

**A.VEERIYA VANDAYAR MEMORIAL
SRI PUSHPAM COLLEGE (AUTONOMOUS)**

POONDI-613 503, THANJAVUR (DT)



SYLLABUS

B.Sc., Geography

(From 2020 - 2021 onwards)

Programme Outcomes of B. Sc. Geography

The successful completion of three year degree program in Geography equips a student to;

PO-1 Demonstrate, solve and understand the of major concepts in all disciplines of Geography.

PO-2 Study the types of land and processes.

PO-3 Understand the structure, composition of different spheres of the earth and its atmosphere.

PO-4 Understand the importance of oceans, rivers and water and find the ways of their conservation.

PO-5 Understand the Function and types of Biogeography.

PO-6 Understand the science of Remote Sensing

PO-7 Demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and use the tools and methods of GIS.

PO-8 Demonstrate their knowledge of physical geography and the methods and techniques for observing, measuring, recording and reporting on geographic phenomena.

PO-9 Create an awareness of the impact of Geography on the environment, society, and development outside the scientific community.

PO-10 Inculcate the scientific temperament in the students and outside the scientific community.

Programme Specific Outcomes of B.Sc. Geography

- An understanding of and appreciation for the relationship between geography and culture.
- In-depth knowledge in geomorphology particularly formation of landform and its associated processes, world distribution of flora and fauna and their factors, marine resources etc.
- Read, interpret, and generate maps and other geographic representations as well as extract, analyze, and present information from a spatial perspective.
- A general understanding of how the physical environment, human societies, and local and global economic systems are integral to the principles of sustainable development.
- Handle population data including estimation of population, causes and consequences of population growth, population policies.
- Knowledge on elements, factors of climate and its influence on mankind in a global perspective.
- knowledge on recent space technologies including interpretation of Satellite Imagery, Aerial Photographs, Geographical Information System and Global Positioning System (GPS).

B. Sc. GEOGRAPHY (2020 – 2021)

S No	Semester	Category	Paper Code	Title of the Paper	Maximum Marks			Maximum marks for passing			Hours Week	Credits
					CIA	E.E	Total	CIA	E.E	Total		
1	I	Part - I	20U1GYT1/H1	Tamil – I / Hindi - I	25	75	100	10	30	40	6	3
2		Part - II	20U1GYE1	English - I	25	75	100	10	30	40	6	3
3		Core	20U1GYC1	Earth System	25	75	100	10	30	40	5	5
4		Core	20U1GYC2	Cartography	25	75	100	10	30	40	5	5
5		Allied	20U1GYA1	Allied Statistics - I	25	75	100	10	30	40	5	4
		Allied	20U2GYAP1	Allied Statistics Practical (NS)	-	-	-	-	-	-	3	-
6		ES	20U1GYES	Environment Studies	-	-	100	-	-	40	1	1
7	II	Part - I	20U2GYT2/H2	Tamil – II/ Hindi - II	25	75	100	10	30	40	6	3
8		Part - II	20U2GYE2	English - II	25	75	100	10	30	40	6	3
9		Core	20U2GYC3	Geomorphology	25	75	100	10	30	40	5	5
10		Core	20U2GYCP1	Map Scale and Representation of Terrain Data	40	60	100	16	24	40	5	5
11		Allied	20U2GYAP1	Allied Statistics Practical (NS)	40	60	100	16	24	40	3	4
12		Allied	20U2GYA2	Allied Statistics - II	25	75	100	10	30	40	4	4
13		SBE - I	20U2GYS1	Skill Based Elective – I Thematic Mapping	25	75	100	10	30	40	1	1
14	VBE	20U2GYVE	Value Based Education – Soft Skill	25	75	100	10	30	40	1	1	
15	III	Part - I	20U3GYT3/H3	Tamil - III/ Hindi - III	25	75	100	10	30	40	6	3
16		Part - II	20U3GYE3	English - III	25	75	100	10	30	40	6	3
17		Core	20U3GYC4	Climatology	25	75	100	10	30	40	5	5
18		Core	20U3GYC5	Human Geography	25	75	100	10	30	40	5	5
19		Allied	20U3GYA3	Allied -Travel and Tourism Management-I	25	75	100	10	30	40	4	4
		Allied	20U4GYAP2	Allied Practical – Tourism Mapping (NS)	-	-	-	-	-	-	3	-
20		GS	20U3GYGS	Gender Studies - SS	-	-	100	-	40	40	1	1
		Extra Credit Course	-	Massive Open Online Course (MOOC)	-	-	-	-	-	-	-	

S No	Semester	Category	Paper Code	Title of the Paper	Maximum Marks			Maximum marks for passing			Hours Week	Credits
					CIA	E.E	Total	CIA	E.E	Total		
21	IV	Part - I	20U4GYT4/H4	Tamil – IV/ Hindi - IV	25	75	100	10	30	40	6	3
22		Part - II	20U4GYE4	English - IV	25	75	100	10	30	40	6	3
23		Core	20U4GYC6	Geography of Resources	25	75	100	10	30	40	5	5
24		Core	20U4GYCP2	Practical - Weather and Climatic Data Analysis	40	60	100	16	24	40	6	5
25		Allied	20U4GYA4	Allied -Travel and Tourism Management-II	25	75	100	10	30	40	3	3
26		Allied	20U4GYAP2	Allied Practical – Tourism Mapping (NS)	40	60	100	16	24	40	3	4
27		SBE - II	20U4GYS2	Skill Based Elective – II Field Survey	25	75	100	10	30	40	1	1
		Extra Credit Course	-	Massive Open Online Course (MOOC)	-	-	-	-	-	-	-	-
28	V	Core	20U5GYC7	Settlement Geography	25	75	100	10	30	40	5	5
29		Core	20U5GYC8	Agricultural Geography	25	75	100	10	30	40	5	5
30		Core	20U5GYC9	Natural Regions of the World	25	75	100	10	30	40	5	5
31		Core	20U5GYCP3	Practical - Map Projection and Surveying	25	75	100	10	30	40	6	5
32		Major Elective - I	20U5GYEL1A 20U5GYEL1B	Political Geography Medical Geography	25	75	100	10	30	40	5	3
33		Major Elective -2	20U5GYEL2A 20U5GYEL2B	Oceanography Regional Planning	25	75	100	10	30	40	5	3
34		Non Major Elective	20U5GYNME	Demographic Studies	25	75	100	10	30	40	3	2
35		SSD	20U6GYLSD	Life Skill Development		-	100	-	-	40	1	1
36	VI	Core	20U6GYC10	Geoinformatics	25	75	100	10	30	40	6	6
37		Core	20U6GYC11	Geography of India	25	75	100	10	30	40	6	5
38		Core	20U6GYCP4	Practical – Map and Image Interpretation	40	60	100	16	24	40	6	4
39		Major Elective -3	20U6GYEL3A 20U6GYEL3B	Geography of Tamil Nadu Geography of Asia	25	75	100	10	30	40	3	3
40		Major Elective -4	20U6GYEL4A 20U6GYEL4B	Disaster Risk Management Biogeography	25	75	100	10	30	40	3	3
41		CN	20U6GYCN	Comprehension	-	-	100	-	-	40	1	1
42		GK	20U6GYGK	General Knowledge (NS)	-	-	100	-	40	40	1	1
43				Extension Activities	-	-	-	-	-	-	-	1
				Total			4300				180	140

Skill Based Elective (offered by Dept. of Geography)	Non-Major Elective (Offered by Dept. of Geography)
Paper I 20U2GyS1- Thematic Mapping	
Paper II 20U4GYS2- Field Survey	V Semester: 20U5GYNME- Demographic Studies

ABBREVIATIONS

ESE: Environmental Studies	LSD: Life Skill Development
VBE: Value Based Education	GK: General Knowledge
SBE: Skill Based Elective	NME: Non-Major Elective
GS: Gender Studies	EA:Extension Activities
ME:Major Elective	SS:Self Study
CC:Certificate Course	
MOOC: Massive Open Online Course	

B.Sc., Geography (2020 - 2021)

Parts	Total No.Of courses	Total Marks	Total Credits	Classification
Part - I	04	400	12	√
Part – II	04	400	12	√
Part – III Core Allied Major Elective	16 06 04 26	1600 600 400 2600	76 20 14 110	√
Part – IV Environmental Studies Value based education Skill Based Elective Gender studies Non-Major Elective Life skill development General Knowledge Comprehensive Test	1 1 2 1 1 1 1 1 ----- 9	100 100 200 100 100 100 100 100 ----- 900	1 -- 2 -- 1 -- -- 1 ----- 05	√
Part – V	Extension Activity		1	X
Total	43	4300	140	√

Comprehensive Knowledge Test: Objective type question pattern with 100 compulsory questions carrying 100 marks to be answered in 3 Hours with 2 credits. The portion is entire core courses.

MOOC: Massive Open Online Course is introduced in the third and fourth semester as an extra credit course from this academic year 2020-2021. Students can avail any one or more of the courses available in MOOC to equip their skills and knowledge themselves.

Field Visit / Industrial Visit / Hands on Training Programme having minimum 15 hours of contact time as an Extra Credit course is introduced for II-year UG students to gain experiential learning.

Evaluation of the visit report will be held at the end of IV Semester

Components of Evaluation

Internal Marks	40
External Marks	60
Total	100

Project is introduced for III-year students to cater for the needs of advanced learners as extra credit course

Components of Evaluation

Internal Marks	40
External Marks	60
Total	100

Soft Skill Development course prescribed in V semester is changed as **Life Skill Development**.

This course will be handled by both Internal Staff and External Experts.

Mode of Assessment for this course is oral examination

Components of Evaluation

Internal Marks	40
External Marks	60
Total	100

Skill Based Elective offered by the Department

1. **Thematic Mapping**
2. **Field Survey**

Certificate course offered by the Department

Energy Resources will be conducted for III UG Students as an Extra Credit Course

MOOC Online Course – Extra Credit Course

Non – Major Elective Course offered by the Department

Demographic Studies.

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**Question Pattern for UG and PG Programmes for students to be
admitted during 2020 – 2021 and afterwards**

Total Marks: 75

QUESTION PATTERN

**SECTION – A
(Question 1 to 10)**

10 x 2 = 20 Marks

1. Short Answer Questions
2. Two Questions from each units (All are answerable)

**SECTION – B
(Question 11 to 15)**

5 x 5 = 25 Marks

1. 5 Paragraph type questions with "either / or" type choice.
2. One question from each unit of the Syllabus.
3. Answer all the questions.

**SECTION – C
(Question 16 to 20)**

3 x 10 = 30 Marks

1. 5 Essay type questions – any three are answerable.
2. One questions from each unit of the Syllabus.

B.Sc., Geography

Semester	Subject Code	Title Of The Paper	Hours Of Teaching / Week	No. of Credits
I	20U1GYT1	இக்கால இலக்கியம் (செய்யுள் , உரைநடை, சிறுகதை, புதினம், நாடகம் இலக்கிய வரலாறு)	6	3

நோக்கம்

1. தமிழ் மரபுக்கவிதை, புதுக்கவிதை முதலானவற்றை அறிமுகப்படுத்துதல்.
2. சிறுகதை, நாவல், கட்டுரை முதலான இலக்கிய வடிவங்களைக்காத்தல்.
3. இக்கால இலக்கியத்தின் மீதான கப்பை விருவித்தல்.

பயன்கள்

1. தமிழ் இலக்கியத்தின் மீதான ஆர்வம் மிகும்.
2. புதிய இலக்கிய வளங்களை அறிவார்.
3. கவிதை, சிறுகதை ஆகியவற்றைப் படைக்க முயல்வார்.

கூறு: 1 செய்யுள்

நேரம்:18

1. பாரதியார் : கண்ணன் என் காதலன் — கண்ணம்மா என் காதலி
(முதல்பாடல் மட்டும்)
2. பாரதிதாசன் : தமிழின் இனிமை, தமிழ் உணர்வு
3. கவிமணி : ஒற்றுமையே , உயர்வு நிலை - நாட்டுக்குழைப்போம்
4. சுரதா : சிக்கனம்

கூறு: 2 செய்யுள்

நேரம்:18

1. பட்டுக்கோட்டை கல்யாணசுந்தரம்:நாட்டுக்கொரு வீரன்
2. கண்ணதாசன் : காலக்கணிதம்
3. மு.மேத்தா: கண்ணீர் பூக்கள், ஊர்வலம், தாய், வெளிச்சம் வெளியே இல்லை
4. அப்துல் ரகுமான் : தேவகானம் - தேர்ந்தெடுக்கப்பட்ட 5 பாடல்கள்.

கூறு: 3 சிறுகதை

நேரம்:18

1. கேட்டிவி : குரல்கொடுக்கும் வானம்பாடி (1-10)
2. கேட்டிவி : மனோரஞ்சிதம் (1-10)

கூறு: 4 புதினம்

நேரம்:18

புதினம் : துணிந்தவன் - வல்லிக்கண்ணன்

கூறு: 5 நாடகம், இலக்கிய வரலாறு

நேரம்:18

- 1.நாடகம் : மாமன்னன் இராசராசன் - கு.வெ.பாலசுப்பிரமணியன்
- 2.இலக்கிய வரலாறு : இருபதாம் நூற்றாண்டு இலக்கியங்கள்

B.Sc., Geography

Semester	Course Code	Title of The Course	Hours of Teaching/ Week	No. of Credits
I	20U1GYE1	PART – II - Prose, Poetry and Communication Skills	6	3

Objective

- To initiate the students to understand English through Prose, Poetry and Basic Communicative Grammar.

