A.V.V.M. Sri Pushpam College (Autonomous), Poondi – 613 503

B.Sc. Programme in Geography

OUTCOME BASED EDUCATION - CHOICE BASED CREDIT SYSTEM

SCHEME OF PROGRAMME AND SYLLABUS

(For the candidates admitted from 2023-2024 onwards)

Vision and Mission of the college

Vision

To provide quality academic programmes and value oriented higher education to the rural community, equip them to encounter current regional, national and global demands upholding moral standards and intellectual competency.

Mission

- To provide conducive environment for quality teaching-learning process and innovative research.
- To bestow substantial educational experience that is intellectually, socially, and personally transformative.
- To strive to bring out the latent potentiality and core competency of the learners
- To foster the culture of research-based learning, independent academic inquiry by encouraging the students to involve in research activities ranging from hands on training, student projects, publications etc.,
- To nurture essential skills, competent minds and compassionate hearts.
- To impart a practical, demanding and overall development of the personality generated by love, consideration and care for the society.
- To serve the society by extending needful outreach programmes to the rural populace.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

- Make the learners realise the transformative power of education.
- Acquire profound disciplinary, applied, integrative knowledge and intellectual competency and domain specific and generic skills.
- Pursue lifelong learning and generate innovative solutions for the problems at individual and social level.
- Create a collaborative and inclusive environment, and serve the betterment of the society with moral integrity.
- Motivate to become a committed professional with necessary ethics as a leader as well as a team player.

PROGRAMME OUTCOMES for B.sc., Geography Programmes

- **PO1.** The students acquire knowledge in the field of social science, literature and humanities which make them sensitive and sensible enough
- **PO2.** The U.G graduates will be acquainted with social, economic, historical, geographical, political, ideological and philosophical tradition and thinking.
- **PO3.** The program also empowers the graduated to appear for various competitive examination or choose the post graduate programme of their choice.
- **PO4.** The U.G program enables the students to acquire the knowledge with human vaues framing the base to deal with various problems in life with courage and humsnity.
- **PO5.** The students will be ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.
- **PO6.** Programme provides the base to be the responsible citizen.

PROGRAMME SPECIFIC OUTCOMES for B.Sc Geography Programme

- **PSO1. Acquireing Knowledge of Physical Geography**
  Student will gain the knowledge of physical geography. Student will have a general Understanding about the geomorphology and geotechnical process and formation. They will be able to correlate the knowledge of physical geography with the human geography**.**
- **PSO2. Ability of problem Analysis**
  Student will be able to analyse the problem of physical as well as culture environments of both rural and urban areas. Moreover they will try to find out the possible measures to solve those problems.
- **PSO3. Application of GIS and modern Geographical Map Making Techniques**
  They will learn how to prepare map based on GIS by using the modern geographical map making techniques.

Curriculum structure for UG Programmes (OBE-CBCS) 2023-2024

	Nature of Course	Total No. of Courses	Total marks	Total credits	Total credits for the Programme
Part – I	Language (Tamil / Hindi)	04	400	12	123 (CGPA)
Part – II	English	04	400	12	
Part – III	Core Courses	14	1400	65	
	Core Industry Module (CIM)	01	100	04	
	Elective Courses(Generic) - Allied	06	600	18	
	Elective Courses (Discipline Centric)	04	400	12	
Part – IV	Skill Enhancement Course - Non Major Elective (NME)	01	100	02	17 (Non CGPA)
	Skill Enhancement Course – Discipline Specific(SEC)	02	200	04	
	Professional Competency Skill Enhancement Course(PCSE)	01	100	02	
	Gender Studies(GS)	01	100	02	
	Environmental Studies (EVS)	01	100	02	
	Value Education (VE)	01	100	02	
	Internship / Industrial Activity	--	--	02	
Part – V	Extension Activity (EA)	--	--	01	
	Total	**40**	**4000**	**140**	**140**
Value Added Course (VAC)		01	100	--	--
Extra Credit Course – MOOC / Field visit / Hands on Training		--	--	Max: 4	--

***Part I, II, and Part III components will be separately taken into account for CGPA calculation and classification for the under graduate programme and the other components. IV, V has to be completed during the duration of the programme as per the norms, to be eligible for obtaining the UG degree.**

Course Structure: B.Sc. GEOGRAPHY 2023 – 2024

S. No.	Semester	Part	Category	Course Code	Title of the Course	Maximum Marks			Minimum Marks			Hours/ Week	Credits
						CIA	EE	Total	CIA	EE	Total		
1.	I	I	Language	23U1GYT1/H1	Tamil – I / Hindi – I	25	75	100	10	30	40	6	3
2.		II	Language	23U1GYE1	English – I	25	75	100	10	30	40	4	3
3.		III	Core	23U1GYC1	Earth and its System	25	75	100	10	30	40	5	5
4.			Core	23U1GYC2	Cartography	25	75	100	10	30	40	5	5
5.			Allied	23U1GYA1	Allied Statistics-I	25	75	100	10	30	40	5	3
			Allied	23U2GYAP1	Allied Statistics Practical –(NS)	-	-	-	-	-	-	3	-
6.		IV	EVS	23U1GYES	Environmental Studies	-	100	100	-	-	40	SS	2
7.	II	I	Language	23U2GYT2/H2	Tamil – II / Hindi – II	25	75	100	10	30	40	6	3
8.		II	Language	23U2GYE2	English – II	25	75	100	10	30	40	4	3
9.		III	Core	23U2GYC3	Fundamental of Geomorphology	25	75	100	10	30	40	5	4
10.			Core	23U2GYCP1	Mapping Techniques	25	75	100	10	30	40	5	4
11.			Allied	23U2GYAP1	Allied Statistics Practical- (NS)	25	75	100	10	30	40	3	3
12.			Allied	23U2GYA2	Allied Statistics-II	25	75	100	10	30	40	5	3
13.		IV	VA	23U2GYVA	Value Education	25	72	100	10	30	40	SS	2
			Extra Credit	MOOC(Massive open online course)		-	-	-	-	-	-		
14.	III	I	Language	23U3GYT3/H3	Tamil – III / Hindi – III	25	75	100	10	30	40	6	3
15.		II	Language	23U3GYE3	English – III	25	75	100	10	30	40	4	3
16.		III	Core	23U3GYC4	Climatology	25	75	100	10	30	40	5	5
17.			Core	23U3GYC5	Human Geography	25	75	100	10	30	40	5	4
18.			Allied	23U3GYA3	Geography Of Tourism	25	75	100	10	30	40	5	3
			Allied	23U4GYA4	Bio-Geography (NS)	-	-	-	-	-	-	3	-
			Extra Credit	MOOC / Field visit / Hands on Training		-	-	-	-	-	-		

S. No.	Semester	Part	Category	Course Code	Title of the Course	Maximum Marks			Minimum Marks			Hours/ Week	Credits
						CIA	EE	Total	CIA	EE	Total		
19.	IV	I	Language	23U4GYT4/H4	Tamil – IV / Hindi – IV	25	75	100	10	30	40	6	3
20.		II	Language	23U4GYE4	English – IV	25	75	100	10	30	40	4	3
21.		III	Core - CIM	23U4GYCIM	Industry Module: Geo-Spatial Techniques	25	75	100	10	30	40	5	4
22.			Core	23U4GYCP2	Practical –Weather and Climatic Data Analysis	25	75	100	10	30	40	5	4
23.			Allied	23U4GYA4	Bio-Geography (NS)	25	75	100	10	30	40	3	3
24.			Allied	23U4GYA5	Economic Geography	25	75	100	10	30	40	5	3
25.		IV	SEC	23U4GYSEC1	Digital Literacy in Basic of Geographical Information System	25	75	100	10	30	40	2	2
26.			GS	23U4GYGS	Gender Studies	-	100	100	-	-	40	SS	2
			Extra Credit	Field visit / Hands on Training		-	-	-	-	-	-	-	-
27.	V	III	Core	23U5GYC6	Oceanography	25	75	100	10	30	40	5	5
28.			Core	23U5GYC7	Population and Settlement Geography	25	75	100	10	30	40	5	5
29.			Core	23U5GYCP3	Aerial And Satellite Image Interpretation	25	75	100	10	30	40	5	5
30.			Elective	23U5GYEL1A 23U5GYEL1B	World Regional Geography Agriculture Geography	25	75	100	10	30	40	4	3
31.			Elective	23U5GYEL2A 23U5GYEL2B	Geography of Tamil Nadu Geography of Resource	25	75	100	10	30	40	4	3
32.			NME	23U5GYNME	Geography of Tamil Nadu	25	75	100	10	30	40	2	2
33.			Core	23U5GYC8PR	Project with Viva Voce	25	75	100	10	30	40	5	4
		IV	Internship / Industrial Training (Carried out in II Year summer vacation – 30 hours)									-	2
34.	VI	III	Core	23U6GYC9	Geography of India	25	75	100	10	30	40	6	5
35.			Core	23U6GYC10	Remote sensing and GNSS	25	75	100	10	30	40	5	5
36.			Core	23U6GYCP4	Surveying and Projections for Geography	25	75	100	10	30	40	5	5
37.			Elective	23U6GYEL3A 23U6GYEL3B	Social and Cultural Geography Geography of Health	25	75	100	10	30	40	5	3
38.			Elective	23U6GYEL4A 23U6GYEL4B	Regional Planning and Development Political Geography	25	75	100	10	30	40	5	3
39.		IV	SEC	23U6GYSEC2	Field Survey	25	75	100	10	30	40	2	2
40.			PCSE	23U6GYPCSE	Comprehensive Knowledge	-	100	100	-	40	40	2	2
		V			Extension Activities (Outside College hours)	-	-	-	-	-	-	-	1
					Total			**4000**					**140**

Internship/ Industrial Activity:

Students must complete in-plant training in any industry or organization where a programme-related procedure is being used, and this training must be done during the summer vacation at the end of II Year. A minimum of 30 hours should be spent on training. Students must submit a report on their training together with a certificate from the relevant industry or organization authority.

MOOC:

Massive Open Online Course (MOOC) is offered in the II and III Semester as an Extra Credit Course. Students can avail any one or more of the courses available in MOOC to equip their skill and knowledge themselves. To receive the extra credit, students must provide their MOOC course completion certificate at the end of the second year.

Field visit / Hands on Training:

In order to achieve experiential learning, these programmes with a minimum of 15 hours of contact time are offered as Extra Credit Courses in the III & IV Semester.

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

Components of Evaluation:

Internal Marks : 25

External Marks : 75

Total : 100

Skill Enhancement course (SEC) offered by the Geography Department

1. Digital Literacy in Basic of Geographical Information System
2. Field Survey

Non – Major Elective (NME) Course offered by the Geography Department

Geography of Tamil Nadu

Value Added Course offered by the Geography Department

"**Energy Resource"** will be conducted for III UG students as a certificate Course.

A.VEERIYA VANDAYAR MEMORIAL SRI PUSHPAM COLLEGE (AUTONOMOUS),POONDI, THANJAVUR DIST.
(NAAC Re-Accredited with A grade in 4th cycle)
Question Pattern for UG and PG Programmes
(For the students admitted from 2023 – 2024 onwards)

Bloom's Taxonomy based Assessment pattern

Bloom's category	Section	Choice	Marks	Total
K1 to K6	A	Compulsory	10 x 2 = 20	75
	B	Either / Or	5 x 5 = 25	
	C	3 out of 5	3 x 10 = 30	

OBE QUESTION PATTERN

Total Marks: 75

SECTION – A (10 x 2 = 20) **Answer All the questions** (Two Questions from each units)			
CO	**K Level**	**Q. No.**	**Questions**
		1.	
		2.	
		3.	
		4.	
		5.	
		6.	
		7.	
		8.	
		9.	
		10.	
SECTION – B (5 x 5 = 25) **Answer All the questions** (One Question from each unit)			
		11(a).	
(OR)			
		11(b).	
		12(a).	
(OR)			
		12(b).	
		13(a).	
(OR)			
		13(b).	
		14(a).	
(OR)			
		14(b).	
		15(a).	
(OR)			
		15(b).	
SECTION – C (3 x 10 = 30) **Answer ANY THREE questions** (One Question from each unit)			
		16.	
		17.	
		18.	
		19.	
		20.	

