

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – I APPLIED GEOMORPHOLOGY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 6

CREDITS : 5

SEMESTER : I

SUBJECT CODE : 19MFA

Objectives:

The main objective of this paper is to introduce the students about the structure of landforms and the factors which are responsible for its evolution in accordance with place and time.

UNIT – 1 **Basics:** Meaning, Scope and development – Origin of earth – Continental Drift Theory, Plate Tectonic Theory –Endogenetic process: Diastrophism and volcanism, Exogenetic process: Denudation- Weathering, Mass Movement .

UNIT – 2 **Drainage and Drainage pattern:** Beginning of Stream- Types of Stream-Stream Order- Types of Drainage Patterns – Lakes: Origin, Types: By River action,By Tectonic movements , Mechanism of Lake Formation

UNIT – 3 **Concepts:** Geomorphological concepts - Concept of cycle of erosion: Davis, Penck: Comparison of Davis and Penck cycle of erosion – River Capture- Topography produced by Rejuvenation

UNIT –4 **Landforms:** Erosional, Transportational and Depositional features: River, Karst Topography, Wind, Waves and Glaciers.

UNIT – 5 **Applied Geomorphology:** Geomorphology in Mineral Exploration, Engineering projects, Dams and River regulation, Hydrological studies, Coastal Geomorphology, Coastal Zone Management, Land use, GLOF (Glacial lake outbreak Flood)

Books for Study:

1. Physical Geography (2016) Savindra Singh; Prayag Pushtak Publication, Allahabad
2. Physical Geography (2012) D.S Lal, Sharda Pushtak Bhawan, Allahabad
3. Geomorphology (2014) (2016) Savindra Singh; Prayag Pushtak Publication, Allahabad
4. A text book of Geomorphology (1990), Dayal.P Shukla Book Depot, Patna, India.

Books for References.

1. Majid Hussain. ed., (1994). Geomorphology, Perspective in Physical Geography series, Anmol Publications Pvt. Ltd., New Delhi.
2. Mukerjee, P.K., (1986). A Text of Geology, The World Press (P) limited, Calcutta.
3. Pitty,A.F., (1982). The Nature of Geomorphology, Methuen and Co. Ltd., London.
4. Rice, R.J., (1986). Fundamentals of Geomorphology, Longman, London.
Small, R.J., (1978). The Study of Landforms: A Textbook of Geomorphology, Cambridge University Press, New York.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – II APPLIED CLIMATOLOGY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 6

SEMESTER : I

CREDITS : 5

SUBJECT CODE : 19MFB

Objectives:

The main objective of this paper is to study the unique characteristics of atmosphere in controlling the global climate, origin, types of climates, causes and processes influencing the climatic variations, elements of weather and the impact of climate on human and vice versa.

UNIT – 1 ***Introduction Climatology*** - Definition – Nature and Meaning, scope and content Weather and Climate– Atmosphere – composition and structure – insolation and heat budget – Distribution of temperature – temperature inversion. Organisation : Metereological stations in India and World – Satellite data collection on Climate – Automated weather stations

UNIT – 2 ***Atmospheric pressure and winds***: Pressure Belts-pressure gradient – pressure variations – Winds: factors affecting wind motion – geostrophic wind – gradient wind –General circulation of atmosphere: Earth surface wind system – Jet stream Monsoon – local winds. – Clouds and its Types- Cloud bursting – cloud grabbing.

UNIT – 3 ***Atmospheric Humidity and Precipitation***: Humidity measurement - Evaporation- Evapotranspiration, Condensation Process : adiabatic and Non-adiabatic. Precipitation: Definition–Forms-types. AirMasses: Definition - and Characteristics – source regions – classification. Fronts-Types, frontogenesis and frontolysis, Tropical cyclones and Temperate cyclones, Anticyclones: Characteristics, Difference of Cyclone and Anticyclone.

UNIT – 4 ***Climatic Change*** : Cause and effects: National level and Global level – IPCC

UNIT – 5 ***Applied Climatology*** : Climatic change adaptation- causes and consequences . Control measures for climatic change : Reflection control, Inter cropping- Root zone irrigation- Control of CFC, methane in wetland- Afforestation- Crop rotation – conservation of soil moisture.

Books for Study:

1. Physical Geography (2016) Savindra Singh; Prayag Pushtak Publication, Allahabad
2. Physical Geography (2012) D.S Lal, Sharda Pushtak Bhawan, Allahabad
3. Climatology (2016) D.S Lal, Sharda Pushtak Bhawan, Allahabad
4. Climatology (2018) Savindra Singh; Prayag Pushtak Publication, Allahabad
5. Global climatic change (2019)M.Z.A Khan and Sonal Gongwala, Rawat Publication

Books for References:

1. Collings, V.K. (1987), Weather, Radar and Flood Forecasting, John Wiley & Sons,
2. Critchfield, H.J. (1996), General Climatology, Prentice Hall, New Jersey.
3. Lal, D.S. (1996), Allahabad: Chaitanya Publishing House.
4. Menon, P.A. (1989), Our Weather, National Book Trust, New Delhi.
5. Smith, K., (1975), Principles of Applied Climatology, McGraw Hill Book Co., London.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – III APPLIED OCEANOGRAPHY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 6

CREDITS : 5

SEMESTER : I

SUBJECT CODE : 19MFC

Objectives:

The main objective of this paper is to understand the Marine life and its Ecosystem. It also deals with the currents, waves, Ocean deposits and sea floor Geology.

UNIT – 1 ***Oceanography***: Nature, Scope and Significance – Distribution of Land and Sea – Hypsometric Curve – Surface Configuration of the Ocean Floor, Continental Shelf, Continental Slope, Deep Sea Plains and Oceanic Deeps.

UNIT – 2 ***Ocean Bottom Relief*** - Atlantic, Pacific and Indian Ocean Floor.

UNIT – 3 ***Ocean Temperature*** – Horizontal and Vertical Distribution- Ocean Salinity – Controls of Salinity and its Variations in Open and Enclosed Seas – Density of Sea Water- Waves and Tides: Wave Characteristics - Types of Waves and Tides - Ocean Currents- Factors and General Circulation of Ocean Currents in the Atlantic, Pacific and Indian Ocean, El Nino and La Nina Effects.