Unit – I

- | | |
|--------------------|---|
| Shakespeare | - Shall I Compare Thee to a Summer's Day? |
| John Milton | - On His Blindness |
| William Wordsworth | - The Solitary Reaper |
| P.B.Shelley | - Song to the Men of England |
| Robert Frost | - The Road not Taken |
| Nissim Ezekiel | - Night of the Scorpion |

Unit – II

- | | |
|---------------------------------|-------------------------------|
| 1) The Running Rivulets of Man, | 2) Parliament is Marking Time |
| 3) The Lady in Silver Coat, | 4) Mr. Applebaum at Play |

Unit – III

- | | |
|---------------------------------------|--------------------------|
| 1) The Feigning Brawl of an Impostor, | 2) Thy Life Is My Lesson |
| 3) Solve the Gamble, | 4) The Stoic Penalty |

Unit – IV

- | | |
|---------------------------------|-------------------------------------|
| 1) Nobility in Reasoning, | 2) Malu the Frivolous Freak |
| 3) Bharath! Gird Up Your Loins! | 4) Honesty is the Cream Of Chastity |

Unit – V

- | | | | |
|---|-----------------------------|-------------|--------------|
| 1) The sentence | 2) Parts of Speech | 3) Nouns-I | 4) Nouns –II |
| 5) Adjectives | 6) Comparison of Adjectives | 7) Articles | 8) Pronouns |
| 9) Demonstrative, Indefinite, Interrogative, Distributive and Reciprocal Pronouns | | | |
| 10) Relative Pronouns | 11) Adverbs. | | |

Course outcomes:

After the completion of this course, students will be able to

- **understand and appreciate the English Prose, Poetry and basic functional communicative Grammar and study on style and substance.**
- **develop interest in appreciation of literature**
- **integrate the use of the four language skills: LSRW.**
- **communicate appropriately and use English effectively**
- **imbibe ethical, moral, national and cultural values**

Prescribed Texts:

- K.T.V. *A Melodious Harmony*. Thanjavur: Rajendra Publishing House, 2017.
- Natarajan, K. *Flying Colours*. Chennai: New Century Book House (P) Ltd., 2017.
- David Green, *Contemporary English Grammar Structures and Composition*. Chennai: TRINITY, Laxmi Publication (P) Ltd. 2019.

B.Sc., Geography

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
I	20U1GYC1	EARTH SYSTEM	6	3

Objectives

1. To introduce the fundamentals of atmospheric phenomena, global climate systems and climate change.
2. To know atmosphere and climate are a critical part of the earth system, and climatic Variability and climate change are vital role to the issue of current and future global environmental change.
3. To learn about the dynamics of the atmosphere, the ocean and the overall climatologically system.
4. To expose the nature of physical systems such as geomorphologic processes and natural hazards.

Unit I

Solar System: Mechanism of Solar System - Kepler's Law of Planetary Motion - Planets - Inner Planets - Outer Planets, The Earth: Origin - Nebular Hypothesis - Planetesimal Hypothesis - Tidal Hypothesis - Electro Magnetic theory - Binary Star Theory- Bigbangtheory, Age of the Earth-

Unit II

Divisions of the Earth: Atmosphere - Hydrosphere - Lithosphere
Interior Structure of the Earth: Crust - Mantle -Core - Rocks: Igneous Structure - Extrusive Bodies - Intrusive structure - Classification - Sedimentary Rocks: Structure - Classification - Metamorphic Rocks

Unit - III

Folds: Types, Faults: Classification - Occurrence, Earth Movement: Endogenitic Movement: Types, Extogenetic Movement - Plate Tectonics: Evidence - Plate Motion

Unit IV

Volcanoes: Classification - Structure, Volcanic Eruption: Types, Volcanic Landforms - World distribution of Volcanism, Earthquake: Origin - Classification - Causes - Effects - Distribution - Magnitude of Earthquake, Earthquake in India.

Unit V

Landforms: Mountains - Classification - Origin of Fold Mountain - Indian Mountain System - Distribution, Lakes: Classification - Origin of Lake Basin, Plains, Plateaus, Continental Drift, Isostasy.

Outcomes

After completion the student will

1. Understand the relative sizes of the planets within the solar system.
2. Understand the effect of rotation of revolution the Earth.
3. Understand the interior structure of the earth.
4. Explain the Fundamentals of Geotectonic and Geomorphology.
5. Understand the work of internal and external forces and their associated Landforms.
6. Appear competitive examinations

Reference Books:

1. Balbir Singh Negi, Physical Geography, S. J. Publications, Meerut.
2. Das Gupta. A., and Kapoor. A .N. Principles of Physical Geography, S.C. Chand & company Ltd.
3. Strahler A. H. and Strahler A. N. – Modern Physical Geography, New York, John Wiley and sons.
4. Robinson. H. Physical Geography, Mac Donald and Evans Ltd.
5. Thorn Bury. D. Principles of Geomorphology, Wiley Eastern Ltd, New Delhi.
6. Sharma. V. K. Earth Surface Process and Forms, Tata Mc Graw – Hill Publishing Company Ltd, New Delhi.

B.Sc., Geography

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
I	20U1GYC2	CARTOGRAPHY	5	5

Objectives

To learn about

1. the relationships between ideas by dragging concepts to the correct places on a concept map.
2. the concept and classification of scales.
3. the bearings and map projections and utm projections.
4. to use cartograms for the representations of data.

Unit I

Definition, Nature, Scope and Content of Cartography – History, Art and science of Cartography – Cartography as a system of communication - Impact of technology - Branches of Cartography.

Unit II

Maps – Classification of Maps – Uses of Maps – Growth, development and modern trends in cartography - Map Design and Layout – Limitations-Map Scale – Types, concept and application – Geographical construction of Plain Linear, Statement, Diagonal and Comparative – Representative Fractions - Uses.

Unit III

Shape, Size and Direction Dimension of The Earth – Plane, Spherical and Rectangular Systems – Map Projections – Conical, Cylindrical and Zenithal - Major Map Projections- Maps compilation and generalization.

Unit IV

Map design and layout – Principles and constraints – Formats of map - design of map symbols- Lettering – style, form and size – Mechanics of lettering – Positioning of letters – Geographical names. Map drawing and measuring Techniques – Map setting.

Unit V

Map Reproduction – Process of Map production – Photographic systems– Multiple Reproduction Processes – Computer application in Cartography – Computer mapping – Remote Sensing and Cartography – Uses of Air photographs and Satellite images in Cartography - Instruments – Duplicating process – Printing process.

Outcomes

On the completion of the course, the student will be able to

1. understand map characteristics and map design
2. Acquire basic knowledge about thematic mapping, cartogram and concept of point, line and area data
3. Understand the techniques of constructing different types of cartograms (line graph, bar graph, pie graph, etc) by representing various geographical data.
4. Understand the techniques of preparing different thematic maps using choropleth and isopleth method.
5. Acquaint with different cartographic techniques for measurement and representation of various facets of topography or terrain condition of an area.
6. Become cartographer.

Reference Books:

1. Misra R . P and A. Ramesh – Fundamentals of Cartography, Concept Publishing Company.
2. Erwin and Raisz – Principles of Cartography, Me Graw Hill Book Company.
3. Robinson. H. - Elements of Cartography, John Wiley and Son Inc.
4. Monkhouse – Map and Diagrams.
5. R. C. Singh – Elements of Practical Geography Students to Friends, Allahabad.

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Semester	Subject code	Title of the paper	Hours of Teaching/ Week	No. of Credits
I	20U1GYA1	Allied Statistics – I	4	4

OBJECTIVES:

- To teach the types and methods to collect the quantity of data.
- To enrich the knowledge of analyzing the data and drawing conclusions from it.
- To impart the knowledge of central tendency, measures of dispersion, correlation and regression analysis.

Unit I

15 Hrs

Collection of data: Primary and Secondary – Methods of Primary data collection - Sources of Secondary Data – Classification and Tabulation.

Unit II

15 Hrs

Formation of Frequency distribution : Presentation of data by Diagrams and Graphs – Bar diagram, Pie diagram, Pictogram and Cartogram – Histogram, Frequency polygon, Frequency curve and ogives.

Unit III

15 Hrs

Measures of Central tendency: Arithmetic Mean(step deviation method excluded), Median, Mode, Geometric Mean and Harmonic Mean

Unit IV

15 Hrs

Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation (*Direct method and simple problems only*).

Unit V

15 Hrs

Correlation and Regression Analysis: Correlation – Karl Pearson coefficient of correlation – Spearman’s rank correlation – Simple linear regression – two regression lines.

COURSE OUTCOMES:

After completion of the course, the student will be able to

- Organize, manage and interpret the data.
- apply statistical data graphically using frequency distribution and cumulative frequency distribution.
- analyze statistical data using measures of central tendency, dispersion and location.
- calculate measures of dispersion.
- calculate and interpret the correlation between two variables.

Textbook:

Business Mathematics and Statistics (Part- II), PA. Navanitham, Jai Publishers, Trichy, 2014.

Unit I : Chapter 1 (Pages: 28 – 40, 60 – 80, 83 - 91)

Unit II : Chapter 6 (Pages: 98 – 147)

Unit III: Chapter 7 (Pages: 159 – 181, 196 – 209, 212 – 227, 251 - 260)

Unit IV: Chapter 8 (Pages: 301 – 328, 331 – 332, 336 - 337)

Unit V : Chapter 12, 13 (Pages: 506 – 521, 540 - 553)

References:

1. *Statistical Methods – S.P.Gupta.*
2. *Statistics – R.S.N.Pillai and V.Bagavathi.*
3. *Statistics – Theory, Methods and Application – D.C.Sancheti and V.K.Kapoor.*
4. *Applied General Statistics – Frederick – E.Croxton and Dudley J.Cowden.*

Semester	Subject code	Title of the paper	Hours of Teaching/ Week	No. of Credits
I & II	20U2GYAP1	Allied Statistics Practical (N.S)	3 + 3	-

OBJECTIVES:

- To teach the linear relationship between two variables.
- To impart the knowledge of the distribution using measures of central tendency and dispersion.
- To introduce the concept of various tests in analyzing the data.

1. Frequency distribution.
2. Mean, Median, mode
3. Quartile deviation
4. Moving average method for 5 years
5. Method of least square
6. Co-efficient of correlation between x and y
7. Goodness of fit Test - ψ^2 distribution
8. F-Test: Equality of two population variances
9. Lagrange's Interpolation
10. ANOVA - One way classification.

COURSE OUTCOMES:

After completion of the course, the student will be able to

- To carry out the test for the equality of the two population variance,
- To understand how to use an F-test to judge whether several population means are all equal.
- To understand how to use a chi-square test to goodness of fit.
- To examine the spread of a distribution using measure of its central tendency.
- To correlate the relation between two variables.

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Se mester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
II	20U2GYT2	இடைக்கால இலக்கியம் - பயன்முறைத் தமிழ் - இலக்கண வரலாறு	6	3

நோக்கம் :

1. தமிழிலக்கிய வரலாற்றில் பக்தி இலக்கியங்கள் பெறும் சிறப்பை உணர்வர்.
2. சமய வழிச் சமூக மாற்றத்தின் பெறுவர்.
3. சமய நல்லிணக்க உணர்வை மாணவர்கள் பெறுவர்.

பயன்கள் :

1. பல்வகை சமய இலக்கியப் போக்குகளை அறிந்து கொள்வர்.
2. சமயவழித் தமிழரின் வாழ்வியலை அறிவர்.
3. பல்வகை சமயக் கோட்பாட்டினை அறிந்துகொள்வர்.

கூறு: 1

நேரம்: 18

1. திருஞானசம்பந்தர் தேவாரம் : சீகாழி திருப்பதிகம் (பா.எ.360—370)
2. திருநாவுக்கரசர் தேவாரம் : திருவையாற்றுப் பதிகம் (பா.எ.124—133)
3. சுந்தரர் தேவாரம் : திருமழபாடி பதிகம் (பா.எ.1-10 பாடல்கள்)
4. மாணிக்கவாசகர் : திருவாசகம் - பிடித்த பத்து

கூறு: 2

நேரம்: 18

1. பெரியாழ்வார்: திருமொழி - தாய்ப்பால் உண்ண அழைத்தல் 10 பாடல்கள்
2. குலசேகர ஆழ்வார்: பெருமாள் திருமொழி- தாலாட்டு - 10 பாடல்கள்
3. ஆண்டாள் நாச்சியார்: நாச்சியார் திருமொழி- திருமணக்கனவை உரைத்தல்
4. திருப்பாணாழ்வார்: அமலனாதிபிரான் -10 பாடல்கள்

கூறு: 3

நேரம்: 18

1. குமரகுருபரர்: மீனாட்சியம்மைப் பிள்ளைத் தமிழ் வருகைப் பருவம் - 10 பாடல்கள்
2. திரிகூடராசப்பக்கவிராயர் : குற்றாலக் குறவஞ்சி - குறத்தி மலைவளம் கூறல்
3. வீரமாமுனிவர்: தேம்பாவணி - காட்சிப்படலம் முழுவதும்
4. உமறுப்புலவர் : சீறாப்புராணம்-விலாதத்துக் காண்டம்- கதீஜா கனவு கண்ட படலம்.

கூறு: 4 பயன்முறைத் தமிழ்

நேரம்: 18

எழுத்தியல்: உயிரெழுத்து, மெய்யெழுத்து, உயிர்மெய்யெழுத்து, முதலெழுத்து, சார்பெழுத்து, மொழிக்கு முதலாக இருதியாக வரும் எழுத்துக்கள், போலி. சொல்லியல்: இலக்கண, இலக்கிய வகையிலான சொற்கள். பொதுவியல் : எழுத்துப் பிழைகளை நீக்குதல், எழுத்துப் பிழைகளும் திருத்தங்களும், வலிமிகுதல், வலிமிகாமை, வாக்கிய அமைப்புகள் நிறுத்தற் குறியீடுகள்.

