SRI MEENAKSHI GOVT ARTS COLLEGE FOR WOMEN (A), MADURAI – 625 002.

(Re-Accredited with "A" Grade by NAAC 3rd cycle)

DEPARTMENT OF GEOGRAPHY

Syllabus for M.SC Geography

CHOICE BASED CREDIT SYSTEM

2022-2023

SRI MEENAKSHI GOVT ARTS COLLEGE FOR WOMEN (A). MADURAI-2.

DEPARTMENT OF GEOGRAPHY

(Academic year 2022 onwards)

DEPARMENT NAME: GEOGRAPHY

INTRODUCTION:

The Department of Geography was established in the year 1968 with UG course and in the year 1971 with PG course. At present department has 6 Regular staff members and 3 Guest Lecturers and 283 UG and 35 PG students among its various academic ventures. It produce so many scholars create more professionals in various fields. It is one of the center for Tamil Nadu Open University for B.Sc., Geography Course

COURSES OFFERED:

- **PG COURSE: M.SC GEOGRAPHY**

VISION OF GEOGRAPHY

Geographers study the Earth's features but with a strong appreciation for the human environment relations that shape and are shaped by the distributions of these features across the landscape.

MISSION OF DEPARTMENT OF GEOGRAPHY

- To provide students with knowledge about the Earth's natural environment and its relationship to society.
- To provide students with knowledge about the World's people, nations, cultural environments and spatial organization.
- To provide students with a good grounding in the modern technical skills of the discipline, including computer cartography, spatial analysis, spatially oriented quantitative methods and techniques and Geographic Information System.
- To instill within each student an appreciation for the great variety of cultural forms and ways of thinking throughout the world and to help students formulate a World view that uses this appreciation to become responsible citizens in India.

PROGRAMME OBJECTIVES FOR ALL POSTGRADUATE PROGRAMMES

PO1 Getting enriched by the existing knowledge in their respective disciplines and apply appropriate methodology for research and implementation

PO2 Develop technology compatible to new perceptions and evolve innovative pedagogy in their discipline

PO3 Design creative projects and translate it to the present day scenario

PO4 Evaluate the issues and challenges pertaining to their disciplines and synergize them with the growing needs in their arena

PO5 Explore the diverse value systems of our nation and contribute towards building an egalitarian society

P.G Programme Specific Outcome (PSO)

After the completion of the programme Post graduate students will be able to

PSO 1 - Acquiring knowledge of physical and human geography

PSO 2 - Ability to analyse the problem of physical and cultural environments of both rural and urban areas

PSO3 - Conduct social survey project Enhancement ability of management.

PSO4 - Application of modern instruments and Application of GIS and modern Geographical Map making techniques

PSO5 - Development of observation and interaction power and convert their potential into professional skill

SRI MEENAKSHI GOVT ARTS COLLEGE FOR WOMEN (A), MADURAI - 2

DEPARTMENT OF GEOGRAPHY

M.SC .SYLLABUS –NEW PATTERN-CBCS

(For those who are Admitted from July 2022 onwards)

PROGRAMME: **M.SC GEOGRAPHY**

SEMESTER –I								
Course Type	CODE	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
						Int	Ext	Total
Core Course I	P22CG1	Geomorphology	6	5	3	25	75	100
Core Course II	P22CG2	Climatology	6	5	3	25	75	100
Core Course III	P22CG3	Environmental Studies	5	4	3	25	75	100
Core Course IV	P22CG4P	Practical - Representation of Terrain and Climatic Data	6	3	5	40	60	100
Discipline Specific Elective Course (DSEC)	P22DSG1A/ P22DSG1B	Disaster Studies / SocialGeography	5	4	3	25	75	100
Skill Enhancement Course I	P22SEG1	Quantitative Techniques in Geography	2	2	2	25	75	100
Total			**30**	**23**				**600**

SEMESTER –II								
Core Course V	P22CG5	Geographical Thought	6	4	3	25	75	100
Core Course VI	P22CG6	Agricultural Geography	6	5	3	25	75	100
Core Course VII	P22CG7	Advanced Cartography	5	4	3	25	75	100
Core Course VIII	P22CG8P	Practical - Techniques of Mapping and Map Analysis	6	3	5	40	60	100
Discipline Specific Elective Course (DSEC)	P22DSG2A/ P22DSG2B	Regional Planning / Industrial Geography	5	4	3	25	75	100
Skill Enhancement Course II	P22SEG2	Spatial Analysis	2	2	2	25	75	100
Total			**30**	**22**				**600**

SEMESTER –III								
Core Course IX	P22CG9	Population Geography	6	5	3	25	75	100
Core Course X	P22CG10	Principles of Remote Sensing, GIS and GNSS	6	5	3	25	75	100
Core Course XI	P22CG11	Urban Geography	5	5	3	25	75	100
Core Course XII	P22CG12P	Practical -Statistics and Computer Application in Geography	6	3	3	40	60	100
Discipline Specific Elective Course (DSEC)	P22DSG3A/ P22DSG3B	Geography of Travel and Tourism / Political Geography	5	4	3	25	75	100
Non Major Elective	P22NMG1	Fundamentals of Remote Sensing and GIS	2	2	3	25	75	100
Total			**30**	**24**				**600**

SEMESTER –IV								
Core Course XIII	P22CG13	Oceanography and Hydrology	6	4	3	25	75	100
Core Course XIV	P22CG14	Transport Geography	6	4	5	25	75	100
Core Course XV	P22CG15	Research Methodology	5	4	3	25	75	100
Core Course - XVI	P22CGPW	Project	8	5	-	80	20	100
Discipline Specific Elective Course (DSEC)	P22DSG4A/ P22DSG4B	Geography of Health and Well Being/ Principles of GIS	5	4	3	25	75	100
Total			**30**	**21**				**500**

COURSE STRUCTURE ABSTRACT FOR M.Sc., PROGRAMME

PART	COURSE	TOTAL NO OF COURSE	HOURS	CREDIT	MARK
III	Core Course	15	86	63	1500
III	Core Project	1	8	5	100
III	Discipline Specific Elective Course (DSEC)	4	20	16	400
III	Non Major Elective	1	2	2	100
III	Skill Enhancement Course	2	4	4	200
Total		**23**	**120**	**90**	**2300**

Programme: M.Sc GEOGRAPHY **Part III: Course Type - I**

Semester : I **Hours : 6 P/W 90Hrs P/S**

Sub. Code :P22CG1 **Credits: 5**

Title of the Paper: GEOMORPHOLOGY

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	3	1	1	1

PREAMBLE: It is a Branch of Physical Geography It Explains Geomorphic Process, Traditional Process, Concept of Normal Cycle of Erosion Climatic, Geomorphology and Applied Geomorphology

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand the basic concept and development of geomorphology.	1	18
UNIT 2 CO2: Acquire knowledge about geomorphic process.	2	18
UNIT 3 CO3: Explains about Gradational process.	3	18
UNIT 4 CO4: Analyse the concept of normal cycle of erosion and development of slopes	4	18
UNIT 5 CO5: Familiar with climatic geomorphology and applied geomorphology.	5	18

SYLLABUS

UNIT I : Nature, Scope and Development - Basic Concepts - Recent Trends.

UNIT II : Geomorphic Processes - Endogenic - Diastrophism, Folds, Faults, Continental Drift - Plate Tectonics, Earthquakes and Volcanoes -Exogenic - Weathering and Mass movement.

UNIT III: Gradational Processes - Work of running water - Glacial landforms - Aeolian landforms- Karst landforms - Works of waves and coastal land forms - Classification of Coasts.

UNIT IV: Concept of Normal cycle of erosion - Davisian view - Peneplain Concept, Penck's view - Modification of the Cycle concept and Hack's view- Dynamic equilibrium concept . Development of slopes - Ideas of Davis, Penck and King.

UNIT V : Climatic Geomorphology - Concept of Morphogenetic Regions - Applied Geomorphology with reference to Mineral discovery, Engineering and Hydrological studies.

BOOKS FOR REFERENCE

1. Col. Bhaskar Sanka - EarthQuakes Peacock books - 2009.
2. Chauhan R.N - Text book of Physical Geography -ABD Publisher, Jaipur -2008.
3. Dayal.P Text Book of Geomorphology - Shukla Book Depot , Patna - 1995.
4. Majid Hussain - Physical Geography - Rawat Publication, New Delhi - 2000.

5.Nizamuddin Khan- An Introduction to Physical Geography , Concept Publishning Company, New Delhi-2001.

6. Savindra Singh - Physical Geography - Prayag Pustak Bhawan Allahabad - 2002.

7. Sidhartha.k - The Earths Dynamic Surface – Transworld Media & Communications – Kisalaya Publications Pvt. Ltd., Patna - 1998.

8. Thornbury W.D - Principles of Geomorphology - John Willey &Sons, Inc New York - 1992.

9. Tricart & Cailleux Climatic Geomorphology-Arnold Publication.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I Nature, Scope and Development			
	Nature, Scope and Development -	6	Chalk and Talk using ppt.
	Basic Concepts	6	Chalk and Talk using ppt.
	Recent Trends.	6	Chalk and Talk using ppt.
UNIT II- Geomorphic Processes			
	Geomorphic Processes - Endogenic	5	Maps, Charts and Models.
	Diastrophism, Folds, Faults, Continental Drift - Plate Tectonics, Earthquakes and Volcanoes	8	Maps, Charts and Models.
	Exogenic - Weathering and Mass movement through LCD Presentation.	5	Maps, Charts and Models.
UNIT III Gradational Processes			
	Gradational Processes - Work of running water- Glacial landforms	6	Models,ppt and VLC.
	Work of Aeolian landforms - Karst landforms	6	Models,ppt and VLC.
	Works of waves and coastal land forms - Classification of Coasts.	6	Models,ppt and VLC.
UNIT IV Concept of Normal cycle of erosion			
	Concept of Normal cycle of erosion – Davisian view - Penck's view	6	Charts and ppt.
	Modification of the Cycle concept and Hack's view-	6	Charts and ppt.
	Dynamic equilibrium concept . Development of slopes - Ideas of Davis, Penck and King.	6	Charts and ppt.
UNIT V Applied Geomorphology			
	Climatic Geomorphology - Concept of Morphogenetic Regions	6	VLC and ppt.
	Applied Geomorphology with reference to Mineral discovery	6	VLC and ppt.
	Engineering and Hydrological studies.	6	VLC and ppt.

Course Outcomes (Cos)	Programme Outcomes (Pos)					Programme Specific Outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	3	3	4	3	3	4	3	3	4	3.33
CO2	4	4	4	4	4	4	4	4	4	4	4
CO3	5	5	5	5	5	5	5	5	5	5	5
CO4	3	3	4	3	3	3	4	3	3	4	3.3
CO5	4	4	4	4	4	4	4	4	4	4	4
Mean Overall Score											3.926

Result: The Score for this Course is 3.926 (High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs. D.Rukmanidevi.

Programme : M.Sc GEOGRAPHY **Part III: Course Type -II**

SEMESTER-I **Hours : 6 P/W 90Hrs P/S**

Sub. Code : P22CG2 **Credits: 5**

TITLE OF THE PAPER**: CLIMATOLOGY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	2	1	1	2

PREAMBLE: It is the branch of physical geography it explain climatic events, atmospheric disturbance, climatic classification and impact of climate.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand the nature and scope of climatology, know the mechanism of monsoon and climatic classification.	1	18
UNIT 2 CO2: Analyze the nature and pressure of the atmosphere.	2	18
UNIT 3 CO3: Understand the temperature changes and precipitation.	3	18
UNIT 4 CO4: Acquire knowledge about hazards and atmospheric disturbances.	4	18
UNIT 5 CO5: Explain about the climatic standard classification and weather observation, forecasting.	5	18

SYLLABUS

Unit I: Introduction Climatology - Definition – nature, scope and trends – Atmosphere – composition and structure – insolation heat budget: processes of heat energy transfer – heating and cooling of atmosphere and earth – distribution of temperature – horizontal distribution – vertical distribution – temperature inversion.

Unit II: Atmospheric : pressure and winds: pressure gradient – pressure variations – vertical variation and horizontal variation of air pressure – seasonal variation in pressure pattern – Winds: factors affecting wind motion – geostrophic wind – gradient wind – wind measurement – Beaufort Scale – general circulation of atmosphere: surface wind system – Latitudinal shifting of wind belts – jet stream – monsoon – concepts of origin of monsoon – Indian monsoon, local winds.

Unit III: Precipitation – humidity – definition – types – factors affecting potential evapotranspiration and actual evapo-transpiration – dew point – Atmospheric equilibrium: stability and instability – adiabatic process – temperature change - condensation – forms of Precipitation – clouds – mean annual precipitation – variability – intensity – artificial precipitation.

Unit IV: Air masses: Definition and Characteristics – source regions – classification. Atmospheric disturbances: cyclones and anticyclones - temperate cyclones: front – frontogenesis – types – Characteristics – frontolysis – tropical disturbances, movement and track.

Unit V: Climatology – Koppen – Thornthwaite – Trewartha classification, climatic change – weather forecasting – methods and trends, agro climatology: elements – heat island – air pollution – green house effects – ozone depletion – human comfort zones.

BOOK FOR REFERENCES:

1. Lal, D.S. (1996), Chaitanya Publishing House, Allahabad.
2. Collings, V.K. (1987), Weather, Radar and Flood Forecasting, John Wiley &

Sons, New York.
3. Critchfield, H.J. (1996), General Climatology, Prentice Hall, New Jersey.
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.
6. Trewartha, G.T., (1968), An Introduction to Climate, McGraw Hill BooK Co., New York.
7. Thornthwaite C.W., an Approach toward a Rational Classification of Climate, in Geogr. Rewiew, 1948.
8. Smith, K., Principles of Applied Climatology, McGraw-Hill, 1975.

UNITS	TOPIC	Hrs/ week	MODE OF TEACHING
UNIT 1			
	Introduction - Nature and Scope of Climatology	6	Chalk talk and ppt.
	Atmosphere –composition and structure	6	Map, Models and ppt.
	Heat budget: processes of heat energy transfer – heating and cooling of atmosphere and earth	6	Chalk talk and ppt.
UNIT 11			
	Atmospheric : pressure	7	Maps,VLC.
	Winds measurement and wind belt.	7	Maps,VLC.
	Concept of monsoon and local wind.	4	Maps,VLC.
UNIT III			
	Humidity – definition – types – factors affecting potential evapotranspiration	6	Chalk and Talk,VLC
	Atmospheric equilibrium	6	Chalk and Talk,VLC
	Forms of precipitation.	6	Chalk and Talk,VLC
UNIT IV			
	Air masses - characteristics – classification.	6	Chalk and talk, VLC.
	Cyclone and anticyclone – types – characteristics.	6	Chalk and talk, VLC.
	Tropical disturbances	6	Chalk and talk, VLC.
UNIT V			
	Climatic classification Koppen – Thornthwaite – Trewartha	6	Chalk talk, maps and ppt.
	Weather Observation - Analysis and Forecasting . Non-Instrumental and Instrumental Observation- Principles of Weather Forecasting	6	Meterological reports and weather instrument models.
	Synoptic, Statistical and Numerical Methods - Satellite Climatology	6	Meterological reports and weather instrument models.