UNIT – 4 ***Marine Deposits*** – Classification and Distribution of Ocean Deposits - Coral Reefs and atolls : Growth conditions ,its Theories of Evolution: Subsidence theory of Darwin – Daly's Glacial Control Theory. Ocean Resources: Ocean Resources and its Conservation - Policies - . Integrated Coastal Zone Management.

UNIT – 5 ***Ocean Application***: Coastal Regulation zone management(CZRS),Coastal Hazardous management- Coastal Disaster-preparedness –Mitigation-management practices.

Books for Study:

1. Physical Geography (2016) Savindra Singh; Prayag Pushtak Publication, Allahabad
2. Physical Geography (2012) D.S Lal, Sharda Pushtak Bhawan, Allahabad
3. Oceanography (2016) D.S Lal, Sharda Pushtak Bhawan, Allahabad
4. Text book of Physical Geology (2002) G.B Mahabatra,CBS Publication, Allahabad
5. Marine Geology, A Scenario around India (2016) Mallik. Dept.of Ocean Development
6. Oceanography (2012) Siddhartha , Kitab Mahal Publication

7. Oceanography – An introduction to Marine science (2012) Tom Garrison, Cengage learning.

Books for Reference

1. Harold.V.Thurman (1975), Introduction to Oceanography, Merrill Publishing Company, London.
 2. Gordan Pirie. R (1996), Oceanography, III Edition, New York
 3. Negi. B. S (1995),Climatology and Oceanography, Kedar Nath and Ram Nath and Co., Delhi
 4. Shanthi Swaroop (1998), Physical Geography, King Books Educational Publishers, Delhi
 5. Sharma R.C. and M.Vatal (1997), Oceanography for Geographers, Chaitanya Publishers, Allahabad.
 6. Tikkha. R. N (1999), Physical Geography, Kedar Nath and Ram Nath and Co., Meerut
 7. Dr. Subbiah – Oceanography (Tamil Edition).
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BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE PRACTICAL - PAPER – I

MAPPING TECHNIQUES AND MAP ANALYSIS

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 8

CREDITS : 4

SEMESTER : I & II

SUBJECT CODE : 19MF1

Objectives:

The main objective of this paper is to analyse the different methods for mapping the Physical landforms, Weather and Climatic data . It also deals with the Thematic maps.

UNIT – 1 *Terrain Analysis:* Morphometric Analysis – Strahler, Horton's and Shreve's Method; Areal Analysis - Clinographic and Hypsometric Curves. Map Reading- Block diagram, Contour generating – River Morphometry.

UNIT – 2 *Slope Analysis:* Smith, Wentworth and Robinson Methods, Dissection Index

UNIT – 3 *Thematic Map :* Relief, Landuse, Soil, Drainage, Irrigation, Population Density, Occupational Structure, Age structure, Literacy, Traffic flow.

UNIT – 4 *Graphical Representations and Mapping:* Arithmetic Log, Semi Log Graph, Log-Log Graph.

UNIT – 5 *Weather and Climatic diagrams :* Wind Rose, Climatic graph, Hyther Graph, Climograph, and Foster's Climograph, Ergo graph – Rainfall Dispersion diagram.

Books for Study:

1. Fundamentals of Practical Geography (2016) R.L Singh. Sharda Pustak Publication, Allahabad
2. Advanced Practical Geography (2018) Pijushkanti Saha, Books and Allied (P) Ltd.
3. Practical Geography – A systematic approach, (2016) – Ashis Sarkar, Orient Black swan

Books for References:

1. King C.A.M. Techniques in Geomorphology, Edward Arnold Publishers Ltd. London (1996).
2. Monk House F.J and H.R. Wilkinson, Maps and Diagrams, London; Methuen and Co. Ltd. (1971).
3. Worthington B.P.R and Robert Goat: Techniques of Map Analysis Macmillan, Long (1974).
4. Singh, R.L., and Dutt, P.K., (1978). Elements of Practical Geography, Students and Friends, Allahabad

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE PRACTICAL - PAPER – II QUANTITATIVE TECHNIQUES

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 8

CREDITS : 4

SEMESTER : I & II

SUBJECT CODE : 19MF2

Objectives:

The main objective of this paper is to analyse the Statistical, Mathematical or numerical analysis of data collected through questionnaire and survey by computational techniques.

UNIT – 1 *Probability Distribution and Sampling Design:* Normal, Binomial, Poisson.
Sampling : Random, Systematic, Stratified, Standard Error.

UNIT – 2 *Statistical Testing* : Null and Alternative Hypothesis, Level of Significance ; One and Two Tailed, Chi – Square Test, Student T – Test, F – Test.

UNIT – 3 *Measures of Association and Relationships:* Simple Rank Correlation, Correlation Coefficient, Product Moment Correlation, Partial Correlation, Simple Linear Regression: Least Square Method, Multiple Regression.

UNIT – 4 **Landuse and Network Analysis** : Nearest Neighbour Analysis – Index Rn
Statistics – Centographic analysis. Accessibility and Connectivity –
Topographical Maps Detour Index ;Structural indices(Alpha, Beta and Gamma)

UNIT – 5 *Statistical Summaries using SPSS:* Multivariate Analysis – Factor Analysis,
Principal component Analysis. Z score

Field Trip: Field Work and Field Report: Field Work of at least one day is compulsory to all students.

Books for Study:

1. Fundamentals of Practical Geography (2016) R.L Singh. Sharda Pustak Publication, Allahabad
2. Statistics (Theory and Practice) (2018) by R.S.N.Pillai and Bhagavathi Pub: S.Chand
3. Advanced Practical Geography (2018) Pijushkanti Saha, Books and Allied (P) Ltd.
4. Practical Geography – A systematic approach,(2016) – Ashis Sarkar, Orient Black swan
5. SPSS for you (2018) by A.Rajathi and P.Chandran, MJP Publishers

6. Statistics for Geo Scientists (Tech and Applications) (2014) Saroj K.Pal , Concept Publishers.
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Books for References :

1. Agarwar Y.P. Statistical Methods, concepts, application and computation, sterling publishers pvt. Ltd. (1990).
2. Gregory, S.Statistical Methods and the Geographer, Longman, London (1963).
3. Gupta S.P. : Practical Statistics S. Chand & Company Ltd., New Delhi (1990).
4. Zamir Alvi. Statistical Geography, Methods & Applications, Rawat publications (2002).