கூறு: 5 இலக்கண இலக்கிய வரலாறு

நேரம்: 18

1. இலக்கண வரலாறு (தமிழ்த்துறை வெளியீடு)
2. தமிழ் இலக்கிய வரலாறு: இடைக்கால இலக்கியம்

பயன்கள்

1. பல்வகை சமய இலக்கியப் போக்குகளை அறிந்து கொள்வர்.
2. சமயவழித் தமிழரின் வாழ்வியலை அறிவர்.
3. பல்வகை சமயக் கோட்பாட்டினை அறிந்துகொள்வர்.
4. பிழையின்றி எழுதப் பழகுவர்.

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Semester	Course Code	Title of The Course	Hours of Teaching/ Week	No. of Credits
II	20U2GYE2	PART – II- Extensive Readers and Communicative Skills	6	3

Objective

- **To impart language and communicative skills through short stories, one-act plays and communicative grammar.**

Unit – I

- Shakespeare – The Seven Stages of Man
- Longfellow – A Psalm of Life
- Nissim Ezekiel – Enterprise
- William Wordsworth – The world is too much with us

Unit – II

- Anton Chekhov – The Bear
- Cedric Mount – The Never-Never Nest
- Farrell Mitchell – The Case of the Stolen Diamonds
- M.V. Rama Sharma – The Mahatma

Unit - III

- Fyodor Dostoevsky – The Christmas Tree and the Wedding
- The Duchess – The Jewelry
- O. Henry – The Romance of a Busy Broker

Unit – IV

Verb, Verbs – Mood and Tense, Concord or Agreement of the verb with the subject.

Unit – V

The Auxiliaries, Model Auxiliaries, Preposition, Conjunctions, Interjection.

Course outcomes

After the completion of this course students will be able to

- **promote the linguistic and communicative objectives through the study of poems, short stories and the communicative grammar.**
- **gain language and communicative skills through short stories**
- **identify and differentiate different forms of literature.**
- **engage in reflective writing after learning the prescribed lessons.**
- **enhance the communicative skills through LSRW**

Prescribed Texts:

- *Voices of Vision*, Board of Editors, NCBH, Chennai, 2016.
- *Communicative Grammar*, The Department of English Course Material.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
II	20U2GYC3	GEOMORPHOLOGY	5	5

Unit I Weathering: Factors affecting weathering - Classification - Physical Weathering - Chemical Weathering - Biotic Weathering - Products of Weathering, Mass Wasting - Classification - Factors and Controlling of Mass Wasting, Soil: Formation - Profile - Classification - Erosion - Soil Groups of India.

Unit II River: Work of River - Erosional Work of Rivers - Transportation of Rivers - Depositional Work of Rivers - Landforms Produced by Rivers, Erosional Landforms: River Valleys -Potholes- Waterfalls-Rapids - Interlocking Spurs - Structural Benches - River Terraces Meanders and Oxbowlakes- Incised Meanders - Peneplains, Depositional Landforms: Alluvial Fans And Cones - Flood Plains - Natural Levees -Delta: Ideal Condition for Formation, Structure, Growth, Classification. Major Deltas of Indian Rivers.

Unit III Glaciers: Development - Type: Cirque Glaciers - Valley Glacier - Piedmont Glaciers - Continental Glaciers, Thermal Classification of Glaciers, Glacial Movements, Glacial Erosion: Plucking - Abrasion - Mass Wasting - Striations - Polished Surface - Grooves - Friction Creeks - Glacial Deposits: Moraines - Drumlins - Eskers - Kames - Kame Terraces - Kettle Holes - Outwash Plains - Glacial Drift - Till - Stratified Drift.

Unit IV Arid Landforms: Characteristics of Arid Regions - Types of Deserts - Major Landforms of Arid Region: Bolson - Playa - Desert Pavements - Bajadas - Pediment -Erosional Landforms: Deflation Hollows(Blow Outs) - Desert Pavements - Ventifacts - Pedestal Rocks - Yardang- Zeugen, Depositional Landforms: Ripples - Sand Ridges - Large Scale Forms - Sand Shadows and Sand Drifts -Sand Sheets - Sand Levees or Whale- Backs -Sand Dunes - Sand Sea (or) Ergs - Dust and Loess Deposits.

Unit V Coastal Landforms: Coastal environment, Classification of Coast and Shoreline - Indian Coastline - Classification of Indian Shoreline, Waves: Origin - Structure - Types - Tides and Currents - Wind Generated Waves - Types of Breakers, Marine Process, Erosional Landforms, Depositional Landforms

Outcomes

1. Understanding crustal mobility and tectonics; with special emphasis on their role in landform development
2. Establishing the relationships between landforms, processes and underlying structure
3. Overview and critical appraisal of landform development models
4. Study the formation of Rocks
5. Study the erosional and depositional land forms of Rivers and Sea Waves.
6. Understand the concept of mass Wasting
7. Understand the Application of Geomorphology

Reference Books:

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1. Balbir Singh Negi, Physical Geography, S. J. Publications, Meerut.
2. DasGupta.A.and Kapoor.A.N.Principles of Physical Geography,
3. Strahler A. H. and Strahler A. N. – Modern Physical Geography,
4. Robinson. H. Physical Geography, Mac Donald and Evans ltd.
5. Thorn Bury. D. Principles of Geomorphology, Wiley Eastern ltd, New Delhi.
6. Sharma. V. K. Earth Surface Process and Forms, Tata Mc Graw – Hill Publishing Company Ltd, New Delhi.

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
II	20U2GYCP1	Core Practical – MAP SCALE AND REPRESENTATION OF TERRAIN DATA	4	4

Objectives

To obtain the knowledge about

1. the graphical construction of scales.
2. using cartograms to represent thematic maps.
3. the concept of logarithmic, natural and scales.
4. the concepts of diagrammatic representation of data.

Unit I

Construction and Conversion of scales

Unit II

Measurements of distances and areas

Unit III

Map Enlargement and reduction

Unit IV

Representation of relief: Hachures Methods, Spot heights, Bench marks

Unit V

Contour diagrams of relief features – Interpolation of contours

Outcomes

After completion of the paper the student will know

1. Measure Map Scales, conversion of scales
2. Preparation of various graphs and diagrams
3. About the different cartographic methods for representing and interpreting socio-economic data. This will help the students in their project work.
4. The basic quantitative methods which can be applied to analyze geographical data and interpret the same
5. To use map scale to understand how scale changes across the map projection;
6. To compute scale factors at locations across a map projection
7. To characterize distortion for the basic classes of map projections (cylindric, conic, and planar) through Geocart through the use of scale factors.

Reference Books:

1. Gopalsingh – Map work and practical geography, Vikas publishing house.
2. Ishtiaq – Practical geography, Jawahar publishing and distributors.
3. Monkhouse. F. J. and H. R. Wilkinson – Map and designs, B. I. publications.
4. ZamirAlvi – A text book of practical geography, Vikas publishing house Pvt Ltd.
5. Zulfequar Ahmad khan. M. D. Text book of practical geography, Concept publishing company, New Delhi.

Semester	Subject code	Title of the paper	Hours of Teaching/ Week	No. of Credits
I & II	20U2GYAP1	Allied Statistics Practical (NS)	3 + 3	2

OBJECTIVES:

- To teach the linear relationship between two variables.
- To impart the knowledge of the distribution using measures of central tendency and dispersion.
- To introduce the concept of various tests in analyzing the data.

1. Frequency distribution.
2. Mean, Median, mode
3. Quartile deviation
4. Moving average method for 5 years
5. Method of least square
6. Co-efficient of correlation between x and y
7. Goodness of fit Test - χ^2 distribution
8. F-Test: Equality of two population variances
9. Lagrange's Interpolation
10. ANOVA - One way classification.

COURSE OUTCOMES:

After completion of the course, the student will be able to

- To carry out the test for the equality of the two population variance,
- To understand how to use an F-test to judge whether several population means are all equal.
- To understand how to use a chi-square test to goodness of fit.
- To examine the spread of a distribution using measure of its central tendency.
- To correlate the relation between two variables.

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Semester	Subject code	Title of the paper	Hours of Teaching/ Week	No. of Credits
II	20U2GYA2	Allied Statistics-II	4	4

OBJECTIVES:

- To provide wide knowledge about the various statistical tools.
- To enhance analytical ability in students for processing data.
- To acquaint students with basic concept of chi-square distribution.

Unit I

15 Hrs

Curve fitting: Principles of Least squares - Fitting of straight line - Fitting of parabola - Fitting of power curves.

Unit II

15 Hrs

Interpolation and Extrapolation: Methods of Interpolation-Lagrange's Method-Parabolic Curve Method-Extrapolation.

Unit III

15 Hrs

Statistical Inference: Tests of Hypotheses - Tests of Significance for Small Samples - The Assumption of Normality-Students t-Distribution -Properties of t-Distribution - Application of the t-Distribution .

Unit IV

15 Hrs

ψ^2 Test and Goodness of Fit: Introduction - ψ^2 Defined - Degrees of Freedom - The Chi-Square Distribution - Constants of ψ^2 Distribution - The ψ^2 Test when the Degrees of Freedom Exceed 30 - Alternative Method of Obtaining the value of ψ^2 - Conditions for Applying ψ^2 Test, Uses of ψ^2 Test - Additive property of ψ^2

Unit V

15 Hrs

F-Test and Analysis of Variance: The F-Test or the variance Ratio Test Applications of F-test - Analysis of variance - Assumptions in Analysis of variance - Technique of analysis of variance - Coding of Data

COURSE OUTCOMES:

After the completion of the course, the student will be able to

- apply the skills and knowledge that translate information presented verbally into statistical form.
- fit a straight line and parabola.
- gain insights regarding the population parameters from the observed data.
- analyze variance using various method
- apply large and small sample test in real life situation.

Text Book:

1. **Business Mathematics and Statistics**, P. A. Navnitham, Jai Publishers, Trichy, 2014
UNIT - I : Chapter 11 (Pages: 496 - 502)
2. **Statistical Methods**, S. P. Gupta, Thirty-fourth Edition, 2005.
UNIT - II: Volumes I : Chapter 15 (Pages: 622 - 653)
UNIT - III: Volumes II : Chapter 3 (Pages: 882 - 888, 910 - 929)
UNIT - IV: Volumes II : Chapter 4 (Pages: 952 - 972)
UNIT - V: Volumes II : Chapter 5 (Pages: 1006 - 1018)

Reference:

"Fundamentals of mathematical statistics", S.C and Kapoor V.K., Sultan Chand & Sons 2002.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
II	20U2GYS1	Skill Based Elective – I THEMATIC MAPPING	1	1

Objectives

To teach about

1. the concept of logarithmic, natural and scales.
2. the concept of diagrammatic representation of data.
3. to prepare and interpret geological maps, weather maps, land use and land cover maps and socio economic maps.
4. the National agencies like GSI, NATMO, NBSSLUP, BHUVAN, NRSR and NHO.

Unit I

Thematic Maps – Definition – Types – Problems – Diagrammatic Data
Presentation – Line, Bar and Circle - Cartographic Overlays – Point, Line and Areal Data

Unit II

Map symbolization – Point, line and area symbols – Qualitative and Quantative Representation - Mapping of Physical – climatic – Socio economic data.

Outcomes

1. After completion of Thematic Mapping, the student will
2. Understand the map characteristics and map design
3. Acquire basic knowledge about thematic mapping, cartogram and concept of point, line and area data
4. Understand the techniques of constructing different types of cartograms (line graph, bar graph, pie graph, etc) by representing various geographical data.
5. Understand the techniques of preparing different thematic maps using choropleth and isopleth method.
6. Acquaint of different cartographic techniques for measurement and representation of various facets of topography or terrain condition of an area.
7. Find opportunity as cartographer.

Reference Books:

1. Misra R . P and A. Ramesh – Fundamentals of Cartography, Concept Publishing Company.
2. Erwin and Raisz – Principles of Cartography, Me Graw Hill Book Company.
3. Robinson. H. - Elements of Cartography, John Wiley and Son Inc.
4. Monkhouse – Map and Diagrams.
5. R. C. Singh – Elements of Practical Geography Students to Friends, Allahabad.

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Semester	Subject Code	Title Of The Paper	Hours Of Teaching / Week	No. of Credits
III	20U3GYT3	காப்பியங்கள், கட்டுரைகள், இலக்கிய வரலாறு	6	3

நோக்கம்

1. காப்பியங்களின் உள்ளடக்கம், உத்திகளைக் கற்றுக்கொடுத்தல்.
2. காலந்தோறும் காப்பியங்களில் காணலாகும் பாடுபொருள்களின் மாற்றங்களை எடுத்துரைத்தல்.
3. காப்பியச்சுவையை மாணவர்கள் அறிந்து கொள்ளச் செய்தல்.

பயன்கள்

1. காப்பியங்கள் வாயிலாக அக்காலச் சமுதாயச் சூழலை அறிவர்.
2. பல்வேறு காப்பியங்களையும் ஒப்பிட்டு அவற்றின் தனித்தன்மைகளை அறிந்துகொள்வர்.
3. மீட்டுருவாக்கச் சிந்தனைகளை அறிவர்.