Bloom's Taxonomy Action Verbs

K1 Remember	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
• Choose • Copy • Define • Describe • Discover • Duplicate • Enumerate • Examine • Find • How • Identify • Label • List • Locate • Match • Memorize • Name • Omit • Recall • Recognize • Relate • Select • Show • Spell • State • Tabulate • Tell • What • When • Where • Which • Who • Why	• Associate • Classify • Compare • Contrast • Convert • Demonstrate • Describe • Differentiate • Discuss • Distinguish • Estimate • Explain • Express • Extend • Identify • Illustrate • Indicate • Infer • Interpret • Outline • Paraphrase • Predict • Relate • Rephrase • Show • Summarize • Translate	• Apply • Build • Calculate • Change • Choose • Complete • Construct • Demonstrate • Develop • Discover • Dramatize • Experiment • Identify • Interview • Interpret • Illustrate • Make use of • Manipulate • Model • Modify • Organize • Paint • Plan • Prepare • Produce • Relate • Select • Show • Sketch • Solve • Use • Utilize	• Advertise • Appraise • Analyze • Assume • Break down • Categorize • Classify • Compare • Conclusion • Connect • Contrast • Differentiate • Discover • Dissect • Distinguish • Discriminate • Divide • Examine • Explain • Function • Inference • Inspect • List • Motive • Order • Point out • Prioritize • Relationships • Select • Separate • Simplify • Subdivide • Survey • Takepartin • Testfor • Theme	• Agree • Appraise • Assess • Award • Choose • Compare • Conclude • Convince • Criteria • Criticize • Decide • Deduct • Defend • Determine • Discriminate • Estimate • Evaluate • Explain • Find errors • Grade • Importance • Influence • Interpret • Judge • Justify • Mark • Measure • Order • Predict • Prioritize • Prove • Rank • Rate • Recommend • Reframe • Select • Summarize • Support • Value	• Adapt • Build • Change • Choose • Combine • Compile • Compose • Construct • Create • Design • Develop • Discuss • Elaborate • Estimate • Formulate • Generalize • Hypothesize • Imagine • Improve • Integrate • Invent • Make up • Maximize • Minimize • Modify • Originate • Organize • Plan • Predict • Prepare • Produce • Propose • Rearrange • Rewrite • Role-play • Solution • Solve • Substitute • Write

Semester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
I	**23U1GYT1**	**PART – I** **பொதுத் தமிழ் – 1**	**6**	**3**

Nature of the Course

1.Employablity Oriented *வேலை வாய்ப்புச் சார்ந்தது*	✓	7. Addresses Professional Ethics *தொழில் நெறிமுறைகளை நிறைவு செய்தல்*	
2. Entrepreneurship Oriented *தொழில் முனைவு சார்ந்தது*		8.Relevent To Local Need *உள்ளூர் தேவைகளோடு தொடர்புடையது*	✓
3. Skill Development Oriented *திறன்மேம்பாடு சார்ந்தது*	✓	9. Relevent To Regional Need *மண்டல அளவிலான தேவைகளோடு தொடர்புடையது*	
4. Addresses Gender Sensitization *பாலின உணர்திறன் பூர்த்தி செய்தல்*		10. Relevent To National Need *தேசிய அளவிலான தேவைகளோடு தொடர்புடையது*	
5. Addresses Environment and Sustainablity *சுற்றுச் சூழல் மற்றும் நிலைத் தன்மை நிறைவு செய்தல்*		11. Relevent To Global Development Need *உலக அளவிலான தேவைகளோடு தொடர்புடையது*	
6. Addresses Human Values *மனித மதிப்புகளை நிறைவு செய்தல்*	✓		

Course Objectives

1. முதலாமாண்டுப் பட்ட வகுப்பு மாணவர்களுக்குத் தமிழ் மொழி இலக்கியங்களை அறிமுகம் செய்தல்
2. தற்கால இலக்கியப் போக்குகளையும் இலக்கணங்களையும் மாணவர் அறியுமாறு செய்தல்.
3. மாணவர்களுக்குத் தமிழ் படைப்பாற்றலைத் தூண்டுதல்.
4. தமிழ் இலக்கியம் சார்ந்த போட்டித் தேர்வுகளுக்கு ஏற்ப கற்பித்தல் நடைமுறைகளை மேற்கொள்ளுதல்.

Unit	Details	Hours
Unit-I	***மரபுக் கவிதை*** *1. பெ. சுந்தரனார் - தமிழ்த் தெய்வ வணக்கம்* *2. பாரதிதாசன் - சிறுத்தையே வெளியில் வா* *3. கவிமணி - புத்தரும் சிறுவனும்* *4. முடியரசன் - மொழி உணர்ச்சி* *5. கண்ணதாசன் - ஆட்டனத்தி ஆதிமந்தி — ஆதிமந்தி புலம்பல்* *6. சுரதா - துறைமுகம் தொகுப்பிலிருந்து ஏதேனும் ஒரு கவிதை* *7. தமிழ் ஒளி - கடல்*	18 Hrs

Unit-II	***புதுக்கவிதை*** *1. அப்துல் ரகுமான் - வீட்டுக்கொரு மரம் வளர்ப்போம்* *2. ஈரோடு தமிழன்பன் - சென்ரியூ கவிதைகள் (ஏதேனும் ஐந்து கவிதைகள்)* *3. வைரமுத்து - பிற்சேர்க்கை* *4. மு.மேத்தா- வாழைமரம்* *5. அறிவுமதி -வள்ளுவம் பத்து* *6. நா முத்துக்குமார் - ஆனந்த யாழை மீட்டுகிறாய்* *7. சுகிர்தராணி - சபிக்கப்பட்ட முத்தம்* *8. இளம்பிறை -நீ எழுத மறுக்கும் எனது அழகு*	**18 Hrs**
Unit-III	***சிறுகதைகள்*** *1. வாய்ச் சொற்கள் - ஜெயகாந்தன் (மாலை மயக்கம் தொகுப்பு)* *2. கடிதம் - புதுமைப்பித்தன்* *3. முள்முடி - தி ஜானகிராமன்* *4. சிதறல்கள் - விழி.பா.இதயவேந்தன்* *5. காகித உறவு - சு.சமுத்திரம்* *6. வீட்டின் மூலையில் சமையல் அறை - அம்பை* *7. (மொழிபெயர்ப்புக் கதை) ஆண்டன் செக்காவ் - நாய்க்காரச் சீமாட்டி, சந்தியா*	**18 Hrs**
Unit-IV	*1. பாடம் சார்ந்த இலக்கிய வரலாறு* *2. இராகபாவம் — கேட்டிவி*	**18 Hrs**
Unit-V	***மொழித்திறன் போட்டி தேர்வு*** *1.பொருள் பொதிந்த சொற்றொடர் அமைத்தல்* *2. ஓர் எழுத்து ஒரு மொழி* *3. வேற்றுமை உருபுகள்* *4. திணை, பால், எண், இடம்* *5. கலைச்சொல்லாக்கம், மொழிபெயர்ப்பு.* *(குறிப்பு: அலகு 4, 5 ஆகியன போட்டித் தேர்வு நோக்கில் நடத்தப்பட வேண்டும்).*	**18 Hrs**

CO Number	CO Statement	Cognitive Level
CO1	*பாரதியார் காலந்தொட்டு தற்காலப் புதுக்கவிதைகள் வரை கவிதை இலக்கியம் அறிமுகப்படுத்தப்படுவதால் படைப்பாற்றல் திறன் பெறுதல்.*	**K2**
CO2	*புதுக்கவிதை வரலாற்றினை அறிந்து கொள்வர்.*	**K3**
CO3	*இக்கால இலக்கிய வகையினைக் கற்பதன் மூலம் படைப்பாக்கத் திறனைப் பெறுவர்.*	**K4**
CO4	*மொழியறிவோடு சிந்தனைத்திறன் அதிகரித்தல்.*	**K3**
CO5	*தமிழ்மொழியைப் பிழையின்றி எழுதவும், புதிய கலைச் சொற்களை உருவாக்கவும் அறிந்து கொள்ளுதல்.*	**K5**

Text Books

1. தமிழ் இலக்கிய வரலாறு -செம்பதிப்பு- பெ.சுபாஷ் சந்திரபோஸ்

பார்வை நூல்கள்

2. தமிழ் இலக்கிய வரலாறு - சிற்பி.பாலசுப்பிரமணியன்

3. புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு - தமிழண்ணல்

4. வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு - எஃப்.பாக்கியமேரி

Web Resource

Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc.)

1. Tamil Heritage Foundation- www.tamilheritage.org <http://www.tamilheritage.org> Tamil virtual University Library-
2. www.tamilvu.org/ library
3. http://www.virtualvu.org/library Project Madurai - www.projectmadurai.org.
4. Chennai Library- www.chennailibrary.com <http://www.chennailibrary.com>.
5. Tamil Universal Digital Library- www.ulib.prg <http://www.ulib.prg>.
6. Tamil E-Books Downloads- tamale books downloads. blogspot.com
7. Tamil Books on line- books.tamil cube.com
8. Catalogue of the Tamil books in the Library of British Congress archive.org
9. Tamil novels on line - books.tamilcube.com

பொதுத்தமிழ் —1												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CLO1	3	2	3	3	3	2	2	2	3	2	3	2
CLO2	3	3	2	2	2	3	2	3	3	2	2	2
CLO3	3	2	3	3	2	2	2	3	2	3	3	2
CLO4	2	3	3	2	2	2	3	2	3	2	3	3
CLO5	3	3	2	2	2	3	3	2	2	2	3	3

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
I	**23U1GYE1**	**PART - II GENERAL ENGLISH**	**6**	**3**

Learning Objectives		
LO1	To enable earners to acquire self awareness and positive thinking required in Various life situations.	
LO2	To help the macquire the attribute of empathy	
LO3	To assist them in acquiring creative and critical thinking abilities	
LO4	To enable them to learn the basic grammar	
LO5	To assist the min developing LSRW skills	
Unit No.	**Unit Title &Text**	**No.of Periods for the Unit**
I	**SELF-AWARENESS(WHO) & POSITIVE THINKING (UNICEF)** **Life Story** Chapter 1 from Malala Yousafzai, I am Malala An Autobiography or The Story of My Experiments with Truth (Chapters 1, 2 & 3) M.K.Gandhi **Poem** Where the Mind is Without Fear–Gitanjali 35– Rabindranath Tagore Love Cycle– Chinua Achebe	**20**
II	**EMPATHY** **Poem** Nine Gold Medals– David Roth Alice Fellor poverty–William Words worth **Short Story** The School for Sympathy– E.V. Lucas Barn Burning – William Faulkner	**20**
III	**CRITICAL & CREATIVE THINKING** **Poem** The Things That Haven't Been Done Before– Edgar Guest Stopping by the Woods on a Snowy Evening– Robert Frost **Readers Theatre** The Magic Brocade – A Tale of China Stories on Stage–Aaron Shepard (Three Sideway Stories from Wayside School" by Louis Sachar)	**20**
IV	**Reflective Thinking** The Running Rivulets of man The Lady in the Silver Coat Mr.Applebaum at Play The Feigning Brawl of an Imposter Thy Life is my Lesson	**15**

V	**Communication Skill Part of Speech** Articles Noun Pronoun Verb Adverb Adjective Preposition	**15**