Course Outcomes (Cos)	Programme Outcomes (Pos)							Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CO2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CO3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CO4	3	4	3	3	3	4	4	4	3	3	4	4	3	4	4
CO5	3	3	4	4	4	3	3	4	4	3	3	4	4	3	3
Mean Overall Score															3.8

Result: The Score for this Course is 3.8 (High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.S.Usha Buvaneswari

Programme : M.Sc GEOGRAPHY **Part III: Course Type - III**

Semester : I **Hours : 5 P/W 75Hrs P/S**

Sub. Code : P22CG3 **Credits : 4**

Title of the Paper: ENVIRONMENTAL STUDIES

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: The objective is to introduce the concept of interaction between living and non-living organisms with physical environment, conservation of resources and human adaptation and adjustment to diverse environment.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand the nature & scope: To interact between role of geography with ecological factors and human begins.	1	15
UNIT 2 CO2: Know the structure and functioning of Eco System: method of relating nutrient cycles and natural events.	2	15
UNIT 3 CO3: Observe the human interference through eco system and geographical distribution	3	15
UNIT 4 CO4: Identify the relationship between geographical location and environment.	4	15
UNIT 5 CO5: Evaluate the interaction between environment and man.	5	15

SYLLABUS

UNIT - I

Nature and scope of Environmental Studies – Role of Geography – Man and Environment Relationship – Changing nature of the Concepts- Determinism – Possibilism – Neo Determinism – Marxian view on Environment.

UNIT - II

Concept of Ecosystem – Structure – Functioning of the Ecosystem – Food Chain, Food Web and Food Pyramid – Nutrient Cycles – Natural Disruptions of the Eco system – Floods – Drought.

UNIT - III

Human interference of the Ecosystem – Population Growth and its Impact – Man's impact on the Biosphere – Agriculture – Green Revolution – HYV and Pesticides – Man's impact on Land – Mining – Soil – Coastal Areas.

UNIT - IV

Human Settlements and Environment – Industrial Environment – Emerging Environmental problems – Urban Environment – Pollution – Environment and health – Environmental Degradation.

UNIT - V

Eco Crisis – Environmental Quality – Environmental Management and Planning – Environmental Impact Assessment – Environmental Law and Protection – Conservation movements – Need for Interdisciplinary approach.

BOOKS FOR REFERENCE:

1.Environmental Geography- Savindra Singh, Prayag Pustak Bhavan, Allahabad-1997.
2.Essentials of Bio Geography – H.S.Mathur ; Pointer Publishers, Jaipur – 302003- 2003.
3.Bio Geography – H.Robinson ; The Engligh Language Book Society and Mac Donald and Evans, London and Plymouth -1982.
4.Basic Bio Geography – Nigel Pears –Longman, London and New york – 1985
5.Environmental Biology – Agrawal .K.C- Agro Botanical Publishers, Bikaner- 1993
6.Environmental Geography , H.M. Saxena- Rawat Publications, Jaipur and New Delhi-2004
7.Plant Geography – Anil K. Charan – Nice Printers , New Delhi-1992

8.Environmental Biology and Toxicology – P.D.Sharma- Rastogi and company , Meerut- 1993.

UNITS	TOPIC	Hrs/Week	MODE OF TEACHING
UNIT 1 Definition& scope			
	Environmental Studies	5	Chalk and Talk – student evaluation
	Ecological factors	5	PPT lecture.
	Approaches – Views Environment	5	PPT & Reference _ Journals..
UNIT 11 Structure & Function of Eco System			
	Concepts	5	Chalk and Talk – student evaluation.
	Structure & Functions	5	Assignments / worksheet
	Nutrient Cycles	5	Video / ICT.
UNIT III Human Interference			
	Population Growth	5	Assignment / Documents
	Man's Impact on Bio-Sphere	5	Video Lecture and reference.
	Man's Impact on Landuses	5	e-content.
UNIT IV Human Settlements and Environment			
	Residential & Industrial Environment	5	lecture
	Environmental Problems	5	Self Study / Quiz
	Environment and Health	5	Seminar / Group Discussion
UNIT V Interaction with Man			
	Eco Crisis	5	Site Seeing / Questionnaire
	EIA	5	PPT lecture
	Environmental Law and Protection	5	Group Discussion / e- content

Course outcomes (cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	5	5	3	4	4	4	5	4.3
CO2	5	5	5	4	4	4	5	5	4	4	4.5
CO3	3	4	5	5	4	4	5	4	5	4	4.3
CO4	5	4	4	4	5	5	4	4	5	5	4.5
CO5	3	4	5	4	5	5	4	5	5	5	4.5
Mean Overall score											4.42

Result: The Score for this Course is 4.42 (very high relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs $\frac{\text{Total of Value}}{\text{Total No. of Pos \&PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of MeanScore}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLICATION	20%	20%

Course Designer: Dr.J.Rosy Grace Angelene.

Programme : M.Sc GEOGRAPHY **Part III: Course Type - IV**

Semester : I **Hours : 5 P/W 75Hrs P/S**

Sub. Code :P22GC4P **Credits : 3**

Title of the Paper**: PRACTICAL – REPRESENTATION OF TERRAIN AND CLIMATIC DATA**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	3	1	-	1

PREAMBLE: Analysis of physical data through profiles – drainage pattern - stream order and analysis and representation of climatic data. This method explains the spatial characteristics of the earth/part of the earth.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand method of representation of relief. Acquire knowledge of preparation of drawing of slope maps.	1	15
UNIT 2 CO2: Understand different methods of slope analysis	2	15
UNIT 3 CO3 Demarcation of drainage basin of watershed estimation of basin area. Drainage frequency, bifurcation ratio.	3	15
UNIT 4 CO4: Skill of drawing of map, grapes, diagrams scale.	4	15

SYLLABUS

UNIT I : Profiles –Serial Profiles – Superimposed - Projected – Composite. Block diagram – Layer and Multiple cross section method .

UNIT II : Slope Analysis – Smith, Wentworth and Robinson Methods.

UNIT III: Morphometric Measures – Stream ordering – Strahler's method – Bifurcation ratio Drainage basin – Density and Shape Index.

UNIT IV Climatograph – Thermo isopleth – Rainfall dispersion diagram – Rainfall variability - E.E.Foster's Climograph – Water Balance Graph.

BOOKS FOR REFERENCE

1. Gopal singh –Map Work and Practical Geography –Vikas publishing House Pvt Ltd ,New Delhi-1999
2. Ishtiag.M – Practical Geography – Heritage Publishers , New Delhi -1989.
3. Misra R.P and Ramesh.A – Fundamentals of Cartography, Concept Publishing Company ;New Delhi -2002.
4. Md Zulfeguar Ahmed Khan – Text book of Practical Geography , Concept Publishing Company ; New Delhi – 1998.
5. Monkhouse .F.j- Maps and Diagram – Methuen and company Ltd,London-1994
6. Singh.R.L – Elements of Practical Geography , Kalyani Publishers New Delhi – Ludhiana-1979.
7. Pijushkanti Saha & Dr.Partha Basu – Advanced Practical Geography , Publisher Arunabha Sen ; Kolkata –2004.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1			
	Profiles – serial Profiles	5	Demonstration with topographical maps.
	Superimposed- projected- composite	5	
	Block diagram layer and multiple cross section method	5	Demonstration with topographical maps
UNIT 11			
	Slope analysis- smith Slope analysis- Wentworth	5	Demonstration with topographical maps
	Slope analysis- Wentworth	5	Demonstration with topographical maps
	Slope analysis- Robinson methods	5	Demonstration with topographical maps
UNIT III			
	Morthometric measures	5	Demonstration with topographical maps.
	Drainage basin- Density	5	Demonstration with topographical maps.
	Shape Index.	5	Demonstration with topographical maps.
UNIT IV			
	Climatograph – Thermo Isopleths	5	Demonstration with meteorological report and climatic data.
	Rainfall dispersion diagram – rainfall variability	5	Demonstration with meteorological report and climatic data.
	E.E.Foster'S climograph- water balance graph	5	Demonstration with meteorological report and climatic data.

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	4	4	4	4	4	4	4	4	4
CO2	4	4	4	4	4	4	4	4	4	4	4
CO3	5	5	5	4	5	5	4	5	4	5	4.7
CO4	5	4	5	4	5	5	5	5	5	5	4.8
mean Overall score											4.375

Result: The Score for this Course is 4.375 (very high)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = Total of Value / Total No. of Pos & PSOs	Mean Overall Score of COs = Total of MeaScore / Total No. of COs

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs. M.Sirasunisha Begum

Programme : M.SC GEOGRAPHY **Part III: Course Type: DISCIPLINE SPECIFIC ELECTIVE COURSE (DSEC) -I**

Semester : I **Hours : 5 P/W 75Hrs P/S**

Sub. Code : P22D8G1A **Credits : 4**

Title of the Paper**: DISASTER STUDIES**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: Disaster Studies is a part of Environmental Geography –explains hazard, disaster and its impact and management.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Knowledge about concepts and terminologies. Disaster, hazard, Catastohes, types – Impacts – Resilience.	1	15
UNIT 2 CO2: Understand Natural disasters. Geophysical, Meteorological and Biological disasters.	2	15
UNIT 3 CO3: Anthropogenic Disasters: Atmospheric Disasters, Industrial Disasters, Biological Disasters- conflicts, terrorist, transport accidents.	3	15
UNIT 4 CO4: Knowledge about the Disaster Risk Management, mitigation and management.	4	15
UNIT 5 CO5: Examine the awareness about the disaster management in India. Disaster Management Act - Policy and Guidelines,	5	15

SYLLABUS

UNIT-I: Introduction: Concepts and Terminologies: Disaster, Hazard, Catastrophes, Emergency, Risks, Vulnerability - Types of Disasters - Impacts: Physical, Social, Economic, Political, Environmental and Psychosocial - Resilience.

UNIT-II Natural Disasters: Geophysical: Earthquakes, Tsunamis, Landslides and Volcanoes - Hydrological: Floods and Avalanches - Meteorological: Cyclones, Drought, Extreme Temperatures and Wildfires - Biological: Disease Epidemics and Insect / Animal Plagues.

UNIT-III: Anthropogenic Disasters: Atmospheric Disasters: Global Warming, Ozone Depletion, Acid Rain, Snow Melt, Sea Level Rise - Industrial Disasters: Fire Accidents, Nuclear Disasters, Mining - Biological Disasters: Deforestation, Bio-Diversity Loss - Others: Stampede, Conflicts, Terrorist attacks and Transport Accidents.

UNIT-IV: Disaster Risk Management: Response and recovery, Risk Assessment, Mitigation and Prevention, Preparedness Planning, Prediction and warning - Community Based Disaster Management - Role of Geo informatics - Do's and Don'ts During Disasters.

UNIT-V: Disaster Management in India: Hazard and Vulnerability Profile of India - Institutional Framework: Disaster Management Act - Policy and Guidelines,

BOOKS FOR REFERENCE

1. Aaradhana. P.S- Environmental Management- Rajat Publication, New Delhi - 1998.
2. Abbasi.S.A.- Environmental Impact Assessment - Discovery Publishing House, New Delhi - 2000.
3. Agarwal.S.K.- Environmental Issues and Themes - APH Publishing corporation, New Delhi.
4. Chawla- Natural Hazards and Disaster Management – Suman Printing Press – shahdara, New Delhi - 1993
5. Clark.B.D- Environmental Impact Assessment - Mansell Publication, London - 1980.
6. Robinson.H. - Biogeography Plymouth - MacDonald and Evans Ltd - 1972.
7. Sharma.P.D.- Ecology and Environment - Rastogi Publications, Meerut - 1994.
8. Trivedi.P.R. - Water Pollution - Akashdeep Publishing House, New Delhi - 1992.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I			
	Disaster, Hazards , catastrophes,	2	Group discussion, VLC and PPT lecture
	Emergency, risk and vulnerability.	2	Group discussion, VLC and PPT lecture
	Types- impact and Resilience.	1	Group discussion, VLC and PPT lecture
UNIT II			
	Natural disasters: Earthquakes, Tsunami, landslides and volcanoes.	2	chalk and talk and usage of maps and Atlas and VLC
	Meteorological: Cyclones, drought, wild fires.	2	chalk and talk and usage of maps and atlas and VLC
	Biological: Disease, epidemics and Insects.	1	chalk and talk and usage of maps and atlas and VLC
UNIT III			
	Anthropogenic Disasters: Atmospheric disasters: Global warming, ozone depletion, snow melt, sea level rise.	1	Group discussion, VLC and PPT lecture
	Industrial Disasters: Fire, nuclear disasters and mining.	2	Group discussion, VLC and PPT lecture
	Biological and others: Deforestation, Bio-diversity, conflicts, terrorists and transport accidents.	2	Group discussion, VLC and PPT lecture
UNIT IV			
	Disaster risk Management: Risk assessment, mitigation and prevention.	2	Group discussion, VLC and PPT lecture
	Preparedness planning, prediction and warning.	2	Group discussion, VLC and PPT lecture
	Community based disaster management: Role of Geo informatics.	1	Group discussion, VLC and PPT lecture
UNIT V			
	Disaster management in India: Hazard and Vulnerability profile of India.	2	Group discussion, Census Report, Maps and Atlas and PPT lecture
	Institutional Framework: Disaster Management Act-Policy and Guidelines.	3	Group discussion, Census Report, Maps and Atlas and PPT lecture

Course Outcomes (Cos)	Programme Outcomes (Pos)							Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mean Overall Score															4.8

Result: The Score for this Course is 4.8 (Very High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = Total of Value / Total No. of Pos & PSOs	Mean Overall Score of COs = Total of Mean Score / Total No. of COs

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.A.Gandhimahi

Programme : **M.Sc GEOGRAPHY** **Part III: Course Type**: Discipline Specific Elective Course-1

Semester : **I** **Hours** : **5** P/W 75Hrs P/S

Sub. Code : **P22DSG1B** **Credits : 4**

Title of the Paper**: SOCIAL GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: It is branch of Population Geography

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Know the nature and development of social geography – realm of social sciences.	1	15
UNIT 2 CO2:Elements of Social Geography: Ethnicity, Tribe, Dialect, Language, Religion and caste	2	15
UNIT 3 CO3:Understand the space and society- structure and process – to social theory; power relations and space.	3	15
UNIT 4 CO4:Explain the social well- beings and human development	4	15
UNIT 5 CO5:Understand the public policy and social planning in India	5	15

SYLLABUS

UNITI: Social Geography: Nature, scope and recent trends of social geography –Social geography in the realm of social sciences.