கூறு: 1 காப்பியங்கள் 1

நேரம்: 18

1. சிலப்பதிகாரம்: மதுரைக்காண்டம்-வழக்குரைகாதை
2. மணிமேகலை; மலர்வனம் புக்ககாதை
3. சீவக சிந்தாமணி: சுரமஞ்சரியார் இலம்பகம்
4. கம்பராமாயணம்: கங்கைப் படலம்

கூறு: 2 காப்பியங்கள் 2

நேரம்: 18

1. பெரியபுராணம் : மெய்ப்பொருள் நாயனார் புராணம்-முழுவதும்
2. அரிச்சந்திரபுராணம்: மயான காண்டம்
3. தேம்பாவணி: திருமணப் படலம்-1-10 பாடல்கள்
4. சீறாப்புராணம் : நபி அவதாரப் படலம்-1-10 பாடல்கள்.

கூறு: 3 கட்டுரைத் தொகுப்பு

நேரம்: 18

1. கேட்டிவி - இராகபாவம் (1-10)
2. கேட்டிவி - பயணங்கள் தொடரும்

கூறு: 4 கட்டுரைகள், கடிதங்கள் மொழிபெயர்ப்புப் பயிற்சி

நேரம்: 18

- பயிற்சிக்கட்டுரைகளும் கடிதங்களும் -பாவை வெளியீடு
கட்டுரைப் பயிற்சி - 10 மதிப்பெண்கள்
மொழிபெயர்ப்புப் பயிற்சி - 5 மதிப்பெண்கள்

கூறு: 5

நேரம்: 18

அ. இலக்கிய வரலாறு

காப்பிய இலக்கியங்கள் - சிற்றிலக்கியங்கள்

பயன்கள்

1. காப்பியங்கள் வாயிலாக அக்காலச் சமுதாயச் சூழலை அறிவர்.
2. பல்வேறு காப்பியங்களையும் ஒப்பிட்டு அவற்றின் தனித்தன்மைகளை அறிந்துகொள்வர்.
3. மீட்டுருவாக்கச் சிந்தனைகளை அறிவர்.
4. கட்டுரை எழுதும் திறன் பெறுவர்.
5. கடிதங்கள் எழுதும் பயிற்சி பெறுவர்.

Semester	Course Code	Title of The Course	Hours of Teaching /Week	No. of Credits
III	20U3GYE3	PART - II Shakespeare, Extensive Readers And Communicative Skills	6	3

Objective

- **To introduce the language and creativity of the world renowned dramatists and novelists to enhance the communicative skills of the learners.**

Unit – I

Julius Caesar
The Merchant of Venice

Unit – II

Macbeth
Twelfth Night

Unit – III

Romeo and Juliet
Tempest

Unit – IV

Charles Dickens – David Copperfield.

Unit – V

Simple, Compound, Complex and Compound – Complex Sentences, Analysis of Simple Sentences, Clauses, analysis of Complex Sentences, Analysis of Compound Sentences and Compound – Complex Sentences, Synthesis of Sentences, Transformation of Sentences – I, Transformation of Sentences – II

Course outcomes

After the completion of this course students will be able to

- **promote their communicative skills through the study of Shakespeare and modern communicative methods.**
- **expand their perception interacting with the culture across the world**
- **imbibe moral and ethical prescriptions**
- **appreciate the creative genius and affluent expressions of Shakespeare**
- **develop the creative and analytical faculty**

Prescribed Texts:

Natarajan, K.ed. *Selected Scenes from Shakespeare*. Chennai: NCBH, 2017.
Hardy, Thomas. *The Mayor of Casterbridge*. (abridged) Chennai: Macmillan Publishers, 2012.
Communicative Grammar. Department of English Edition. 2017.

B.Sc., Geography

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
III	20U3GYC4	CLIMATOLOGY	5	5

Objectives

1. To introduce the fundamentals of atmospheric phenomena, global climate systems and climate change.
2. To know atmosphere and climate are a critical part of the earth system, and climatic Variability and climate change are vital role to the issue of current and future global environmental change.
3. To grasp the techniques for modeling the climate, covering both theoretical and technical aspects.
4. To learn about the dynamics of the atmosphere, the ocean and the overall climatologically system.
5. be able to analyze and interpret climatic data.

Unit I Atmosphere – origin, Composition of the atmosphere and structure – Layered structure of atmosphere, Modern views regarding the structure of atmosphere. Insolation: Distribution of insolation – Atmospheric depletion of solar radiation – heat budget.

Unit II Temperature of the Atmosphere – Heat and temperature, processes of heat energy transfer – Heating and cooling of the atmosphere – controls of temperature factors affecting distribution – seasonal horizontal and vertical – normal lapse rate – temperature inversion.

Unit III Air pressure – variations in air pressure and weather – Pressure gradient, pressure variations – diurnal and seasonal, Basic atmospheric pressure patterns – vertical structure of cyclone and anticyclones, general characteristics of cyclones and anticyclones – vertical variations in air-pressure, wind – controlling factors, general circulation planetary wind belts, seasonal winds – Monsoon winds – original and characteristics – local wind, land breeze and sea breeze El Nino – La Nino.

Unit IV Humidity – source of atmospheric moisture – the hydrological cycle, Humidity and temperature, Humidity measurements, Evaporation, Factors affecting rate of evaporation, condensation – Forms of condensations – clouds – types precipitation forms– air masses – tropical and temperature cyclones – thunderstorms – jet streams, toranado.

Unit V Classification of climate–Basic classification, Koppen’s Thornthwalte’s classification – Trewarthais classifications, weather and forecasting methods – benefits of forecasting.

Outcomes

After completion of climatology, the student will be able to

1. Learn the factors like insolation, heat budget, horizontal and vertical distribution of temperature and inversion of temperature.
2. Understand about the circulation of upper air and mechanism of wind system in respect to surface wind.
3. Understand the evaporation, forms of condensation and precipitation helps the water cycle as a climatic component.
4. Know about the cyclonic and anti-cyclonic situation, their formation and dissipation over the globe and associated weather condition.
5. Comprehend the Scheme of climatic zones, issues related to weather and climate, climate change, global warming etc.
6. Gather a sound knowledge of weather and climate and they can contribute in the field of agriculture by weather forecasting, climatic observation etc.
7. Get opportunities in agriculture organizations and other government agencies like Indian Space Research Organization (ISRO) etc...

Reference Books:

1. Lal. D.S. Climatology, Chaitanya Publishing House, Allahabad.
2. Howard J. Chritchfield, General Climatology, Prentice- Hall of India Pvt Ltd.
3. Glen. T. Trewartha and Iyes H. Horn An Introduction to Climate, International student Edition. Mc Graw Hill International Book Company.
4. Patterson – Climatology.
5. Barry & Chorley – Atmosphere, Weather and Climate.

B.Sc., Geography

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
III	20U3GYC5	HUMAN GEOGRAPHY	5	4

- Unit I** Scope and Content – Human Races – Classification – Distribution – Growth Of Population, Density of Population Elements of Urban System – Rural Urban Ratio, Pattern of Urbanization, Metropolitan cities of India – Delhi, Mumbai, Calcutta, Urban Region of India – North Indian Plains Southern India, Island Regions.
- Unit II** Concept Of Culture – Small Town, Major Town City, Metropolis, Functional Classification Of Towns – Administrative Towns, Commercial Towns, Market Towns, Mining Towns, Industrial Towns, Cultural Towns, Residential Towns.
- Unit III** World Cultural Regions – Ecological Models of Urban Structure – Concentric Zone Theory, Central Business District, Zone In Transition, Residential Zone etc. Von Thunen’s Model, Food Gathers, AunTERS – Cultivators, Nomads, Levels of Culture in Twentieth Century.
- Unit IV** Population – Factors controlling population distribution – Problems of Over Population and Under Population – Migration Types, Causes, Consequences of Migration etc.
- Unit V** Settlements: Town and Village- Types of origin, Growth and spread of Medieval Towns, Cycle of Urban development Relationship between Urbanization and Economic Development,- Recent trends in human geography

Reference Books:

1. Majid Husain – Human Geography, Rawat Publications.
2. Gillian C. Morgan – human and Economic Geography, Oxford University Publication.
3. Aime Vincent Perpillou – Human Geography, Longman Group Limited.
4. C. Daryll Forde – Habitat Economy and Society, Methuen Publishers.
5. Chanda R. C. Population Geography, Kalyani Publishers.
6. Ray M. Northam – Urban Geography, John Willey And Sons Publications.

Outcomes

1. Understanding of and appreciation for the relationship between geography and culture.
2. General understanding of global human population patterns, factors influencing the distribution and mobility of human populations including settlement and economic activities and networks, and human impacts on the physical environment.
3. Able to think in spatial terms to explain what has occurred in the past as well as using geographic principles to understand the present and plan for the future.
4. General understanding of how the physical environment, human societies, and local and global economic systems are integral to the principles of sustainable development.
5. General understanding of the various theoretical and methodological approaches in both physical and human geography and be able to develop research questions and critically analyze both qualitative and quantitative data to answer those questions.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
III	20U3GYA3	Allied – 1 TRAVEL AND TOURISM MANAGEMENT-I	4	4

- UNIT I** Tourism – definition – Growth and development of tourism - Components: Accessibility, Accommodation, Attraction – Motivation – Seasonality - Tourist statistics - Components of tourism industry – travel, hospitality, visitors services – distance, modes, cost, - culture and hospitality – food, beverages – stay and accommodation.
- UNIT II** Growth of Tourism - History of travel: Ancient, medieval and modern period - Accounts of famous travelers - origin and concept of the annual holiday – Industrial revolution and Development of travel.
- UNIT III** Types of Tourism: Religious, Cultural, Historical, Recreational, Coastal, Ecological and Medical tourism - Forms of Tourism: National tourism (Domestic) -International Tourism (Inbound and Outbound Tourism) –New Forms of Tourism: Adventure, Green Tourism, Eco tourism, Health, MICE Tourism, Soft Tourism, Sports Tourism and Rural tourism.
- UNIT IV** Accommodation – types of accommodation, accommodation – time sharing – tours and tour operators – private and public tourism development corporations - -Tourism promotion – Role of advertising and publicity - audio, visual, photographs, posters, information offices – Role of handicrafts, fairs, festival, exhibition.
- UNIT V** Economic and Social significance of tourism - Impacts of Tourism: Socio Cultural, Economic, and Environmental impacts - Effects on employment - Development of infrastructure - Tourism as a foreign exchange earner.

Reference Books:

1. Swain and Mishra (2011), "Principles of Tourism", Oxford University Press, New Delhi
2. A.K.Bhatia,(2012) "Tourism Development: Principles and Strategies, Sterling Publishers, New Delhi
3. Sinha, P.C., (2005), "Tourism Management" Vol. – 4", Anmol Publications, New Delhi.
4. Velvet Nelson (2013) – An Introduction to the Geography of Tourism, Rowman & Littlefield Publishers
5. Ballabh, A (2005), "Fundamentals of Travel and Tourism", Akansha Publishing House, NewDelhi
6. Manett Kumar – Tourism Today, Kanishka Publishing House, Kelhi.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
III & IV	20U4GYAP2	Allied Practical – TOURISM MAPPING	3+3	-

Objectives

To learn about

1. The knowledge of currency code and its conversion.
2. The concepts and issues of tourism, recreation and leisure.
3. The use of information to plan destination and marketing tourism products.
4. Tourism impact assessment.
5. Increasing global tourism.
6. The details of tourism in India and Tamil Nadu.

Unit I

Latitude, Longitude, distance and time – Latitude and Distance – Longitude and time – International date line -World Time Zones- Directions and Bearing.

Unit II

Currency Codes - Currency Conversion (INR, USD, EUR, JPY, CNY, MYR).

Unit III

Tourism Conventional Signs and Symbols -IATA Symbols and Abbreviations.

Unit IV

Representation of Tourism Data: Simple, Multiple and Compound Bar Diagrams- Flow Charts - Mapping of World Air Routes.

Unit V

Major Tourism Regions in the World - Major Tourism Regions in India – Locations of Tourism Attractions in Tamil Nadu.

Outcomes

After completion of the paper, the student will able to

1. know about concepts, nature and scope, inter-relationships of tourism, recreation and leisure.
2. understand about types of tourism.
3. Know about recent trends of tourism.
4. Develop an idea about tourism in India.
5. Know about National Tourism Policy

Reference Books:

1. MisraR . P and A. Ramesh – Fundamentals of Cartography, Concept Publishing Company.
2. Erwin and Raisz – Principles of Cartography, Me Graw Hill Book Company.
3. Robinson. H. - Elements of Cartography, John Wiley and Son Inc.
4. Monkhouse– Map and Diagrams.
5. R. C. Singh – Elements of Practical Geography Students to Friends, Allahabad.
6. IATA - Standards, Manuals & Guidelines, <https://www.iata.org/>
7. Currency Codes and Conversion, <https://www.exchange-rates.org/>
8. Tourism Data, <https://www.unwto.org/unwto-tourism-dashboard>
9. Tourism Map, <https://www.mapsofworld.com/>

B.Sc., Geography

Semester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
IV	20U4GYT4	சங்க இலக்கியம் - அற இலக்கியம் - செம்மொழி தமிழ் - இலக்கிய வரலாறு	6	3

நோக்கம்:

1. பழந்தமிழ் இலக்கியங்களின் திணைத்துறைக் கோட்பாடுகளை அறிதல்.
2. திணைசார் சமுதாய வாழ்வின் பல்வேறுபட்டப் பரிமாணங்களைப்
3. புலவர்கள் வாயிலாகவும் திணை இலக்கியத்தின் வாயிலாகவும் அறிதல்.
4. பழந்தமிழ் இலக்கியங்களின் உயர்தனித்தன்மை வாய்ந்த சிறப்பியல்புகளை அறிதல்.