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE ELECTIVE PAPER – I SPATIAL INFORMATION

TECHNOLOGY– I: REMOTE SENSING

(For the students admitted from the year 2019– 2020)

HOURS PER WEEK : 4

SEMESTER : I

CREDITS : 4

SUBJECT CODE : 19EF1

Objectives:

The objective of this paper is to study about the technological inputs in collecting, storing, retrieving, displaying, manipulating, managing and analyzing the spatial information. It is an amalgamation of Remote Sensing, GIS, GPS and Digital Cartography

UNIT – 1 ***Fundamentals:*** Basic concepts - principles – Types of Remote sensing- Sensors - Platforms –History and development of Remote Sensing.

UNIT – 2 ***Aerial Remote Sensing:*** - Types of Aerial Photographs: interpretation of Aerial Photos- Photo mosaics – Stereoscope .Scale – Relief displacement height measurement -Comparison of maps and aerial photographs

UNIT – 3 ***Satellite Remote Sensing:*** Types of satellites – Development – Resolution aspects of Landsat, SPOT, IRS, and ERS series of Satellites – Spectral reflectance curves – New Satellite Programmes – Development of Remote Sensing in India – Remote Sensing Centres and activities in India.

UNIT – 4 ***Image enhancement Interpretation:*** – Image enhancement – Manipulation – Classification – Output stage. Elements of image interpretation .

UNIT – 5 ***Applications:*** Applications in Geology, Soil, Agriculture, Land use, forestry, hydrology, urban and regional planning, wild fire, environmental impact assessment.

Books for Study:

1. Text book of Remote Sensing and Geographical Information System (2012) by Anji Reddy – BS Publishers.
2. Fundamentals of Remote Sensing (2012) by George Joseph, Pub – University Press
3. Spatial Information Technology (2018) Springer Publication.
4. Remote Sensing Basics(2008) Shahab Fazal, kalyani Publishers.

Books for References:

1. Lillesand, T.M., and Keifer, R.W., (1994). Remote Sensing and Image Interpretation, John Wiley & Sons, New York.
2. Rampall, K.K., (1999). Hand book of Aerial Photography and Interpretation, Concept Publishing Co., New Delhi.
3. Sabins, F.F.Jr., (1987). Remote Sensing: Principles and Interpretation, W.H. Freeman & Co., New York.
4. Strandberg, C.H., (1967). Aerial Discovery Manual, John Wiley & Sons, New York. Wolf.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – IV APPLIED CARTOGRAPHY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

SEMESTER : II

CREDITS : 5

SUBJECT CODE : 19MFD

Objectives:

The objectives of cartography is to study about the mapping of the Geographic information and to design maps which might ne analytical purposes involving means measuring and computing.

UNIT – 1 ***Geography as an Integrated Discipline:*** The nature and scope of Cartography – Meaning of maps – Maps and Photographs – Types and Uses – Artistic leaning and Scientific bases of Cartography – Cartography as a Science of human communication. History of Cartography Roman, Greek, Development Cartography in India.

UNIT – 2 ***Map Making process:*** Collection of map data – Compilation , Physical and Cultural details – Selection of details – Element of generalization: simplification, classification, Induction – Controls of generalization – Thematic and complex mapping: types and problems. Maps for children, neo literate and blind.

UNIT – 3 ***Map Design and Layout: Principles*** – Theory of visual perception – making symbols visually significant – Constraint in map design – Map format, Lettering and Toponymy – Drawing materials and equipments - Map reproduction Process: duplicating, printing and latest methods.

UNIT – 4 ***Global Positioning system (GPS):*** Introduction – Functions – Segments. Navigation – ranging – calculation of distance – surveying with GPS – Virtual Perception System(VPS) – Indian Region Navigational Satellite System (IRNSS) – Anti Satellite (A-SAT)

UNIT – 5 ***Application of GIS:*** Urban Planning - Land use, Land cover, EGIS, Web GIS (Cloud Computing -storage) – Decision support system(DSS)

Books for Study:

1. Text book of Remote Sensing and Geographical Information System (2012) by Anji Reddy – BS Publishers.
2. Fundamentals of Cartography (2018) 2nd Edition Revised and Enlarged, R.P.Misra, R,B.Singh Concept Publishing Co., New Delhi

3. Robinson, A.H., Sale, A.H., Morrison, J.L., and Muerake (1985) Elements of Cartography, John Wiley and Sons, New York.
 4. Advanced Practical Geography (2018) Pijushkanti Saha, Books and Allied (P) ltd.
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Books for References:

1. Burrough.P.A., 1986, Principles of GIS for land assessment, Clarendon Press, Oxford.
2. Martin. D., 1996, Geographic Information: Economic applications, Routledge, London.
3. Misra, R.P., and Ramesh., (1989) Fundamentals of Cartography, Concept Publishing Co., New Delhi.
4. Nag, P.ed., (1992) Cartography and Remote Sensing, Concept Publishing Co., New Delhi.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER –V URBAN GEOGRAPHY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

CREDITS : 5

SEMESTER : II

SUBJECT CODE : 19MFE

Objectives :

Urban geography is the study of urban places with reference to their geographical environment. It broadly deals with the origin of towns, their growth and development, their functions in and around their surroundings.

UNIT – 1 *Nature, Scope and Significance of Urban Geography* – Different approaches to the study of Urban Geography – Recent trends, Urbanization in the World and India.

UNIT – 2 *Classification of Urban Centers* - On the basis of Size, Site, Situation, Function and Comparative assessment.

UNIT – 3 *Urban Land use Models* – Burge's Concentric Zone Model, - Harris – Ulman Multiple Nuclear Model, - Hoyt's Sector Model, - Social Area Analysis – CBD and its characteristics. Urban density gradient

UNIT – 4 *Urban Expansion* : Vertical and Horizontal, Urban Sprawl – Urban fringe – Suburban – The concept of Satellite town and New Towns – conurbation – Metropolis – Megalopolis – City Region concept – Umland – Rank Size rule, Central Place Theory.

UNIT – 5 *Urban Environmental Problems* – Slums – Solid waste, Water supply and transport – Pollution – Urban Planning.

