education Pvt. Ltd., Delhi.

SEMESTER V

CORE PAPER IX

**GEOGRAPHY OF NATURAL REGIONS OF THE
WORLD**

UNIT I

Region – definition – Methods of delineation of regions – formal and functional regions.
Natural components of regions – Landforms: Types and Distribution
Climate: Types and Distribution.

UNIT II

Soils: Types and Distribution
Natural Vegetation: Types and Distribution.
Basis of Regionalization.

UNIT III

Equatorial region – Lowland and Highland
Tropical region – Monsoon, grassland and deserts

UNIT IV

Warm Temperate region – Mediterranean, Temperate grasslands and China Type.

Cool Temperate region – West coast Marine, Laurentian type.

UNIT V

Siberian region- Taiga type
Polar region: Highland of icecap, Lowland or Tundra.

REFERNCE:

1. Oliver Heintzelman and Richard M Highsmith – World regional Geography – Prentice Hall of India.
2. Paulward English, James A Miller – World Regional Geography.
3. Unstead J.F. – A systematic Geography – Univ. of London press.
4. Roger Minshull – Regional Geography – Theory and practice – Hutchinson University library.

SEMESTER V

CORE PAPER X

GEOGRAPHY OF TAMILNADU

UNIT I

Location and Geographical extent – Physical Divisions – Climate — Drainage – Soils – Natural vegetation.

UNIT II

Agriculture: Irrigation – Types and distribution – Problems – Major crops – Food Crops – Commercial & Plantation crops.

UNIT III

Resources: Natural resources - Mineral resources – Power resources – Distribution & Development – Conventional – Non-conventional energy resources- Major HE Projects – Thermal projects.

UNIT IV

Industries: Locational factors – Distribution of cotton.Textiles, Cement, Sugar factories, Paper – Engineering Industries.

UNIT V

Population, Transport & Trade : Population growth and distribution – Rural and Urban population – Population composition – Sex, Age, Religious, Linguistic.

Transport: Roads and Railways – sea ports and Air ports
Significance of Trade.

BOOKS FOR REFERENCE

1. India and Pakistan – Spate OHK & Learmonth.
2. Field Crops of India – Sathya Narayanan.
- 3.Economic Atlas of India – T.T. Maps & Atlas.
4. Tamilnadu – An Economic Appraisal.
5. Resource Atlas of Tamilnadu –Department of Geography, University of Madras.
6. Techno – Economic Survey of India.

SEMESTER V CORE PAPER XI

GEOGRAPHY OF RESOURCES-I

UNIT I

Scope and Content – Nature and Classification of resources – Characteristics and their distribution – Utilization and conservation of resources.

UNIT II

Soil resources – Formation – Soil profile – World classification of Soils – Characteristics of important soil types – Soil erosion and conservation.

UNIT III

Forest resources – Equatorial – Tropical – Temperate forest

UNIT IV

Livestock : Cattle – types – distribution

Sheep and goats distribution

Pigs and poultry – growth and distribution. Marine resources – World's fisheries – Major fishing grounds of the world – Fisheries of Atlantic, Pacific and Indian Oceans – Important fishing harbours of the world, Oceans as the future store house of the world.

UNIT V

Agricultural resources: Factors affecting agriculture – World agriculture types

World distribution of food crops – Rice and Wheat Commercial agriculture – Important commercial crops : Cotton and Sugarcane

Plantation crops: Tea & Coffee.

BOOKS FOR STUDY

1. Economic Geography – An appraisal of Resources Sadhukhan S.K.
2. Economic and Commercial Geography Negi. B.S.
3. Economic and Commercial Geography – Prof. Qazi S.A.
4. Human and Economic Geography – Goh chang Leong & Gillian C. Morgan.
5. Economic Geography – Alexander J.W.
6. Geography of Resources – Guha & Chattarobj.

SEMESTER V CORE PAPER XII

REMOTE SENSING AND GIS

UNIT I

Remote sensing : Meaning– content – Types – Development – Electromagnetic energy – Radiation principles – Electromagnetic spectrum – Energy interactions – Ideal Remote sensing systems.