Course Outcomes		
Course Outcomes	On completion of this course, students will:	
CO1	Acquire self awareness and positive thinking required in various life situations	PO1,PO7
CO2	Acquire the attribute of empathy.	PO1,PO2,PO10
CO3	Acquire creative and critical thinking abilities.	PO4,PO6,PO9
CO4	Learn basic grammar	PO4,PO5,PO6
CO5	Development and integrate the use of four language skills i.e., listening, speaking, reading and writing.	PO3,PO8

	Textbooks (Latest Editions)
1.	Malala Yousafzai. Iam Malala, Little, Brown and Company, 2013.
2.	M.K.Gandhi. An Autobiography or The Story of My Experiments with Truth (Chapter – I), Rupa Publications, 2011.
3.	Rabindranath Tagore. "Gitanjali 35" from Gitanjali (Song Offerings): A CollectionofProseTranslationsMadebytheAuthorfromtheOriginalBengali. MacMillan, 1913.
4.	N.Krishnasamy. Modern English: A Book of Grammar, Usage and Composition Macmillan, 1975.
5.	Aaron Shepard. Storieson Stage, Shepard Publications, 2017.
6.	J.C.Nesfield. English Grammar Composition and Usage, Macmillan, 2019.
7.	Sri.KTV. Melodious Harmony, New Century Book House. 2022

Web Resources	
1	MalalaYousafzai.Iam Malala(Chapter1)https://archive.org/details/i-am-malala
2	M.KGandhi.An Auto biographyor The Story of My Experiments with Truth(Chapter-1)-RupaPublication,2011https://www.indiastudychannel.com/resources/146521-Book-Review-An-Autobiography-or-The-story-of-my-experiments-with-Truth.aspx
3	Rabindranath Tagore. "Gitanjali 35" from Gitanjali (Song Offerings)https://www.poetryfoundation.org/poems/45668/gitanjali-35
4	AaronShepard.StoriesonStage,ShepardPublications,2017 https://amzn.eu/d/9rVzlNv
5	JCNesfield. Manual of English Grammar and Composition. https://archive.org/details/in.ernet.dli.2015.44179

Mapping with Programme Outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	3	3	3	2	3	2
CO2	2	3	3	3	2	3	3	2	2	2
CO3	3	3	3	2	3	3	3	2	3	2
CO4	3	3	3	3	3	3	3	2	2	2
CO5	3	2	3	3	3	3	3	2	2	3

Mapping with Programme Specific Outcomes:

CO /PO	PSO1	PSO2	PSO3	PSO4
CO1	3	3	3	3
CO2	3	3	3	3
CO3	3	3	3	3
CO4	3	3	3	3
CO5	3	3	3	3
Weight age	15	15	15	15
Weighted percentage of Course Contribution to POS	3.0	3.0	3.0	3.0

3– Strong, 2 –Medium, 1-Low

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
I	**23U1GYC1**	**EARTH AND ITS SYSTEM**	**5**	**5**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the basic concept of Universe and its origin and the theories of Evolution: Nebula, Kant and Big Bang Theory.
2. To understand Earth and Universe- Solar systems , Milky way Galaxy and Black hole theory and Meteorites
3. To explain the Earth Internal Structure the Core, Mantle, Crust and also the Earth's Magnetism
4. To illustrate about the Earth's Size, Rotation and Revolution, causes for Seasons, Eclipses and Solstice
5. To explain the latitude and longitude, Cardinal points, Greenwich Meridian and Indian Standard Time. To given an understanding on the Time calculation

Unit	EARTH AND ITS SYSTEM	No. of Hours
I	The Universe and its Origin- Theories of Evolution: Nebula, Kant, and Big Bang Theory	15
II	Earth and Universe - Solar system- Galaxy (Milky way) – Cosmobody - Black hole – Meteorites	15
III	Earth's internal structure – Earth's crust, mantle, and core – Discontinuity- Isostasy – Earth's magnetism	15
IV	Earth and its Size -Earth Rotation and Revolution – Inclination Causes – (Seasons Day and Night) – Summer and Winter Solstice - Eclipses	15
V	Latitudes and Longitudes– Cardinal Points - Greenwich Meridian – Indian Standard time- Time Calculation	15

References:

1. Savindra Singh (2012) : Physical Geography
2. Hussain Majid (2007): Evolution of Geographical concepts

Text Book:

1. K.Siddhartha and S.Mukherjee (2006) The Dynamics of Earth Surface
2. Gochenleong(2001): Certificate Physical and Human Geography

Web resources:

1. **https://www.universetoday.com/**
2. https://www.universetoday.com

3. https://geography.name/regionalism/
4. https://www.rawatbooks.com/geography/

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Understands the origin of various theories in geography over the period identifying geographical proven theories on origin of the sun and assess the recent trend in geography and bringout the historical perspective of geography ,discuss the merits and demerits of quantitative revolution	K1, K2
CO2	Understands the changes over the universe periodically , distinguish the earth rotation and revolution and its causes explain how day and night cause, evaluates the logic behind the time calculation discuss the location of Greenwich and calculate the Indian standard time **Critically evaluate -causes of day and night,**	K5
CO3	Recalls and Understands the size and position of planets, summarise with importance of direction in Geographical location	K3, K4
CO4	**4** evaluate the size and position of planets, summarise with importance of direction in Geographical location**(Interactive session with questions)**	K3
CO5	Identifies the earth rotation and revolution and its causes explain how day and night cause, evaluate the logic behind the time calculation discuss the location of Greenwich and calculate the Indian standard time.Distinguish the concept of climate and weather, discuss the earth size and its shape in various period, assess explain the importance of latitudes and longitudes. Define the importance of direction and explain the cardinal points	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	2
CO2	2	3	3	3	3	3	3	2	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
I	**23U1GYC2**	**CARTOGRAPHY**	**5**	**5**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. Definition - History and Development of Cartography - Maps - Types of Maps based on Scale Purpose, Relief and Thematic Maps Qualitative and Quantitative uses of Maps in Geography.
2. Components of Maps - Scale - Direction - Projection- Conventional Signs and Symbols - Lettering, Symbolization.
3. Techniques of Map Representation - Isopleth - Interpolation of Contours - Mapping of Socio-Economic Data - Dot Maps Circle - Sphere- Square - Choropleth - Choro schematic - Choro Chromatic Maps
4. Development of Remote Sensing - Aerial Photography, Aerial Photo Interpretation- Satellite Imageries - Advantage of Digital Maps over Conventional Maps
5. Recent Technologies in Cartography - CAD- GIS- ARC GIS- QGIS - GPS

SYLLABUS

Unit	CARTOGRAPHY	No. of Hours
I	Definition - History and Development of Cartography - Maps - Types of Maps based on Scale Purpose, Relief and Thematic Maps Qualitative and Quantitative uses of Maps in Geography	15
II	Components of a Maps - Scale - Direction - Projection- Conventional Signs and Symbols - Lettering, Symbolization	15
III	Techniques of Map Representation - Isopleth - Interpolation of Contours - Mapping of Socio-Economic Data - Dot Maps Circle - Sphere- Square - Choropleth - Choro schematic - Choro Chromatic Maps.	15
IV	Development of Remote Sensing - Aerial Photography, Aerial Photo Interpretation- Satellite Imageries - Advantage of Digital Maps over Conventional Maps	15
V	Recent Technologies in Cartography - CAD- GIS- ARC GIS- QGIS - GPS	15

References:

1. Judith A.Tyner (2010):Principles of Map Design, The Guilford press, New York , London.
2. Misra,P. and A. Ramesh.(2006).*Fundamentals of Cartography.* McMillan Co. Publishing, New Delhi.

3. Misra, R.P. and Ramesh A. (2002) :Fundamentals of Cartography, concept publishing company

Text Book:

1. Robinson, H. (1995). *Elements of Cartography.* (6th Edition). John Wiley and Sons, New York
2. Tyner, Judith.(1992).*Introduction to thematic Cartography.* Prentice Hall, New Jersey.
3. Border, D. (1990).*Cartography : Thematic map design.* WCB WMC Brocan Pub

Web resources:

1. http://en.wikipedia.org/wiki/carography
2. http://www.geography.wisc.edu/histcart
3. http://www.map-symbol.com/sym_lib.htm.

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials,Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Understanding the basic concepts of cartography, scope of the study, its history and development in Geography. It is important to explore student's knowledge in maps and its types. Explore the Purposes in creation of thematic maps, weather maps, special purpose maps and Topographic maps. Acquire the know through shape and size of the earth. To develop the skills to work on cartographic process and analyze the concept of earth as a cartographic problem to construction	K1, K2
CO2	ppreciate the goals of map design. Construct the elements of map design like scale and its types, direction, understanding True north, Grid, magnetic north, and legend. Develop the in depth knowledge of geographic co ordinate system.	K5
CO3	Understanding of facts and ideas of representation of physical data through contour diagram, making profiles and block diagrams to get idea of topographical structure. Define the techniques of thematic mapping, and its types of simple, complex and semi) explains and explore the Mapping of terrain (contouring, layer tinting, hill shading, Hachures)	K3, K4
CO4	Understands the role of cartography in the development of remote sensing techniques, learns to interpret aerial photograph, satellite imagery and differentiate the digital cartography and traditional cartography.	K3
CO5	Learns the recent technologies in Cartography	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze;
K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	2	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
I	**23U1GYA1**	**Allied Statistics – I**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	
Entrepreneurship Oriented		Relevant to regional need		Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need		Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	

Course Objectives

The main objectives of this course are to:

- To introduce the concepts of correlation and regression.
- To impart the knowledge of spread of the distribution using measure of central tendency and dispersion.

SYLLABUS		
Unit	**Content**	**No. of Hours**
I	**Collection of data:** Primary and Secondary – Methods of Primary data collection - Sources of Secondary Data – Classification and Tabulation.	**15**
II	**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.	**15**
III	**Measures of Central tendency**: Arithmetic Mean(step deviation method excluded), Median, Mode, Geometric Mean and Harmonic Mean	**15**
IV	**Measures of Dispersion**: Range, Quartile Deviation, Mean Deviation, Standard Deviation (***Direct method and simple problems only)***.	**15**
V	**Correlation and Regression Analysis:** Correlation – Karl Pearson coefficient of correlation – Spearman's rank correlation – Simple linear regression – two regression lines.	**15**

Note:** Questions may be asked from the ***Self-Study content for only CIA test (Mid and End semesters) and **NOT** for the external (Semester Examinations)

Textbook:

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

Unit	Chapter	Pages
I	1	Pages:28 – 40, 60 – 80, 83 - 91
II	6	Pages: 98 – 147
III	7	Pages: 159 – 181, 196 – 209, 212 – 227, 251 - 260
IV	8	Pages: 301 – 328, 331 – 332, 336 - 337
V	12, 13	Pages:506 – 521, 540 - 553

References:

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

Web Resources:

1. https://www.cuemath.com/algebra/solve-matrices/
2. https://www.knowledgehut.com/blog/data-science/dispersion-in-statistics

Pedagogy: Teaching / Learning methods:

Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	acquire the knowledge of collection of data	**K1**
CO2	To know the concept of frequency distribution	**K6,K2**
CO3	Analyze statistical data using measures of central tendency	**K4**
CO4	Analyze statistical data using measures of dispersions	**K4**
CO5	Use basic statistical methods such us Correlation and Regression	**K3**

Cognitive Level: K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze;
K5 – Evaluate; **K6 –** Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	2	3	3	3	2	3
CO2	3	2	3	3	3	3	2	2	3	3	3
CO3	3	3	3	2	3	3	2	2	3	3	1
CO4	2	3	3	1	2	3	3	3	2	1	2
CO5	3	1	2	2	3	3	1	2	3	2	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
I & II	**23U2GYAP1**	**Allied – STATISTICS PRACTICAL (NS)**	**3+3**	

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	
Entrepreneurship Oriented	√	Relevant to national need		Addresses Environment and Sustainability	
Skill development Oriented		Relevant to regional need		Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	

Course Objectives

The main objectives of this course are to:

1. teach how to work with SPSS
2. Impart the knowledge of integrate information and build models
3. explain how to effectively summarize research findings

S.No.	Syllabus Content
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

Textbook:

"Fundamentals of Mathematical statistics", S.C. GUPTA, V.K. KAPOOR, Sultan Chand & Sons, 2014 (11^{th} revised edition).