UNIT II: Elements of social geography: ethnicity, tribe, dialect, language, religion and caste

UNIT III: Space and Society: Concept of social space - Social structure and Social processes - Geographical bases of social formation -Social differentiation and region formation - Patterns and bases of rural and urban society

UNIT IV: Social Well-being: Concepts of social well-being -Physical quality of life – Human development -Measurement of human development: social, economic and environmental indicators - Social geographies of inclusion and exclusion

UNIT V: Public policy and social planning in India: Five year Plans and Strategies

BOOK FOR REFERENCES

1. Aijazuddin Ahmad (2012), Social Geography of India –Concept Publishing Company Pvt Ltd, New Delhi.
2. Aijizuddin Ahmed (2007) Social Geography Rawat Publication Jaipur.
3. David Atkinson (2007) Cultural Geography Rawat Publication Jaipur.
4. G.s. mohanty (2005) Social and Cultural Geography- Isha books.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1 Nature & Scope			
	Nature and scope and recent trends	5	Chalk & talk – reference
	Recent trends	5	PPT lecture
	Social Geography in the realm of social sciences	5	PPT & Reference _ Journals
UNIT 11 Elements of Social Geography			
	Ethnicity and religion	5	Chalk & talk – student evaluation
	Tribes and caste	5	Reference – journals
	Language	5	Videos/ ICT
UNIT III Space and Society			
	Concept of social space	5	PPT lecture
	Geographical bases of social formation	5	Videos / PPT
	Patterns of rural and Urban society	5	Videos / e- content
UNIT IV Social Well-being			
	Concepts	5	PPT lecture
	Measurement of human development	5	Reference – journal
	Social geographies of inclusion and exclusion	5	Reference – journal
UNIT V Public Policy and Social Planning in India			
	Public Policy	5	Reference / journal
	Social Planning	5	References
	Five year Plans and strategies	5	PPT/ e-content

Course outcomes (cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	4	5	4	5	3	4	4	5	3	2.9
CO2	4	3	5	4	3	4	5	3	5	4	3.1
CO3	5	4	5	4	4	4	4	5	5	4	3.1
CO4	4	3	5	4	5	4	5	4	5	5	3.1
CO5	3	4	4	4	5	3	4	5	5	3	2.9
mean Overall score											3.0

Result: The Score for this Course is 3.45 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = Total of Value / Total No. of Pos & PSOs

Mean Overall Score of COs = Total of Mean Score / Total No. of COs

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.S.Usha Buvaneswari

Programme : M.SC GEOGRAPHY **Part III: Course Type : Skill Enhancement Course -I**

Semester : I **Hours : 2 P/W 30Hrs P/S**

Sub. Code : P22SEG1 **Credits: 2**

Title of the Paper**: QUANTITATIVE TECHNIQUES IN GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	2	1	-	1	-

PREAMBLE: Quantitative techniques in Geography is a part of Practical Geography – explains Geography and statistics, Measures of Central Tendancy, scatter diagram, Rank correlation and coefficient, Regression Analysis and Hypothesis testing.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Knowledge about Geography and statistics**,** significance of statistics in geography, types of data and measurements.	1	6
UNIT 2 CO2: Understand the measures of Central Tendency, dispersion	2	6
UNIT 3 CO3: To know to construct and understand the meaning of scatter diagram of Spearman's Rank difference, and Karl Pearson's correlation coefficient.	3	6
UNIT 4 CO4: Know about Regression analysis	4	6
UNIT 5 CO5: Examine the Hypothesis Testing. Understand the needs of Hypotheis and its types. Can understand Chi-square test, t-test, and Analysis of Variance.	5	6

SYLLABUS

UNIT-I: Statistics, Geography and Statistics; Significance of Statistics in geographical studies; Types of Data; levels of data measurement.

UNIT-II: Measures of Central Tendency: Mean, median and Mode- Measures of dispersion: Quartile deviation, mean deviation, standard deviation; coefficient of variation,

UNIT-III: Construction and meanings of scatter diagram: Spearman's Rank Difference and Karl Pearson's Product Moment Correlation Coefficients.

UNIT-IV: Regression analysis- construction of regression line interpolation, residual-statistical tests of significance of the estimates; computation of residuals and mapping.

UNIT-V: Hypothesis Testing: Needs and types of hypotheses- Chi-square test, t -test, Mann-Whitney U test, Analysis of Variance (ANOVA).

BOOKS FOR REFERENCE

1. John P. Cole and Cuchlaine, A. M. King (1968), Quantitative Geography, John Wiley, London.

•2.Johnston R. J. (1973), Multivariate Statistical Analysis in Geography, Longman, London. •

Mathews, J.A. (1987), Quantitative and Statistical Approaches to Geography

3. Practical Manual, Pergamon, Oxford.Pal, S.K. (1998), Statistics for Geoscientists; Techniques and Applications, Concept Publishing Company Pvt. Ltd. New Delhi.

4. Haggett, P., Andrew D. C., & Allan F.(1977), Location Methods, Vols. I and II, Edward Arnold, London.

5.Peter J. Taylor (1977), Quantitative Methods in Geography, Houngton Mifflin Company, Boston. State Integrated Board of Studies – Geography PG 28

6.Yeates, Mauris (1974), an Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.

Web Resources:

1. https://swayam.gov.in/course/266-quantitative-methods
2. https://www.tandfonline.com/doi/full/10.11120/elss.2014.00035
3. http://www.sethspielman.org/courses/geog5023/
4. https://www.colorado.edu/geography/class_homepages/geog_4023_s08/
5. http://www.oxfordbibliographies.com/view/document/obo-9780199874002/obo9780199874002-0053.xml
6. https://study.sagepub.com/rogerson4e
7. https://searchworks.stanford.edu/view/923805
8. https://orca.cf.ac.uk/59957/1/report-130906041556-.pdf

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I			
	Geography and statistics, types of data, data measurements	6	chalk and talk and Group discussion
UNIT II			
	Measures of central Tendency .	6	chalk and talk
UNIT III			
	Construction and meanings of scatter diagram.	6	Group discussion,
UNIT IV			
	Regression Analysis	6	Group discussion,
UNIT V			
	Hypothesis testing.	6	Group discussion and Group discussion

Course Outcomes (Cos)	Programme Outcomes (Pos)						Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO 1	PO 2	PO3	PO 4	PO5	PO6	PO7	PSO1	PSO 2	PSO3	PSO4	PSO5	PSO6	PS O7	
CO1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mean Overall Score															4.8

Result: The Score for this Course is 4.8 (Very High Relationship

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of Mean Score / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.A.Gandhimathi

Programme : M.Sc GEOGRAPHY **Part III: Course Type -V**
Semester : III **Hours : 6 P/W 90Hrs P/S**
Sub. Code : P22CG5 **Credits :4**

Title of the Paper: GEOGRAPHICAL THOUGHT

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6/7/8	2	1	1	2

PREAMBLE: Modern thought related with geographical discipline and explain the discoveries explorations different school of thoughts and inter disciplinary approach

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: acquire knowledge about different school of thought	1	18
UNIT 2 CO2: Understand the traditions in geography	2	18
UNIT 3 CO3: analyse explanation description and regional concepts in geography	3	18
UNIT 4 CO4: know the inter disciplinary trends in geography	4	18
UNIT 5 CO5: explain the recent trends in geographical studies	5	18

SYLLABUS

UNIT I: The Field of Geography: Nature –Branches- Approaches- Development of Geographical Thought: Classical period- Medieval period- Greeks, Roman and Arab. Impacts of exploration and discoveries in geographical development.

UNIT II: Four Traditions in Geography: Man – Land. Area studies, Spatial and Earth sciences. - Dualism in Geographical Studies: Determinism Vs Possibilism - Physical Vs Human – Systematic Vs Regional -Ideographic Vs Nomothetic - Quantitative Vs Qualitative, Visual Vs Digital.

UNIT III: Major Geographical Thoughts: America – Davis – Bowman – Hortshone, British: Mackinder, Herbertson, Roxby. German:Humbolt, Ritter, Penck.France:Vidal de la Blache, Jean Brunches, Albert Demangeon. Indian:R.L. Singh, R.P. Mishra.A.Ramesh, R.Vidhyananthan – Geographical societies in India

UNIT IV: Quantitative Revolution – Concept- Hypothesis- laws- theories and models in geography- Interpretation, Description and Explanation- System approach and analysis- Inductive and deductive approaches

UNIT V: Recent Trends in Geography; Applied geography and applied research - Paradigms in Geography –Geography and Sustainable development Goals(SDG) – Geoinformatics- Online resources – future of Geography and Geographers

BOOKS FOR REFERENCE

1. David Harvey - Explanation in Geography, Arnold Publishers, New Delhi - 1989.
2. Singh.I. - Diverse Aspect of Geographical Thought - Alfa Publications , New Delhi - 2006.
3. Lalita Rana - Geography of Health - Concept Publishing Company ,New Delhi - 2008.
4. Majid Husain - Evolution of Geography Thought - Rawat Publications , Jaipur & New Delhi - 2008.
5. Minshull, R. - The Changing Nature of Geography- Hutchinson University Library, London - 1970.
6. Dikshit R.D. - Geographical Thought - Prentive Hall of India Printed Limited ,New Delhi - 1997.
7. Freeman T.W. - A Hunderd years of Geography - Printed in Great Britain, London - 1961.

UNITS	TOPIC	Hrs/ week	MODE OF TEACHING
UNIT 1 - The Field of Geography			
	Nature –Branches- Approaches	6	Chalk talk and ppt.
	- Development of Geographical Thought: Classical period- Medieval period- Greeks, Roman and Arab.	6	Map, Models and ppt.
	Impacts of exploration	6	Chalk talk and ppt.
UNIT 11- Four Traditions in Geography			
	Man – Land. Area studies, Spatial and Earth sciences.	7	Maps,VLC.
	Determinism Vs Possibilism, Systematic Vs Regional	7	Maps,VLC.
	Quantitative Vs Qualitative	4	Maps,VLC.
UNIT III Major Geographical Thoughts			
	America and British	6	Chalk and Talk,VLC
	German and France	6	Chalk and Talk,VLC
	Indian	6	Chalk and Talk,VLC
UNIT IV - Quantitative Revolution			
	Concept- Hypothesis- laws- theories	6	Chalk and talk, VLC.
	Description and Explanation	6	Chalk and talk, VLC.
	Inductive and deductive approaches	6	Chalk and talk, VLC.
UNIT V- Recent Trends in Geography			
	Applied geography and applied research	6	Chalk talk, maps and ppt.
	Paradigms in Geography	6	Meterological reports and weather instrument models.
	future of Geography and Geographers	6	Meterological reports and weather instrument models.

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	4	5	4	4	4	3	4	3.0
CO2	5	4	3	5	4	4	3	5	4	4	3.0
CO3	4	4	5	5	4	5	5	4	5	4	3.1
CO4	5	4	5	4	5	4	5	4	4	5	3.1
CO5	4	4	5	4	4	5	4	4	4	5	3.1
mean Overall score											3.45

Result: The Score for this Course is 3.45 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs. M.Sirasunisa Begum

Programme : M.Sc GEOGRAPHY **Part III: Course Type -VI**

Semester : II **Hours : 6 P/W 90Hrs P/S**

Sub. Code : P22CG6 **Credits :5**

Title of the Paper**: AGRICULTURE GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	2	2	1	1

PREAMBLE: it is a branch of economic geography, explain the approaches, agricultural types and determinants, modernization of agriculture, green revolution and theories. Analyze the agricultural data agricultural regions.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: understand nature, scope and significance of agricultural geography	1	18
UNIT 2 CO2: acquire knowledge about agricultural determinants modernization of agriculture- green revolution	2	18
UNIT 3 CO3: know the significance von thunen's theory and land use and land capability classification	3	18
UNIT 4 CO4: evaluate the agricultural productivity	4	18
UNIT 5 CO5: understand the regionalization of agriculture	5	18

SYLLABUS

UNIT I: Nature and scope of Agricultural Geography - Approaches to the study of Agricultural geography - Elements of agriculture.

UNIT II: Determinants of agricultural land use - Physical, economic, social, institutional and technological determinants

UNIT III: Von Thune's theory of agricultural location and its recent modifications - Application of Von Thune's theory to the present day location of agricultural activities - Land use - Types - Land use surveys - Land capability classification - Role of Remote Sensing in Land Use Studies.

UNIT IV: Agricultural productivity - Factors affecting productivity - Measurement of agricultural productivity - Crop combination - Delimitation of crop combination regions - Weaver, Doi, Rafiullah - Crop diversification regions –

UNIT V: Agricultural regions of the world - Agricultural regions of India - Agricultural regions of Tamil Nadu- - A review of Whittlessey's agricultural classification.

BOOKS FOR REFERENCE

1. Jasbir singh & S.S. Dhillon - Agricultural Geography - Tata Mc Graw Hill -1994.
2. Majid Husain - Systematic Agricultural Geography - Rawat Publication Jaipur - 2002.
3. Morgan.W.B& Munton.R.J.C - Agricultural Geography-Methuen&co Ltd - 1981.
4. Sharma.B.L - Applied Agricultural Geography - Rewat Publications Jaipur - 1994.
5. Shaji.Mohammed - Agricultural geography of South Asia - Macmillan India Ltd - New Delhi - 2000.
6. Siddhartha.K - Economic Geography - Kisalya Publications Pvt.Ltd - 2000.
7. Raina.J.L - Agricultural Geography - Pointer Publishing Jaipur - 1997.
8. Yadav.S.S.&Ram Kumar Gurjar - Agricultural Ecology - pointer publishers , Jaipur - 1993

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1			
	Nature, scope	6	Chalk and talk and PPT
	Significance and approaches	6	Chalk and talk and PPT
	Elements of agricultural geography	6	Chalk and talk and PPT
UNIT 11			
	Physical ,economical land use determinants	6	Chalk and talk and PPT
	Social and institutional determinants	6	Chalk and talk and PPT
	Technological determinants	6	Chalk and talk and PPT
UNIT III			
	Von Thunen's Theory	9	Chalk and talk and PPT
	Land use and land capability and classification	9	Chalk and talk and PPT
UNIT IV			
	Agricultural productivity determinants	6	Chalk and talk and PPT
	Agricultural statistics	6	Chalk and talk and PPT
	Measurements of agricultural productivity	6	Chalk and talk and PPT
UNIT V			
	Cropping pattern, crop combination	6	Chalk and talk and PPT
	Ranking, concentration and diversification	6	Chalk and talk and PPT
	Agricultural regions of India and Tamil Nadu	6	Chalk and talk and PPT

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	4	4	4	4	4	4	4	4	4
CO2	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5
CO4	4	4	4	4	4	4	4	4	4	4	4
CO5	4	4	4	4	4	4	4	4	4	4	4
mean Overall score											4.4

Result: The Score for this Course is 4.4 (very high)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of Mean Score / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs.M. Sirasunisha Begum

Programme : M.Sc GEOGRAPHY **Part III: Course Type - VII**
Semester : II **Hours : 5 P/W 75Hrs P/S**
Sub. Code :P22CG7 **Credits :4**

Title of the Paper**: ADVANCED CARTOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: To study and application of advanced characteristics of Thematic Cartography. To design and production of innovative maps

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Nature & scope: Thematic cartography is the study of map making with ancient to modern period	1	15
UNIT 2 CO2: Symbolization: Examine the coding of map features to communicate meaning	2	15
UNIT 3 CO3: compilation & Generalization of maps: To understand the imperceptibility of consistency>	3	15
UNIT 4 CO4: Survey instruments: to identify the distance/ height with faster and precise methods.	4	15
UNIT 5 CO5: Mapping Techniques: To recognize the mapping functions and organization through computer techniques.	5	15

SYLLABUS

UNIT I Nature and Scope of Cartography - Trends in the development of Cartographic techniques.

UNIT II: Symbolization - Qualitative and Quantitative - Point, Line, Area and Volume symbols - Thematic maps- Representation of Physical and Socio Economic Data - Uses of diagrams and maps.