ஹை: 1

நேரம்: 18

குறுந்தொகை

1. குறிஞ்சி : தலைவன் கூற்று-யாயும் ஞாயும் யாராகியரோ - பா.எ.-40
2. முல்லை : தலைவி கூற்று-கருங்கால் வேம்பின் ஒண்பூ யாணர் - பா.எ.-24
3. மருதம் : தோழி கூற்று-யாய் ஆகியளே விழவு முதலாட்டி - பா.எ.-10
4. நெய்தல் : தலைவி கூற்று : நள்ளன் றன்றே யாமம் - பா.எ.-6
5. பாலை: செவிலி கூற்று-பறைபடப் பணிலம் - பா.எ.-15

நற்றிணை

1. குறிஞ்சி-நின்ற சொல்லர் பா.எ. 1
2. முல்லை: இறையும் அருந்தொழில் - பா.எ.161
3. மருதம்: அறியாமையின் அன்னை - பா.எ.50
4. நெய்தல்: இவளே கானல் நண்ணிய - பா.எ.45
5. பாலை: புணரில் புணராது பொருளே-பா.எ.16

கலித்தொகை

1. பாலை: எறித்தரு கதிர் தாங்கி- பா.எ.9
2. குறிஞ்சி : காமர் கடும்புனல்- பா.எ.39

அகநானூறு

1. குறிஞ்சி: நீர்நிறம் கரப்ப-பா.எ.18
2. முல்லை: வந்துவினை- பா.எ.44

ஹை: 2

நேரம்: 18

1. ஐங்குறுநூறு : குறிஞ்சி -அன்னாய் வாழிப்பத்து -பா.எ.201-210
2. புறநானூறு : பாடல் எண்கள் - 9,16,20,51,109
3. பதிற்றுப்பத்து: ஆறாம் பத்து-பா.எ.1 வடுவடு நுண்ணுயிர், பா.எ.2.கொடி நுடங்கு நிலைய
4. பரிபாடல் : ஏழாம்பாடல் - வையை

ஹை: 3 பத்துப்பாட்டு

நேரம்: 18

1. குறிஞ்சிப்பாட்டு - முழுவதும்

ஹை: 4 அறநூல்கள்

நேரம்: 18

1. திருக்குறள்: செய்நன்றியறிதல், வினைத்திட்டம், நெஞ்சொடு கிளத்தல்
2. முதுரை: 1-10 பாடல்கள்.
3. நல்வழி: 11-20 பாடல்கள்
4. நீதிநெறி விளக்கம்: 51-60 பாடல்கள்

ஹை: 5

நேரம்: 18

அ. செம்மொழித் தமிழ்— இலக்கிய வரலாறு: செம்மொழி வரலாறு:

மொழி விளக்கம்-மொழிக்குடும்பங்கள்-உலகச் செம்மொழிகள் -இந்தியச் செம்மொழிகள் — செம்மொழித் தகுதிகள் - வரையறைகள் - தமிழின் தொன்மை -தமிழ்ச் செம்மொழி நூல்கள்.

ஆ. இலக்கிய வரலாறு:

சங்க இலக்கியங்கள், பதினெண் கீழ்க்கணக்கு நூல்கள்.

பயன்கள்

1. பழந்தமிழ் இலக்கியங்களை ஆய்வியல் நோக்கில் அணுகுவதற்கான வழிமுறைகளை உணர்த்துதல்.
2. பண்டைத்தமிழரின் அக, புற வாழ்வியலை மாணவர்கள் அறியச் செய்தல்
3. அறத்தின் பெருமையை உணர்வர்
4. ஒழுக்க நெறிகளைப் பின்பற்றுவர்
5. தமிழ் செம்மொழியின் பண்புகளை உணருதல்
6. சங்க இலக்கியத்தின் தொன்மை உணர்தல்

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Semester	Course Code	Title of The Course	Hours of Teaching/ Week	No. of Credits
IV	20U4GYE4	PART - II English For Competitive Examinations	6	3

Objective

- To prepare the learners for competitive examinations and the fundamentals of practical communication.

Unit – I

Sequence of Tenses and Direct and Indirect Speech
Punctuation and Capitals

Unit – II

Synonyms and Antonyms
One – Word Substitutes for Phrases and Clauses.

Unit – III

Paragraph – Writing, Letter Writing.

Unit – IV

Precise – Writing, Expansion of Passages

Unit – V

Essay – Writing, Writing stories from outlines.

Course outcomes

After the completion of this course students will be able to

- **develop English language skills by equipping themselves to face competitive exams**
- **improve English language abilities and gain the skills of writing and vocabulary building**
- **gain confidence to face competitive exams**
- **assimilate grammatical rule clearly and precisely**
- **hone their presentation and public speaking skills**

Prescribed Text:

English for Competitive Examinations, NCBH, Chennai, Dec. 2019.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
IV	20U4GYC6	GEOGRAPHY OF RESOURCES	5	5

Objectives

1. To provide knowledge about the concepts of resources, classification, models of natural resource processes, their use and misuse, conservation and management of resources for sustainable development.
2. To learn the knowledge about natural resource processes
3. To gain knowledge about Conservation and management of resources for sustainable development.
4. To read and interpret information on different types of physical features maps.

Unit I Scope and content of economic geography –Concept of resources – Resource elements – Land, soil, water and Forest – Resource conservation- renewable and non-renewable resources

Unit II Farming in the world – intensive and extensive- Shifting – subsistence commercial and plantation farming –mixed farming – horticulture – market gardening – production and distribution of rice, wheat, sugarcane, coffee, tea, cotton and jute --, wet and dry, mixed farming, commercial plantation and food crops.

Unit III Natural vegetation: Forest – types of forest, products, conservation - Grassland – types (Savanna, Steppe) and distribution - Livestock – cattle rearing, dairy Production (milk and milky products), white revolution -major fishing grounds of the world

Unit IV Minerals – iron, coal, ferrous non-ferrous, manganese, mica, copper and bauxite Power resources – Thermal, water, atomic – water and Nuclear power – conventional energy– solar energy, wind energy,

Unit V Major industries – locational factors – iron and steel, automobile, shipbuilding and textile industries – Transport- Trade – internal and international trade.

Outcomes

On the completion of Geography of Resources, the student will

1. Become sensitized to concept of resources.
2. Become sensitized the classification of resources.
3. Learn about the use and misuse of resources.
4. Will learn conservation methods and techniques.
5. Showing an awareness and responsibility for the environment.
6. Understand the mineral and power resources
7. Study conventional and non-conventional energy resources
8. Study of the distribution of Iron and Steel, Automobile, Cotton Paper and Ship Building Industries in India
9. Get knowledge about types of agriculture, trade and transport.
10. Aware the need of conservation and Protection of natural resources.
11. Study of the Transport and Trade.
12. Attain opportunities in environmental management

Reference Books:

1. Prithvish Roy and Somnath Mukerjee – Economic geography an appraisal of resources, New central book agency, Kolkata.
2. V. K. Gupta – Economic and commercial geography, Sultan Chand and cons.
3. S. K. Sadhukhan – Economic geography an appraisal of resources, S. Chand and company.
4. M. c. Agarwal – Commercial geography, Himalaya publishing house.
5. B. S. Negi – Economic and commercial Geography of the world, S. Chand and Co. Pvt Ltd.
6. A. Das Gupta – Economic and commercial geography. Mukhrjee and co. Pvt. Ltd.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
IV	20U4GYCP2	Practical - WEATHER AND CLIMATIC DATA ANALYSIS	4	4

Objectives

1. To teach about the Survey of India Topographic sheets, SOI and USGS Maps.
2. To learn about Indian daily weather report and climatic diagrams.
3. To learn about the weather, measuring of weather conditions, instruments, interpretation of weather reports and Weather Forecasting.
4. To learn the Weather Reports (Definition and applications)
5. To gain the knowledge of using Weather Instruments- Wet & Dry Bulb Thermometer, Barometer, Wind-Vane, Rain Gauge, etc...
6. To study about Weather Symbols and Interpretation of Indian Daily Weather

Unit I

Diagrammatic representation of climatic data—line and bar diagrams— construction and uses.

Unit II

Hythergraph, Climograph and Climatographs – Construction and uses.

Unit III

Wind roses diagram and Ergograph – Construction and uses.

Unit IV

Rainfall Dispersion Diagrams – Construction and uses.

Unit V

Weather Symbols – Station model – Weather map interpretation.

Outcomes

After completion of the paper

1. Student will gain information on representing and interpreting various climatic phenomena.
2. Students will be able to study and interpret weather maps and can predict weather condition from these maps.
3. Students will acquire practical knowledge for construction and interpretation of vertical layers of earth's atmosphere, rainfall-temperature-humidity graphs.
4. Students learn to use of various meteorological instruments and also learn to interpret of the Indian daily weather report.
5. Student will learn about weather reports, instruments to study weather and climate, interpretation of weather reports and applications of weather forecasting.
6. The student acquire job opportunities in Meteorological department.

Reference Books:

1. Gopalsingh – Map work and practical geography, Vikas publishing house.
2. Ishtiaq – Practical geography, Jawahar publishing and distributors.
3. Monkhouse. F. J. and H. R. Wilkinson – Map and designs, B. I. publications.
4. ZamirAlvi – A text book of practical geography, Vikas publishing house Pvt Ltd.
5. Zulfequar Ahmad khan. M. D. Text book of practical geography, Concept publishing company, New Delhi.
6. R. I. Singh – Elements of Practical Geography, Kalyani publishers.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
IV	20U4GYA4	Allied - TRAVEL AND TOURISM MANAGEMENT-II	3	2

Objectives

To understand about

1. The concepts and issues of tourism, recreation and leisure.
2. To use information to plan destination and marketing tourism products.
3. Tourism impact assessment.
4. Increasing global tourism.

Unit I

Nature and scope of Tourism Management – Objective, Strategies and Types of Tourism Management - Tourism Planning Process and Approaches - Types of Tourism Planning: Sectoral, Spatial, Integrated, Complex, Centralized and Decentralized

Unit II

Human Resource Management: Managerial Skills, Technical skills, Hard and Soft skills – Special Training – Guides – Tour and Travel Operators – Event management – Tour Operator Association of India- Role of Travel Agency – Guide Services – Soft skills – Role of Soft Skill in Visitor’s service.

UNIT III

Indian Tourism, major types – India as a paradise for tourists –Tourism Infrastructure; Case Studies of Himalaya, Desert and Coastal Areas; National Tourism Policy- Importance of tourism in Indian economy.

UNITIV

Tourism development in India – Tourism in Tamil Nadu - Tourism organizations: ITDC, TTDC, Ministry of Tourism, Ministry of Railways and Civil Aviation departments - An overview of National and International Organizations and Associations: IATO, TAAI, FHRAI and WTO

UNIT V

Travel Product Management - Travel Itinerary – Brochure and Pamphlets – Types of advertising – Importance of publicity in Tourism - Modern Communication Techniques for Tourism Management.

Outcomes

After completion of the paper, the student will learn about

1. The Scope and Nature, Concepts and issues, tourism, recreation and leisure inter-relations, Factors influencing tourism, Types of Tourism: Ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage, international, national.
2. The use of information on factors (Historical, natural, socio-cultural and economic; motivating factors for pilgrimages) to plan destination marketing; tourism products; niche tourism planning ; Tourism impact assessment, Sustainable tourism, Information Technology and Tourism, Tour operations planning and guiding.

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3. The Increasing Global tourism, Tourism in India, Tourism infrastructure, access, planning for different budgets for case study sites of Western Himalayas, Goa, Chilka / Vembanad, Jaipur
4. The basic concepts and geographical parameters of tourism;
5. The recent trends and patterns of tourism development in India and other countries;

6. To understand the impacts of tourism on national, regional and local economy, environment and society.
7. To get opportunities in government and private sector.

Reference Books:

1. Michael. M. Coltman – Tourism Marketing, VanoststrandReintold, New York.
2. Bhatia A.K. (1999) Tourism Development Principles & Practices, Sterling publishers, New Delhi.
3. A.K.Bhatia ,(2006) International Tourism Management, Sterling Publishers
4. Parul Gupta, (2011) Tourism Management, Global India Publications Private, Ltd
5. P.C.Sinha, (2010) Tourism Management, Anmol Publications Private, Ltd
6. Romila Chawla,(2003) Tourism Management, Sonali Publications Private, Ltd.
7. Ratandeepsingh (2004) Tourism Marketing Principles, Policies and Strategies Kamshlea Publishers.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
III & IV	20U4GYAP2	Allied Practical – TOURISM MAPPING	3+2	4

Objectives

To learn about

1. The knowledge of currency code and its conversion.
2. The concepts and issues of tourism, recreation and leisure.
3. The use of information to plan destination and marketing tourism products.
4. Tourism impact assessment.
5. Increasing global tourism.
6. The details of tourism in India and Tamil Nadu.

Unit I

Latitude, Longitude, distance and time – Latitude and Distance – Longitude and time – International date line -World Time Zones- Directions and Bearing.

Unit II

Currency Codes - Currency Conversion (INR, USD, EUR, JPY, CNY, MYR).

Unit III

Tourism Conventional Signs and Symbols -IATA Symbols and Abbreviations.

Unit IV

Representation of Tourism Data: Simple, Multiple and Compound Bar Diagrams- Flow Charts - Mapping of World Air Routes.

Unit V

Major Tourism Regions in the World - Major Tourism Regions in India – Locations of Tourism Attractions in Tamil Nadu.