References:

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

Web Resources:

1. https://www.cuemath.com/algebra/solve-matrices/
2. https://www.knowledgehut.com/blog/data-science/dispersion-in-statistics

Pedagogy: Teaching / Learning methods

Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	perform highly complex data manipulation and analysis with ease	**K3, K4**
CO2	identify the nature of the variable and recognize the tools to be used	**K2, K3**
CO3	use new features of SPSS on their own.	**K3, K6**
CO4	understand the basic principles behind inferential statistics	**K2**
CO5	analyze SPSS output to produce scientifically sound research reports.	**K4**

Cognitive Level:K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze;
K5 – Evaluate; **K6 –** Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	2	3	3	3	2	3
CO2	3	2	3	3	3	3	2	2	3	3	3
CO3	3	3	3	2	3	3	2	2	3	3	1
CO4	2	3	3	1	2	3	3	3	2	1	2
CO5	3	1	2	2	3	3	1	2	3	2	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
II	**23U2GYT2**	**PART – II** **பொதுத் தமிழ் – 2**	**6**	**3**

Nature of the Course

1.Employablity Oriented *வேலை வாய்ப்புச் சார்ந்தது*	✓	7. Addresses Professional Ethics *தொழில் நெறிமுறைகளை நிறைவு செய்தல்*	
2. Entrepreneurship Oriented *தொழில் முனைவு சார்ந்தது*		8.Relevent To Local Need *உள்ளூர் தேவைகளோடு தொடர்புடையது*	✓
3. Skill Development Oriented *திறன்மேம்பாடு சார்ந்தது*	✓	9. Relevent To Regional Need *மண்டல அளவிலான தேவைகளோடு தொடர்புடையது*	
4. Addresses Gender Sensitization *பாலின உணர்திறன் பூர்த்தி செய்தல்*		10. Relevent To National Need *தேசிய அளவிலான தேவைகளோடு தொடர்புடையது*	
5. Addresses Environment and Sustainablity *சுற்றுச் சூழல் மற்றும் நிலைத் தன்மை நிறைவு செய்தல்*		11. Relevent To Global Development Need *உலக அளவிலான தேவைகளோடு தொடர்புடையது*	
6. Addresses Human Values *மனித மதிப்புகளை நிறைவு செய்தல்*	✓		

Course Objectives

1. சமய இலக்கியங்களையும் சிற்றிலக்கியங்களையும் மாணவர்களுக்கு அறிமுகப்படுத்துதல்.
2. மாணவர்களுக்கு மொழித்திறனை வளர்க்கப் பயிற்சி அளித்தல்.
3. மாணவர்களுக்குச் சிறுகதை இலக்கிய வடிவத்தை உணர்த்துதல்.

Unit	Details	Hours
Unit-I	*1.திருநாவுக்கரசர் தேவாரம் - நாமார்க்கும் குடியல்லோம் எனத் தொடங்கும் பதிகம் (10 பாடல்கள்)* *2.ஆண்டாள் - திருப்பாவை (முதல் 10 பாசுரம்)*	**18 Hrs**
Unit-II	*1.வள்ளலார் -அருள் விளக்க மாலை (முதல் 10 பாடல்)* *2.எச்.ஏ.கிருட்டிணப்பிள்ளை - இரட்சணிய மனோகரம் - பால்ய பிரார்த்தனை* *3.குணங்குடி மஸ்தான் சாகிபு - பராபரக்கண்ணி (முதல் 10 கண்ணி)*	**18 Hrs**
Unit-III	*சிற்றிலக்கியங்கள்* *1.தமிழ்விடு தூது (முதல் 20 கண்ணி)* *2.திருக்குற்றாலக் குறவஞ்சி - குறத்தி மலைவளம் கூறுதல்* *3.முக்கூடல் பள்ளு - நாட்டு வளம்*	**18 Hrs**
Unit-IV	*1.பாடம் தழுவிய இலக்கிய வரலாறு* *2.மனோரஞ்சிதம் -கேட்டிவி*	**18 Hrs**

Unit-V	மொழித்திறன்/போட்டித் தேர்வுத் திறன் *1.* தொடர் வகைகள் *2.* மரபுத்தொடர், பழமொழிகள் *3.* பிறமொழிச் சொற்களைக் களைதல் *4.* வழுச்சொற்கள் நீக்குதல் *5.* இலக்கணக் குறிப்பு அறிதல்	**18 Hrs**

CO Number	CO Statement	Cognitive Level
CO1	பக்தி இலக்கியங்களைக் கற்பதன் மூலம் பக்தி நெறியினையும்,சமய நல்லிணக்கத்தையும் தெரிந்து பின்பற்றுவர்.	**K1, K2**
CO2	சிற்றிலக்கியங்களின் வழி இலக்கியச் சுவையினையும் பண்பாட்டு அறிவினையும் பெறுவர்.	**K2**
CO3	பட்டப் படிப்பினைப் படிக்கும் போதே பெரும்பான்மையான தமிழ் இலக்கியங்கள் குறித்த அறிவினைப் பெறுவர்.	**K4**
CO4	தமிழ்ச் சமூகப் பண்பாட்டு வரலாற்றினை இலக்கியங்கள் வாயிலாக அறிவர்.	**K3**
CO5	போட்டித் தேர்வுகளில் வெற்றி பெறுவதற்குத் தமிழ்ப் பாடத்தினைப் பயன்கொள்ளும் வகையில் ஏற்ற பயிற்சி	**K4**

Text Books

1. தமிழ் இலக்கிய வரலாறு -செம்பதிப்பு- பெ.சுபாஷ் சந்திரபோஸ்

பார்வை நூல்கள்

1. தமிழ் இலக்கிய வரலாறு - சிற்பி.பாலசுப்பிரமணியன்

2. புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு - தமிழண்ணல்

3. வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு - எஃப்.பாக்கியமேரி

Web Resource

Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc.)

1. Tamil Heritage Foundation- www.tamilheritage.org <http://www.tamilheritage.org> Tamil virtual University Library-
2. www.tamilvu.org/ library
3. http://www.virtualvu.org/library Project Madurai - www.projectmadurai.org.
4. Chennai Library- www.chennailibrary.com <http://www.chennailibrary.com>.
5. Tamil Universal Digital Library- www.ulib.prg <http://www.ulib.prg>.
6. Tamil E-Books Downloads- tamilebooksdownloads. blogspot.com
7. Tamil Books on line- books.tamil cube.com
8. Catalogue of the Tamil books in the Library of British Congress archive.org
9. Tamil novels on line - books.tamilcube.com

பொதுத்தமிழ் —2												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CLO1	3	2	3	3	3	2	2	2	3	2	3	2
CLO2	3	3	2	2	2	3	2	3	3	2	2	2
CLO3	3	2	3	3	2	2	2	3	2	3	3	2
CLO4	2	3	3	2	2	2	3	2	3	2	3	3
CLO5	3	3	2	2	2	3	3	2	2	2	3	3

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
II	**23U2GYE2**	**PART - II GENERAL ENGLISH**	**6**	**3**

Learning Objectives		
LO1	To make students realize the importance of resilience	
LO2	To enable them to become good decision makers	
LO3	To enable them to imbibe problem-solving skills	
LO4	To enable them to use tenses appropriately	
LO5	To help the muse English effectively at the work place.	
Unit No.	**Unit Title &Text**	**No.of Periods for the Unit**
I	**RESILIENCE** **Poem** Don't Quit – Edgar A. Guest Still Here–Langston Hughes **Short Story** Engine Trouble – R.K.Narayan RipVan Winkle– Washington Irving	**20**
II	**DECISION MAKING** **Short Story** The Scribe– Kristin Hunter The Lady or the Tiger- Frank Stockton **Poem** The Road not Taken–Robert Frost Snake – D. H Lawrence	**20**
III	**PROBLEM SOLVING** **Prose life Story** How I taught My Grandmother to Read– Sudha Murthy **Autobiography** How frog Went to Heaven–ATale of Angolo Wings of Fire(Chapters1, 2, 3) by A.P.J Abdul Kalam	**20**
IV	**Moral Values** The Stoic Penalty Nobility in Reasoning Malu, the Frivolous Freak Honesty is the Cream of Chastity A Boy in Boy's Town	15
V	**Tenses** Present Past Future Concord	15

Course Outcomes

Course Outcomes	On completion of this course, students will;	
CO1	Realize the importance of resilience	PO1,PO7
CO2	Become good decision-makers	PO1,PO2,PO10
CO3	Imbibe problem-solving skills	PO4,PO6,PO9
CO4	Use tenses appropriately	PO4, PO5,PO6
CO5	Use English effectively at the work place.	PO3,PO8

Text Books (Latest Editions)	
	References Books
1	Martin Hewings. Advanced English Grammar. Cambridge University Press, 2000
2	SP Bakshi, Richa Sharma. Descriptive English. Arihant Publications (India) Ltd., 2019.
3.	Sheena Cameron, Louise Dempsey. The Reading Book: A Complete Guide to Teaching Reading. S & L. Publishing, 2019.
4	Barbara Sherman. Skimming and Scanning Techniques, Liberty University Press, 2014.
5.	Phil Chambers. Brilliant Speed Reading: What every ouneed to read, however. Pearson, 2013.
6.	Communication Skills: Practical Approach Ed.Shaikh Moula Ramendra Kumar. Stories of Resilience, Blue Rose Publications, 2020.
7.	Sri. KTV. Melodious Harmony, New Century Book House. 2022.

Web Sources

1	LangstonHughes.StillHere https://poetryace.com/im-still-here
2	R.K. Narayan.Engine Trouble http://www.sbioaschooltrichy.org/work/Work/images/new/8e.pdf
3	Washington Irving. Rip Van Winkle https://www.gutenberg.org/files/60976/60976-h/60976-h.htm
4	FrankStockton. TheLadyor the Tigerhttps://www.gutenberg.org/ebooks/396

Mapping with Programme Outcomes:

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	3	3	3	3	3	3	3	2	3	2
CO2	2	3	3	3	2	3	3	2	2	2
CO3	3	3	3	2	3	3	3	2	3	2
CO4	3	3	3	3	3	3	3	2	2	2
CO5	3	2	3	3	3	3	3	2	2	3

3–Strong,2–Medium,1-Low Mapping with Programme Specific Outcomes:

CO /PO	**PSO1**	**PSO2**	**PSO3**	**PSO4**
CO1	3	3	3	3
CO2	3	3	3	3
CO3	3	3	3	3
CO4	3	3	3	3
CO5	3	3	3	3
Weight age	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
II	**23U2GYC3**	**FUNDAMENTAL OF GEOMORPHOLOGY**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand scope and content of Geomorphology; and explains the Rocks and types of rocks.
2. To Explains the continental drift theory, classify Endogenic and Exogenic forces. Discuss the fold, fault and volcano types.
3. To illustrate the factors affecting weathering and its types
4. To compare and classify Glacier and its types and types of landforms
5. To explain the work of wind waves