UNIT III: Compilation and Generalization of maps - Design and layout - Lettering – Reproduction - Duplication processes and Printing processes.

UNIT IV: Survey Instruments – Total Station – GPS – Differential Global Positioning System – Instruments used in Image Interpretation: Magnifiers, Additive colour viewer, Sketch Master, Zoom Transfer Scope – Image analyzer and Plan Master.

UNIT V: Mapping techniques: Advanced techniques – GIS Software – AUTOCAD, GRASS, IDRISI, ILWIS, ERDAS, Arc GIS, Arc view , Arc Map and Arc info – Spatial referencing – Geo referencing – Map Projection- UTM (Universal Transverse Mercator) Co-ordination (43-44 regions)

BOOKS FOR REFERENCE

1. Agarwal C.S and P.K Garg – Text BooK of Remote Sensing – Wheeler Publishers , New Delhi – 2000.
2. Anand P.H. and Rajesh Kumar. V, Principals of Remote sensing and GIS – Sri Venkateswara publishers – 2003.
3. C.P.Lo. Albert and K.W.Yeung – Concepts and Techniques of Geographic Information systems – PH1 Learning. Privated Ltd, New Delhi – 2009.
4. Peter. A. Burrough and Rachael A. Mcdonnell- Principls of Geographical Information Systems- Oxford University Press , oxford -2010.
5. Curran P – Fundamentals of Remote Sensisng –Longman ,Londan – 1990.
6. Misra. R.P & Ramesh.A - Fundamentals of Cartography -Concept Publishing Company, 2002.
7. Monkhouse, F.J. & Wilkinson, HR - Maps and Diagrams -Methuen, London - 1994.
8. Prithvish Nag, Thematic Cartography and Romote Sensing Concept Publishing Company ,New

Delhi-2002.
9. Rampal K.K., Mapping and Compilation – Concept Publishing Company, New Delhi -2009.
10. Robinson H. Arthur, Joel.L.Morrison, Phillip C, Muekrcke, A.Jonkimberling and Stephen C. Guptill- Elements of Cartography, Sixth Edition- Willy Indian (P Ltd), New Delhi-2009.
11. Singh R.L-Elements of Practical Geography -Kalyani Publication. New Delhi- 1979
12. Thomos M.Lillesand , Ralph W.Kiejer and Jonathan W. Chipman, Remote Sensing and Image Interpretation – Fifth Edition – John Wiley and sons-2009.
13. http://www. Cecer.army.mil:8o/welcome.html-CERL/
14. ftp://midget.towson.edu/idrisi-IDRISI-L FTP
15. http://www.itc.nl/homepage.html-ITC-International Institute for Aerospace survey and earth sciences, NL.(Ilwis)

UNITS	**TOPIC**	**Hrs/ Week**	**MODE OF TEACHING**
UNIT 1 Nature & scope			
	Content	5	Chalk & talk – student evaluation
	Trends & development	5	PPT lecture
	Cartographic technique	5	PPT & reference – journals
UNIT 11 symbolization			
	Symbols	5	Maps & charts – student evaluation
	Thematic maps	5	Reference – journals
	Use of diagrams/ maps	5	Video/ICT
UNIT III compilation & Generalization			
	Design& layout	5	PPT lecture
	Reproduction of maps	5	Chalk & talk and reference
	Duplication & printing	5	Videos/e-content
UNIT IV survey instruments			
	Total station & GPS	5	PPT lecture / GPS survey
	Image interpretation	5	Comparative study – ICT
	Image analyzer	5	PPT lecture & evaluation
UNIT V Mapping Techniques			
	GIS software	5	Computerized assessments
	Referencing	5	Chalk & talk / practical
	projection	5	PPT / e- content

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	4	5	4	5	3	4	4	5	3	2.9
CO2	4	3	5	4	3	4	5	3	5	4	3.1
CO3	5	4	5	4	4	4	5	4	5	4	3.1
CO4	4	3	5	4	5	4	5	4	5	5	3.1
CO5	3	4	4	4	5	3	4	5	5	3	2.9
mean Overall score											3.45

Result: The Score for this Course is 3.45 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs. D.Rukmanidevi

Programme : M.Sc GEOGRAPHY **Part III: Course Type -VIII**

Semester : II **Hours : 6 P/W 90Hrs P/S**
Sub. Code : P22CG8P **Credits : 3**

Title of the Paper: TECHNIQUES OF MAPPING AND MAP ANALYSIS

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	2	1	2	1

PREAMBLE: This Practical Paper demonstrate the methods of interpret and analyze the Survey of India Topographic Map, drawing skills for choropleth maps, simple statistical assessment and network analysis gives best investigation for students.

COURSE OUTCOME At the end of the Semester, the Students will be able to interpret and analyze the given data.	Unit	Hrs P/S
UNIT-I CO1: Able to apply and interpretation of the map index – survey of India topographical maps.	1	23
UNIT-II CO2: Understand the interpretation of the population & economic data.	2	22
UNIT-IIICO3: Develop the idea about the interpretation of index of concentration and diversification.	3	22
UNIT-I VCO4: Obtain knowledge about network analysis with matrixs.	4	23

SYLLABUS

UNIT I : Map Appreciation and Interpretation: Thematic, Topographic maps – Mapping and Analysis.

UNIT II : Population and Economic Data Mapping: Dot Maps, Density Maps – Colour and Grey Scale Patterns.

UNIT III : Index of Concentration and Diversification: Agricultural Data, Cropping Patterns, Concentration – Industrial Diversification and Hierarchy of Industrial Centers.

UNIT IV : Transport Network Analysis: Connectivity and Accessibility measures – Binary Matrix – Shortest Path Matrix – Distance Matrix – Detour Index.

Books for References:

1. Monkhouse, F.J., and Wilkinson, H.R. (1976): Maps and Diagrams, Metheun& Co., London.
2. Worthington, B.D.R. and Robert Gent (1975): Techniques in Map Analysis, EbenzerBaylis and Sons, USA.
3. Anson, R.W. (Ed.) (1984) Basic Cartography for Students and Technicians, Volume 2, International Cartograhic Association, Elsevier Applied Science Publishers, London.
4. Dorling, D. and David Fairbairn (1997), Mapping: Map of representing the world, Addisson Wesley Longman Ltd., U.K.
5. Lawrence, G.R.P. (1971). Cartographic Methods, Methuen & Co., Canada
6. Kang-tsung Chang (2002) Introduction to Geographical Information Systems, Tata McGraw-Hill Publishing Company Limited, New Delhi.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1			
	Map Appreciation and Interpretation.	10	Map Demonstration.
	Interpretation of Indian topographical maps-SOI maps 1:50,000	13	Demonstration and using instruments
UNIT 11			
	Population and Economic Data Mapping	12	Lecture and Demonstration
	Colour and Grey Scale Patterns.	10	Lecture and Demonstration
UNIT III			
	Index of Concentration and	12	Lecture and Demonstration
	Diversification	10	Lecture and Demonstration
UNIT IV			
	Connectivity & Accessibility measures	10	Suitable data with matrix methods.
	Shortest Path Matrix	3	Suitable data with matrix methods.
	Detour Index	10	Suitable data with matrix methods.

Course Outcomes (Cos)	Programme Outcomes (Pos)							Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CO4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Mean Overall Score															4.75

Result: The Score for this Course is 4.75 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.J.Rosy Grace Angelene

Programme : M.Sc GEOGRAPHY **Part III: Discipline specific Elective Course**
Semester: II **Hours : 5 P/W 75Hrs P/S**
Sub. Code :P22DSG2A **Credits : 4**

Title of the Paper**: REGIONAL PLANNING**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: Regional planning deals with the efficient placement of land-use activities, infrastrucute, and settlement growth across a larger area of land than an individual city or town. Regional planning is a sub-field of urban planning as it relates land use practices on a broader scale.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: understand and evaluate the concept of region in geography and its role and relevance in regional planning	1	15
UNIT 2 CO2: know the goals and objectives of local and regional planning	2	15
UNIT 3 CO3 identify the futre urban development of the territory in a more sustainable manner	3	15
UNIT 4 CO4: understand the need for regional cooperation for development and identify integrated area development planning	4	15
UNIT 5 CO5: explore the forward and backward linkages of regions with the rest of the world to identify the issues relating to the development of the region 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 inperatives.	5	15

SYLLABUS

UNIT I: Concept of Region - Single and Multifactor regions - Functional and Formal regions; Techniques of regional delimitation-Classification - Hierarchy of regions.

UNIT II Regional Planning –Goals and Objectives; Scale of Planning - Local and Regional Planning regions - Five year plans.

UNIT III Spatial Planning – Town and Country Planning: River Valley Planning - Sectoral Planning – Economic Planning - Industrial Planning.

UNIT IV National and State level planning programmes in India - Identification - Integrated Area Development Planning

UNIT V Economic Regionalization of India - Macro, Meso and Micro level - regional disparities and problems of backward regions - Methods of Identification, levels and trends of development and problems of development.

BOOKS FOR REFERENCE

1. Agarwal R.C - Economics of Development and Planning(Theory and Practice) - Lakshmi Narain Agarwal,Agra 2008.
2. Anand Sarup & Sulabha Brahma - Planning for the million -Wiley Eastern Ltd - New Delhi - 1990.
3. Koteswara Rao - Regional planning Resources & Rural Development in India - Chergh Publication ,Allahabad - 1990.
4. Kunhaman M - State Level Planning In India - Classical Publishing Company, New Delhi – 1990
5. Majid Husain – Geography of India – Tata McGraw – Hill Publishing Company Limited, New Delhi 2008.
6. Misra R.P- Regional planning –Concept Publishing company, New Delhi- 2002.
7. Nath.V – Regional Development and Planning in India- Concept Publishing company, New Delhi-

2006
8. Rajiv Ahir- Geography –Spectrum Books Pvt.Ltd, New Delhi-2006
9. Surender Singh-Geography-Tata McGraw-Hills publishing Company Ltd,New Delhi-2007
10. Tripathi R.S. & Tiwari R.P - Regional Disparities and Development in India - Ashish Publishing House - New Delhi – 2000

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I			
	Concept of region – single and multifactor regions	6	Chalk and talk method using maps and Atlas
	Functional and formal regions	3	Chalk and talk method using maps and Atlas
	Techniques of regional delimitation classification hierarchy of regions	6	Chalk and talk method using maps and Atlas
UNIT II			
	Regional planning- goals and objectives	5	Planning reports PPT.
	Scale of planning - local and regional	5	Planning reports PPT
	Planning regions- five year plans	5	Planning reports PPT
UNIT III			
	Spatial planning- town and country planning	5	Planning reports PPT
	River valley planning – sectoral planning	5	Planning reports PPT
	Economic planning - industrial planning	5	Planning reports PPT
UNIT IV			
	National level planning	5	Chalk and talk and planning programmes through PPT
	State level planning in India	5	Chalk and talk and planning programmes through PPT
	Identification- integrated area development planning	5	Chalk and talk and planning programmes through PPT
UNIT V			
	Economic regionalization of India- Macro, Meso and micro level	5	Using maps atlas and VLC.
	Regional disparities and problems of backward regions	5	Using maps atlas and VLC.
	Methods of identification, levels and trends of development and problems of development	5	Using maps atlas and VLC.

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	5	5	5	5	5	5	5	5	5	5	5
CO2	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5
CO4	5	5	5	5	5	5	5	5	5	5	5
CO5	4	4	4	4	4	4	4	4	4	4	4
mean Overall score											4.8

Result: The Score for this Course is 4.8 (VERY High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of MeaScore / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs. N.Pothumani .

Programme : M.SC GEOGRAPHY (PG) **Part III: Discipline specific Elective Course**

Semester : II **Hours : 5 P/W 75 Hrs P/S**

Sub. Code : P22DSG2B **Credits : 4**

Title of the Paper**: INDUSTRIAL GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: The paper emphasis the student to understand physical, social and economical development of area and the impact of man and environmental relationship related with tour and travel

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: To understand the basic concepts and recent trends in industrial geography.	1	15
UNIT 2 CO2: to understand the theories and locations of industries	2	15
UNIT 3 CO3: Understand the spatial arrangements of industries in worldwide	3	15
UNIT 4 CO4: Acquire more knowledge about the industrial regions and its problems.	4	15
UNIT 5 CO5: observe and recognize industrialization in India special attention with tourism industry.	5	15

SYLLABUS

UNIT I : Basic Concepts: Meaning and scope of industrial geography; Recent trends in industrial geography; Classification of industries; Concepts of industrialization, industrial complex and industrial estate; Role of industries in regional development.

UNIT II : Location Factors and Theories: Factors of industrial location; Linkage in Industries; Theories of industrial location: Weber, Hoover, Lösch and Smith.

UNIT III : Spatial Arrangement of Industries: Localization and distribution of iron & steel, cotton textile and sugar industries; Bases of identification of industrial regions; Industrial regions of U.S.A. and West Europe.

UNIT IV: Industrial Regions and Complexes; Impact of Globalization and Problems of Industrialization; Environmental Impact of Industrialization – Pollution

UNIT V : Industrialization in India: Industrial development and policies; Industrial regions and complexes; Impact of globalization on industries; Problems of industrialization; Environmental impact of industrialization; Tourism as an industry; Tourism in Uttar Pradesh.

BOOKS FOR REFERENCE

1. Alexanderson, C. (1967): Geography of Manufacturing. Prentice-Hall of India, New Delhi.
2.Hoover, E. M. (1948): Location and Space Economy. McGraw Hill, New York.
3. Lodha, R.M.(2005): Audyogika Bhoogol, Rajasthan Hindi Granth Academy, Jaipur
4. Miller, E. (1962): Geography of Manufacturing. Prentice-Hall, Englewood Cliffs, New Jersey.
5. Riley, R. C. (1973): Industrial Geography, Chatto and Windus Ltd. London.
6. Sharma, V.N. (2001): Industrial Development and Planning in India, Radha Publications, NewDelhi,
7. Singh, M. B. (1990): New Perspectives in Industrial Geography. Lotus Publication, Varanasi.
8.Singh, M. B. (1988): Industrial Geography. Lotus Publication, Varanasi.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I - Concept of industrial geography			
	Concept of meaning and scope	5	Chalk & talk, VLC and PPT lecture
	Recent trends and classification	5	Group discussion, VLC and PPT lecture
	Role of industries in regional development	5	Reference / PPT
UNIT II - Location theories			
	Factors of industries	5	chalk and talk and usage of maps ,PPT and VLC
	Weber and Hoover theory	5	chalk and talk and usage of maps ,PPT and VLC
	Losch and Smith industrial location theories	5	chalk and talk and usage of maps ,PPT and VLC
UNIT III - Spatial arrangements of industries			
	Iron and steel, cotton textiles industries	5	VLC and PPT lecture
	Industrial regions	5	Group discussion, VLC and PPT lecture
	Europe and U.S.A industrial regions	5	VLC and PPT lecture
UNIT IV - Industrial regions problems			
	Regions and complexes	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
	Environmental impact of industrialization	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
	Pollution		
UNIT V - Industrialization in India			
	Industrial regions	5	chalk and talk ,Group discussion, , Maps and Atlas and PPT lecture
	Environmental impacts of industrialization	5	chalk and talk ,Group discussion, Maps and Atlas and PPT lecture
	Tourism industry in India – special reference with Uttar Pradesh.	5	chalk and talk ,Group discussion, Maps and Atlas and PPT lecture

Course outcomes (cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	5	5	3	4	4	4	5	4.3
CO2	5	5	5	4	4	4	5	5	4	4	4.5
CO3	3	4	5	5	4	4	5	4	5	4	4.3
CO4	5	4	4	4	5	5	4	4	5	5	4.5
CO5	3	4	5	4	5	5	4	5	5	5	4.5
Mean Overall score											4.42

Result: The Score for this Course is 4.42 (very high relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs $\frac{\text{Total of Value}}{\text{Total No. of Pos \&PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of MeanScore}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr. S.Usha Buvaneswari.