Outcomes

After completion of the paper, the student will able to

1. know about concepts, nature and scope, inter-relationships of tourism, recreation and leisure.
2. understand about types of tourism.
3. Know about recent trends of tourism.
4. Develop an idea about tourism in India.
5. Know about National Tourism Policy

Reference Books:

1. Misra R . P and A. Ramesh – Fundamentals of Cartography, Concept Publishing Company.
2. Erwin and Raisz – Principles of Cartography, Me Graw Hill Book Company.
3. Robinson. H. - Elements of Cartography, John Wiley and Son Inc.
4. Monkhouse– Map and Diagrams.
5. R. C. Singh – Elements of Practical Geography Students to Friends, Allahabad.
6. IATA - Standards, Manuals & Guidelines, <https://www.iata.org/>
7. Currency Codes and Conversion, <https://www.exchange-rates.org/>
8. Tourism Data, <https://www.unwto.org/unwto-tourism-dashboard>
9. Tourism Map, <https://www.mapsofworld.com/>

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/Week	No. of Credits
IV	20U4GYS2	Skill Based Elective – II FIELD SURVEY	1	1

Unit I

Basic principles of field work – Approaches to the field study – Types of field survey – Sequence of steps in field work

Unit II

Socio-economic data collection – Questionnaire survey – Pilot study

Reference Books:

1. R.L Singh Rana, P.B. Sing, Elements of Practical Geography
2. Singh, G. (1995). Map Work and Practical Geography (3rd Edition). Vikas Publishing House Pvt. Ltd., New Delhi.
3. Saha, P. & Basu, P. (2014) Advanced Practical Geography, Books and Allied Ltd., Kolkatta.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYC7	Core SETTLEMENT GEOGRAPHY	5	5

Objectives

1. To know the content of settlement geography.
2. To know the term cultural hearth and realm, cultural diffusion, diversity, technology and development.
3. To know about rural and urban geography, city region and conurbation.

Unit I:

Nature, scope and content – Definition of urban and rural settlements – meaning of settlements -Distributional patterns of rural urban settlements – Factors affecting distribution - physical factors, cultural factors and historical factors.

Unit II:

Settlement site and structure: Internal morphology – external farmhouse – house types – rural settlement types – dispersed settlements - building materials and settlements- relationship between house types, relief and climate

Unit III:

Spatial organization – size, spacing and hierarchy of settlements - emergence and characteristics of urban settlements – processes, patterns and functions of human settlement.

Unit IV:

Urban forms and functions – Functional classification of urban settlements in India – urban morphology and landuse structure – CBD – periphery – urban expansion – urban and rural settlement geography – Urbanization

Unit V:

Urban growth problems - water supply, transport, pollution -Suburbs –urban fringe- slums- Settlements and environment relationship - Global and regional policies and programmes.

Reference Books:

1. Chisholm. M. Rural Settlement and Land Use, Hutchinson, London.
2. Clout. R. D. Rural Geography, Pergamon Press, London.
3. H. Carter – The Study of Urban Geography, Edward Arnold, London.
4. J. H. Johnson – Urban Geography of Towns, Hutchinson University Library, London.
5. Mayer & Kohn – Readings In Urban Geography, Central Book Depot, Aahabad.
6. Northam – Urban Geography, John Wiley & Sons Inc.

Outcomes

1. Understand the Nature and Scope of Settlement Geography and their evolution, significance and approaches for the study.
2. Understand the settlement types, pattern and nature and process of urban settlement and some basic concept related to settlement geography.
3. Build an idea about urban and rural settlements, and its relationship with environment and also different theories related to settlement geography.
4. Know about classification and morphology of settlements.
5. Understand the trends and patterns of world urbanization. Know about different theories of urban growth.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYC8	AGRICULTURAL GEOGRAPHY	5	5

Objectives

1. To learn the concept of land use/land cover classification and determinants of agriculture.
2. To familiarize the students with agriculture regions of India and various types of agriculture system in India.
3. To analyze the various agricultural revolutions and government policies in India.

Unit I Nature, scope, significance and development of agricultural geography – Approaches to the study of agricultural geography – sources of agricultural data – Major crops – Type of Agriculture, food crops, commercial crops, plantation crops, oil seeds etc.

Unit II Determination of agricultural land use – cropping pattern – crop concentration – crop combination – Green Revolution – Five year plants, utilitarian of new technology, Hybrid varieties of seeds, production of agriculture, impacts and consequences.

Unit III Land use and land cover – Von Thunen’s theory of agricultural location – Whittlesey’s classification of agricultural regions.

Unit IV Agriculture in India – Land use and shifting cultivation, Rotational cropping pattern - Specific problems in Indian agriculture and their management - five year planning - Agricultural policy in India

Unit V Contemporary issues – Flood natural Hazards, Soil erosion, food, nutrition and hunger, food security, drought and food aid programmes – environmental degradation, role of migration, fertilizers, insecticides and pesticides.

Outcomes

After completion of this paper, the student will

1. Understand nature, scope, significance and approaches of agricultural geography
2. Know the salient feature, problems and prospects of Agriculture.
3. Learn about types of agriculture.
4. Study about water harvesting concept and methods.
5. Learn about the allied areas in agriculture and agriculture development
6. Understand sustainable agricultural development.

Reference Books:

1. Gregor. H. P. – Geography of Agriculture, Prentice Hall, New York.
2. Grigg. D. Mb. The Agricultural Systems of The World, Cambridge University Press, New York.
3. Hartshorn T. N. And Alexander. J. W. Economic Geography, Prentice Hall, New Delhi.
4. Mannion. A. M. Agriculture and Environment Change, John Willey, London.
5. Morgon. W.B. And Norton. R. J. C. Agricultural Geography, Mathuen.
6. Singh. J. and Dhillon. S. S. Agricultural Geography, Tata McGraw Hill Publishers, New Delhi.
7. Taarrant. J. R. Agricultural Geography, Willey, New York.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYC9	NATURAL REGIONS OF THE WORLD	5	5

Objectives

1. To get an introduction to the main regions of the world in terms of both their uniqueness and similarities.
2. To learn the relationships between the global, the regional and the local, particularly how places are inserted in regional and global processes.
3. To expose the historical, economic, cultural, social and physical characteristics of regions, notably how they came to be, their main role and function and how they are changing.
4. To know how human activities and the regional environment interact, particularly how societies reflect their regional environment.

Unit I Definition of Natural regions-major Natural regions of the world-equatorial Region Climate-Natural vegetation-Animal life-Human life and Economic Activity.

Unit II Tropical Region-Climate - soil-vegetation Animal life-Human life Natural resource and Economic Activity.

Unit III Arid Region-Hot Deserts-Cold Region-Semi Aid Deserts Cold Region Semi Aid Region Deserts Climate -soil-vegetation Animal life-Human Life in Desert-Economic Activity.

Unit IV Temperate Region-major Grasslands prairies - pampas-Downs-valdes Canterbury - Climates- soil-Human life Animal life and Economic Activity.

Unit V Polar Regions-Arctic Region-Alphine Region-Climate-soil Human cite-Animal life And Economic Activity.

Out comes

On completion of this course, the student will be able to

1. Understand the different geographical natural region form the world.
2. Understand tropical region natural life and economic level.
3. Understand tropical region natural life and economic level.
4. Know Warm temperate region, variation of natural resource and climatic conditions.
5. Know Polar Regions and understand the climate and animal life.

REFERENCE BOOKS:

1. Heintzelman, O.H. and Highsmith(Jr.), R.M. (1973). World Regional Geography, Prentice Hall Ltd ,New Delhi.
2. Hussain, M. (2004).World Geography. Rawat publication, New Delhi.
3. Robinson,H. {1977}.Monsoon Asia .McDonald and Evans Ltd.,Plymouth.
4. Stamp, L.D.(1967).Asia: A Regional and Economic Geography. B.I. Publication Ltd., New Delhi.
5. Tirtha,R.(2005).Geography of Asia. Rawat Publication, New Delhi.
6. Wheeler (Jr.), J., Kostabade, R. and Thoman, R.S. (1969). Regional Geography of the World. Holt Rinehart and Winston,New York

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYCP3	Practical – MAP PROJECTION AND SURVEYING	4	4

Objectives

To learn about

1. The basic concept of surveying and how to use surveying instruments like prismatic compass, dumpy level theodolite and abney level and laser distance measurer
2. the graphical construction of scales.
3. to use cartograms to represent thematic maps.
4. Prismatic compass.
5. the mechanism to do relief profile by dumpy level.
6. Geological map.

Unit I

Construction of map projections (graphical methods only) – Zenithal (polar case only), Cylindrical projection and conical projections – properties and uses.

Unit II

Polyconic – one standard and two standard parallel – Bonne’s projection – Sinusoidal and Mollwelds’s projections – Properties and uses.

Unit III

Principles of survey – chain, prismatic compass and plane table survey.

Unit IV

Indian Clinometers and dumpy level survey.

Unit V

Electronic and GNSS survey

Outcomes

After completion the student will

1. acquire good knowledge about different procedure of map making and various projection system of map making by developing broad knowledge about latitude, longitude, meridians, parallels etc.
2. acquire knowledge of different method of surveying and map making by using proper tools and technique and can apply these knowledge in future research works.
3. Learn the usages of survey instruments.
4. have direct interaction of different types of surveying instruments like Dumpy level and Theodolite with environment.
5. understand the idea of Basic and applied Instrumental surveying.
6. have wide scope of job opportunities to be a surveyor.

Reference Books:

1. Gopalsingh – Map work and practical geography, Vikas publishing house.
2. Ishtiaq – Practical geography, Jawahar publishing and distributors.
3. Monkhouse. F. J. and H. R. Wilkinson – Map and diagram, B. I. publicarions.
4. ZamirAlvi – A text book of practical geography, Vikas publishing house Pvt ltd.
5. Zulfequar Ahmad khan. M. D. Text book of practical geography, Concept publishing company, New Delhi.
6. I. Singh – Elements of Practical Geography, Kalyani publishers.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYEL1A	Major Elective - I POLITICAL GEOGRAPHY	4	4

Objectives

1. To teach about the origin and development of Political Geography.
2. To learn about state, Capitals, Elections and India's Foreign Policy.
3. To critically understand the concepts of state, nation and nation state,
4. To develop the linkages between electoral geography and political geography
5. To interpret the politics of displacement focusing on Dams and SEZ.

Unit I

Nature, Scope, Subject matter and recent development in political geography – approaches to study political geography of contemporary India.

Unit II

State, Nation and Nation State – Concept of Nation and State, Attributes of State – Frontiers, Boundaries, Shape, Size, Territory and Sovereignty, Concept of Nation State; Geopolitics; Theories

UNIT III

Nation-Building– Colonialism, Decolonization, Neocolonialism, Federalism and other forms of governance.

UNIT IV

Geopolitics – Heart Land and Rim Land Theories – Regional Organizations of Co-operation– SAARC, ASEAN, OPEC and EU.

UNIT V

Geopolitical Significance of Indian Ocean – Changing Political Map of India – Centripetal and Centrifugal Forces – Stability and Instability – Interstate Issues – Water Disputes, Riparian Claims and Conflict Resolutions – Unity in Diversity.

Outcomes

After completion of this paper, student will be able to

1. Learn the concept of nation and state and geopolitical theories.
2. Understand the different dimensions of electoral geography and resource conflicts.
3. Have sound knowledge of politics of displacement, focusing on dams and SEZ.
4. Know of politics geography and integration of Indian states, India bilateral relationship with SAARC countries.
5. Learn the Importance of political study.

Reference Books:

1. De Blij . H. J. and Glassner Martin – Systematic Political Geography, John Wiley, New York.
2. Dikshit. R. D. Political Geography – A Contemporary Perspective, Tata McGraw Hill, New Delhi.
3. Sukhwal.B. L. – Modern Political Geography of India, Sterling Publishers, New Delhi.
4. Taylor. Peter – Political Geography, Longman, London.
5. Fisher Charles. A. – Essays in Political Geography, MethuenLondon.
6. John R. Short – An Introduction to Political Geography Routledge, London.
7. Prescott.J.R.V. – The Geography Of Frontiers And Boundaries AldineChicago.
8. Deshpande C. D.- India-A Regional Interpretation Northern Book Centre, New Delhi.
9. Pounds .N. I. G. Political Geography, McGraw Hill, New York.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYEL1B	Major Elective – I MEDICAL GEOGRAPHY	4	4

Objectives

To learn about

1. various dimensions of Medical geography and its linkages with environment.
2. the detailed analysis of environment and health quality and exposure to risk.
3. the relationship between climate change and human health.

Unit I

Medical geography – Introduction – Scope – Contents – Components of Medical Geography – Factors affecting health.

Unit II

Environment and Diseases – Water Borne Diseases – Air Borne Diseases – Minera enrichment and Deficiencies Diseases. Climate Change and Human Health: Changes in climate system – heat and cold; Biological disease agents; food production and nutrition.

UNIT III

Diseases and society – Environmental types - physical – social – Economical – cultural – sanitation – Environmental Hygiene and Health, social and cultural norms and practices – Role of private, public and institutions in Health.

UNIT IV

Food and Health- Habits, Food Habits, Family and Community Life, Traditional Outlook Religion and Health.

UNIT V

Society and Health – Sanitation Modernization, Western Way of Living and Emerging Health Issues. Health and Medical care planning – Health Care Centres–planning - Family and community health planning.

Outcomes

On completion of medical geography, the student will

1. understand the key concepts related to health and its driving forces
2. identify the linkages between the health, environment, exposure and risk.
3. explain the relationships among health and disease pattern in environmental context with reference to climate change.
4. have the knowledge in detailed exposure of Medical geography and environment.
5. have In-depth knowledge of health risk and exposure.
6. understand the impact of climate change and human health.