Unit	FUNDAMENTAL OF GEOMORPHOLOGY	No. of Hours
I	Geomorphology – Meaning – Scope and Content (Structure of the earth) – Rocks-Rocks types (Igneous Rock, Metamorphic Rock, and Sedimentary Rock)	15
II	Wegner's continental drift theory – Sea floor spreading – Plate tectonics- Earth movements (Endogenic and Exogenic) - Fold and its types – Fault and its types - Earthquake and its types - Types of Volcanoes.	15
III	Weathering: Factors affecting Weathering-Types of Weathering Mass Wasting and its types- Agents of Gradation – Normal Cycle of Erosion – Davis cycle (structure, stage, process) Work of Rivers- Erosion – Transportation- Deposition –Erosional Landforms -Depositional Landforms.	15
IV	Work of Glaciers– Types of Glaciers – Glacial Landforms- Erosional Landforms Underground Water – Water Table – Aquifer- Spring and its types – Karst Landforms – Erosional Landforms and Depositional Landforms	15
V	Work of Wind- Erosional Landforms and Depositional Landforms. Work of waves- Erosional landforms- Depositional landforms of Sea waves and Types of coasts.	15

References:

1. Savindra Singh (2012) :Physical Geography
2. Siddhartha.K & Mukherjee. R (2008): The Earth's Dynamic Surface
3. Dayal P.A. (2001):Text book of Geomorphology

Text Book:

1. Majid Hussain (2004): Fundamentals of Physical Geography
2. Richard .H.Bryant (2006): Physical geography made Simple

Web resources:

1. En.wikipedia.org/wiki/Geomorphology
2. En.wikipedia.org/wiki/volcano
3. http://www.geographynotes.com/articles/applied-geomorphology-meaning-two-main-lines-specific-applications-and-techniques/779
4. En.wikipedia.org/wiki/Geomorphology

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the meaning, Scope and Content of Geomorphology. Summarise the interior structure of the earth, differentiate the types of rocks their formation, and the Rock cycle, understand the formation of major landforms and Knows the distribution of Land and Sea, Are able to identify the formation and type of rocks	K1, K2
CO2	elates Wegner's continental drift theory, Sea floor spreading, Plate tectonics and Earth movements (endogenetic and exogenetic) to the formation of mountain, plateau, plains and lakes with its types	K5
CO3	Differentiates the weathering process and mass wasting and their types, understands Normal Cycle of Erosion of Davis (structure, stage, process). Identifies Work of Rivers.	K3, K4
CO4	Understands and appreciates the formation of various landforms by Glacier, underground water, Aquifer and karst topography	K3,K4
CO5	Understands and appreciates the formation of various landforms formed by wind and waves	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	2	3	3	3	3	3	3
CO3	3	2	3	3	2	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
II	**23U2GYCP1**	**MAPPING TECHNIQUES**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the components of Maps and Scale Measurements
2. To illustrate and examine the Representation of the direction on Maps
3. To elaborate on the need for conventional signs and symbols in Maps
4. To enhance techniques applied in the Representation of relief on maps
5. To introduce the mapping techniques applied to interpret contours

SYLLABUS		
Unit	**MAPPING TECHNIQUES**	**No. of Hours**
I	Map components – Maps- Types of Maps- Scales – Representative fraction and Statement of the scale- Types of scales – Plain scales – Pace scale – Time scale – comparative scale- Diagonal scale	15
II	Representation of direction on maps : Directions-True north, Grid, Magnetic north – Magnetic declination – Bearings – True bearing and magnetic bearing - Latitude and Longitude – International dateline – International Time Calculation - Map setting in the field – Map reading	15
III	Conventional signs and symbols- Measurement of distance (Thread-Divider- Opisometer) and Measurement of area (Graphical and strip method)-Enlargement and Reduction of maps -Combination of Maps.	15
IV	Representation of relief on maps: Spot heights, bench mark, triangulation station -layer shading- Hachuring, hill shading and Contours- Interpolation of contours	15
V	Contour section drawing-Types of slopes (Uniform, Concave and Convex)-(Hill-Plateau-Ridge- Escarpment-V-shaped Valley-Waterfalls and Sand dunes) - Profiles (Serial- Superimposed -Projected– Composite).	15

Textbook:

1. E.A.Coddington, *A introduction to ordinary differential equations* (3rd Printing) Prentice-Hall of India Ltd.,New Delhi, 1987.

References:

1. Saha, Pijushkanti (2010): Advanced Practical Geography. Books and Allied pvt Ltd.
2. Bagulia A.M (2006): Practical Geography, Anmol Pyblishers

Text Book

1. Khan , M.D .Zulfequar Ahmed (1997) : Text book of Practical Geography. Concept Publishing Company , New Delhi.

Web resources:

1. http://www.worldatlas.com/aatlas/imageg.
2. http://en.wikipedia.org/wiki/mapscale.
3. http://en.wikipedia.org/wiki/internationaldateline

Pedagogy: Teaching / Learning methods:
Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recalls. Map components – Maps- Types of MaScale–and Statement of the scale- Types – how it is important to explore their knowledge Representative fraction and Statement of the scale- Types of scales – Plain scales – Pace scale – Time scale	K1, K2
CO2	nderstanding of facts Representation of direction on maps – Explain the Directions-True north, Grid, Magnetic north – Magnetic declination and Identify the- Latitude and Longitude – International dateline – Explian the International Time Calculation - Map setting in the field – Map reading	K4,K5
CO3	Define the Conventional signs and symbols- calculate the Measurement of distance (Thread- Divider Opisometer) and Measurement of area (Graphical and strip method)-Enlargement and Reduction of maps -Combination of Map	K3, K4
CO4	The Representation of relief on maps, Spot heights, , bench mark, triangulation ,station - layer shading- and calculate the Interpolation of contours	K4
CO5	Understands the Contour section drawing-Types of slopes (Uniform, Concave and Convex)-(Hill Plateau-Ridge- Escarpment V-shaped Valley-Waterfalls and Sand dunes)- draw a Profiles (serial- superimposed-projected – composite).	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
II	**23U2GYA2**	**Allied Statistics – II**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	
Entrepreneurship Oriented		Relevant to regional need		Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need		Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	

Course Objectives

The main objectives of this course are to:

- To introduce the concepts of correlation and regression.
- To impart the knowledge of spread of the distribution using measure of central tendency and dispersion.

SYLLABUS		
Unit	**Content**	**No. of Hours**
I	**Curve fitting:** Principles of Least squares - Fitting of straight line - Fitting of parabola – Fitting of power curves.	**15**
II	**Interpolation and Extrapolation**: Methods of Interpolation-Lagrange's Method-Parabolic Curve Method-Extrapolation	**15**
III	**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	**15**
IV	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	**15**
V	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	**15**

Note:** Questions may be asked from the ***Self-Study content for only CIA test (Mid and End semesters) and **NOT** for the external (Semester Examinations)

Text Book:

1. ***Business Mathematics and Statistics***, P. A. Navnitham, Jai Publishers, Trichy, 2014
2. ***Statistical Methods***, S. P. Gupta, Thirty-fourth Edition, 2005.

Unit	Textbook	Chapter	Pages
I	1	11	Pages: 496 – 502
II	2	15 (Vol. I)	Pages: 622 – 653
III	2	3 (Vol. II)	Pages: 882 – 888, 910 – 929
IV	2	4 (Vol. II)	Pages: 952 – 972
V	2	5 (Vol. II)	Pages: 1006 – 1018

References:

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

Web Resources:

1. https://www.cuemath.com/algebra/solve-matrices/
2. https://www.knowledgehut.com/blog/data-science/dispersion-in-statistics

Pedagogy: Teaching / Learning methods:

Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	acquire the knowledge of curve fitting	**K1**
CO2	know the concept of interpolation	**K6,K2**
CO3	Analyze statistical data using test of hypothesis	**K4**
CO4	Analyze statistical data using goodness of fit	**K4**
CO5	calculate the analysis of variance	**K3**

Cognitive Level: K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate; **K6 –** Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3
CO1	3	3	2	3	3	2	3	3	3	2	3
CO2	3	2	3	3	3	3	2	2	3	1	3
CO3	3	3	3	2	1	3	2	2	3	3	2
CO4	2	3	3	2	2	3	3	3	2	2	2
CO5	1	2	2	1	3	3	2	2	1	2	1

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
I & II	**23U2GYAP1**	**Allied – STATISTICS PRACTICAL (NS)**	**3+3**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	
Entrepreneurship Oriented	√	Relevant to national need		Addresses Environment and Sustainability	
Skill development Oriented		Relevant to regional need		Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	

Course Objectives

The main objectives of this course are to:

1. teach how to work with SPSS
2. Impart the knowledge of integrate information and build models
3. explain how to effectively summarize research findings

S.No.	Syllabus Content
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

Textbook:-

"Fundamentals of Mathematical statistics",S.C. GUPTA, V.K. KAPOOR, Sultan Chand & Sons, 2014 (11th revised edition).

References:-

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

Web Resources:-

3. https://www.cuemath.com/algebra/solve-matrices/
4. https://www.knowledgehut.com/blog/data-science/dispersion-in-statistics

Pedagogy: Teaching / Learning methods

Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

CourseOutcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	perform highly complex data manipulation and analysis with ease	**K3, K4**
CO2	identify the nature of the variable and recognize the tools to be used	**K2, K3**
CO3	use new features of SPSS on their own.	**K3, K6**
CO4	understand the basic principles behind inferential statistics	**K2**
CO5	analyze SPSS output to produce scientifically sound research reports.	**K4**

Cognitive Level:K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate; **K6 –** Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	2	3	3	3	2	3
CO2	3	2	3	3	3	3	2	2	3	3	3
CO3	3	3	3	2	3	3	2	2	3	3	1
CO4	2	3	3	1	2	3	3	3	2	1	2
CO5	3	1	2	2	3	3	1	2	3	2	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
III	**23U3GYT3**	**PART – III** **பொதுத் தமிழ் – 3**	**6**	**3**

Nature of the Course

1.Employablity Oriented *வேலை வாய்ப்புச் சார்ந்தது*		7. Addresses Professional Ethics *தொழில் நெறிமுறைகளை நிறைவு செய்தல்*	✓
2. Entrepreneurship Oriented *தொழில் முனைவு சார்ந்தது*		8.Relevent To Local Need *உள்ளூர் தேவைகளோடு தொடர்புடையது*	✓
3. Skill Development Oriented *திறன்மேம்பாடு சார்ந்தது*	✓	9. Relevent To Regional Need *மண்டல அளவிலான தேவைகளோடு தொடர்புடையது*	
4. Addresses Gender Sensitization *பாலின உணர்திறன் பூர்த்தி செய்தல்*		10. Relevent To National Need *தேசிய அளவிலான தேவைகளோடு தொடர்புடையது*	
5. Addresses Environment and Sustainablity *சுற்றுச் சூழல் மற்றும் நிலைத் தன்மை நிறைவு செய்தல்*		11. Relevent To Global Development Need *உலக அளவிலான தேவைகளோடு தொடர்புடையது*	
6. Addresses Human Values *மனித மதிப்புகளை நிறைவு செய்தல்*	✓		

Course Objectives

1.இலக்கியங்களின் சிறப்பினை உணர்த்துதல்.
2.காலந்தோறும் எழுந்த காப்பியங்களின் போக்கையும், புதினத்தின் இலக்கிய வடிவத்தை மாணவர்கள் உணருமாறு செய்தல்.
3.யாப்பு, அணி போன்ற இலக்கிய வகைகளையும் மொழி பெயர்ப்புத் திறனையும் மாணவர்கள் உணருமாறு செய்தல்.
4.தமிழ் இலக்கியம் சார்ந்த போட்டித் தேர்வுகளுக்கு ஏற்பக் கற்பித்தல் நடைமுறைகளை மேற்கொள்ளுதல்.