Programme : M.SC GEOGRAPHY **Part III: Skilled Enhancement Course-II**
Semester : II **Hours : 2P/W 30 Hrs P/S**
Sub. Code : P22SEG2 **Credits :2**

Title of the Paper**: SPATIAL ANALYSIS**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	2	1	-	1	-

PREAMBLE:
Orderly description and interpretation of morphology, functions and spatial organization of human settlements on the earth surface

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Physical and Relative Space: to understand the location size and growth has related with spatial arrangements.	1	6
UNIT 2 CO2: Spatial Organization: space bound social organization varying from places.	2	6
UNIT 3 CO3: Analysis of Point Entity: to study the spatial distribution through point entity.	3	6
UNIT 4 CO4: Analysis of Line Entity: examine the network topology concerned with connectivity and accessibility of an area.	4	6
UNIT 5 CO5: Analysis of Area Entity: the demographic pattern and problems of areas with concentration and diversification methods.	5	6

SYLLABUS

UNIT I - Physical and Relative Space – Spatial Structure and Arrangements – Location and Distance: Straight line – Shortest Path – Location: Single and Multiple Locations and Regions.

UNIT II- Spatial Organization: Differentiation – Process – Interaction between Places and Regions.

UNIT III- Analysis of Point Entity: Distribution and Density: Centrography – Nearest Neighborhood and Reflexive Neighbor – Mapping Density Analysis (Isometry, Desymetry) – Point Buffers.

UNIT IV- Analysis of Line Entity: Network Topology – Connectivity Analysis: Shortest Path and Total Connectivity – Accessibility – Buffers.

UNIT V- Analysis of Area Entity / Surface: Index of Concentration – Diversification – Interpolation techniques.

BOOKS FOR REFERENCES:

1. Abler, R., Adams, J. S., and Gould, P., (1971). Spatial organization: The geographer's view of the World, Englewood Cliffs, N.J., Prentice-Hall. Englewood Cliffs.
2. Burrough, P. A.., (1986). Principles of Geographical Information Systems for Land Resource Assessment. Oxford University Press Inc., New York.
3. Mitchell, a.., (1999). The ESRI Guide to GIS Analysis Volume 1: Geographical Patterns and Relationships, Environmental Systems Research Institute, Inc., Red Lands, California.
4. Mitchell, a.., Booth Bob, and Crosier Scott, (2002). ArcGIS Spatial Analyst Environmental Systems Research Institute, Inc., Red Lands, California.
5. 5. Tsung Chang Kang, (2002). Introduction to Geographic Information Systems, Tata McGraw-Hill Publishing Company Limited, New Delhi

UNITS	TOPIC	HRS / week	MODE OF TEACHING
UNIT 1			
	Spatial Structure and Arrangements	2	Chalk and talk
	Location and Distance	2	PPT lecture and student seminar
	Single and Multiple Locations	2	PPT and video lecture
UNIT 11			
	Spatial Differentiation	2	Group Discussion
	Processes - spatial	2	PPT lecture and student seminar / test
	Interaction	2	PPT lecture
UNIT III			
	Centrography	2	Chalk and talk -video
	Mapping Density Analysis	2	PPT , Chalk and talk lecture
	Point Buffer	2	video lecture
UNIT IV			
	Connectivity Analysis	2	PPT lecture / Group Discussion
	Accessibility	2	PPT lecture and student seminar
	Buffers	2	PPT lecture
UNIT V			
	Index of Concentration	2	Class Work
	Diversification	2	video lecture
	Interpolation techniques	2	Reference and video lecture

Course Outcomes (Cos)	Programme Outcomes (Pos)							Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	3	5	5	4	3	3	3	4	3	3	3	4	5	3	3.6
CO2	5	4	3	3	3	4	5	5	4	3	3	3	4	3	3.7
CO3	3	5	4	3	4	3	4	4	3	5	5	4	3	3	3.8
CO4	4	5	5	4	3	3	3	3	4	3	4	5	4	3	3.8
CO5	5	3	3	3	4	3	4	4	3	4	3	4	5	3	3.6
Mean Overall Score															3.7

Result: The Score for this Course is 3.45 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of Mean Score / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.J.Rosy Grace Angelene.

Programme : M.Sc GEOGRAPHY **Part III: Course Type IX**
Semester : III **Hours : 6 P/W 90Hrs P/S**
Sub. Code : P22CG6 **Credits :5**

Title of the Paper**: POPULATION GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	2	1	2	1

PREAMBLE: It is a branch of Economic Geography; explain the **:** Nature, Scope, Approaches of Population Geography , Sources of Demographic data, significance composition of population by age and sex, Migration determinants, types-internal and international, consequences, Lee migration theory, migration in India, Population theories. Population and environment

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: understand nature, scope and significance of population geography. Techniques, Population studies and demography. Relation between population and social sciences, Population geography in India.	1	18
UNIT 2 CO2: acquire knowledge about Sources of Population data-census, registration, and sample survey. Sources of Demographic data in India. Factors affecting population distribution and density.	2	18
UNIT 3 CO3: know the significance composition of population by age and sex-world pattern of sex ratio, sex ratio in India, changes in sex ratio of Indian population	3	18
UNIT 4 CO4: evaluate the Migration determinants, types-internal and international, consequences, Lee migration theory, migration in India, Population theories.	4	18
UNIT 5 CO5: understand the Population and environment- Population and growth and human wellbeing. Population growth and use and abuse of resources.	5	18

SYLLABUS

UNIT I: Nature, Scope, Approaches of Population Geography. Systematic and behavioral. Population studies and demography. Relation between population and social sciences. Population Geography in India.

UNIT II: Sources of Population data – Census, registration and sample survey. Sources of demographic data in India- unique identity, national population register and census of India- factors affecting population distribution and density-population measures – crude birth rate, crude death rate, population growth-World, developed and developing countries.

UNIT III: Composition of population by age and sex-world pattern of sex ratio, sex ratio in India, changes in sex ratio of Indian population, age composition, age groups, trend in age structure of various countries, India's industrial composition, labour force in India ,Literacy determinants, world pattern, India as a case study-growth, recent patterns and government efforts.

UNIT IV: Migration - determinants, types-internal and international, consequences, Lee migration theory, migration in India, Population theories-Malthus, Population and resources-optimum, over and under population.

UNIT V: Population and environment- Population growth and human wellbeing, population growth and use and abuse of resources, Impact of population growth on environment- Population and development planning-manpower planning, Population policies-population policy for developed and developing countries,, population policy in India.

BOOKS FOR REFERENCE

- Debjani Rey-Population Geography Books and Allied Private Limited, Kolkata, 2015
- Chandna, R.C-Geography of Population, Kalyani Publishers, Ludhiana 2012
- Cole, LP and King CAM. (1968), Quantitative Geography Techniques and Theories in Geography John Wiley & Sons Inc, New York
- Mayer, H. and Kohn, C. (1959) Readings in Urban Geography University of Chicago Press, Chicago.
- Singh, R.Y. (2002), Geography of Settlements. Rawat Publication, New Delhi.

UNITS	TOPIC	Hrs/ Wee k	MODE OF TEACHING
UNIT I			
	Nature, Scope, Approaches.	6	Chalk and talk and PPT
	Population studies and demography	6	Map and PPT
	Population Demography in India.	6	Map and PPT
UNIT II			
	Sources of Population data – sources of population data in India.	6	Chalk and talk and PPT
	factors affecting population distribution and density	6	Chalk and talk and PPT
	Population growth- World, developed and developing countries.	6	Chalk and talk and PPT
UNIT III			
	Composition of population by age and sex.	6	Chalk and talk and PPT
	world pattern of sex ratio, sex ratio in India	6	Chalk and talk and PPT
	World, developed and developing countries.		
UNIT IV			
	Migration - determinants, types	6	Chalk and talk and PPT
	Lee migration theory, migration in India	6	Chalk and talk and PPT
	Population theories-Malthus	6	Chalk and talk and PPT
UNIT V			
	Population growth and human wellbeing, population growth and use and abuse of resources,	6	Map, models k and PPT
	Impact of population growth on environment	6	Group discussion and PPT
	Population and development planning Population policies.	6	Map and PPT

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	4	4	4	4	4	4	4	4	4
CO2	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5
CO4	4	4	4	4	4	4	4	4	4	4	4
CO5	4	4	4	4	4	4	4	4	4	4	4
mean Overall score											4.4

Result: The Score for this Course is 4.2 (Very High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$	Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Department of Geography

Programme: M.Sc GEOGRAPHY **Part III: Course Type-X**
Semester : III **Hours : 6 P/W 90Hrs P/S**
Sub. Code : P22CG10 **Credits: 5**

Title of the Paper**: Principles of Remote Sensing Geographical Information System and GNSS**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	3	1	1	1

PREAMBLE: science of obtaining information without physical interaction and GIS is a toll for making maps.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Introduction: active and passive, GNSS - Historical development – Emerging trends - Multidisciplinary nature.	1	18
UNIT 2 CO2: Terrestrial Remote Sensing - Elements of EMR	2	18
UNIT 3 CO3: Aerial remote sensing - satellite remote sensing - Energy interaction	3	18
UNIT 4 CO4: GIS definition , Data Base Management System, Application, GIS in Resources Mapping – Uses of GIS.	4	18
UNIT 5 CO5: Global Navigation Satellite System- IRNSS - DGPS - GNSS Applications.	5	18

SYLLABUS

UNIT I: Introduction: Aerial remote sensing, Photogrammetry, Satellite Remote Sensing: active and passive, GNSS - historical development - emerging trends - multidisciplinary nature.

UNIT II: Terrestrial Remote Sensing: Basic principles - Elements of EMR - Energy interaction in atmosphere - Terrestrial interaction - Spectral signature – Spectral reflectance curves.

UNIT III: Aerial Remote Sensing: – Elements – Types and Classification of Photos –Elements of Photo Interpretation – Satellite Remote Sensing – Types of Satellites -Satellite Orbit, Sensors.

UNIT IV GIS – Definition – Components – Spatial data - Attribute data – Digitalization – Data Base Management System – Raster and Vector Model – Data Analysis – Overlay – Query – DEM, DTM – Buffering – User Application - GIS Packages – Remote Sensing in GIS – GIS in Resources Mapping – Uses of GIS.

Unit-V: Global Navigation Satellite System: Segments: space segment - GPS Satellite systems – IRNSS - Control segment - Satellite tracking - User segment – Modern survey instruments – Error sources – Satellite augmented systems - DGPS - GNSS Applications.

BOOKS FOR REFERENCE

1. Agarwal C.S and P.K. Garg – Text Book of Remote Sensing – Wheeler Publishers New Delhi – 2000.
2. Anand P.H. and Rajesh Kumar. V, Principals of Remote sensing and GIS – Sri Venkateswara publishers – 2003.
3. Bhatta. B – Remote Sensing and GIS – Oxford University Press, New Delhi – 2008.
4. Burrough P.A. – Principles of GIS for Land Resources Assessment, Clarendon Press. Oxford – 1996.
5. Campbell, James .B - Introduction of Remote Sensing – the Guild press Newyork - 1996
6. Curran .P – Fundamentals of Remote Sensing – Longman London – 1990.
7. Chouhan T.S & Josi K.N. Applied Remote sensing and Photo Interpretation – Vigyan Prakashan Jodhpur - 1996
8. Kudral.M. K. Dr. Nag. P Dr. – Digital Remote Sensing – Concept of Publishing Company, New Delhi - 1998.
9. Lillesand . T.M. and Kiefer R.W– Remote Sensing and Image Interpretation, Fourth Edition, John Wiely & Sons, INC New york - 2000
10. Misra . R.P. Ramesh .A - Fundamentals of Cartography – Concept Publishing Company, New Delhi –2002.
11. Narayan . L.R.A– Remote sensing and its Applications – University Press – 1999
12. Patel .A.N. and Surendra Singh - Remote Sensing Principles and Application – Scientific Publishers ,

Jodhpur - 1999
13. Pradeep Kumar – Dictionary of Geographical Information systems – Bio Tec Books, 1123/74, Trinagar Delhi - 2007
14. Prithvish Nag, Thematic Cartography and Romote Sensing Concept Publishing Company ,New Delhi-2002.
15. Rampal, K.K.– Hand book of Aerial Photography and Interpretation Concept Publishing Company, New Delhi – 1999
16. Kang – Tsung Chang – Introduction to Geographic Information Systems – Published by Mc Graw – Hill, A Business Unit of the Mc Graw – Hill Companies, Newyork – 2002.

UNITS	TOPIC	Hrs /Week	MODE OF TEACHING
UNIT I Introduction: Aerial Remote Sensing			
	Definition& development	6	Chalk & talk – student evaluation
	Satellite Remote Sensing	6	PPT lecture
	emerging trends - multidisciplinary nature.	6	PPT & reference – journals
UNIT II Terrestrial Remote Sensing			
	Basic principles	6	Chalk & talk – student evaluation
	EMR & interaction	6	Reference – journals
	Spectral signature	6	Practical works
UNIT III Aerial and Satellite Remote Sensing			
	Elements – Types and Classification of Photos	6	PPT lecture
	Satellite Remote Sensing – Types of Satellites	6	PPT and reference
	Satellite Orbit, Sensors.	6	Videios / e- content
UNIT IV Global Information system			
	Segments: space segment - GPS Satellite systems	6	PPT lecture
	IRNSS - Control segment	6	Reference- journal
	GIS in Resources Mapping – Uses of GIS.	6	PPT lecture
UNIT V Global Navigation Satellite System			
	Global Navigation Satellite System	6	Chalk & talk
	GPS Satellite systems	6	PPT lecture & practical
	DGPS - GNSS Applications.	6	PPT / e-content

Course outcomes (cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	4	5	4	4	4	3	4	3.0
CO2	5	4	3	5	4	4	3	5	4	4	3.0
CO3	4	4	5	5	4	4	5	4	5	4	3.1
CO4	5	4	5	4	5	4	5	4	5	4	3.1
CO5	4	4	5	4	4	5	4	4	4	5	3.1
mean Overall score											3.45

Result: The Score for this Course is 345 (High relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Totalof MeanScore / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Department of Geography

Programme : M.Sc GEOGRAPHY **COURSE TYPE: XI**
Semester : III **Hours : 5 P/W 75Hrs P/S**
Sub. Code : P22CG11 **Credits : 5**

TITLE OF THE PAPER: URBAN GEOGRAPHY

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: To provide an overview and theoretical framework of urban geography . To learn the internal spatial structure and landscapes of cities. To analyze patterns of land use, racial and ethnic segregation, economic restructuring, gentrification, and new urbanism. Comparative models of internal city and structure of the cities.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand the nature & scope: urban geography is the study of urban places with reference to their geographical environment.	1	15
UNIT 2 CO2: Analyze the Demographic structure: it encompasses the size, structure and distribution with spatial changes.	2	15
UNIT 3 CO3 Analyze the urban models and the form of human settlements and their process and rebuild the formation and transformation.	3	15
UNIT 4 CO4: know the city region concept: Made to formulate certain rules regarding the relationship between population size and size of the city.	4	15
UNIT 5 CO5: Analyze urban problems: To estimate the tremendous growth of population and consequences in housing, congestions, civic and infrastructure deteriorating.	5	15

SYLLABUS

UNIT I: Nature, Scope and development of Urban Geography – Urbanization – Factors Affecting Urban growth – World Urbanization – Urbanization in India.