UNIT II

Aerial Remote sensing : Air Photo – Axis – Lens, Film – Scale types – Uses – Stereo Scopic vision – Elements of Air photo interpretation.

UNIT III

Satellite Remote sensing – Types of satellites – Resolutions – Landsat – SPOT – IRS images – Marginal information –Satellite image interpretation.

UNIT IV

Remote sensing applications in Geography :
Water resources – Study of Forest, land use and agriculture – Mineral exploration – Urban studies – Planning.

UNIT V

GIS and GPS : Scope – content – Digital data analysis
Data structure – Raster & Vector data
GIS & GPS – Significance & their application in different fields.

REFERENCE BOOKS:

1. Curran .P.J. Principles of Remote Sensing, English Language books Society Longmans (1985).
2. Sabins Jr. Remote Sensing – Principles and interpretation, Freeman & Co. Sanfranciscoi (1978).
3. Lillesand & Kiefer, Remote Sensing and image interpretation, John Wiley & Sons, New York (1979).

SEMESTER V – Skill Based Subject

COMPUTER APPLICATIONS IN GEOGRAPHY

1. Computer Applications in Geography: The need – development and growth – advantages and disadvantages.
2. Computer assisted cartography – the need – recent trends – applications and limitations.
Computer applications in physical geography: geomorphological, hydrological, atmospheric and oceanographic applications – merits and limitations.
3. Computer applications in human geography: diffusion studies, simulation and network analysis – trends.
4. Role of computers in the development of remote sensing and geographical Information system – their applications in geography – Internet and its uses – world wide web.

REFERENCES:

1. Clarke, K.C., (1990) : Analytical and Computer Cartography, Prentice Hall, New Jersey.
2. Ganesh, A., (2007) : Computer Basics for Young Scientists, Dept. of Geography, Bharathidasan University, Tiruchirappalli.
3. Kraak, Menno-Jan and Allan Brown (2001) : Web Cartography, Taylor & Francis, London.
Mather, Paul M., (1991) : Computers in Geography – A Practical Approach, Basil Blackwell, Oxford.
4. Robinson, A.H., (1969): Elements of Cartography, John Wiley and Sons, New York.
5. Zhong-ren peng and Ming. Hsiang (2001) : Internet GIS, John Wiley & Sons, New Jersey.

SEMESTER VI

CORE PAPER XIII

GEOGRAPHY OF RESOURCES II

UNIT I

Fisheries – Economic significance of sea – Fishing – Types – Factors controlling growth and distribution of commercial fishing- Fisheries of the world.

Over fishing – need for conservation – fishing in India

UNIT II

Human resources – Distribution of human resources – the modern Demographic pattern – Trend of world population – Density of population – Man-land ratio – Optimum population – Over-population and Under-population – Carrying capacity of the land.

UNIT III

Minerals and power resources – Types, Significance, Distribution and production of Iron ore, Bauxite, Copper, Manganese, Tin, mica– Coal, Petroleum, Natural gas and Atomic power.

UNIT IV

Industrial resources: Localization factors and distribution of Iron and Steel industry – Ship building – Aircraft – Automobile – Cement - Chemical and Textile industries of the world.

UNIT V

Transport and Trade: Major transport systems of the world – Road, Rail and Air transport – Inland water ways and Ocean transport, Composition of International trade – Pattern of trade – Balance of Trade – Recent trends and trade organizations.

SEMESTER VI

CORE PAPER XIV

ENVIRONMENTAL STUDIES AND MANAGEMENT

UNIT I

Environment – Meaning – Components – Geography and Environment
Fundamental concepts in Environmental Geography.

UNIT II

Ecosystems – Meaning – Types – Components.
Transformation of energy in the ecosystem – Food chains, Food Webs.

UNIT III

Natural hazards
Environmental degradation – Meaning and types.
Human impact on the environment – deforestation, soil erosion and degradation,
Landslides, Salinisation, Desertification.
Population growth and food supply.
Global climatic change – Global warming.

UNIT IV

Man induced Hazards – Air pollution, Water pollution, Land pollution.
Case studies from the world and India.
Waste management – the problem of toxic wastes.