Unit	Details	Hours
Unit-I	பெருங்காப்பியங்கள் *1.சிலப்பதிகாரம் - வழக்குரைகாதை-இளங்கோவடிகள்* *2.மணிமேகலை ஆதிரை பிச்சையிட்ட காதை சீத்தலைச்சாத்தனார்* *3.சீவகசிந்தாமணி - பூமகள் இலம்பகம் திருத்தக்கதேவர்* *4.வளையாபதி—நாதகுத்தனார் (முழுவதும்)*	**18 Hrs**

Unit-II	*சமயக் காப்பியங்கள்* *1.பெரியபுராணம் - பூசலார் நாயனார்புராணம்-சேக்கிழார்* *2.கம்பராமாயணம்- மந்தரை சூழ்ச்சிப் படலம்-கம்பர்* *3.வில்லிபாரதம் - மற்போர் சருக்கம்-வில்லிப்புத்தூராழ்வார்* *4.சீறாப்புராணம் - புலி வசனித்த படலம்-உமறுப்புலவர்*	**18 Hrs**
Unit-III	*புதினம்* *1.வஞ்சிமாநகரம் (வரலாற்றுப் புதினம்) -நா. பார்த்தசாரதி*	**18 Hrs**
Unit-IV	*1.பாடம் தழுவிய இலக்கிய வரலாறு* *2.குரல் கொடுக்கும் வானம்பாடி - கேட்டிவி*	**18 Hrs**
Unit-V	*மொழித்திறன்/போட்டித் தேர்வுத் திறன்* *1. நூல் மதிப்புரை* *2. திறனாய்வு செய்தல்* *3. கடிதம் வரைதல்* *4. விண்ணப்பம் எழுதுதல்*	**18 Hrs**

CO Number	CO Statement	Cognitive Level
CO1	*காப்பியங்கள் அறிமுகப்படுத்தப்படுவதால் தமிழ் மொழியின் உயர்வையும் சிறப்பையும் உணர்தல்.*	**K1, K2**
CO2	*தமிழ்ப் புதினங்களின்வழி சமகாலப் படைப்புகளின் வாழ்வியல் சிந்தனைகளை அறிந்து கொள்வர்.*	**K2**
CO3	*நாவல் இலக்கியம் அறிமுகப்படுத்தப்படுவதால் சிந்தனை ஆற்றல், படைப்பாற்றல், கற்பனைத்திறன் வளர்தல்.*	**K4**
CO4	*யாப்பு, அணி இலக்கணங்கள், மொழிபெயர்ப்புத்திறன் ஆகியவற்றைக் கற்பதன் மூலம் போட்டித் தேர்வுகளை எதிர் கொள்ளுதல்.*	**K3**
CO5	*காப்பியங்கள் அறிமுகப்படுத்தப்படுவதால் தமிழ் மொழியின் உயர்வையும் சிறப்பையும் உணர்தல்.*	**K4**

Text Books

1. *தமிழ் இலக்கிய வரலாறு -செம்பதிப்பு- பெ.சுபாஷ் சந்திரபோஸ்*

பார்வை நூல்கள்

1. *தமிழ் இலக்கிய வரலாறு - சிற்பி.பாலசுப்பிரமணியன்*
2. *புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு - தமிழண்ணல்*
3. *வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு - எஃப்.பாக்கியமேரி*

Web Resources

Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc.)

1. Tamil Heritage Foundation- www.tamilheritage.org <http://www.tamilheritage.org> Tamil virtual University Library-
2. www.tamilvu.org/ library
3. http://www.virtualvu.org/library Project Madurai - www.projectmadurai.org.
4. Chennai Library- www.chennailibrary.com <http://www.chennailibrary.com>.
5. Tamil Universal Digital Library- www.ulib.prg <http://www.ulib.prg>.
6. Tamil E-Books Downloads- tamale books downloads. blogspot.com
7. Tamil Books on line- books. tamil cube.com
8. Catalogue of the Tamil books in the Library of British Congress archive.org
9. Tamil novels on line - books.tamilcube.com

பொதுத்தமிழ் —3												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CLO1	3	2	3	3	3	2	2	2	3	2	3	2
CLO2	3	3	2	2	2	3	2	3	2	3	2	2
CLO3	2	2	2	3	2	3	3	2	2	2	2	3
CLO4	3	2	2	2	3	2	3	3	2	3	3	3
CLO5	2	2	2	3	2	3	2	3	3	2	3	3

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
III	**23U3GYE3**	**PART - II GENERAL ENGLISH**	**6**	**3**

Learning Objectives	
LO1	To make students realize the importance of resilience
LO2	To enable them to become good decision makers
LO3	To enable them to imbibe problem-solving skills
LO4	To enable them to use tenses appropriately
LO5	To help the muse English effectively at the work place.

Unit No.	**Unit Title &Text**	**No.of Periods for the Unit**
I	**ACTIVE LISTENING** **Short Story** Ina Grove–Akutagawa Ryunosuke Translated from Japanese by Takashi Kojima The Gift of the Magi – O' Henry **Prose** Listening – Robin Sharma Nobel Prize Acceptance Speech –Wangari Maathai	**20**
II	**INTERPERSONAL RELATIONSHIPS** **Prose** Telephone Conversation–Wole Soyinka Of Friendship – Francis Bacon **Songon (Motivational/ Narrative)** Ulysses–Alfred Lord Tennyson And Still IRise– MayaAngelou	**20**
III	**COPING WITH STRESS** **Poem** Leisure– W.H. Davies Anxiety Monster– RhonaMcFerran **Readers Theatre** The Forty Fortunes: A Tale of Iran Where thereisa Will–Mahesh Dattani	**20**
IV	**Grammar** Phrasal Verb & Idioms Modals and Auxiliaries Verb Phrases–Gerund, Participle, Infinitive	15
V	**Composition/Writing Skills** Official Correspondence–Leave Letter, Letter of Application, Permission Letter Drafting Invitations Brochures for Programmes and Events	15

Course Outcomes		
Course Outcomes	On completion of this course, students will;	
CO1	Listen actively	PO1,PO7
CO2	Develop interpersonal relationship skills	PO1,PO2,PO10
CO3	Acquire self-confidence to cope with stress	PO4,PO6,PO9
CO4	Master grammar skills	PO4,PO5,PO6
CO5	Carryout business communication effectively	PO3,PO8

Text Books (Latest Editions)

1	Wangari Maathai–Nobel Lecture. Nobel Prize Outreach AB 2023.Jul 2023.
2	Mahesh Dattani, Where there is W ill. Penguin, 2013.
3	Martin Hewings, Advanced English Grammar, Cambridge University Press,2000
4	Essential English Grammar by Raymond Murphy

Web Resources

1	WangariMaathai–NobelLecture.NobelPrizeOutreachAB2023.Mon.17Jul 2023. https://www.nobelprize.org/prizes/peace/2004/maathai/lecture/
2	TelephoneConversation-Wole Soyinka https://www.k-state.edu/english/westmank/spring_00/SOYINKA.html
3	AnxietyMonster- RhonaMcFerran- www.poetrysoup.com

Mapping with Programme Outcomes:

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	3	3	3	3	3	3	3	2	3	2
CO2	2	3	3	3	2	3	3	2	2	2
CO3	3	3	3	2	3	3	3	2	3	2
CO4	3	3	3	3	3	3	3	2	2	2
CO5	3	2	3	3	3	3	3	2	2	3

3– Strong, 2– Medium, 1 -Low

Mapping with Programme Specific Outcomes:

CO /PO	**PSO1**	**PSO2**	**PSO3**	**PSO4**
CO1	3	3	3	3
CO2	3	3	3	3
CO3	3	3	3	3
CO4	3	3	3	3
CO5	3	3	3	3
Weight age	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
III	**23U3GYC4**	**CLIMATOLOGY**	**5**	**5**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the basic concepts and scope of climate and differentiate the weather and climate and assess the composition of atmosphere.
2. To classify the Atmospheric Pressure and Winds.
3. To illustrate the types of air masses and fronts
4. To elaborate the Atmospheric Moisture and climatic regions
5. To understand the basic concepts of Cyclone and its mechanism

SYLLABUS		
Unit	**CLIMATOLOGY**	**No. of Hours**
I	Scope and Content – Weather and Climate – Climatic Elements- Atmospheric Composition and Structure– Insolation and Temperature: Factors and Distribution, Heat Budget, Temperature Inversion.	15
II	Atmospheric Pressure and Winds: Planetary Winds, Forces affecting Winds, General Circulation of Air, Jet Streams.	15
III	Air Masses- Classification of Air Masses- Fronts- Classification of Fronts.	15
IV	Atmospheric Moisture: Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types, Stability and Instability; Climatic Regions	15
V	Cyclones: Tropical Cyclones, Temperate Cyclones, Monsoon - Origin and Mechanism, El Nino – LA Nina.	15

References:

1. Lal D.S (2006): Climatology, Chaitanya Publishing House, New Delhi.
2. Gochenleong (2001): Certificate Physical and Human Geography, Oxford university press, New Delhi.

Text Book:

1. Roger. G. Barry & Richard J. Choley, (2002): Atmosphere, Weather and Climate, Seventh Edition, Methunen& co Ltd, New York.
2. Siddhartha. K , (2000): Atmosphere, Weather and Climate, Kisalaya publications Pvt Ltd Delhi.

Web resources:

1. en-wikipedia.org/win/physical-geography
2. www.physical geography.net/about.html
3. www.4shared.net/physical+geography.
4. books.google.com>science>earth sciences>geography

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall Climatic elements explain the composition and Structure of th Atmosphere define Insolation examine the Heat Balance compares Horizonta and Vertical Distribution of Temperature.	K1, K2
CO2	Defines Atmospheric Pressure, Compares Horizontal and Vertical Distribution of Pressure draw the major Pressure Belts Differentiates Planetary Winds, Periodic and Local Winds, Group Activity Make a Model on Major pressure Belts and Planetary winds.	K5
CO3	illustrate the formation of Jet Streams summarise the formation of Air Masses and Fronts.C	K3, K4
CO4	Defines and differentiate Humidity (absolute humidity, Relative humidity) explains Fog and its Types identifies Clouds (High, Medium and Low) narrates Forms of precipitation and Types of Rainfall (Convectional, Orographic and Cyclonic) discuss and debate on Issues in Global Climate Changes.	K3,K4
CO5	draw map for Circulation of Ocean Currents and the distribution Discuss and debate on ElNino – LaNina	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze;
K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	2	3	3	3	3	3
CO3	3	3	3	3	3	2	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
III	**23U3GYC5**	**HUMAN GEOGRAPHY**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the basic concepts of Human Geography and assess the relationship between Man and Environment.
2. To elaborate the school of thoughts
3. To discuss the distribution of Major Human Races in World
4. To illustrate the World Major Religions
5. To compare and distinguish the World Major Languages and Language groups

SYLLABUS		
Unit	**HUMAN GEOGRAPHY**	**No. of Hours**
I	Human Geography – Nature, Scope and Significance of Human Geography – Man and Environment Relationship	15
II	Schools of Thoughts: Determinism, Neo Determinism ,Possibilism - French – German – British – UK – Humanism – Behaviorism	15
III	Major Human Races in World – Classification of Major Races – Caucasoid - Mongoloid – Negroid – Racial Parameters and indices	15
IV	World Major Religions: Religion distribution – Hinduism - Buddhism – Jainism - Christianity- Islam- Religions in India	15
V	World Major Languages and Language groups – Tamil, Chinese, English – Hindi - Arabic – German- French and Portuguese.	15

References:

1. Majid Hussain (2011) Human geography, Rawat publications, New Delhi
2. Majid Hussain (2009): Concise geography, Tata mc graw hills education private limited, New Delhi.