UNIT II: Demographic Structure of Cities – Age and Sex Structure – Population Density, Distribution – Occupational Structure – Models – Urban Land use – Types – Central Business District – Delimitation – Residential Land Use.

UNIT III: Urban Land Use models – Burges – Hoyt – Harris and Ullman – Urban Expansion – Vertical and Horizontal – Urban Sprawl – Urban Fringe – Suburban Growth – Concept of Satellite Towns.

UNIT IV: City Region Concept – Distance Decay – Umland Demarcation – Conurbation – Urban Hierarchy – Rank Size Rule and Central Place Theory.

UNIT V : Urban Problems – Slums, Transport, Solid Waste Management – Drinking Water Supply – Pollution – Urban planning.

BOOKS FOR REFERENCE

1. Alam, S.M. Hyderabad - Secunderabad Twin Cities - Asia Publishing House, Bombay - 1964.
2. Berry ,B.J.L. and Horton F.F - Geograophic Perspectives on Urban systems - Prentice Hall, Englewood, New Jersey - 1970.
3. Carter - The study of urban geography - Edward Arnold Publishers , London - 1972
4. Chorley, R.J.O., Haggett P – Models in Geography - Methuen, London - 1966.
5. Dickinson, R.E - City and Region ,Routledge ,London - 1964.
6. Dwyer ,D.J - The city as a centre of change in Asia - University of Hond kong Press, Hongkong - 1971.
7. Gibbs J.P - Urban Research Methods - D.Van Nostrand Co. Inc. Princeton, New Jersey - 1961.
8. Hall P - Urban and Regional Planning - Routledge, London - 1992.
9. Hauser, Phillp M. and Schnore Leo F - The study of urbanisation, Wiley, New York - 1965.

10. James. P.E. and Jones C.F - American Geography - Inventory and Prospect - Syracuse University Press, Syracuse - 1954.
11. Kundu, A - Urban Development and Urban Research in India - Khanna Publication - 1992.
12. Meyor, H.M. Kohn C.F - Reading in Urban Geography - University of Chicago Press,Chicaga - 1955.
13. Mandal R.B Urban Geography A Text book –Concept publishing Company, New Delhi-1987
14. Mumford, L - Cultural of Cities - McMillan & Co., London - 1958.
15. Nangia , Sudesh - Delhi Metropolitan Region : A Study in Settlement Geography - Rajesh Publication – 1976
16. Smailes A.E - The Geography of Towns, Hutchinnson, London, 1953.
17. Singh K and Steinberg F - Urban India in Crisis. New Age Interns, New Delhi - 1998.
18. Tewari, Vinod K. Jay A. Weinstein, VLS Prakasa Rao – Indian Cities: Ecological Perspectives - concept Publishing Co., New Delhi – 1986.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1 Nature & Scope			
	Development of Urban geography	5	Chalk & talk – student evaluation
	World urbanization	5	PPT lecture and group discussion
	Urbanization in India	5	PPT & Reference through Journals
UNIT 11 Urban & Demographic Structure			
	Site & Situation	5	Chalk & talk – student evaluation
	Functional Classification	5	Reference – journals
	Population structure	5	Videos/ ICT
UNIT III Urban Morphology			
	Land use models	5	PPT lecture and Group Discussion
	Theory	5	Chalk & talk and reference
	Urban Expansion	5	Videos / e- content
UNIT IV City Region Concept:			
	Concepts	5	PPT lecture
	Rank size rule	5	Reference – Practical assessment
	Central place theory	5	PPT lecture
UNIT V Urban Problems			
	Housing	5	Field work – questionnaire
	Transport	5	Field work & Group Discussion
	Planning	5	PPT/ e-content

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	4	5	5	5	3	4	4	3	5	3.0
CO2	4	5	5	4	3	4	5	5	4	4	3.1
CO3	3	4	5	5	4	4	5	4	5	4	3.1
CO4	5	4	4	3	5	5	3	4	5	5	3.1
CO5	3	4	5	4	5	5	4	5	5	5	3.2
mean Overall score											3.45

Result: The Score for this Course is 3.45 (High relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total ofMeanScore / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.J.Rosy Grace Angelene.

Programme : M.SC GEOGRAPHY **Part III: Course Type -XII**
Semester : IV **Hours : 6 P/W 90 Hrs P/S**
Sub. Code : P22CG12P **Credits : 3**

Title of the Paper**: STATISTICS AND COMPUTER APPLICATION IN GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	2	1	2	1

PREAMBLE: The Practical Paper demonstrate the methods of using GIS software with keen understanding.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT-I CO1: Understand the Open Source Tools apply and coordinate system.	1	20
UNIT-II CO2: Recognize the Georeferencing.	2	30
UNIT-IIICO3: Develop the idea about digitization.	3	20
UNIT-IVCO4: Acquire knowledge about the data base management.	4	20

SYLLABUS

UNIT I : Open Source Tools : Open Source GIS software – QGIS : Overview of Interface – Toolbars – Adding Spatial and Non Spatial Data – Coordinate Systems.

UNIT II : Scanning and Georeferencing.

UNIT III: Digitization (Point, Line and Polygon)

UNIT IV: Database Creation :Adding attribute Data and Adding attribute Data through linking table.

Books for References:

1. Sutton,T.Dassau, O. and Sutton, M. (2009) A Gentle Introduction to GIS, Spatial Planning & Information, Department of Land Affairs, Eastern Cape.
2. Chang, K. T. (2006) Introduction to Geographic Information Systems. 3rdEdition, McGraw Hill, New York.
3. Neteler, M. and Mitasova, H. (2008) Open Source GIS: A GRASS GIS Approach. 3rd Edition, Springer, NewYork.
4. Mitchell T (2005) Web mapping illustrated‟, O‟‟Reilly Media Inc., Sebastopol, Canada
5. Neteler M, Helena M „Open source GIS (2008)A GRASS GIS approach, 3rd edition, Springer, New York,
6. Bill Kropla Beginning Map Server (2005) Open Source GIS Development, Apress (Springer Verlog) New York.

UNITS	TOPIC	Hrs/Week	MODE OF TEACHING
UNIT I			
	Open Source Tools	10	Demonstration and using instruments(computer)
	Adding Spatial and Non Spatial Data	10	Demonstration and using instruments
UNIT II			
	Scanning	15	Demonstration with suitable method.
	Georeferencing	15	Chalk And Talk ,Demonstration and using instruments
UNIT III			
	Digitization	20	Using Suitable spatial data and Demonstration
UNIT IV			
	Database Creation	20	Using suitable data.

Course Outcomes (Cos)	Programme Outcomes (Pos)							Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CO3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CO4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Mean Overall Score															4.75

Result: The Score for this Course is 4.75 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr. J.Rosy Grace Angelene.

Programme : M.SC GEOGRAPHY **Part III:** Discipline Specific Elective Course-
Semester : III **Hours : 5 P/W 75 Hrs P/S**
Sub. Code : P22DSG3A **Credits : 4**

Title of the Paper**: GEOGRAPHY OF TRAVEL AND TOURISM**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: The paper emphasis the student to understand physical, social and economical development of area and the impact of man and environmental relationship related with tour and travel

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Know the idea about the Travel – Motivation - Meaning and Nature of Tourism - Types of Tourism – development in India.	1	15
UNIT 2 CO2:	2	15
UNIT 3 CO3: Understand the Elements of Tourism – Attraction, Accessibility, Accommodation and Amenities	3	15
UNIT 4 CO4: Acquire more knowledge about the Travel formalities – Tour Itinerary – Travel Agencies – Travel Abroad Facilities – Visa, Passport, Bank Restrictions – Traveller's Cheques.	4	15
UNIT 5 CO5: observe and recognize Tourism Potentials of India - The role of India Tourism Development Corporation (ITDC) and World Tourism Corporation (WTO)	5	15

SYLLABUS

UNIT -I: Concept of Leisure and Tourism – Principles and Purpose – Types of Tourism – Significance of Tourism development in modern society – Tourism development in the world – Tourism in India.

UNIT -II: History of Tourism – Ancient, Medieval and Modern Periods – Determinants and motivation of tourism

UNIT -III: Elements of tourism – Attraction, Accessibility and Amenities – Classification of tourist spots – Accommodation – Primary and supplementary accommodation – Hotels, inns and motels

UNIT -IV: Role of transport in tourism development – Travel formalities – Tour itinerary – Travel agency – Travel restriction – Passport, visa and bank restriction – Traveler'scheques – Credit and debit cards – Tourism and environment – Eco tourism

UNIT -V: Tourist Organization – WTO – ITDC and subsidiaries – Tourism promotion – advertisement – Tourism planning and development – Tourist spots in India – Potential of tourism in India Problems of tourism development

BOOKS FOR REFERENCES

1. Tourism development – Bhatia, Sterling Publishers, 1986
2. Tourism: Past, Present and Future – Burkart & Madlik,Heinemann,1976
3. Geography of Tourism – Robinson, Mcdonald and Evans, 1976
4. Geography of Recreation and Leisure, - Consgrove, Hutchinson, 1972

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1 - Concept of Leisure and Tourism			
	Concept of Leisure and Tourism – Principles and Purpose	5	Group discussion, VLC and PPT lecture
	Types of Tourism – Significance of Tourism development in modern society	5	Group discussion, VLC and PPT lecture
	Tourism development in the world – Tourism in India.	5	Reference / PPT
UNIT 11 History of Tourism			
	History of Tourism – Ancient	5	chalk and talk and usage of maps ,PPT and VLC
	Medieval and Modern Periods	5	chalk and talk and usage of maps ,PPT and VLC
	Determinants and motivation of tourism	5	chalk and talk and usage of maps ,PPT and VLC
UNIT III Elements of Tourism			
	Attraction, Accessibility and Amenities	5	Group discussion, VLC and PPT lecture
	Accommodation	5	Group discussion, VLC and PPT lecture
	Hotels and Motels	5	Group discussion, VLC and PPT lecture
UNIT IV Transport and Eco Tourism			
	Travel formalities – tour itinerary	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
	Travel Agencies – Travel Abroad Facilities – Visa, Passport. Bank Restrictions	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
	Eco tourism	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
UNIT V - Tourist Organization			
	World Tourism Organization-promotion and advertisements.	5	chalk and talk ,Group discussion, , Maps and Atlas and PPT lecture
	Tourism Potentials of India (India Tourism Development Corporation-ITDC)	5	chalk and talk ,Group discussion, Maps and Atlas and PPT lecture
	Tourism in India Problems of tourism development	5	chalk and talk ,Group discussion, Maps and Atlas and PPT lecture

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	5	5	3	4	4	4	5	4.3
CO2	5	5	5	4	4	4	5	5	4	4	4.5
CO3	3	4	5	5	4	4	5	4	5	4	4.3
CO4	5	4	4	4	5	5	4	4	5	5	4.5
CO5	3	4	5	4	5	5	4	5	5	5	4.5
Mean Overall score											4.42

Result: The Score for this Course is 4.42 (very high relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos &PSOs			Mean Overall Score of COs = Total of MeanScore / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.S.Usha Buvaneswari

Programme : M.Sc GEOGRAPHY **Part III: Discipline Specific Elective Course**

Semester : III **Hours : 5 P/W 75Hrs P/S**

Sub. Code :P22DSG3B **Credits :4**

Title of the Paper**: POLITICAL GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: The main purpose of this course is to enhanced awareness of multi dimensional nature of geo- political space.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand the nature of political geography	1	15
UNIT 2 CO2: Acquire the concept and characteristics of nation and state	2	15
UNIT 3 CO3: Development of geopolitics – global strategic views.	3	15
UNIT 4 CO4: Know the electoral Geography and voting system of India	4	15
UNIT 5 CO5: Explain the political geography of India emerging new state and border problems and inter dispute.	5	15

SYLLABUS

UNIT-I: Introduction: Meaning, nature and scope of political geography – Recent trends in political geography

UNIT-II: States and Nations: Concepts of Nations – State and Nations –Types of Nation - Elements of the State - Typology of State –Frontiers and boundaries - Unitary States and federal States – Forms of governance - Nationalism and national building.

UNIT-III: Geopolitics: Development of geopolitics - Global strategic views: Heartland theory, Rimland theory, Organic theory and Domino theory – Sea power: Geopolitical significance of the Indian Ocean - Recent trends in Geopolitics: Meta-geopolitics.

UNIT-IV: Electoral Geography: History of electoral studies - Geography of voting and representation - Geographic influences on voting pattern - Voting system in India: Factors affecting voting systems - Electoral distortion and bias: Gerrymandering and Malapportionment - Electoral mapping.

UNIT-V: Political Realm of India: Governance system in India – Changing Political maps of India - Emergence of new states - Unity and Diversity: Centripetal and centrifugal forces - Interstate issues - Federal India - Political relation of India - Geo-political problems of Border States.