UNIT V

Environmental impact assessment – Meaning and concept.
Case study of Sardar Sarovar Project and Tehri Dam.
The role of environmental movements in protecting the environment – case studies – world and national level.

SEMESTER VI CORE XV

**SURVEY & INTERPRETION OF AERIAL PHOTOS AND
SATELLITE IMAGES - PRACTICAL**

Frontiers

UNIT I

Land Surveying: Chain Surveying:-Open and closed Traverses, Prismatic Compass:- Open and closed Traverse, Plane table Surveying.

UNIT II

Height Measurement & Leveling : Indian Clinometers : Accessible and Inaccessible bases, Abney level base : Accessible and Inaccessible, Dumpy level; Level difference and height measurement.

UNIT III

Air photo interpretation : Types of air photo – Stereoscopic vision and interpretation of air photos.

UNIT IV

Satellite image interpretation :- Interpretation of Single band and Multiband data, True Colour and False Colour composites.

UNIT V

RECORD

BOOKS FOR STUDY

Regunandan Singh & Kamujia – Map work and practical Geography – Central book Debot – Allahabad.

R.L. Singh – Elements of Practical Geography – Kalyani publishers – New Delhi.

Bygott, Map work and practical Geography – University Tutorial press – London.

T.W.Buch – Maps – Topographical and Statistical – Oxford Lavender Press, London.

SEMESTER VI Skill Based Subject

COMPUTER APPLICATIONS IN GEOGRAPHY - PRACTICAL

1. Basic Computer operations – Use of MS WORD and MS ACCESS.
2. Drawing of diagrams and graphs using Computers.
3. Elementary Image Processing techniques.
4. Raster and Vector data: Digitization and Scanning – Creation of data files.
5. Handling of GPS receivers – Fundamentals of GPS Survey.

ELECTIVE I - A

URBAN GEOGRAPHY

UNIT I

Settlement Geography – Branches – Urban Geography – Scope & Content
Factors affecting Urban growth – Urbanization – World – India.

UNIT II

Urban centers – Definition – Site and Situation
Classification of Towns – Functional and Census.
Urban morphology – Land use models

UNIT III

Size and spacing of urban centers: Zipf's Rank size Rule
Christaller's Central Place Theory – Principles of nesting.

UNIT IV

Urbanization process : City growth – Metropolis, Megalopolis, Conurbation.
Urban Problems : housing , transport and pollution.

UNIT V

Urban expansion : horizontal and vertical – urban sprawl – urban fringe – Umland -
Sub urbanization

BOOKS FOR REFERENCE:

1. Northam R.M. – Urban Geography, John Wiley & Sons New York.
2. Cartes H. The study of Urban Geography, Edward Arnold London.
3. Mirsa R.P. & K.V. Sundaram Regional planning & Development.
2. Mukerjee. R.K. (1988) Man His Habitation, Popular Books, Bombay.
3. Chisholm, M 1970 Rural Settlement and Land use. Hutchinson, London.

ELECTIVE I - B

GEOGRAPHY OF TOURISM

UNIT I

Definition of tourism – Determinants & Motivators of tourism - Development of tourism

UNIT II

Elements of tourism – Attractions –Accessibility & Amenities.

UNIT III

Organisation of tourism - The structure and role of National tourist
Organisation - Tourist Organisation in India – The future of Indian tourism.

UNIT IV

Transport and tourism – Role of air, Water and surface transports.

UNIT V

Accommodations – types - Role of travel agencies and travel intermediaries.

REFERENCES:

Bhatia, A.K. (1982): Tourism: Development Principles and Practices,
Sterling Publications, Private Ltd., Delhi.

Chiranjeev, A. (2008): Eco-Tourism- Venues and Business,
Jnanada Prakashan (P&D), New Delhi.

Mathieson, A. and Geoffrey Wall(1982): Tourism,
Longman, London & New York.

Mohanty, P.(1992): Hotel Industry & Tourism in India,
Ashish Publishing House, New Delhi.

Negi ,JMS, (1982): Tourism and Hoteliering,
Gitanjali Publishing House, New Delhi.

Pathania, K.S. and Arun Kumar (2008): Tourism in India
Regal Publications, New Delhi 2008.