Books for Study:

1. Urban Geography (2016), R.B.Mandal, Concept Publishing Company, NewDelhi.
2. Cities, Urbanization and Urban system (2016) by K.Siddhartha, S.Mukherjee Ensemble Publications.
3. Urbanization to Urban Geography (2016) Paul L.Knox. Pearson Education Ltd.
4. The study of Urban Geography (2014) Harold Carter, Arnold Heinman Publications.
5. Urban Geography, A Global Perspective (2005), Michael Pacione, Routledge Publications.

Books for References.

1. Carter. H : The study of Urban Geography, Arnold Publications (1995)
2. Majid Hussain: Urban Geography, Anmol publications (2003)
3. Scott. A.J. : The Urban Land Nexus and the State, PION Ltd (1980)
4. Siddhartha. K and S.Mukherjee: Cities, Urbanisation and Urban System, Kisalya Publications (2000)
5. L.N.Verma(2016) Urban Georgaphy, Rawat Publications

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – VI HYDROLOGY AND WATER

RESOURCE MANAGEMENT

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

SEMESTER : II

CREDITS : 5

SUBJECT CODE : 19MFF

Objectives :

The objectives of this paper is to study about the movement, distribution, and quality of water on Earth and other planets, including the water cycle, water resources and environmental watershed sustainability.

UNIT –1 *Hydrology*: Definition – Scope and Content - Hydrological System – Application of Hydrology to other Disciplines – Hydrology and GIS.

UNIT – 2 *Water cycle* - Water Vapour – Precipitation – Evaporation – Transpiration, Energy and Atmosphere sub system.

UNIT – 3 *Surface Water* - Basin, Runoff and Stream Flow, Floods and Drought – Basin Longitudinal Profile and Morphometry.

UNIT – 4 *Ground Water* - Infiltration, Soil Moisture – Aquifers and Ground Water flow – Modelling the Ground Water.

UNIT – 5 *Integrated Water Management* – Water Balance and its Application Surface Water Management, Artificial Recharge and its structures – Rain Water Harvesting. – Smart Water Management.

Books for Study:

1. Handbook of Hydrology (1993) by David R.Maidment, MCGraw Publishers.
2. Introduction to Hydrology (2003) by Warren Viessmann, Prentice Hall
3. Hydrology and Water Resource Management,(2016), Maria A.Mimikou, CRC Press.
4. The role of Hydrology in Water Resource Management(2009) by H.J Liebscher, IAHS Publication.
5. Hydrology and Water Resources of India (2007) by Shard K.Jain, Springer Publications.
6. Water Technology Management (2015) A.K.Barna, Dominant Publications

7. Water use and Water management (2014) Nishi K.Dixit, Vista International
8. Water and Soil Management (2014) L.K Tripathi, ABD publications.
9. Geography of Water Resources (2014) R.K.Gujar & B.C.Jat , Rawat Publication

Books for Reference:

1. David Keith Todd , Ground Water Hydrology, John Wiley and Sons, Singapore (1995).
 2. Ragunath. H.M, Ground Water, Wiley Easter Ltd. Delhi (1988).
 3. Zahran A.N Rawash Deh, Applied Hydro Geography, B.S Publishers, Jaipur(1996).
 4. Lawrence Dingmam.S (2002) 'Physical Hydrology' , Prentice Hall.
 5. Fetter.C.W (2001) 'Applied Hydro Geology' Waveland Press
 6. H.M.Ragunath (2014) 'Hydrology – Principles, Analysis and Design , New Age international Publication
 7. S.N Chatterjee (2014), Water resources, conservation and Management, Atlantic Publication
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M. Sc APPLIED GEOGRAPHY

**CORE ELECTIVE PAPER–II SPATIAL INFORMATION
TECHNOLOGY– II: GEOGRAPHICAL INFORMATION SYSTEM**

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 4

SEMESTER : II

CREDITS : 4

SUBJECT CODE : 19EF2

Objectives:

The objective of this paper is to study about the technological inputs in collecting, storing, retrieving, displaying, manipulating, managing and analyzing the spatial information. It is an amalgamation of Remote Sensing, GIS, GPS and Digital Cartography.

UNIT – 1 ***Introduction:*** GIS Definitions – Nature and Scope- Attributes, Topology- Types of GIS- History of GIS.

UNIT– 2. ***GIS Architecture:*** components of GIS, GIS Workflow; Theoretical Framework; categories; levels/scales of Measurement

UNIT – 3 ***Spatial Data Modeling:*** Introduction: stages, graphical representation; Raster GIS: simple raster array, hierarchical raster structure, types and compact raster data models; Vector GIS Models: spaghetti Model, Topological model, shape file, compact vector model; comparison of raster and vector model.

UNIT – 4 ***GIS Data Management System:*** Introduction: Functions and components of DBMS; GIS data file management: simple list, ordered sequential files, indexed files, Building GIS worlds.

UNIT – 5 ***Data Base Models:*** Hierarchical database models, network system, Relational database models, Standard Query Language; Storage of GIS Data: Hybrid data model, integrated data model; Object based data models: Entity Relationship – Attribute Model; Spatial-Temporal Data: Entity – Relationship, Location-Based, Entity Based and Time-Based.

Books for Study:

1. Text book of Remote Sensing and Geographical Information System (2012) by Anji Reddy – BS Publishers.
 2. Digital Image Processing(2012) by Trivedi Munesh, Khanna Publishers.
 3. Spatial Information Technology (2018) Springer Publication.
 4. An Introduction to GIS (2010) Deepankar Chakrabali, Suchandra choudry, Kindle Edition.
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Books for Reference

1. "Burrough P.A. Principles of Geographical Information Systems for Land Resources, Claredon Press, Oxford, 1989.
2. Chrisman. N.R. Exploring Geographic Information Systems, Wiley, New York, 1997.
3. Demers Michael.N (2012) Fundamentals of GIS , Wiley Publications

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

SUPPORTIVE ELECTIVE PAPER I – GEOGRAPHY OF HEALTH

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 3

CREDITS : 3

SEMESTER : II

SUBJECT CODE : 19EF3

Objectives :

The objective of the health geography paper is to introduce the students about the indicators, characteristics, other special features of health and its development in the world nations. It also studies the Health care system and Programmes.

UNIT – 1 ***Health-*** Definition, Nature, Scope and Content of Health - . Trends in Health Geography.

UNIT – 2 ***Man*** and Environment in Health Geography- relationship-Environmental Awareness in Health Geography -Macro Environmental Changes including Housing, Water Availability- War Disturbances and political Upheaval and their influences on Health.