BOOKS FOR REFERENCE

1. Krishna Bhusan Bisariya- Political Geography – Signature Book International, Delhi- First Published -2011
2. Rajiv Ahir – Geography - Spectrum Books Pvt. Ltd, NewDelhi-2006.
3. Rajive Gupta – Political Geography- Sonali Publications, New Delhi.
4. Richard Muir Modern Political Geography – Macmillan Publishers Ltd, London -1981.
5. Siddhartha.k – Nation – State, Territory and geopolitics – Kisalaya Publications Pvt Ltd, New Delhi – 1998.
6. Singh.I – Political Geography – Alfa Publications, New Delhi – 2006.
7. Sudeepta Adhikari.b – Political Geography-Rawat Publications, Bangalore- 2007
8. Adhikari, S. (2004) Political Geography, Rawat Publication, New Delhi.
9. Dr. Sudeepth (2013), Political Geography of India –Sharda PustakBhawan Allahabad.
10. Sdudeepta Adhikari (2007) Political Geography –Rawat Publication NewDelhi.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I Nature & Scope			
	Meaning	5	Chalk & talk – reference
	Nature and scope	5	PPT lecture
	Recent trends	5	PPT & Reference _ Journals
UNIT II States and Nations			
	Concepts of Nations – State and Nations – Types of Nation	5	Chalk & talk – reference
	Elements of the State - Typology of State – Frontiers and boundaries	5	Reference – journals
	Forms of governance - Nationalism and national building	5	Videos / reference
UNIT III Geopolitics			
	Development of Geopolitics	5	PPT lecture
	Theories	5	Videos / PPT
	Geopolitical significance of the Indian Ocean - Recent trends in Geo-politics	5	Videos / e- content
UNIT IV Electoral Geography			
	History	5	PPT lecture
	Voting pattern and system in India	5	Reference – journal
	Electoral Mapping	5	Reference – journal
UNIT V Political Realm of India			
	Government in India	5	Reference / journal
	Unity and Diversity	5	References
	Geopolitical Problems	5	PPT/ e-content

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	4	5	4	5	3	4	4	5	3	2.9
CO2	4	3	5	4	3	4	5	3	5	4	3.1
CO3	5	4	5	4	4	4	4	5	4	5	3.1
CO4	4	3	5	4	5	4	5	4	5	5	3.1
CO5	3	4	4	4	5	3	4	5	5	3	2.9
mean Overall score											3.0

Result: The Score for this Course is 3.45 (High Relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of Mean Score / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.S.Usha Buvaneswari

Programme : M.S.c GEOGRAPHY **Part III: Non Major Elective**
Semester : III **Hours : 2 P/W 30Hrs P/S**
Sub. CODE :P22NMG1 **Credits : 2**

Title of the Paper**: FUNDAMENTALS OF REMOTE SENSING AND GIS**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	2	1	-	1	-

PREAMBLE: understand the concepts and fundamentals of Remote sensing and GIS data structures.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: They can know the basic concepts, components, development, platforms, and types of remote sensing and GIS	1	6
UNIT 2 CO2: They understand about aerial photography and satellite remote sensing.	2	6
UNIT 3 CO3: Know about GIS data structures.	3	6
UNIT 4 CO4: Develop an idea about interpretation and application of remote sensing and GIS.	4	6
UNIT 5 CO5: To know about the spacial data concepts, attribute data, manipulation and presentation.	5	6

SYLLABUS

UNIT I: Definition – Types of Remote Sensing-– Development of Remote Sensing
UNIT II: Principles of Remote Sensing – EMR – Energy Interaction with Atmosphere and Surface.
UNIT III: Aerial Remote Sensing – Types of Aerial photographs - Method of Interpretation .
UNIT IV: Satellite Remote Sensing -Types of Satellites- Method of Interpretation
UNIT V: GIS – Definition- Components- Spatial Data- Attribute Data- Data Base Management - Manipulation and Presentation

BOOKS FOR REFERENCE

1. Agarwal C.S and P.K. Garg – Text Book of Remote Sensing – Wheeler Publishers New Delhi – 2000.
2. Anand P.H. and Rajesh Kumar. V, Principals of Remote sensing and GIS – Sri Venkateswara publishers – 2003.
3. Bhatta. B – Remote Sensing and GIS – Oxford University Press, New Delhi – 2008.
4. Burrough P.A. – Principles of GIS for Land Resources Assessment, Clarendon Press. Oxford – 1996.
5. Campbell, James .B - Introduction of Remote Sensing – the Guild press Newyork - 1996
6. Curran .P – Fundamentals of Remote Sensing – Longman London – 1990.
7. Chouhan T.S & Josi K.N. Applied Remote sensing and Photo Interpretation – Vigyan Prakashan Jodhpur - 1996
8. Kudral.M. K. Dr. Nag. P Dr. – Digital Remote Sensing – Concept of Publishing Company, New Delhi -1998
9. Lillesand . T.M. and Kiefer R.W– Remote Sensing and Image Interpretation, Fourth Edition, John Wiely & Sons, INC New york - 2000
10. Misra . R.P. Ramesh .A - Fundamentals of Cartography – Concept Publishing Company, New Delhi –2002.
11. Narayan . L.R.A– Remote sensing and its Applications – University Press – 1999
12. Patel .A.N. and Surendra Singh - Remote Sensing Principles and Application – Scientific Publishers , Jodhpur - 1999
13. Pradeep Kumar – Dictionary of Geographical Information systems – Bio Tec Books, 1123/74, Trinagar Delhi - 2007
14. Prithvish Nag, Thematic Cartography and Romote Sensing Concept Publishing Company ,New Delhi-2002.
15. Rampal, K.K.– Hand book of Aerial Photography and Interpretation Concept Publishing Company, New Delhi – 1999
16. Kang – Tsung Chang – Introduction to Geographic Information Systems – Published by Mc Graw – Hill, A Business Unit of the Mc Graw – Hill Companies, Newyork – 2002.

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT I			
	Remote sensing definition- basic principles	5	Chalk & talk
	Scope	5	Video lecture and student seminar
	Historical development	5	PPT lecture
UNIT II			
	Elements of remote sensing system- energy source	5	Chalk & talk
	EMR- spectrum	5	
	Interaction energy	5	PPT lecture and video lecture and student seminar
UNIT III			
	Aerial photography development and types	5	Chalk & talk and student PPT
	Characteristics and elements	5	PPT lecture
	Air photo Interpretation	5	e-content and practical assessment
UNIT IV			
	Platforms- sensor system	5	PPT lecture
	LAND SAT system – SPOT system	5	PPT lecture and student seminar
	IRS series	5	PPT and video lecture test
UNIT V			
	GIS components	5	Chalk and talk and chart- test
	Raster and vector data	5	PPT and computer software
	DBMS – Statistical analysis	5	Computer software - practical

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	4	4	4	4	4	4	4	4	4
CO2	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5
CO4	4	4	4	4	4	4	4	4	4	4	4
CO5	4	4	4	4	4	4	4	4	4	4	4
mean Overall score											4.4

Result: The Score for this Course is 4.4(Very High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$	Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs. N.Pothumani

Programme : M.Sc GEOGRAPHY **Part III: Course Type - XIII**
Semester : IV **Hours : 6 P/W 90Hrs P/S**
Sub. Code : P22CG13 **Credits :4**

Title of the Paper**: OCEONOGRAPHY AND HYDROLOGY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	3	1	1	1

PREAMBLE: it is a branch of Physical Geography; explain the Circulation of the Ocean, Ocean basin Topography,- movements of ocean- waves, tides and ocean currents. Tsunami and its impact. Global warming – Sea level rise – Marine Pollution. Hydrological cycle and sub cycles- Ground water- Human impact on hydrological system.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: understand nature, Atmosphere and the Oceans – Circulation of the Ocean, Ocean basin Topography- Physical Property of the sea water- Deep ocean floor- Ocean currents.	1	18
UNIT 2 CO2: Analyze the tides, Tsunami, coastal ecosystem, mangrove forests and coral reefs.	2	18
UNIT 3 CO3: Know about ocean waves, coastline formation, and human impact on marine environment, global warming and Marine Pollution.	3	18
UNIT 4 CO4: evaluate the hydrological cycle, sub cycle, precipitation, and evaporation and drainage basin characteristics.	4	18
UNIT 5 CO5: Demonstrate water balance, human impact on hydrological system and water resources.	5	18

SYLLABUS

UNIT I: Nature of the Ocean –Atmosphere and the Oceans – Circulation of the Ocean; Ocean basin Topography -Physical Property of the sea water: Salinity, temperature and Pressure -Sea floor spreading – Deep ocean floor – Ocean currents – Warm and Cold currents.

UNIT II : Tides -Types of tides - Tidal currents -Tsunami - characteristics and Effect - Coastal ecosystems- Hydrothermal Power - Mangrove forest - Corals reefs – Types.

UNIT III: Ocean waves – Classification and Characteristics- Wind velocity and Waves – Destructive waves – Coastline formation; Human impact of marine environment – Global warming – Sea level rise – Marine Pollution.

UNIT IV: Hydrological cycle and sub cycles – Elements-Precipitation, evaporation - Drainage basin characteristics.

UNIT V: Ground water- Water balance and application - Human impact on hydrological system and water resources.

BOOKS FOR REFERENCE

1. Barry, R.G., and Chorley P.J., 1998. Atmosphere, Weather and Climate, Routledge, London and New York.
2. Critchfield, J.H., 1993. General Climatology, Prentice Hall, New Delhi, India.
3. Das, P.K., 1987. Monsoons National Book Trust, New Delhi. Oceanography for Meteorologists, H U Sverdrub, Biotech Books, Delhi, 2001
4. Oceanography Contemporary readings in ocean sciences, Second edition. David A. Ross, Oxford University Press, New York, 1977
5. Introductory Oceanography, Joseph Weisberg and Howard Parish, McGraw-Hill Kogakusha, Ltd, Kosaido Printing Co Ltd., Tokyo, Japan. 1974
6. The World Ocean – An Introduction to Oceanography, William A. Anikouchine and Richard W. Sternberg, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1973
7. Oceanography, J. Robert Moore, W. H. Freeman and Company, San Francisco, California, 1971

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1			
	Nature of the Ocean, Circulation of the Ocean.	6	Maps and PPT
	Ocean basin Topography - Physical Property of the sea water.	6	Maps and PPT
	Deep ocean floor – Ocean currents – Warm and Cold currents.	6	Maps and PPT
UNIT 11			
	Tides -Types of tides - Tidal currents.	6	Models, Maps and PPT
	Tsunami - characteristics and Effect.	6	Maps and PPT
	Coastal ecosystems- Hydrothermal Power, Mangrove forest - Corals reefs – Types.	6	Maps and PPT
UNIT III			
	Ocean waves – Classification and Characteristics.	6	Model and PPT
	Wind velocity and Waves – Destructive waves, Coastline formation.	6	Chalk and talk and PPT
	Human impact of marine environment – Global warming – Sea level rise – Marine Pollution.	6	Chalk and talk and PPT
UNIT IV			
	Hydrological cycle and sub cycles.	6	Model and PPT
	Elements-Precipitation, evaporation.	6	Model and PPT
	Drainage basin characteristics.	6	Model and PPT
UNIT V			
	Ground water	6	Map and PPT
	Water balance and application.	6	Map and PPT
	Human impact on hydrological system and water resources.	6	Map and PPT

Course outcomes (cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	4	4	4	4	4	4	4	4	4
CO2	5	5	5	5	5	5	5	5	5	5	5
CO3	5	5	5	5	5	5	5	5	5	5	5
CO4	4	4	4	4	4	4	4	4	4	4	4
CO5	4	4	4	4	4	4	4	4	4	4	4
mean Overall score											4.4

Result: The Score for this Course is 4.4 (very high)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Department of Geography.

Programme : M.Sc GEOGRAPHY **Part III: course Type :XIV**

Semester : IV **Hours : 6 P/W 90Hrs P/S**

Sub. Code :P22CG14 **Credits :4**

Title of the Paper: **TRANSPORT GEOGRAPHY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	6	2	1	2	1

PREAMBLE: The objective of the course is to appraise the students about the significance of transport, accessibility and connectivity pattern, their theoretical interpretation, consequential impacts and policy issues.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: To know about the kinds of transport merits and demerits and factors associated with the development of transport.	1	18
UNIT 2 CO2: Learn and practice the Terminal Charges and operating Charges.	2	18
UNIT 3 CO3: Examine the interaction models and connectivity models.	3	18
UNIT 4 CO4: Identify the Theories of Spatial interaction with socio economic integration	4	18
UNIT 5 CO5: To analyse the Transportation and spatial structure.	5	18

SYLLABUS

UNIT I: Nature, Scope and significance of Transport geography – Different types of Transportation – Their merits and Demerits – Choice of mode of Transport.

UNIT II Terminal Charges and operating Charges – Tapering Cost Structure – Variation in Freight Structure on Distance, Commodity, Size and Elasticity of demand – Long Haul advantage.

UNIT III Transportation Networks – Nodes and Linkages – Connectivity – Accessibility – Centrality – Network Structure – Graph Theoretic measures – Stages of Development of Network – Measures of Nodal Accessibility – Matrix measures – Shortest Path.

UNIT IV Theories of Spatial interaction – Interaction models – Gravity models – Ullman's Trail – Critical appreciation of gravity model – Flows in the Network – Allocation model for transportation.

UNIT V Transportation and spatial structure – Hinterlands – Regional Specialization – Idealized process of Transport development – Role of Transport in Socio – Economic Integration.

BOOKS FOR REFERENCE

1. Alka Gautam, Advanced Economic Geography – Shardar Pustak Bhavan- Allahabad-2010.
2. Chorley R.J & Haggett P - Models in Geography - Methuen & Co., Londen - 1966.
3. Eliot Hurst M.E. - Transportation Geography - McGraw Hill - 1974 .
4. Majid Husain - Transport Geography Anmol Publication, New Delhi - 1994.
5. Raza, M and Agrawal Y.P - Transport Geography of India – Concept Publication Co., New Delhi - 1985.
6. Robinson H& Bamfor C.G - Geography of Transport - Macdonald & Evans, London - 1978.
7. Saxena.H.M. Transport Geography – Rawat Publications , Jaipur 2010.
8. Sinha S.P - Transport Geography - Mittal Publications, New Delhi - 1993.
9. Taffee, E.J and Gauthier, H.L. - Geography of Transportation Prentice Hall, New Delhi -1973.
10. Wheel J. O et al - Economic Geography - John Wiley New York - 1995.

UNITS	TOPIC	Hrs/Week	MODE OF TEACHING
UNIT 1			
	Nature, Scope, Significance and Development of Transport Geography	6	Chalk and Talk , Demonstrate the network model through maps and ppt.
	Different types of Transportation	6	Chalk and Talk , Demonstrate the network model through ppt.
	Choice of mode of Transport	6	Chalk and Talk
UNIT 11			
	Tapering Cost Structure.	6	Chalk and Talk
	Structure on Distance, Commodity, Size.	6	Demonstrate the through ppt. Group Discussion.
	Elasticity of demand.	6	Demonstrate the ppt.
UNIT III			
	Nodes and Linkages.	6	Demonstrate the network through maps.
	Graph Theoretic measures.	6	Validate the network model through practical assignment.
	Matrix measures.	6	Establish the network model through practical assessment.
UNIT IV			
	Interaction models.	6	Demonstrate through ppt.
	Flows in the Network.	6	Establish the model through ppt.
	Allocation model for transportation.	6	Chalk and Talk , Reveal the model through maps and ppt.
UNIT V			
	Hinterlands.	6	Chalk and Talk.
	Idealized process of Transport development.	6	Demonstrate the process through ppt.
	Role of Transport in Socio–Economic Integration.	6	Self study and group discussion.

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	4	3	4	3	3	4	4	3	3	3.4
CO2	4	3	5	4	3	4	5	3	5	4	4
CO3	5	4	3	4	4	4	5	4	5	4	4.2
CO4	4	3	5	4	5	4	5	4	5	5	4.4
CO5	3	4	4	4	3	3	4	3	3	3	3.4
mean Overall score											3.8

Result: The Score for this Course is 3.8 (High relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of Mean Score / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.J.Rosy Grace Angelene.

Programme : M.Sc GEOGRAPHY **Part – III Course Type : XV**
Semester :IV **Hours : 5 P/W 75 Hrs P/S**
Sub. Code : P22CG15 **Credits : 4**

Title of the Paper**: RESEARCH METHOLOGY**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: understand meaning and various types of research, to acquaint with the research methods to be familiar with techniques for collection of research data: library research- Bibliography

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: To learn and practice some scientific research and inter disciplinary trends in geography.	1	15
UNIT 2 CO2: To analyze the processing of data transportation about the tables, chart, diagrams, and maps.	2	15
UNIT 3 CO3: Acquire the knowledge about different types of techniques are correlated representation and linear programming.	3	15
UNIT 4 CO4: To apply the research design selection of the plane, formulation testing of hypothesis.	4	15
UNIT 5 CO5: To learn and understand library research ,review about books, and journals, writing of project report tools.	5	15

SYLLABUS

UNIT I: Research: Meaning – need for scientific research – types of research – Approaches to research – Interdisciplinary trends in Geography.