Pearce, D.(1987): Tourism Today
Longman Scientific and Technical, New York 1987.

Saxena, A. (2008): New Trends in Tourism & Hotel Industry
Navyug Publishers & Distributors, New Delhi, 2008.

ELECTIVE I – C

BIO GEOGRAPHY

UNIT – I

Bio Geography – Ecological factors of the land and their effect on plants and animals

UNIT – II

Soil – Nature - Formation – Soil Profile – Soil types

UNIT – III

Forests Biomes

UNIT – IV

Grassland Biomes

UNIT – V

Desert Biomes

BOOKS FOR REFERENCES :

Huggett.R.J : Fundamentals of Biogeography, Rout ledge, USA.

Martin C. (1975): Plant Geography, Methuen & Co., London.

Mathur.H.S(1998) Essentials of Bio Geography. Anuj Printers, Jaipur.

New Begin I: Plant & Animal Geography, Methuen & Co., London.

Robinson H. (1982) Bio Geography, ELBS. McDonald and Evans, London

ELECTIVE II - A

POLITICAL GEOGRAPHY

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UNIT –1

Scope & content of political Geography, Geopolitics. State:- Powers and functions of the State- Categories of the State-Nations and Nationalism.

UNIT-11

Core areas Types, Capitals: Types, Morphological classification, Factors of development.

Federal capitals - New and neutral capitals - capitals in post - 1945 federations.

UNIT-111

Frontiers and Boundaries: Definition, Boundary classification: Genetic , functional.

Morphological classification (Buffer zone - Land locked countries) -Border disputes.

UNIT - IV

Electoral geography: Geography of elections - Geography of campaigning, voting pattern, voters participation - Gerry mandering - Election Commission.

UNIT-V

Political Geography of India - Integration of Indian states - integration of Sikkim -, India's border relationship with China-Pakistan- Bangladesh and Srilanka - Indian's Foreign policy

Books for Study

1. Dikshit, R.D. Political Geography: A contemporary perspective - Taba McGraw j Hill publishing Co.. New Delhi, 1982.
2. Pounds. J.G. Political Geography - McGraw Hill book Co. t 3. Muin, R. Modern Political Geography. Macmillan.London.1981.
3. Presscott, J.R.V. Political Geography, Methuen. London, 1972.
4. De Blij Harm, J. Systematic political Geography, John Wiley and Sons, New York, 1980.

ELECTIVE II – B
GEOGRAPHY OF U.S.A.

UNIT I:

Location, physiography, drainage, climate, soils and natural vegetation

UNIT II:

Mineral Resources

Agriculture- patterns of agriculture -Agricultural regions.

Important mineral resources and their distribution

UNIT III

Major Industries - Industrial regions

UNIT IV:

Population – growth, characteristics, distribution

UNIT V:

Trade and transport

References:

Agnew, J. (1987): *The United States in the World Economy: A Regional Geography*, Cambridge University Press, Cambridge.

Getis, A. and J. Getis(Eds.) (1995): *The United States and Canada*, Dubuque, Iowa.

Hart, J.F. (Ed) (1972): *Regions of the United States*, Harper & Row, New York.

Jones, R. and Bryan (1969): *North America*, Methuen, London.

Wheeler, Jr. J.H. and J.T. Kostbade (1990): *World Regional Geography*, Saunders College Publishing, London.

ELECTIVE II - C

REGIONAL GEOGRAPHY OF THE MIDDLE EAST (SOUTH WEST ASIA)

Unit I:

Defining the Middle East

Regional structure- Arabian peninsular and the fertile crescent

Landforms, Drainage, Climate, Soils and Natural vegetation

Unit II

Nomadism in SW Asia and

Agriculture in SW Asia

Unit III:

Fossil fuels in South West Asia-

Other Minerals of the region – iron ore, phosphates.

Industries- shipbuilding, petrochemicals, automobiles

Unit IV:

Population distribution; Diversity and growth rate-

Cultures of South west asia and

Settlement characteristics of the region

UNIT V:

Transport and Trade - Major environmental issues of the region-

Major conflicts in the region

References:

Beaumont, P. et.al.(1958) : The Middle East: A Geographical Study, Wiley, New York.