UNIT – 3 ***Diseases:*** Types- Epidemic and Endemic- Communicable Diseases and Non-Communicable, Factors Responsible for Diseases, Spatial Distribution of Diseases.

UNIT – 4 ***HealthCare System:*** Types, Hierarchy, Availability and Accessibility, Traditional Ecological Knowledge- Modern Systems and traditional Medicine.

UNIT – 5 ***Health Care Programmes:*** Special Groups and Programmes, Health Education- Primary Health Care – Basic Health Units – Family Welfare service- Provisions for Elderly people – Mobile Health services- integrated action Plan – AYUSH(Ayurvedic Yoga Unani Siddha Homeopathy)

Books for Study:

1. Geographies of Health and Development (2015) by Issac Luginaah, Ashgate Publication
 2. Spatial analysis in Health Geography (2015) by Parlos Kanaroglou, Ashgate Publication.
 3. Health and Medical Geography(2017) by Michael Emch, The Guilford Express.
 4. Introduction to the Geography of Health(2011)by Anthamattan, Routledge Publication.
 5. Preventive and Social Medicine (2015) by Park, Bhanot Publication .
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Books for Reference

1. Khon R. White K.L, Health Care; An International a study, Oxford University Press. Oxford (1996)
2. A. T. A. Learmonth, A Disease Ecology: An Introduction, Oxford Blackwell (1997)
3. Philips Resources, Contemporary Issues in the Geography of Health care Norwich, Norfolk (1997).
4. Pyle G.F., Applied Medical Geography, New York, Wiley (1997)
5. David R. Phillips, Health and Health Care in the III world, Norwich, Norfolk (1997)

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – VII AGRICULTURAL GEOGRAPHY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 6

SEMESTER : III

CREDITS : 5

SUBJECT CODE : 19MFG

Objectives :

The objective of this paper is to examine the spatial distribution of crops, cropping patterns, livestock and other agricultural activities..

- UNIT - 1** Nature, Scope and Significance of Agricultural Geography. Origin and dispersal of Agriculture, Elements of Agriculture.
- UNIT - 2** *Approaches to the Study of Agricultural Geography*, Commodity, Systematic and regional.
- UNIT - 3** Determinants of Agricultural Land use – Physical economic, Social, Institutional and technological factors of recent agricultural dynamism. Green Revolution – White and Blue Revolution.
- UNIT - 4** Von Thunen's Theory of Agricultural Location and its recent modifications. Land use and Land Capability Classification : measurement of Agricultural Productivity.
- UNIT - 5** Method of delimiting crop combinations Regions (Minimum Deviation Method; K. Doi's Method; Least Squares Method; Maximum Positive Deviation Method) A critical review of Whittlesey's agricultural types, their characteristics and World patterns, Agricultural Regions of India and their characteristics.

Books for Study:

1. Agricultural Geography (2009) Majid Hussain, Rawat Publications.
2. Applied Agricultural Geography (2010) Vaishali Singh, Alfa Publications.
3. Human And Economic Geography (1982) Cheng Leong Gho, Oxford University Press
4. Economic and Commercial geography (2001) K.K.Khanna and V.K Gupta, Sultan Chand and Sons

Books for Reference

1. Alexander, J.W : Economic Geography, Prentice Hall, Engle Wood Cliffs, N.J., (Latest Edition)
2. Clark, Colin & Aswell, : The Economics of Subsistence Agriculture, Margaret St. Martin's London, 1964.
3. Dumnot, Rene : Types of Rural Economy, Praeger New York, 1957.

4. Hussain M. : Agricultural Geography, Inter India Publications, Delhi 1979.
5. Morgon W.B. and : Agricultural Geography Methuen, London, Munton, R.J.C 1971.
6. Von Royen, William, : The Agricultural Resources of the World, Atlas Prentice Hall, New York, 1954.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc GEOGRAPHY

CORE THEORY PAPER – VIII GEOGRAPHY OF INDIA.

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 6

CREDITS : 5

SEMESTER : III

SUBJECT CODE : 19MFH

Objectives:

The objective of this paper is to study about the physical features, Agriculture, Industries, Population etc of India. This paper is mainly useful for the competitive exams like UPSC and TNPSC

UNIT -1: India's Location – Physiographic Division – Drainage - Climate: Temperature and Rainfall Distribution – Indian Monsoons – Soil types and Distribution - Natural vegetation

UNIT – 2 : Agriculture : Food Crops, Cash crops, Plantation crops- Allied activities- Live stock - Agricultural regions – Irrigation – Multipurpose projects. Mineral and Power Resources .

UNIT – 3 : Industries – Agro based industry – Textile – Sugar – Iron and Steel- Automobile – Chemical – Locomotive – Ship Building . Small scale industries- Industrial regions.

UNIT – 4 : Transport : Railways- Roadways – Waterways – Airways. Trade : Export and Import.

UNIT – 5 : Population : Growth – Literacy- Density – Migration – Settlements- Urbanization – Planning and Regional development.

Books for Study:

1. Geography of India (2006) R.C.Tiwari, Privalika publications.
2. Geography of India (2018) Surender Singh, Access Publications.
3. India – A comprehensive Geography (2018) by Khullar, Kalyani Publishers.
4. Geography of India (2018) Majid Hussain, Mc Graw Hill Publications.

Books for Reference :

1. Geography of India with special reference to Jammu and Kashmir : Prof S.A Qazi, New Apcon ,New Delhi.
2. Geography of India : Ranjit and Tirutha, Rawat Publications, New Delhi (2002)
3. Indian Geography : A.N.Kapoor,V.P.Gupta and Mohini Gupta, Radha Publicaiton New Delhi (2004).
4. India – A Regional Geography: R.L.Singh, National Geogrpahical Society of India, Varanasi (2000).
5. Economic and Commercial Geography of India : T.C.Sharma and O.Countinho, Vikas Publishing, New Delhi.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – IX RESEARCH METHODOLOGY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

CREDITS : 4

SEMESTER : III

SUBJECT CODE : 19MFJ

Objectives :

The objective of this paper is to learn and practice the literature survey aspects of projects and prepare the scope and goals for the proposed project and to improve the research presentation skills with latest tools.

UNIT – 1 **Research:** Meaning – Need for Scientific research – Types of research – Approach to geographical research: traditional and scientific – Identification fields, sub fields and themes.