Text Book:

1. Lekh raj singh (2009): Fundamentals of human geography, Sharda pustakbhawan, publishers

Web resources:

1. http://jizaberg.tumblr.com/post/24880131860/download-researching-human-geography-pdf-ebook
2. http://walkgeographies.files.wordpress.com/2009/03/gregoryetal_dictionary_human_geography_2009.pdf

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials,Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the Nature and Scope of Human geography, compare with the other branch of Geography , Understand the significance of Human geography, analyse the Man and environment relationship, explain the theories of population, examine the population data	K1, K2
CO2	Understands the basis of the study of Geography through the elaborate understanding of the School of thoughts	K2,K3
CO3	Explain the distribution of Major human races in the world, compare World Distribution of Races, analyze Racial parameters and indices(Shape, Skull, Face, Nose, Stature,, examine White (Caucasian), Classifying Asian(Mongoloid), outline the Black(Negroid Group discussion Classification of Races	K3, K4
CO4	Recall the Major Religions, explain Hinduism, Buddhism, Jainism, Christianity, Islam, examine the Religious distribution around the world, compare Languages, Vernacular and Dialectics.	K3
CO5	Estimate the distribution of Language groups (Chinese, Spanish, English, Hindi, Arabic German, French and Portuguese	K5,K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	2	2	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
III	**23U3GYA3**	**Allied - GEOGRAPHY OF TOURISM**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To elaborate the Concept of Leisure and Tourism
2. To discuss the history of tourism and discuss on the Determinants and Motivation of Tourism
3. To elaborate on Elements of Tourism
4. To illustrate the Role of Transport in Tourism Development
5. To discuss the importance of Tourist Organization of India

SYLLABUS

Unit	GEOGRAPHY OF TOURISM	No. of Hours
I	Concept of Leisure and Tourism – Principles and Purpose – Types of Tourism–Significance of Tourism development in Modern society – Tourism development in the World - Tourism development in India.	15
II	History of Tourism – Ancient, Medieval and Modern periods – Determinants and Motivation of Tourism	15
III	Elements of Tourism – Attraction, Accessibility and Amenities – Classification of Tourist spots - Accommodation – Primary and Supplementary Accommodation– Hotels, Inns and Motels	15
IV	Role of Transport in Tourism Development – Travel Formalities – Tour Itinerary– Travel Agency – Travel Restriction – Passport, Visa and Bank restriction - Traveler's cheques – Credit and Debit cards – Tourism and Environment – Eco Tourism	15
V	Tourist Organization – WTO – ITDC and subsidiaries – Tourism promotion –Advertisement – Tourism planning and development –Tourist spots in India –Potential of Tourism in India – Problems of Tourism development – Field Trip (for 5 or 7 days).	15

References:

1. A.K.Bhatia(2015), Sterling Publishers (P) Ltd. Sterling Publishers, New Delhi.
2. Girish, Revathy (2010): Tourism Product II, Wisdom Press, Daryagang, New Delh

Text Book

1. R.E.Sinha 1996 'Tourism Strategies, Planning and Development', Common Wealth Publishers.

Web resources:

1. https://en.wikipedia.org/wiki/Hospitality_management_studies
2. study.com/directory/category/Business/Hospitality_Management.html
3. http://www.wisegeek.org/

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Acquires knowledge about leisure and tourism- Defines the principles and purpose of tourism Understands the different types of Tourism and the Significance of Tourism development in the modern society	**K1, K2**
CO2	Understanding History of Tourism – from Ancient, Medieval and to Mod period Identifies the determinants and motivating factors of Tourism	**K2,K5**
CO3	Define Elements of Tourism like Attractions, Amenities, and Accessibility – Classification of tourist spots – Accommodation – Primary and Supplementary Accommodation- Hotels, Inns, and Motels	**K3, K4**
CO4	Define the Role of transport in tourist development- Travel formalities Prepare the Tour Itinerary. Visit a Travel Agency –Travel restriction – Categorise different types of Passport, Visa and Bank restriction- Identify Traveler's cheque- Credit card and Debit cards	**K3,K44**
CO5	Tourist Organization Outline the various organisations WTO, ITDC and subsidiaries – Tourism promotion – Prepare an Advertisement – Tourism planning and Development –	**K6**

Cognitive Level: K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate; **K6 –** Create.

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	2
CO2	2	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	2	3
CO4	2	3	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
III & IV	**23U4GYA4**	**Allied - BIO-GEOGRAPHY (NS)**	**3**	**-**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the content of Bio-Geography and components of biosphere
2. To identify elements and types of biodiversity.
3. To illustrate the different types of Biomes of India.
4. To understand the ecosystem balance and biosphere reserves
5. To elucidate the association between biodiversity and sustainable development.

SYLLABUS

Unit	BIO-GEOGRAPHY (NS)	No. of Hours
I	Bio Geography- Nature, Scope and Content – branches of Biogeography - types of biogeography, Evolution of flora and fauna with geological time scale-Biosphere- components of the biosphere – Ecology and Environment	9
II	Biodiversity – Meaning – Definition – Elements and Types of Biodiversity –Biodiversity- Hot Spots – Value and Importance of Biodiversity – Biodiversity	9
III	Biomes of India – Terrestrial Biomes, Freshwater Biomes, Marine biomes– Biosphere Reserves of India. Anthropogenic Biome.	9
IV	Ecosystem balance -Species Extinction (nature of extinction, threatened species, species conservation, Gene banks, and Botanical Gardens, Zoological Gardens and Captive Breeding Centres, Biosphere Reserves, National Parks and Wildlife Sanctuaries	9
V	Bio diversity and Sustainable Development -Global Environmental Policies – EIA - Environmental Education and Legislation- Treaties and laws to protect endangered species, SDG- 17 Goals.	9

References:

1. S.P. Mishra and S,P. Pandey : Essential Environmental Studies; Ane Books Pvt. Ltd, 2010.
2. George Simonds Bougler (2009): The Science Teaching of Forestry

Text Book:

1. Savindrasingh (2008): Environmental Geography
2. Bhattacharyya N.N (2003): Bio Geography, Rajesh Publication New Delhi.

Web resources:

1. www.botany.wisc.edu/
2. www.biogeography.com

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define Biogeography the content and scope of bio geography appreciate evolution of fauna and flora Recall components of biosphere –explain Structure, Functions, Units and Types of Ecosystems Differentiate ecosystem, ecology and environment Group activity based on this web reference	**K1, K2**
CO2	Lists Factors influencing the distribution of flora and fauna-compares the factors and their influence on flora Physiographic factors (Topography, water bodies, sunlight, salinity)-Climatic factors (Temperature, Rainfall, Wind, Humidity)- Edaphic factors (soil air, soil moisture, soil texture, soil Ph) – Bio factors (competition, predation, diseases, humans)	**K5**
CO3	Define Biogeographically Regions of Plants and Animals –appreciates Biogeographic realms of the world - Nearctic, Palearctic, Afrotropic, Indomalaya, Australasia, Neotropic, Oceania and Antarctic- understands WWF classification of Biomes-Terrestrial, freshwater and marine biomes- compares Biogeochemical cycles Group Activity -model making for biomes.	**K3, K4**
CO4	Lists Influence of Man on Environment –defines and lists the types of Ecological Succession realizes the impact of influence analyze Ecological change and Imbalances – (Pollution, soil degradation, deforestation, desertification, acid rain, ozone depletion) Discuss on Environmental Degradation and Environmental Management. Activity Debate	**K4, K5**
CO5	Analyzing and interpret National and International Policies and programmer on Animal Conservation (Biosphere Programmer 1971, Environmental Education Conference EEC 1975, UNESCO, The Earth Summit – Rio-de Jineiro, 1992, UNESCO, Project Elephant, 1992, Project Tiger, Conservation of Rhinos in Assam, 1987) – develop India Wild life Protection Acts- Bio Diversity Bill.	**K5, K6**

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 –Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	2
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Subject Code	Title Of The Paper	Hours Of Teaching/ Week	No. of Credits
IV	**23U4GYT4**	**PART – IV** **பொதுத் தமிழ் – 4**	**6**	**3**

Nature of the Course

1.Employablity Oriented *வேலை வாய்ப்புச் சார்ந்தது*		7. Addresses Professional Ethics *தொழில் நெறிமுறைகளை நிறைவு செய்தல்*	
2. Entrepreneurship Oriented *தொழில் முனைவு சார்ந்தது*		8.Relevent To Local Need *உள்ளூர் தேவைகளோடு தொடர்புடையது*	✓
3. Skill Development Oriented *திறன்மேம்பாடு சார்ந்தது*	✓	9. Relevent To Regional Need *மண்டல அளவிலான தேவைகளோடு தொடர்புடையது*	
4. Addresses Gender Sensitization *பாலின உணர்திறன் பூர்த்தி செய்தல்*		10. Relevent To National Need *தேசிய அளவிலான தேவைகளோடு தொடர்புடையது*	
5. Addresses Environment and Sustainablity *சுற்றுச் சூழல் மற்றும் நிலைத் தன்மை நிறைவு செய்தல்*	✓	11. Relevent To Global Development Need *உலக அளவிலான தேவைகளோடு தொடர்புடையது*	
6. Addresses Human Values *மனித மதிப்புகளை நிறைவு செய்தல்*	✓		

Course Objectives

1. சங்க இலக்கியத்தின் சிறப்பையும், நாடகம் என்னும் இலக்கிய வகையின் தன்மையையும் அகத்திணை, புறத்திணை இலக்கணங்களையும் மாணவர்களுக்கு அறிமுகப்படுத்துதல்.

2. தமிழ் இலக்கியம் சார்ந்த போட்டித் தேர்வுகளுக்கு ஏற்பக் கற்பித்தல் நடைமுறைகளை மேற்கொள்ளுதல்.

Unit	Details	Hours
Unit-I	*எட்டுத்தொகை 1* *நற்றிணைஎ (10, 14, 16), குறுந்தொகை (16, 17, 19, 20, 25, 29, 38, 440 கலித்தொகை (38, 51),அகநானூறு(15, 33, 55,) புறநானூறு (37, 86, 112,) பரிபாடல் —55*	**18 Hrs**
Unit-II	*எட்டுத்தொகை 2* *நெடுநல்வாடை-நக்கீரர்*	**18 Hrs**
Unit-III	*நாடகம் - சபாபதி-பம்மல் சம்பந்த முதலியார்*	**18 Hrs**
Unit-IV	*1.பாடம் தழுவிய இலக்கிய வரலாறு* *2.பயணங்கள் தொடரும் - கேட்டிவி*	**18 Hrs**

Unit-V	*1. மொழிபெயர்ப்பு / கலைச்சொற்கள்* *2. கொடுக்கப்பட்டுள்ள ஆங்கிலப்பகுதியைத் தமிழில் மொழிபெயர்த்தல்* *3. அலுவலகத் கடிதம் - தமிழில் மொழிபெயர்த்தல்*	**18 Hrs**

CO Number	CO Statement	Cognitive Level
CO1	*சங்க இலக்கியத்தில் காணப்பெறும் வாழ்வியல் சிந்தனைகளை அறிந்து கொள்வர்.*	**K1, K2**
CO2	*தமிழின் தொன்மையையும், செம்மொழித் தகுதியையும் அறிந்து கொள்ளுதல்.*	**K2**
CO3	*நாடக இலக்கியம் மூலம் நடிப்பாற்றலையும். கலைத்தன்மையையும், படைப்பாற்றலையும் வளர்த்தல்.*	**K4**
CO4	*தமிழிலிருந்து அலுவலகக் கடிதங்களை மொழிபெயர்க்கும் அறிவைப் பெறுவர்.*	**K3**
CO5	*மொழியறிவோடு வேலை வாய்ப்பினைப் பெறுதல்.*	**K4**

Text Books

1. தமிழ் இலக்கிய வரலாறு -செம்பதிப்பு- பெ.சுபாஷ் சந்திரபோஸ்

பார்வை நூல்கள்.

2. தமிழ் இலக்கிய வரலாறு - சிற்பி.பாலசுப்பிரமணியன்.

3. புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு - தமிழண்ணல்

4. வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு - எஃப்.பாக்கியமேரி

Web Resources

Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc.)