Reference Books:

1. Learmoth Andrew – Patterns of Disease and Hunger- a Study in Medical geography, David and Charles, London.
2. Misre. R. P. – Medical Geography of India, NBT , New Delhi.
3. Howe. M. And Loraine (Eds) – Environmental Medicine, William Heinemann.
4. Pyle. G. F. Applied Medical Geography, W. H. Winston Sons, Washington D. C.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYEL2A	Major Elective - II OCEANOGRAPHY	4	4

Objectives

1. To know about the ocean circulation, waves and coral reefs.
2. To learn about the Major Oceans and Bottom relief Features.
3. To learn about the Ocean Currents, Ocean Deposits and Conservation of marine resource.

Unit I Distribution of Land and Sea – Surface configuration of the ocean floor : Continental Shelf, Continental Solpe, Continental Rise, Abyssal Plain, Mid Ocean and Oceanic trenches – Relief Of Indian, Atlantic And Pacific Ocean.

Unit II Temperature – Process of heating and cooling – Temperature Variations – Land Breeze and Sea Breeze, Seasonal Effect, Controlling Factors – Distribution: Vertical and Horizontal Distribution.

Unit III Circulation of oceanic water – Waves – Types of waves - Attrition, Long Short Drift, Corrosion, Abrasion, Backwash, Swash, and Dominant Wave - Tides and Currents – Semidiurnal tides, Diurnal tides, Mixed Tides, Spring and Neap tide - Currents of Atlantic, Indian and Pacific oceans.

Unit IV Marine resources – Coral reef – conditions for growth and Types, Distribution - Chemical composition of oceans– Mineral wealth, other mineral resources.

Unit V Marine Deposits – Sources and main types. Theories: Darwin, Murray, Daly and Davis. Deep sea deposits. Classification – Marine Sediments – Distribution of Sediments.

Outcomes

After completion of the paper, the student will be able to

1. understand about the importance and relevance of the study of oceanography as branches of physical geographic study.
2. acquaint themselves with nature and scope of oceanography and distribution pattern of land, sea and oceans.
3. know the bottom relief of oceans, their waves and current in relation to origin, type, characteristics and impact of ocean waves and current on environment.
4. know about ocean resources, their types and distribution and their influences upon mankind.
5. learn the dynamic processes associated with the ocean and also the importance and values of ocean resources.

Reference Books:

1. Lal . D. S. Oceanography, Chatianya Publishing House.
2. Grant Gross, Oceanography, Prentice Hall International Edition.
3. Sharma. R. C. and M. Vital, Oceanography for Geographers, Chatianys Publishing House.
4. Paul r. Pinet, Oceanography, West Publishing Company.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYEL2B	Major Elective – II REGIONAL PLANNING	4	4

Objectives

1. To identify regions as an important part of geographical studies.
2. To comprehend the different type and scale of regions.
3. To learn about the varied aspects of development and regional disparity to formulate a balanced development.
4. To identify regions as an integral part of geographical study.
5. To recognize the types and scales of region and its specific plans.

Unit I Concepts and Principles: Frame work for regional planning, Need for Regional Planning; Types of regional Planning. - Approaches: Bottom up approach – Top down approach.

Unit II Region and Regionalism: Definition of region - Classification of regions – Types of regions – Regional hierarchy – Resource regions – Problem regions: hilly region, tribal region, drought prone regions.

UNIT III Planning processes: sectoral, temporal and spatial dimensions - Short-term and long-term perspectives of planning – Multi-level planning - Indicators of development.

UNIT IV Regional population analysis - Population projection - Impact of population on regional Planning

UNIT V Regional Planning in India and Tamil Nadu – Block level and District level planning – Panchayat Raj system.

Outcomes

After completion of

1. This paper, students studied in details about the planning of different regions including resource potentiality of different regions of the world.
2. This paper, students can acquire knowledge regarding different indicators of development through which they can understand and developed idea regarding developed, underdeveloped and developing regions of the world.
3. This paper, students gaining knowledge regarding the necessary skills to plan cities and regional towns. One can learn to balance the competing priorities for development preservation of the natural environment.
4. The paper, students can develop ideas on disparities within and between countries and their fallout.
5. the paper, students will have theoretical insights and perspectives to pursue a research program in future.
6. this paper, students will prepare for UGC NET-JRF / SLET exam and other competitive exams including civil services.

Reference Books:

1. Bhat, L.S (1973) Regional Planning in India, Statistical Publishing Society, Calcutta.
2. Hall, P. (1992) Urban and Regional Planning, Routledge, London.
3. 3.Misra, R.P. (1971) Regional Planning: Concept, Techniques, Policies and Case Studies, University of Mysore, Mysore.
5. Misra, R,P. &Sundaram K. V. (1974) Regional Development Planning In India, Vikas Publishing House, Delhi.
7. Mishra, R.P. (1980) Multi-Level Planning Heritage Publishers, Delhi.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
V	20U5GYNME	Non-Major Elective DEMOGRAPHIC STUDIES	2	1

Objectives

1. To introduce the basic concepts of population Geography to the students.
2. To teach the importance and need of Demographic data.
3. To learn spatial understanding of population dynamics.

Unit I

Demography – Scope, content and trends, relevance of demographic studies and its applications- population information –Census and sample survey – Fertility services – Household survey – study of demographic structure – population distribution and structure –Age – sex variation – Ethnicity – Literacy structure – occupational differences – income variation.

Unit II

Growth dynamic – growth estimation – impacts of death and birth growth – population movements – rural urban movements, intra-national and international migration– migration and growth – population dynamics – demographic transition –mortality factors –population changes – demographic planning and problems – problems, planning in developed and developing countries – policies – population resources – population geography in the 21st century.

Outcomes

After completion of this course, the student will be able to

1. Learn the role of demography and population studies as distinct fields of Human Geography
2. Have sound knowledge of key concept, different components of population along with its drivers
3. Examine population dynamics and characteristic with contemporary issues.
4. Develop an idea about Population Composition and Characteristics like Age- Sex Composition, Rural and Urban Composition and Literacy.
5. Gain knowledge about Contemporary Issues like Ageing Population, Declining Sex Ratio.

Reference Books:

1. Clark. I. Geography of Population, Approaches and Applications. Pergamon Press, Oxford, U. K.
2. Chandna . R. C. A Geography of Population, Kalyani Publishers, New Delhi.

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Semester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
VI	20U5GYLSD	LIFT SKILLS DEVELOPMENT	2	1

Course objectives

- To enhance one's ability to be fully self aware by helping oneself to overcome all fears and insecurities and to grow fully from inside out and outside in.
- To increase one's knowledge and awareness of emotional competency and emotional intelligence at place of study/work.
- To provide opportunity for releasing one's potential through practical experience.
- To develop interpersonal skills and adopt good leadership behaviour for empowerment of self and others.
- To set appropriate goals, manage stress and time efficiently.
- To manage competency- mix at all levels for achieving excellence with ethics.

Unit – I

(30 hrs)

Communication and Professional skills

1. Writing and different modes of writing.
2. Digital Literacy.
3. Effective use of social media.
4. Non verbal communication.
5. Resume skills.
6. Presentation skills.
7. Listening as a Team skill.
8. Brainstorming.
9. Social and cultural Etiquettes.
10. Internal communication.

Unit – II

(30 hrs)

Leadership, management and Universal Human Value

1. Leadership skills.
2. Managerial skills.
3. Entrepreneurial skills.
4. Innovative Leadership and Design thinking.
5. SWOT (Strengths, Weaknesses, Opportunities and Threats Analysis)
6. EQ (Emotional Quotient)
7. Love and Compassion.
8. Truth.
9. Non Violence.
10. Righteousness.
11. Ethic and Integrity.

Course outcomes

At the end of the programme learners will be able to:

- Gain Self Competency and Confidence.
- Practice Emotional Competency.
- Gain Intellectual Competency.
- Gain an edge through Professional Competency.
- Aim for high sense of Social Competency.
- Be an integral Human Being.

References:

1. Bailey, Stephen, Academic Writing: A handbook for International Students, 2010 Rourlege.
2. Shlpa Sablok Bhardwaj (2018). Computer Applications for Class 9 MS Office Blueprint Education (Contributor).
3. [http:// WWW.lyfemarketing.com](http://WWW.lyfemarketing.com) / blog / how-digital – marketing – works/
4. [http:// WWW.thoughtco.com/what-is-nnverbasl - communication - 1691351](http://WWW.thoughtco.com/what-is-nnverbasl - communication - 1691351)
5. [http:// WWW.wikihow.com/Write-a-Neat-Resume](http://WWW.wikihow.com/Write-a-Neat-Resume)
6. [http:// WWW.gildabonanno.com/presentation-skill-coaching-videos](http://WWW.gildabonanno.com/presentation-skill-coaching-videos)
7. [http:// blog.vantagecircle.com/active-listening/](http://blog.vantagecircle.com/active-listening/)
8. Osborn, A.F. (1963) Applied imagination: Principles and procedures of creative problem solving (Third Revised Edition). New York, NY: Charles Scribner's Sons.
9. [http:// WWW.thespruce.com/what-is-etiquette-and-why-is-it-important-1216650](http://WWW.thespruce.com/what-is-etiquette-and-why-is-it-important-1216650)
10. [http:// WWW.talkfreely.com/blog/internal-and-eternal-communication](http://WWW.talkfreely.com/blog/internal-and-eternal-communication).

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYC10	GEOINFORMATICS	6	6

Objectives

1. To apprise the various aspects of Aerial Photographs.
2. To introduce Remote Sensing and GIS.
3. To teach about the important elements of the Geospatial technology.
4. To introduce about the earth revolutionary and rotation system.
5. To give the technical knowledge of satellite system.

Unit I Remote Sensing : Definition – Types – Elements of EMR – Energy Interaction In Atmosphere – Terrestrial Interaction – Spectral Reflectance Curves – Platforms - Sensors – Resolution – Active and Passive Remote Sensing

Unit II Aerial Photography – Types of Photographs – Elements of Photo Interpretation – Interpretation of Aerial – General procedure for Photo Interpretation – Preliminary Stage – Detailed Examination, Interpretation Stage – Three Dimensional Interpretation

Unit III Space Borne Remote Sensing – Orbit – Sensor Characteristics and Applications of Weather Satellites – Land Observation Satellites- LANDSAT, SPOT, IRS, IKONOS, AEM, NOAA, GOES, NIMBUS, METEOSAT, SEASAT, RADARSAT, OCEAN SAT – Marine Observation - Satellite – Remote Sensing Applications.

Unit IV GIS – definition – components of GIS – Raster and Vector data structure – Georeferencing – digitization – GIS Analysis - data quality issues - Spatial, Temporal and Attribute accuracy – Application of GIS

Unit V Introduction to GNSS – Historical development – segments – Error sources – DGPS – GNSS Application – Precision and resolute on spatial Resolution – Temporal resolution – Thematic resolution – Modeling – Errors – Point Error, Modern Line Area Data – Error Models, Dot and Pixel.

Outcomes

After completion of this course, the student will

1. learn the Basic Concepts of Remote Sensing initiated.
2. understand the types of remote sensing, and types of platforms in remote sensing.
3. understand the data product, types of data product and its applications and uses in remote sensing.
4. understand and get the knowledge about fundamental concept, types of aerial photography characteristics of aerial photographs and aerial camera.
5. comprehension of Resolution of Satellite Sensors with special reference to Landsat and IRS series,
6. gain skill like Preparation of Standard False Colour Composites from Landsat and IRS Images.

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7. get knowledge about satellite sensor and types of sensors, and their functions and characteristics.
8. have the knowledge of scientific understanding of GIS and GPS.
9. have wide scope for job opportunity in geospatial technology.

Reference Books:

1. Lillisand.T. M. And R. W. Kiefer – Remote Sensing and Image Interpretation, John Wiley & Sons, New York.
2. Campbell. J. B. – Introduction to Remote Sensing, Taylor and Francis, London.
3. Burrough. P. A. And Mc Donnell. R. – Principles of Geographical Information Systems, Oxford University Press, London.
4. Heywood. I. Comelius. S. and Carver. S. – An Introduction to Geographical Information Systems, Addison Wiley Longmont, New York.
5. Robinson . H. Arthur Et. Al. – Elements of Cartography, John Wiley & Sons, Inc Singapore.
6. Agraval.N. K. – Essentials of GPS , Geodesy and GPS Publication, Hydrabad.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYC11	GEOGRAPHY OF INDIA	6	5

Objectives

1. To give an introduction to the main regions of the India in terms of both their uniqueness and similarities.
2. To expose the historical, economic, cultural, social and physical characteristics of India.
3. To learn the relationships between the global, the regional and the local, particularly how places are inserted in regional and global processes.
4. introduce to demographic, social and cultural attributes such as migration, social relations and cultural identity.

Unit I

Location – continent of unity in diversity – structure and relief – drainage – climate.

Unit II

Soil – types and distribution – natural vegetation – types and distribution - Irrigation – Types – Multipurpose project.

UNIT III

Agriculture – Major crops distribution – rice - wheat – millets – pulses – oilseeds – sugarcane – cotton - jute Tea – Coffee– rubber – agricultural problems – Green Revolution in India – livestock –fisheries.

UNIT IV

Minerals – coal, oil, iron ore, manganese, bauxite, copper – power resources – hydel, thermal and atomic – industries – iron and steel, cement, textile, sugar, paper, shipbuilding – small scale and cottage industries.