UNIT _ 2 **Logic in Research:** Hypothesis, Concepts and Facts, Principles, Law, Theory and their implications in geographical research – the Science of Geography – Role of models – Research trend in Geography.

UNIT – 3 **Research Design:** Selection of the topic – Statement of the problem – Formulation of hypotheses, Testing of hypothesis. – Time Schedule – Literature survey and role of Internet and Bibliography.

UNIT -4 **Data Acquisition and Analysis:** Collection of data – Sources of data: Primary and Secondary – Structuring the data – Data transformation – Sampling techniques – Interpret the results - Quantitative revolution in geography.

UNIT – 5 **Report Writing:** Organization of the Report: the preliminaries, the text and the reference materials – Drafting of Report: first, second and final – Final evaluation – Language and Presentation (form and style) – Writing of Abstract, Research papers for seminar and Journal publications.

Books for Study:

1. Research Methodology (2016) C.R.Kothari , New Age International Publications.
 2. Research in Geography (2011) by Balakrishnan. Wiley Publications.
 3. Research methods in Geography : A critical introduction (215) by Basil Gomes, John Paul, Wiley – Black well Publication.
 4. Research in Applied Geography (2012) by C.A. Verma. Swastik Publication
 5. Research Methods Tips & Techniques (2015) by G.Vijayalakshmi and C. Siva pragasam. MJP Publishers.
 6. Research Methodology (2006)Dr.K.Bhattachariya, Excel Books India
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Books for Reference :

1. Harikesh. N. Misra and Vijai. P. Singh, Research Methodology Social and Spatial and Policy Dimensions, Rawat Publications, New Delhi (1998).
2. G.S. Gopal, Fourth survey of research in Geography, Manak Publications (1999).
3. Wilkinson and Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishing House. (1999).
4. Du. Najma Khan, Quantitative Methods in Geographical Research, concept Publishing Company (2002).

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| BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108 M. Sc APPLIED GEOGRAPHY CORE ELECTIVE PAPER – III ENVIRONMENTAL IMPACT ASSESSMENT (For the students admitted from the year 2019 – 2020) | | |
| HOURS PER WEEK : 5 | | SEMESTER : III |
| CREDITS : 4 | | SUBJECT CODE : 19EF4 |

Objectives :

The objective of this paper is to learn about the identification, prediction and evaluation of the environmental impact and the information related to the environmental consequences and to identify the appropriate alternatives and mitigation measures

- UNIT - 1** ***Environment:*** Definition – Fundamental Concepts of Environment – Structure and Components of Environment, Man and his Environment - Approaches to Environment.
- UNIT - 2** ***Human Impacts on Environment:*** Impact on Land – Water: Surface and Ground – Soil – Atmosphere – Impact on Ecology.
- UNIT - 3** ***Environmental Impact Assessment:*** Definition – Meaning and Concepts – Fundamental Steps in EIA – Types of EIA: Rapid EIA and Comprehensive EIA - Environment Impact Statement.
- UNIT - 4** ***Impact Assessment:*** Assessment of Air, Water and Soil Parameters and their Limits (WHO, CPCB, SPCB) – Methods of Impact Assessment, Leopold Matrix – Need and Role in Regional Planning.
- UNIT - 5** ***Environmental Appraisal and Management:*** Projects Policies and Protection Laws – Considerations: Safety – Environmental – Rehabilitation – Defense – Economic and Social Viability – Global Monitoring of Environment – Environmental Audit.

Books for Study:

1. Environment Geography (2005) H.M.Saxena , Rawat Publications.
2. Environment Impact Assessment (1996) Larry W.Canter, MC Graw Hill
3. Environmental Geography (2015) Savindra Singh, Sharda Pustak Publication, Allahabad
4. Methods of Environment Impact Assessment(1995) Peter Morris, Riki Therivel, UBC Press.

5. Environment Geography : Issues and Challenges (2005) Shyam, Prakash, Atlantic Publishers.
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Books for Reference :

1. Environmental Science – A. Turk, J. Turk, J. Wiltee and R. Wiltee.
2. Environmental Science: Jonathan Turk, Amos Turk Sounders College Publishing, Philadelphia, New York, Chicago, San Francisco.
3. Fundamentals of Physical Geography – David Briggs and Peter Smithson, Hutchinson, London

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M. Sc APPLIED GEOGRAPHY

SUPPORTIVE ELECTIVE PAPER – II - BIO- GEOGRAPHY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 3

CREDITS : 3

SEMESTER :III

SUBJECT CODE : 19EF5

Objectives :

The objective of this paper is to describe processes such as extinctions, biological invasions, and dispersal in explaining bio geographical patterns

UNIT – 1 Definition, Scope and significance of Biogeography – Basic Ecological principles: Darwin's Theory of Evolution – Concepts of Biome. *Natural Region:* Equatorial Region, Tropical Region, Temperate region, Polar region

UNIT – 2 *Origin of Fauna and Flora* – Plant and Animal Evolution through Geological times – Distribution of Plant life on Earth and its relation to Soil types, Climates and Human Practices.

UNIT – 3 *Plant and Animal life - Problems of Extinction* - Habitat decay and their Conservation process of desertification, its consequences and its management principles. Industrial effluent and its effect on fresh water biology management practices, (Special Reference to India.)

UNIT – 4 . Major *Biomes* – Tropical Forest – Tropical Grassland – Temperate Grassland and Tropical deserts.

UNIT – 5 **Bio Diversity-** Concepts-Distribution- Zoo-Geography- Hotspots- Man and Wild life conflict Management

. Books for Study:

1. An introduction to Bio – Geography(2010) by Gaston. Rawat Publications.
 2. Bio – Geography (2010) by Sinha, Common Wealth.
 3. Ecology and Biosphere (2009) Sharon Larbonde Hanks.
 4. Bio – Geography (2018) L.C.Agarwal, chicken Neck Publishers.
 5. Bio – Geography (2003) N.N.Bhattachariya, Rajesh Publications.
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6. Bio – Geography: An Ecological and Evolutionary approach (2016) by C.Barry Cox, Peter D.Moorie, John Wiley and Sons.
 7. Biosphere – A Geography of Life (2007) Dr.Thomas and K.Siddhartha, Kisalya Publications.
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Books for Reference :

1. Nisel Pears: Basic Bio Geography, Longman Publications – London.
2. N.T.Krishan; Ecology, J.J. Publications, Madurai (1992)
3. P.D.Sharma; Ecology and Environment, Rastogi Publications, Meerut (2000).
4. M.Saxena; Environmental Geography, Rawat Publications, New Delhi. (1999).