Brauer, M.(1988): Atlas of the Middle East, Macmillan, London.

Clark, J.I. and H.Bowen Jones(Eds.) (1981: Change and Development: Essays in honour of W.B. Fisher, Methuen, London.

Drysdale, A. and G.H. Blake(1985): The Middle East and North Africa: A Political Geography, Oxford University Press, London.

Fisher, W.B. (1978): The Middle East: A Physical, Social and Regional Geography, Methuen, London.

ELECTIVE III - A

REGIONAL GEOGRAPHY OF SOUTH EAST ASIA

UNIT I

Region – Definition – The regional methods of description – Regions as real objects – Types of Regions – Formal and Functional regions – Regionalism – Nature of regional Geography – Natural regions – Economic and Industrial regions.

UNIT II

South East Asia: Introduction – Location – Physiography – climate – Natural vegetation – Animal life – Soil - Major soil types – Distribution – Soil erosion and Conservation.

UNIT III

Agriculture: Food Crops – Rice, Wheat and Millets – Commercial crops – Cotton , Jute, Sugarcane - Plantation crops – Tea, Coffee and Rubber.

UNIT IV

Burma (Myanmar) – Introduction – Physiography – Climate – Drainage – Soil – Vegetation – Agriculture – Minerals – Industry – Population – Transport and Trade.

UNIT V

Indonesia: Introduction – Physical background – Climate – Natural vegetation – Agriculture – Population – Java – the heartland of Indonesia – Sumatra an outer island.

BOOKS FOR STUDY:

1. Roger Minshull – Regional Geography – Theory and Practice.
2. George B.Cressey – Asia's lands and people.
3. Natalia G. Studies in Regional Geography.
4. Naton Ginsgurg, John E.Bush and Others – The pattern of Asia.
5. Dudley Stamp. L. India, Pakistan, Ceylon and Burma.
6. Dudley Stamp. L. A New Geography of India, Burma & Ceylon.
7. Jasper H. Stembridge – The world – A General Regional Geography.
8. Charles Rohequarin – Malaya, Indonesia, Burma and the Philippines.
9. Hugh Rohut Mill – General Geography.
10. கிருஷ்ணமூர்த்தி.ஜி - தென்கிழக்கு ஆசியா.

ELECTIVE III - B

GEOGRAPHY OF JAPAN

Unit 1

Location – Significance – Physiography – Climate – Natural Vegetation and Soils.

Unit II

Agriculture – Crops – Characteristics.

Unit III

Mineral and Power resources

Unit IV

Industries and Industrial Regions

Unit V

Population – Growth and Distribution – Transport and Trade

References:

Ackerman, E.A., (1953): Japan's Natural Resources and their relation to Japan's Future, Chicago University Press, Chicago.

Association of Japanese Geographers (Eds.) (1980): Geography of Japan, Teikoku-Shoin, Tokyo.

Buckley (1985): Japan Today, Cambridge University Press, Cambridge.

Henwood, D. (1985): Japan: A Regional Geography of an Island Nation, Teikoku-Shoin, Tokyo.

Trewartha, G.T.(1965): Japan: A Geography, Wisconsin University Press, Wisconsin.

ELECTIVE III - C
MEDICAL GEOGRAPHY

Unit 1: Scope and Content – Development of Medical Geography.

Unit 2: Geography of Health – Definition and Classification: Environmental Health, Mental Health and Occupational Health – Nutrition and Health.

Unit 3: Classification of Human Diseases – Pattern and Diffusion.

Unit 4: Medical Statistics – Measurements – Medical Cartography: Disease mapping.

Unit 5: Health Care Delivery and Health Care Planning.

References:

Hussain (2007): Geography and Health, Mahaveer & Sons, New Delhi.

Misra, R.P. (2007): Geography of Health, Concept Publishing Co., New Delhi.

Misra, R.P. (1969): Medical Geography in India, National Book Trust, New Delhi.

Rana, L.(2008): Geography of Health, Concept Publishing Co., New Delhi.

Saxena, R.R.,(1990): Social and Preventive Medicine, CBS Publishers, Delhi.