UNIT V

Population growth – distribution – density and problems – urbanization – Transport and Trade - Regionalization of India – Agricultural region – Industrial Region - Planning regions.

Outcomes

After completion of this course, the student will be able to

1. Identify and explain the Indian Geographical Environment, from global to local Scales.
2. Show an awareness and responsibility for the environment and India.
3. Evaluate the impacts of human activities on natural environments special reference to India.
4. understand about the physiographic division of India
5. Understand the India Drainage system of the India rivers
6. Understand the climatic variation in India and climatic region of India
7. Examine and understand the types of vegetation of India.
8. Understand the variation in Industrial development in India.
9. Examine and understand the developed and underdeveloped states in India.
10. Prepare for UGC NET-JRF / SLET exam and other competitive exams including civil services.

Reference Books:

1. RanjitTirtha and Gopal Krishnan – Geography of India, Rawat Publications, Jaipur-New Delhi.
2. Prithvish Nag andSmitaSengupta – Geography of India, Concept Publishing Company, New Delhi.
3. C. B. Mamoria – Geography of India, ShivalalAgarwl Co. Agra.
4. R. L. Singh – India A Regional Geography, National Geographical Society of India.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYC12	POPULATION GEOGRAPHY	4	5

Objectives

1. To introduce the spatial distribution of population with causative factor.
2. To teach various theories and concepts related with population
3. To educate in planning of various human related issues.
4. To know various kinds of demographic problems,
5. To learn about the population policies in developed & developing countries.

Unit I Nature, Scope and Significance of Population Geography – Sources of Population Data: Census, Vital Statistics, Demographic sample surveys, Population Registers, International Reports, Problems and prospects.

Unit II World Population: Determination of Population – Distribution, Density and Growth - Factors Affecting the Growth and Distribution of Population – Recent Trends of World Population – Demographic Transition.

Unit III Composition of Population: Age, Sex, Literacy – Measurements of Fertility and Mortality - Rural and Urban population Composition - Cultural Characteristics of Population: Religious, Linguistic and Educational Composition – major races - Occupational Structure.

Unit IV Migration: Meaning and Causes of Migration - Consequences of Migrations. Types of Migration: National, International, Voluntary and Forced Migrations.

Unit V Population Growth and Resource Development - Theories of Population: Robert Malthus, Theory of Optimum Population by Dalton - Population policy with reference to India over population, under population and problems - Family Planning Programmes in India.

Outcomes

After completion of population Geography, the student will be able to

1. Understand the Nature and Scope of Population and their evolution, significance and approaches for the study.
2. Examine and understand the various factors responsible for World Population growth and Distribution.
3. Understand the fundamental Concepts Related to Population such as density, over optimum & under population, fertility, mortality and population for future Perspectives.
4. Review and understand the subject matter with the help of Theories of Population.
5. Understand the implications of population composition in different regions of the world.
6. Get job opportunities in statistical department.

Reference Books:

1. G.T.Trewartha (1969) *Geography of Population, World Patterns* John Wiley and Sons Inc.
2. Chandna R.C., (2000): *Geography of Population: Concepts, Determinants and Patterns*, Kalyani Publishers, New Delhi.
3. Cezzi, S. A and Naraid Shahir Ceazi (2016): *Population Geography*, A.P.H. Publishing Corporation, New Delhi.
4. Clark J., (1955): *Population Geography*, Permagon Press, New York.
5. Hansraj (1981): *Introduction to Demography*, Surjeet Publications, New Delhi.
6. Mohamed Izhar Hassan (2017): *Population Geography (Reprint)*, Rawat Publication, Jaipur
7. Sundram K.V and Nangia Sudesh, (1986): *Population Geography*, Heritage Publishers, Delhi

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYCP4	Practical - MAP AND IMAGE INTERPRETATION	6	4

Objectives

To learn about

1. the principles of image interpretation.
2. the interpretation of geological maps, weather maps, land use and land cover maps and socio economic maps.
3. the Survey of India Topographic sheets, SOI and USGS Maps

Unit I

Cartographic appreciation of Indian Topographical Sheets

Unit II

Interpretation of SOI Topographic sheets – Physical and Cultural details

Unit III

Aerial Photographs –Visual Elements – Tracing Physical and Cultural Details – Interpretation

Unit IV

Satellite Images – Tracing of Physical and Cultural Details – Interpretation

Unit V

Preparation of Landuse /Land Cover Maps

Outcomes

After completion of this paper, the students will be able to

1. Become skilled at preparing, reading and analyzing different physical and cultural maps.
2. Prepare a practical notebook will develop the qualitative skill of the students.
3. understand about the Survey of India Topographic sheets, SOI and USGS Maps
4. Understand and get the knowledge about fundamental concept, types of aerial photography characteristics of aerial photographs and aerial camera.
5. Comprehend of Resolution of Satellite Sensors with special reference to Landsat and IRS series,
6. Gain skill like Preparation of Standard False Colour Composites from Landsat and IRS Images.
7. Get knowledge about satellite sensor and types of sensors, and their functions and characteristics.

Reference Books:

1. M. Kudrat – Digital Remote Sensing, Concept Publishing Company, New Delhi.
2. K. K. Rampal – Handbook of Aerial Photography and Interpretation, Concept Publishing Company, New Delhi.
3. R. K. Banerjee and Bireswar Banerjee – Remote Sensing Techniques for Regional Development – Ashok Kumar Mittal Concept Publishing Company.
4. R. P. Misra, A. Raemsh – Fundamentals of Cartography – Concept Publishing Company.
5. Paul. J. Curran – Principles of Remote Sensing – Longman Group Uk Ltd.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYEL3A	Major Elective - III GEOGRAPHY OF TAMIL NADU	3	3

Objectives

1. To learn about the location, physiography and climate of Tamil Nadu
2. To learn about agricultural, minerals, industrial and human resources of Tamil Nadu.
3. To teach about the historical, economic, cultural, social and physical characteristics of Tamil Nadu.

Unit I

Location – Physiography - Relief – Drainage – Climate

Unit II

Soils – Types – Soil conservation – Natural vegetation – Types – Distribution.

UNIT III

Irrigation – Multipurpose projects – Agriculture – problems - Distribution of crops: paddy, millets, pulses, oilseeds, sugarcane, cotton, Tea, Coffee, rubber and spices.

UNIT IV

Minerals – Iron, Coal, Bauxite –Industries – Textile Industries, Sugar Industry, Cement Industry, Paper, Automobile, IT and BPO - Industrial Regions

UNIT V

Population – Growth, Distribution, Density and Problems – Urbanization – Transport and Trade.

Outcomes

On completion of this course, the student will

1. Understand about the physical features of Tamil Nadu
2. Understand the climatic variation and regions of Tamil Nadu.
3. Understand the drainage system of Tamil Nadu Rivers.
4. Identify and understand the types of vegetation of Tamil Nadu.
5. Examine and understand the industrial development in Tamil Nadu.

Reference Books:

1. R. L. Singh – India Regional Geography, Vbs Publishers and Distributors, New Delhi.
2. Dr. A. Ramesh And R. S. Eiwari – Basic Resource Atlas of Tamil Nadu, University of Madras.
3. Poduval R. N. – Foodgrain Economy of Tamil Nadu Problems and Prospects, Emerald Publishers, Chennai.
4. Velappan. D. – Economic Development of Tamil Nadu, Emerald Publishers, Chennai.
5. RanjietTirtha& Gopala Krishnan – Geography of India – Rawat Publications, Jaipur.
6. Prithvish Nag &SmithaSengupta – Geography of India, Concept Publishing Co. New Delhi.
7. Gopal Singh – Geography of India, Athma Ram & Sons, Delhi.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYEL3B	Major Elective - III GEOGRAPHY OF ASIA	3	3

Objectives

1. To learn about the Extent and Physiography divisions in Mainland of Asia.
2. To obtain the Climatic, Soils, Agriculture and Natural Vegetations of Asia.
3. To learn about minerals, industrial, human resources and transport of Asia.

- Unit I** Significance of Geographical Location – Physiographic – Climate – Relief - Drainage – Major river system, Major multipurpose river projects.
- Unit II** Soil types and Classification – Agricultural Production –Characteristics of Asian agriculture. Land use pattern. Cropping pattern. Irrigation. Rice and Wheat – Rubber, Tea and coffee, Sugar cane and Jute - Marine food production.
- Unit III** Mineral and Energy Resources – Iron ore, Manganese, Tin, Bauxite, Coal, Petroleum and Natural Gas, Hydrothermal and atomic power.
- Unit IV** Industrial Production and Distribution – factors of location and production of major industries – Iron and Steel, Cotton and Textile, Sugar cane, Automobile, Cement, Chemicals and engineering, food processing, Resources and industrial development.
- Unit V** Population- Distribution, density and growth. Occupational structure, literacy and age and sex structure - Migration -Urbanisation -Transport – Roads, Railways, and water ways Major ports - Trade– Internal and international Trade.

Outcomes

After completion of this paper, the student will be able to

1. learn the diverse physiographic, climate and landscape of Asia
2. Learn about the resource like minerals, water, vegetation, ecosystem, etc...
3. Identify the key environmental differences between the equatorial belts
4. Know about the higher-latitude zone of mainland Asia.
5. Understand the differences influence human settlement and economic development
6. Describe the driving forces behind deforestation and habitat loss in the different regions of Asia.

Reference Books:

1. Human and Economic Geography by co-changleoang, Oxford press
2. World Geography – Hembridge
3. Geography of Asia- Dobby
4. A Regional Geography of the world – D. S. Manku
5. Geography of Asia. Swaroop, Shanthi. King Books, New Delhi.
6. Geography of Asia.Tirtha,R (2005) Rawat Publications, Jaipur.
7. Geography of Asia.Tiwari S.K (1995KedarNath Ram Nath, Meerut.
8. Asia: Tiwari S.K (1995)Saral Adhyayan. KedarNath Ram Nath, Meerut

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYEL4A	Major Elective – IV DISASTER RISK MANAGEMENT	3	3

Objectives

1. To know the difference between hazard and disaster.
2. To know about disaster precautions, responses and aftermath.
3. To learn about the Natural Disasters its Causes and Consequences
4. To learn about Disaster risk Management and Mitigation.

Unit I

Disasters: Definition and Concepts: Hazards – Disasters - Risk and Vulnerability - Classification - emergency and disaster – Types of disasters - Impacts: physical, social, economic, political, environmental and psychological – Resilience

Unit II

Natural Disasters: Earthquakes - Tsunamis - Landslides - Volcanoes - Floods - Cyclones - Drought - Disease Epidemics - Causes and Effects.

Unit III

Anthropogenic Disasters: Chemical and industrial disasters - Nuclear disasters – Fire accidents - Oil spill - Bio-diversity loss - Coral / mangrove depletion - Stampede - Terrorist attacks - Transport accidents.

Unit IV

Disaster Risk Management: Management Cycle - Response and recovery, risk assessment, mitigation and prevention, preparedness planning, prediction and warning - Community based disaster management - Role of Geoinformatics

Unit V

Disaster Management in India: Hazard and vulnerability profile of India – Institutional framework - Disaster Management Act - International strategy for disaster reduction.

Outcomes

After completion of this paper, the students will be able to

1. Gain a perspective of disasters and various dimensions of disaster management
2. Examine the response and mitigation measures of disasters
3. Acquire knowledge on concepts, types, distribution and mapping of disasters in India;
4. Understand the man-made disasters and human negligence in the context of environment;
5. Bring awareness about the preparedness, mitigation and processes of disaster risk reduction.

Reference Books:

1. Savindra S. & Jeetendra S. Disaster Management, Pravalika Publications, Allahabad.
2. Govt. of India (2008) Vulnerability Atlas of India, BMTPC, New Delhi.
3. Govt. of India (2011) Disaster Management in India. Ministry of Home Affairs, New Delhi.
4. Kapur, A. Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.

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5. Singh, R. B. Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
7. Stoltman, J.P. International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.
8. Singh Jagbir "Disaster Management Future Challenges and Opportunities", Publisher- I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India.

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Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
VI	20U6GYEL4B	Major Elective - IV BIOGEOGRAPHY	3	3

Objective

1. To introduce the concept of biogeography.
2. To introduce the components, interpretation and application of biogeography.
3. To learn the Interaction between living organisms and non-living organisms.
4. To learn about the Living organisms with climate and physical environment.
5. To Know about biogeochemical cycle

Unit I Definition, Scope and Significance of Biogeography – Basic Ecological Concepts and Principles – Ecosystem – Types, Components and Functions – Biome – Types Ecotone and Community – Bio Diversity.

Unit II Origin of Fauna and Flora – Plant and animal evolution through geological times – Distribution of plant life on earth and its relation to soil types.

UNIT III Problem of extinction of plant and animal life – Habitat decay and their conservation – Process of desertification – its consequences and management.

UNIT Effluents – Types, Sources, Effects on fresh water Biology – Eutrophication – management practices (special reference to India).

UNIT V Ecological regions of Himalayas and Western Ghats – Plant and animal life – Interrelationships – problems – conservation and management measures.

Outcomes

After completion of this course, the student will be able to

1. Familiarize the dynamics of climate and related theories.
2. Understand of Vegetation as an index of climate.
3. Assess of different aspects of floral and faunal provinces.
4. Discuss about ecosystem services.
5. Identify ecological aspects of environment.

Reference Books:

1. Robinson – Biogeography, ELBSMc Donald and Evans, London.
2. L. G. Simons – Biogeographically Process, Allen and Unwell, London.
3. C. Barry Cox Black Well – Biographical an Ecological Evolutionary Approach Oxford.
4. B. Seddon – Biogeography, Duck Worth, London.