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**M. Sc APPLIED GEOGRAPHY
CORE PRACTICAL - PAPER – III**

IMAGE DIGITAL MAPPING

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 8

SEMESTER : III & IV

CREDITS : 4

SUBJECT CODE : 19MF3

Objectives :

This paper describes the basic technological aspects of Digital Image Processing with special reference to satellite image processing

UNIT - 1 Photo Interpretation – Imageries - Aerial: Basis, Scale, Height, Side lap and Overlap measurements.

UNIT - 2 Image Statistics: Mean, Variance, Correlation, Regression, Factor Analysis using Statistical Packages.

UNIT - 3 Image Enhancement- Stretching- Formation- Filtering – Resolution Merging- visual Interpretation of Satellite Data- Image Processing – supervised and Unsupervised-NDVA

UNIT - 4 Spatial Data: Input Data through Digitizing/Scanning – Storage – Editing – Manipulating – Linking Attributes.

UNIT - 5 Spatial Analysis: Buffering and Overlay Methods – Spatial Output : Thematic, Choropleth and Chorochromatic Mapping.

Books for Study:

1. Practical Geography – A systematic approach, (2016) – Ashis Sarkar, Orient Black swan
2. SPSS for you (2018) by A.Rajathi and P.Chandran, MJP Publishers
3. Statistics for Geo Scientists (Tech and Applications) (2014) Saroj K.Pal , Concept Publishers.
4. Text book of Remote Sensing and Geographical Information System (2012) by Anji Reddy – BS Publishers.
5. Digital Image Processing (2012) by Trivedi Munesh, Khanna Publishers
6. Spatial Analysis & Spatial Policy using GIS (2011) Ias Worrall, Wiley Publications

Books for Reference :

1. Microsoft office 97 for windows, IDG Books (1997).
2. Prithvish Nag and M.Kudrat, Digital Remote Sensing, Concept Publishing Company, New Delhi (2000).
3. Carol McCullough and Dieter, Oracle 81, IDG Books (2001).
4. Milan Sonka, Vaclav Hlavac, Roger Boyle, Image Processing Analysis and Machine Vision, PWS Publishers, Singapore (2001).

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M. Sc APPLIED GEOGRAPHY

INTERNSHIP TRAINING

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 4-6 WEEKS

SEMESTER : III

CREDITS : 2

INTERNSHIP : Outside College Hours

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -600 108

M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – X GEOGRAPHICAL THOUGHT

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

CREDITS : 5

SEMESTER : IV

SUBJECT CODE : 19MFK

Objectives :

The objective of this paper is to study about the different Geographers and their interpretation of various discipline in Geography and also the contemporary concepts and Theories in Geography

UNIT - 1 *Pre Historical Ideas* : Greek, Roman, Arab, Indian and Chinese – Impact of Exploration and Discoveries, - Modern Geographical Thought – Schools of Geography : German, French, British, America and Soviet Union.

UNIT - 2 *Concepts in Geography*: Environmentalism, Possibilism, Probabilism, Neo – Determinism. Modern Themes in Geographical Thought: Positivism – Functionalism – Extensionalism – Idealism – Realism – Radicalism – Behaviouralism

UNIT - 3 *Dualism and Dichotomy in Geography* : General versus – Regional Geography, Physical versus Human Geography – Historical versus Contemporary Geography.

UNIT – 4 *Quantitative Revolutions* – Paradigms in Geography – Explanation in Geography – System Analysis – Regional Concepts.

UNIT - 5 *Models in Geography*: Conceptual Models – Significance of Models – Features of Models, Types of Models – Classification of Models – Modelling in Geography.

Books for Study:

1. Evolution of Geographical Thought(2016) Majid Hussain. O) by Gaston. Rawat Publications.
2. History of Geographical Ideas (2014) Rithu Acharya, Swastik Publications.
3. Models and Theories in Geography (2018) K.Siddhartha, Mittal Books of India.
4. Geographical Thought (2012) by Raina, Concept Publishers

Books for reference :

1. Adhikari, S., (1992) Fundamentals of Geographical Thought, Chaitanya Publishing House, Allahabad, India.

2. Freeman, R., (1970). Hundreds years of Geography, Hutchinson, London.
3. Hartshorn, R., (1959). Perspective on Nature of Geography, AAAG, Washington D.C.
4. Harvey, D., (1972). Explanation in Geography, Edward Arnold Publications, New Delhi, India.
5. Hussain, M., (1994). Human Geography, Rawat Publications, New Delhi, India.
6. Hussain, M., (1995). Evolution of Geographical thought, Rawal Publicatons, New Delhi, India.
7. Negi, B.S., (1994) Geographical Thought, Kedar Nath Ram Nath, Meerut, India.
8. Wayne Davis, K.D., (1972). Conceptual Revolution in Geography, University of London Press, London.

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M. Sc APPLIED GEOGRAPHY

CORE THEORY PAPER – XI REGIONAL PLANNING

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

CREDITS : 5

SEMESTER : IV

SUBJECT CODE : 19MFL

Objectives :

The objective of this paper is to study about the developmental potentialities of each region and to suggest the strategies for their development

UNIT– 1 *Regions-* Definition-Concept- Types of Regions-Formal, Functional: Principles- Growth and Development- Ideology- Types of Planning Regions.

UNIT – 2 *Historical Perspective (20th century)-* Critical Appraisal of the Five years Plans and Annual Plans and Policies, Programs and Performances (Economic and Social).

UNIT – 3 *Region Planning and Imbalances in India-* Structure of Population Distribution, Rural and Urban Ratio- Hierarchy of Planning Regions.

UNIT - 4 *New Strategy for Regional Development:* Growth Centers and Growth Pole- Inadequacies of Growth Pole- Hypothesis Elements of Modified Growth Pole Theory- Hypothesis Planning for Growth foci.