UNIT II Logic in Research : Hypothesis, Concepts and facts, Principles, Law, Theory and their implication in Geographical Research – The Science of Geography – Role of Models – Research Trends in Geography.

UNIT III Research Design: Selection of the topic – Statement of the Problem – Formulation of Hypothesis, testing of Hypothesis – Time Schedule – Literature Survey – Role of Internet – Bibliography.

UNIT IV Data Acquisition and Analysis: Collection of Data – Sources of Data; Primary and Secondary – Structuring the Data – Data Transformation – Quantitative Sampling Techniques – Correlation; Regression – Digital Elevation Model.

UNIT V Thesis / Project Writing: Organization of the Thesis; the Preliminaries, text and reference materials – Drafting of Thesis – Final Evaluation – Language and presentation (form and style) – writing of abstract – Reports, Research project proposal – Project Design.

BOOKS FOR REFERENCE

1. Devendra Thakur - Research Methodology in Social Sciences, Deep and Deep Publications, New Delhi - 1993.
2. Gopal Lal Jain –Research Methodology – Methods, Tools and Techniques –Mangal Deep Publications, Jaipur 2003.
3. Harprasad - Research Methods and Techniques in Geography - Rawat Publications, Jaipur - 1992.
4. Krishnaswami.O.R. & Ranganathan. M.R - Methodology of Research in Social Sciences - Himalaya publishing House, New Delhi - 2005.
5. Kothari .C.R - Research Methodology Methods and techniques, Wiley Eastern Ltd, New Delhi - 1990.
6. Najma Khan - Quantitative Methods in Geographical Research -Concept Publishing Company, New Delhi - 2003.
7. Ramesh Babu – Research Methodology in Social Sciences-Concept Publishing Company ,New Delhi -2008

UNITS	TOPIC	Hrs/ Week	MODE OF TEACHING
UNIT 1 Research			
	Meaning - need for scientific research	5	Chalk & talk
	types of research	5	PPt lecture and group discussion
	Interdisciplinary trends in Geography	5	PPT & Reference through Journals
UNIT 11 Logic in Research			
	Hypothesis	5	Chalk & talk
	Concepts and facts, Principles, Law, Theory	5	Lecture & Reference – journals
	Research Trends in Geography.	5	Videos/ ICT
UNIT III Research Design			
	Selection of the topic – Statement of the Problem	5	PPT lecture and Group Discussion
	testing of Hypothesis – Time Schedule	5	Reference – group discussion
	Literature Survey – Role of Internet	5	Videos / e- content
UNIT IV Data Acquisition and Analysis			
	Collection of Data	5	PPT lecture
	Structuring the Data	5	Reference – Practical assessment
	Quantitative Sampling Techniques	5	PPT lecture
UNIT V Thesis / Project Writing			
	Organization of the Thesis	5	Lecture & Group Discussion
	Drafting of Thesis	5	PPT
	Research project proposal – Project Design	5	PPT & Group Discussion

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	4	5	4	4	4	4	4	3.0
CO2	5	4	3	5	4	4	3	5	4	4	3.0
CO3	4	4	5	5	4	4	5	4	5	4	3.1
CO4	5	4	5	4	5	4	5	4	4	5	3.1
CO5	4	4	5	4	4	5	4	4	4	5	3.1
mean Overall score											3.1

Result: The Score for this Course is 4.6 (Very High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs = $\frac{\text{Total of Value}}{\text{Total No. of Pos \& PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.J.Rosy Grace Angelene

Programme : M.Sc GEOGRAPHY **Part III: Core course type: XVI**
Semester : 4 **Hours : 8P/W 105 Hrs P/S**
Sub. Code : P22CGPW **Credits: 5**

Title of the Paper**: PROJECT WORK**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	8	-	1	5	2

PREAMBLE: Project work- Demonstrate knowledge and understanding of the management principles and apply these to their work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as member or leader in diverse teams, and in multidisciplinary settings.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: Understand the definition and concept of regional geography study about the principles and importance of regional geography	1	21
UNIT 2 CO2: Understand regional geography approach for the study about the principles and importance of regional geography	2	21
UNIT 3 CO3: Understand theoretical structure of planning by central place theory, Growth pole theory, Gunnar mydal's cumulative causation.	3	21
UNIT 4 CO4: study about causes,effect of regional disparties and remedies on disparties	4	21
UNIT 5 CO5: Understand the principles and importance of regional geography	5	21

Course Outcomes (Cos)	Programme Outcomes (Pos)							Programme Specific Outcomes (PSOs)							Mean scores of Cos
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	5	4	5	5	4	5	5	4	4	5	5	5	4	4.6
CO2	5	5	4	5	4	5	4	5	4	5	4	5	5	5	4.6
CO3	4	5	4	5	4	5	4	5	4	5	4	5	4	4	4.4
CO4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	4.5
CO5	5	5	5	4	4	4	5	4	5	4	5	4	5	4	4.5
Mean Overall Score															4.53

Result: The Score for this Course is 4.4 (Very High)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Total of Mean Score / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Mrs.N.Pothumani

Programme : M.Sc GEOGRAPHY **Part III: Discipline Specific Elective Course**
Semester : IV **Hours : 5 P/W 75Hrs P/S**

Sub. Code : P22DSG4A **Credits : 4**

Title of the Paper**: GEOGRAPHY OF HEALTH AND WELLBEING**

Pedagogy	Hours	Lecture	Peer Teaching	GD/VIDOES/TUTORIAL	ICT
	5	2	1	1	1

PREAMBLE: Studies the effects of locale and climate upon health. It aims to improve the understanding of the various factors which affect the health of populations and hence individuals. It is also called health geographic. The idea that place and location may influence health is not exactly new.

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: to provide a critical understanding of key concepts related to medical geography.	1	15
UNIT 2 CO2: to examine the role of societal structures and human behavior in creating and sustain health inequalities and differeneces in access to health care.	2	15
UNIT 3 CO3: to understand about the Gender and health Diseases of the rich and poor and migration diseases	3	15
UNIT 4 CO4: the student will develop a working knowledge of several numerical methods and their analytical basis	4	15
UNIT 5 CO5: to understand how national health care systems either reduce or enhance health inequalitites and differences in access to health care.	5	15

SYLLABUS

UNIT I: Nature, scope and development of Medical Geography - Traditional and contemporary approaches - Concept of Health and Diseases - Reproductive Health - Climate and Health -- Human diseases - Classification - Infectious, Degenerative and chronic, inherited and genetic diseases

UNIT II: Nutrition - Deficiency related diseases - Geographical perspectives of Communicable and Non-communicable diseases - Epidemic, Endemic and Pandemic nature of diseases - Major Tropical diseases - Malaria, Filariasis and Leprosy - Cancer and Heart attack - Social diseases - HIV / AIDS, STD

UNIT III: Disease ecology - Determinants of diseases - Interplay of environmental, cultural, socio-economic and ecological factors - Gender and health - Diseases of the rich and poor - Disease diffusion - Concepts - Dynamics of major diseases - Migration and Disease - Travel Medicine

UNIT IV: Medical Cartography - Measurement techniques of diseases - Disease mapping techniques at macro, meso and micro levels - Medical statistics - Epidemiological methods in disease measurement and analysis - Measurement of Morbidity and Mortality

UNIT V: Health care delivery system - Hierarchy of medical services - Planning for manpower, infrastructure and service facilities of health care - Rural and urban disparities - Health education - Improved Health care delivery system.

Book for References

1. Cliff, A. and Haggett, P.: Atlas of Disease Distribution. Basil Blackwell, Oxford, 1989.
2. Hazra, J. (ed.): Health Care Planning in Developing Countries. University of Calcutta, Calcutta, 1997.
3. Learmonth A.T.A.: Patterns of Disease and Hunger. A Study in Medical Geography.David & Charles, Victoria, 1978.

4. Narayan, K.V.:Health and Development- Inter-Sectoral Linkages in India. RawatPub.,Jaipur, 1997.
5. Sochin, A.A: Fundamentals of Medical Geography, Dept. of Army Tran, M.J. 5264, Washgington D.C, 1968.
6. Meade M.S. and Emch M.: Medical Geography, Guilford Press, 2010.
7. Om Prakash Sharma (2014) rural health and medical care in India, Manak Publishing private limited, New Delhi.

UNITS	**TOPIC**	**Hrs/Week**	**MODE OF TEACHING**
UNIT I Nature & Scope			
	Nature and scope and development	5	Chalk & talk – reference
	Concept	5	PPT lecture
	Climate and Health	5	PPT & Reference & videos
UNIT II Nutrition			
	Deficiency related diseases - Geographical perspectives of Communicable and Non-communicable diseases	5	videos – student evaluation
	Major tropical diseases	5	PPT & Reference – journals
	Social diseases	5	Videos/ ICT
UNIT III Disease ecology			
	Determinants of diseases - Interplay of environmental, cultural, socio-economic and ecological factors	5	PPT lecture
	Gender and health	5	Videos / PPT
	Major diseases - Migration and Disease - Travel Medicine	5	Videos / e- content
UNIT IV Medical Cartography			
	Measurement techniques of Diseases	5	PPT lecture
	Disease mapping techniques at macro, meso and micro levels.	5	Reference – journal
	Medical statistics	5	Reference – journal
UNIT V Health care delivery system			
	Hierarchy of medical services	5	Reference / journal
	infrastructure and service facilities of health care	5	References
	Health education	5	PPT/ e-content

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	3	4	5	5	5	3	4	4	3	5	4.1
CO2	4	5	5	4	3	4	5	5	4	4	4.3
CO3	3	4	5	5	4	4	5	4	5	4	4.3
CO4	5	4	4	3	5	5	3	4	5	5	4.3
CO5	3	4	5	4	5	5	4	5	5	5	4.5
mean Overall score											4.3

Result: The Score for this Course is 4.3 (High relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = Total of Value / Total No. of Pos & PSOs			Mean Overall Score of COs = Totalof MeanScore / Total No. of COs		

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr.S.Usha Buvaneswari

Programme : M.SC GEOGRAPHY **Part III: Discipline Specific Elective Course 4B**
Semester : IV **Hours : 5 P/W 75Hrs P/S**
Sub. Code : P22DSG4B **Credits : 4**

Title of the Paper**: PRINCIPLES OF GIS**

Pedagogy	**Hours**	**Lecture**	**Peer Teaching**	**GD/VIDOES/TUTORIAL**	**ICT**
	5	**2**	**1**	**1**	**1**

PREAMBLE: The paper emphasis the student to understand physical, social and economical development of area and the impact of man and environmental relationship related with tour and travel

COURSE OUTCOME At the end of the Semester, the Students will be able to	Unit	Hrs P/S
UNIT 1 CO1: To understand the basic Spatial Perspective and GIS Concepts	1	15
UNIT 2 CO2: To know about the Data Models and Management	2	15
UNIT 3 CO3: Understand the Data Collection, Capture and Geo processing	3	15
UNIT 4 CO4: Acquire more knowledge about the Manipulation, Analysis and Display	4	15
UNIT 5 CO5: Observe and recognize Geographic Information Technologies and Applications	5	15

SYLLABUS

UNIT I: Basic Spatial Perspective and GIS Concepts: Spaces, Spatial data characteristics, Spatial Referencing, Geographical matrix, GIS definition, Approaches and Components; History and Development of GIS

UNIT II: Data Models and Management: Spatial Data Models – Vector and Raster data models; Data Base, Data Models and applications

UNIT III: Data Collection, Capture and Geo processing: Sources, Input methods, spatial data creation, linking data, editing, re-projection, geometric Transformation, map scale, precision and accuracy, topological error (types and correction methods), data conversion

UNIT IV: Manipulation, Analysis and Display: Vector and Raster based point, line and area data analysis; output for spatial decisions, querying spatial data, overlay methods.

UNIT V: Geographic Information Technologies and Applications: Remote Sensing, GPS and Cartography, GIS Modeling and its Applications in various studies

Book for References

1. Aronoff, S., 1991. Geographic Information Systems. A Management Perspective, WDL Publications, Ottawa, Canada.
2. David J Maguire, Michael F Goodchild, and David W Rhind edited, 1991. Geographical Information Systems, Longman Scientific & Technical Co-published in the USA with John Weiley& sons, Inc. New York.
3. Ian Heywood, Sarah Cornelius, Steve Carver, 2000. An Introduction to Geographical Information Systems, Addison Wesley Longman Limited, New York.
4. Kang-tsung Chang, 2002. Introduction to Geographical Information Systems, Tata McGraw-Hill Publishing Company Limited, New Delhi

UNITS	TOPIC	Hrs / Week	MODE OF TEACHING
UNIT I			
	Spaces, Spatial data characteristics, Spatial Referencing, Geographical matrix,	5	Chalk & talk, VLC and PPT lecture
	GIS definition, Approaches and Components	5	Group discussion, VLC and PPT lecture
	History and Development of GIS	5	Reference / PPT
UNIT II			
	Spatial Data Models	5	chalk and talk ,PPT and VLC
	Vector and Raster data models	5	chalk and talk ,PPT and VLC
	Data Models and applications	5	chalk and talk, PPT and VLC
UNIT III			
	Input methods, spatial data creation, linking data, editing, re-projection,	5	VLC and PPT lecture
	Geometric Transformation, map scale, precision and accuracy	5	Group discussion, VLC and PPT lecture
	Topological error (types and correction methods), data conversion	5	VLC and PPT lecture
UNIT IV			
	Vector and raster data analysis	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
	Spatial analysis	5	Group discussion, chalk and talk and usage of maps VLC and PPT lecture
	Overlay method		
UNIT V			
	Remote sensing	5	chalk and talk ,Group discussion, , satellite image and PPT lecture
	GIS	5	chalk and talk ,Group discussion, PPT lecture
	GPS	5	PPT and videos

Course outcomes(cos)	Programme outcomes (pos)					Programme specific outcomes (PSOs)					Mean scores of Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	4	5	5	5	3	4	4	4	5	4.3
CO2	5	5	5	4	4	4	5	5	4	4	4.5
CO3	3	4	5	5	4	4	5	4	5	4	4.3
CO4	5	4	4	4	5	5	4	4	5	5	4.5
CO5	3	4	5	4	5	5	4	5	5	5	4.5
Mean Overall score											4.42

Result: The Score for this Course is 4.42 (very high relationship)

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High

Mean Score of COs $\frac{\text{Total of Value}}{\text{Total No. of Pos \&PSOs}}$

Mean Overall Score of COs = $\frac{\text{Total of MeanScore}}{\text{Total No. of COs}}$

BLOOM'S TAXANOMY	INTERNAL	EXTERNAL
KNOWLEDGE	50%	50%
UNDERSTANDING	30%	30%
APPLY	20%	20%

Course Designer: Dr. S.Usha Buvaneswari