UNIT - 5 *Regional Planning in Tamil Nadu,* Backward Area Development- Rural Self-Sufficiency Area Development- Tribal Area Development – Hill Area Development Programme – Drought Prone Area Programme – Water shed Development Programme

Books for Study:

1. Regional Planning (2002) R.P. Misra, Concept Publishing company.
2. Regional Planning in India(2013) Mahesh Chand, V,K Puri, Allied Publishers.
3. Urban and Regional Planning (2002) Peter Hall by Routledge Publishers.
4. An introduction to Development and Regional Planning with special reference to India (2001), Jayasri Ray Chaudhuri, Orient Long man Publishers.

Books for References :

1. Misra. R.P and Sundram K.V: Regional Development Planning in India, Vikas Publishing House, New Delhi (1971).
2. Misra. R.P : Regional Planning Concepts, Techniques, Policies- Case studies, University Press, Mysore (1971).

3. Sundram. K.V. and R. Misra.R.P., Area Development in India a review and Appraisal, Institute of Development of Studies, University of Mysore (1976).
4. Misra. R.P. and Tiwari. P.S: Micro level planning and development process (Vol.1), University Press, Mysore (1976).
5. Ebdon David: Statistics in Geography: A Practical Approach, Basel Blackwell, Oxford, London (1977).

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M. Sc APPLIED GEOGRAPHY

CORE ELECTIVE PAPER – IV DISASTER MANAGEMENT

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 5

CREDITS : 4

SEMESTER : III

SUBJECT CODE : 19EF6

Objectives :

The objective of this paper to learn how the disaster management reduces or avoids morbidity, mortality, and economic and physical damages from a hazard and it also deals with the different methods for vulnerability analysis, preparedness, mitigation and prevention measures, and the use of predictive and warning systems

UNIT 1 *Natural Disasters:* Basic Principles: Thermal and Physical state of the earth – seismology and the earth's interior – movement of earth's crust – Earthquake – magnitude and intensity – volcanic eruption – Landslides – Avalanches – Geographical occurrence. Man-made disasters: Population growth – rapid urbanization – poverty – Natural forces and life – phases of disasters.

UNIT 2 *Atmospheric Disturbances:* Cyclones and Anticyclones – types, origin, development, distribution and their disastrous implications – Tropical disturbances – depressions, hurricanes – Thunder storms and Tornadoes – disastrous implications – geographical occurrences – Ozone depletion – Global warming.

UNIT 3. *Hydrological and Marine Disasters:* Flood hazards – Flood plain – causes of flood – Problem of floods in India – Floods and Economic issues – management implications. Sea Level Changes: Measuring sea level changes – future changing tendencies – impact of South – Asian Region – Ocean circulation and SW monsoon – Coast Zone Management and sea level rise.

UNIT 4 *Wind and Biological Disasters:* Desertification: Global distribution of deserts – types of desertification – human impact on desertification – land management practices that mitigate against desertification – desertification prediction – measure of reduction. Biodiversity Hazard: Loss of biological diversity – population diversity and extinction rate – Forest fire and loss of species – Biodiversity conservation – policy responses.

UNIT 5. *Satellite Data for Disaster Evaluation and Management:* Application of Satellite Data for Prediction – Assessment – Monitoring Disasters. Disaster Assessment

and management through satellite data for Earthquake – floods – Tsunami – forest fire – land slide – Amateur Ra

Books for Study:

1. Disaster Mitigation, Preparedness Recovery and Response (2010) Dr.Prabhas, SBS Publication
 2. Disaster Vulnerability and Risks (2010) by Dr.Prabhas, SBS Publication ication.
 3. Disaster Vulnerability and Mangement in Global Perspective (2010) B.C.Bose, Rajat Publication.
 4. Global Disasters (2009) B.C Bose, Rajat Publication.
 5. Disaster Management in India (2008) B.C.Bose, Rajat Publications.
 6. Natural Disaster Management (2011) by S.Prasad, Mangala Publications
 7. Disaster Administration and Management Text and case studies(2006) Dr.S.L.Goel, Deep and Deep Publications.
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Books for References:

1. P.C. Singha Anmol, Coastal and Marine Disasters, publications Pvt Ltd, 1998
2. Parasuram.S and Unni Krishnan P.V., Indian Disaster Report towards a Policy initiative , 2000
3. Harish.K.Gubrer , Disaster Management, University press 2004.
4. Dr. Rama Krishnan Korakandy, Coastal Zone Management-I and II, 2005

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M. Sc APPLIED GEOGRAPHY

CORE ELECTIVE PAPER – V TRANSPORT GEOGRAPHY

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 4

CREDITS : 3

SEMESTER : IV

SUBJECT CODE : 19EF7

Objectives :

The objective of this paper is to explain the Earth's transportation spaces regarding location, substance, form, function, and genesis and the importance of transport in regional and urban planning.

UNIT – I *The geographic study of Transportation:* Definition, Scope and Growth Phases of Development: Conceptual Development in Transport geography.

UNIT – 2 *Transport System:* Spatial Perspective, interstate System and Spatial structure of Transportation network, Spatial Distribution movement and its Problems.

UNIT – 3 *Means of Transport:* Road, Rail, Air and Inland Water transport; Characteristics, distribution and problems of all transport.

UNIT – 4 *Transport System:* Indian Transport System with special reference to Tamil Nadu.

UNIT – 5 *Management Planning:* Management strategies and government Policies; planning and development of Transport – MRTS- Golden Triangle- Bullet

Books for Study:

1. Transport Geography (2009) by Sinha, Common wealth Publications.
 2. The Geographical Transport System (2010) Sharma, Vista International Publications
 3. Transport Geography (2011) by Mohan Singh, Book and Book
 4. Transport Geography (2005) H.M.Saxena, Rawat Publications
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Books for Reference:

1. S.Shanmuganandan, Conceptual Development in Transportation Geography
2. M.E. Eliot Hwest, Transportation Geography- an Overview, Part-1
3. K.K.Khanna and V.K. Gupta, Economic and Commercial Geography,1993.

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M. Sc APPLIED GEOGRAPHY

PAPER - XII - PROJECT WITH VIVA-VOCE

(For the students admitted from the year 2019 – 2020)

HOURS PER WEEK : 6

CREDITS : 6

SEMESTER : III & IV

SUBJECT CODE : 19MFM

PROJECT THEMES: Geographical Problems – Physical / Cultural / Social / Economical / Spatial / Health / Educational / Tourism / Population / Trade / Communication / Services/ Gender.

REPORT : Fifty pages including maps and diagrams.

VIVA VOCE