1. Tamil Heritage Foundation- www.tamilheritage.org <http://www.tamilheritage.org> Tamil virtual University Library-
2. www.tamilvu.org/ library
3. http://www.virtualvu.org/library Project Madurai - www.projectmadurai.org.
4. Chennai Library- www.chennailibrary.com <http://www.chennailibrary.com>.
5. Tamil Universal Digital Library- www.ulib.prg <http://www.ulib.prg>.
6. Tamil E-Books Downloads- tamilebooks downloads. blogspot.com
7. Tamil Books on line- books.tamil cube.com
8. Catalogue of the Tamil books in the Library of British Congress archive.org
   Tamil novels on line - books.tamilcube.com

பொதுத்தமிழ் —4												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CLO1	3	2	3	3	3	2	2	2	3	2	3	2
CLO2	3	3	2	2	2	3	2	3	3	2	2	2
CLO3	3	2	3	3	2	2	2	3	2	3	3	2
CLO4	2	3	3	2	2	2	3	2	3	2	3	3
CLO5	3	3	2	2	2	3	3	2	2	2	3	3

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
IV	**23U4GYE4**	**PART - II GENERAL ENGLISH**	**6**	**3**

Learning Objectives		
LO1	To make students realize the importance of resilience	
LO2	To enable them to become good decision makers	
LO3	To enable them to imbibe problem-solving skills	
LO4	To enable them to usetenses appropriately	
LO5	To help the muse English effectively at the work place.	
Unit No.	**Unit Title &Text**	**No.of Periods for the Unit**
I	**GOALSETTING(UNICEF)** **Life Story** From Chinese Cinderella–Adeline Yen Mah Why I Write- George Orwell **Short Essay** On Personal Mastery–Robin Sharma On the Love of Life – William Hazlitt	**20**
II	**INTEGRITY** **Short Story** The Taxi Driver – K.S. Duggal Kabuliwala - Rabindranath Tagore A Retrieved Reformation –O Henry **Extract from a play** The Quality o f Mercy (Trial Scene from the Merchant of Venice - Shakespeare)	**20**
III	**COPING WITH EMOTIONS** **Poem** Pride – Dahlia Ravikovitch Phenomenal Woman – Maya Angelou **Reader's Theatre** The Giant's Wife A Tall Tale of Irel and–William Carleton The Princess and the God :A Tale of Ancient India	**20**
IV	**Language Competency Sentences** Simple Sentences Compound Sentences Complex Sentences **Direct and Indirect Speech**	**15**
V	**Report Writing** Narrative Report Newspaper Report **Drafting Speeches** Welcome Address Vote of Thanks	**15**

Course Outcomes

Course Outcomes	On completion of this course, students will;	
CO1	Determine their goals	PO1,PO7
CO2	Identify the value of integrity.	PO1,PO2,PO10
CO3	Deal with emotions.	PO4,PO6,PO9
CO4	Frame grammatically correct sentences	PO4,PO5,PO6
CO5	Write cohesive reports.	PO3,PO8

Text Books (Latest Editions)

1	Oxford Practice Grammar, John Eastwood, Oxford University Press
2	Cambridge Grammar of English, Ronald Carter and Michael McCarthy
3.	George Orwell Essays, Penguin Classics

Web Resources

1	http:/www.gradesaver.com/George-orwell-essays/study/summary
2	O' Henry. A Retrieved Reformation. https://americanenglish.state.gov/files/ae/resource_files/a-retrieved-reformation.pdf
	Maya Angelou. Phenomenal Woman. https://www.poetryfoundation.org/poems/48985/phenomenal-woman
3	TheQuality ofMercy, https://poemana1ysis.com
4	https://www'.oxfordscho1ar1yeditions.coin/disp1ay/10.1093/actrade/9780199235742.book.1/actrade-9780199235742-div1-106-WilliamHazilitt

Mapping with Programme Outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	3	3	3	2	3	2
CO2	2	3	3	3	2	3	3	2	2	2
CO3	3	3	3	2	3	3	3	2	3	2
CO4	3	3	3	3	3	3	3	2	2	2
CO5	3	2	3	3	3	3	3	2	2	3

3–Strong, 2–Medium, 1–Low

Mapping with Programme Specific Outcomes:

CO /PO	PSO1	PSO2	PSO3	PSO4
CO1	3	3	3	3
CO2	3	3	3	3
CO3	3	3	3	3
CO4	3	3	3	3
CO5	3	3	3	3
Weight age	15	15	15	15
Weighted percentage of Course Contribution to Pos	3.0	3.0	3.0	3.0

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
IV	**23U4GYCIM**	**Industry Module - GEO-SPATIAL TECHNIQUES**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire basic knowledge and Scope of Geoinformatics
2. To elaborate the sources of spatial database.
3. To discuss the importance of Software Sources and methods of acquiring Geo data.
4. To elaborate on GIS and Spatial Decision Support.
5. To illustrate the Application of Geo spatial data.

SYLLABUS		
Unit	**GEO-SPATIAL TECHNIQUES**	**No. of Hours**
I	Meaning and Scope of Geoinformatics – Science and Technologies involved in producing Maps - Cartography- Remote Sensing- Photogrammetry - Digital Image Processing- Geographical Information System-Global Positioning System- GNSS	15
II	Spatial database: Survey of India – NRSC - BHUVAN - NATMO – Geological Survey of India - Census of India –National Informatics Centre - Cadastral maps – open street map – foreign sources of data - Physical surveying - GPS and Total station- GPR	15
III	Software Sources and methods of acquiring geodata - user interfaces - application programs - Operating systems - network computing - Information Technology in Remote Sensing - GIS Applications of IT in Cartography - Applications of IT in Real Time GIS..	15
IV	Spatial Process: Maps as output – Thematic Maps - non-cartographic outputs – spatial multimedia – GIS outputs delivery mechanism - GIS and Spatial Decision Support - map as a decision tool.	15
V	Application of Geospatial data: Rural Development, Geosciences, agriculture, Forestry, Soil Studies, Meteorology, Military, Transport, Environmental studies, Banking and Health Civil Engineering etc.,	15

References:

1. Ian Heywood, Sarah Cornelivs and Steve Carver, An Introduction to Geographical Information System, Pearson Education Pvt .Ltd., New Delhi, 2007.

2. Lillesand M. Thomas and Ralph W.Kiefer, Remote Sensing and Image Interpretation, John Wiley & Sons, New York, 2007.

Text Book:

1. LO. C.P., and Albert K.W.Yeung, Concepts and Techniques of Geographic Information Systems, Prentice-Hall of India, New Delhi, 2006.
2. Geographic Information Systems and Science. Second Edition. John Wiley, Chichester, 2005.

Web resources:

1. www.slideshare.net/parabprathamesh/primary-sec
2. http://youtu.be/zxHP2Qhw5vl
3. http://youtu.be/Se28XHI2_xE

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recalls and understand the Basic concepts: Definition and History of Remote Sensing – Definition and Types Explains the History of Remote Sensing Photogrammetry - Digital Image Processing- Geographical Information System-Global Positioning System- GNSS.	K1, K2
CO2	nderstanding of Spatial database: Survey of India – NRSC - BHUVAN - NATMO – Geological Survey of India - Census of India	K5
CO3	Enriches knowledge on Software Sources and methods of acquiring geodata - user interfaces - application programs	K3, K4
CO4	Gains knowledge on the various processes of spatial as map out put in different ways	K4
CO5	Identifies the various Applications of Geospatial data: Rural Development, Geosciences, agriculture, Forestry, Soil and so on.	K5,K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	2
CO5	3	3	2	3	3	3	3	3	2

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Subject Code	Title Of The Paper	Hours of Teaching/ Week	No. of Credits
IV	**20U4GYCP2**	**PRACTICAL - WEATHER AND CLIMATIC DATA ANALYSIS**	**5**	**4**

Course Objectives

The main objectives of this course are:

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

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need		Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

SYLLABUS		
Unit	**PRACTICAL -WEATHER AND CLIMATIC DATA ANALYSIS**	**No. of Hours**
I	Diagammtic representation of climatic data – line and bar diagrams – construction and uses.	15
II	Hythergraph, Climograph and Climatographs – Construction and uses.	15
III	Wind roses diagram and Ergograph – Construction and uses.	15
IV	Rainfall Dispersion Diagrams – Construction and uses.	15
V	*Weather Symbols – Station model – Weather map interpretation.*	15

References:

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. publicarions

Text Book

1. ZamirAlvi – A text book of practical geography, Vikas publishing house Pvt ltd.

2. Zulfequar Ahmad khan. M. D. Text book of practical geography, Concept publishing company, New Delhi.
3. R. l. Singh – Elements of Practical Geography, Kalyani publishers.

Web resources:

1. https://www.geographyrealm.com/ Weather map interpretation/
2. http://geokov.com/education/map-projection.aspx
3. http://mathworld.wolfram.com/topics/ climatic data.html

Pedagogy:

Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Student will gain information on representing and Interpretation various climatic phenomena.	K1, K2
CO2	Students will be able to study and interpret weather maps and can predict weather condition from these maps.	K4, K5
CO3	Students will acquire practical knowledge for construction and interpretation of vertical layers of earth's atmosphere, rainfall-temperature-humidity graphs.	K3, K4
CO4	Students learn to use of various meteorological instruments and also learn to interpret of the Indian daily weather report.	K2,K4
CO5	Student will learn about weather reports, instruments to study weather and climate, interpretation of weather reports and applications of weather forecasting, The student acquire job opportunities in Meteorological department.	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	3	3	3	3
CO2	2	2	3	2	3	3	3	3	3
CO3	3	2	3	2	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	2	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
III & IV	**23U4GYA4**	**ALLIED - BIO-GEOGRAPHY (NS)**	**3+3**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:-

6. To understand the content of Bio-Geography and components of biosphere
7. To identify elements and types of biodiversity.
8. To illustrate the different types of Biomes of India.
9. To understand the ecosystem balance and biosphere reserves
10. To elucidate the association between biodiversity and sustainable development.

SYLLABUS		
Unit	**BIO-GEOGRAPHY (NS)**	**No. of Hours**
I	Bio Geography- Nature, Scope and Content – branches of Biogeography - types of biogeography, Evolution of flora and fauna with geological time scale-Biosphere- components of the biosphere – Ecology and Environment	9
II	Biodiversity – Meaning – Definition – Elements and Types of Biodiversity –Biodiversity- Hot Spots – Value and Importance of Biodiversity – Biodiversity	9
III	Biomes of India – Terrestrial Biomes, Freshwater Biomes, Marine biomes– Biosphere Reserves of India. Anthropogenic Biome.	9
IV	Ecosystem balance -Species Extinction (nature of extinction, threatened species, species conservation, Gene banks, and Botanical Gardens, Zoological Gardens and Captive Breeding Centres, Biosphere Reserves, National Parks and Wildlife Sanctuaries	9
V	Bio diversity and Sustainable Development -Global Environmental Policies – EIA - Environmental Education and Legislation- Treaties and laws to protect endangered species, SDG- 17 Goals.	9

References:

1. S.P. Mishra and S,P. Pandey : Essential Environmental Studies; Ane Books Pvt. Ltd, 2010
2. George Simonds Bougler (2009):The Science Teaching of Forestry

Text Book:

1. Savindrasingh (2008):Environmental Geography
2. Bhattacharyya N.N (2003): Bio Geography, Rajesh Publication New Delhi.

Web resources:

1. www.botany.wisc.edu/
2. www.biogeography.com

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define Biogeography the content and scope of bio geography appreciate evolution of fauna and flora Recall components of biosphere –explain Structure, Functions, Units and Types of Ecosystems Differentiate ecosystem, ecology and environment Group activity based on this web reference	K1, K2
CO2	Lists Factors influencing the distribution of flora and fauna-compares the factors and their influence on flora Physiographic factors (Topography, waterbodies, sunlight, salinity)-Climatic factors (Temperature, Rainfall, Wind, Humidity)- Edaphic factors (soil air, soil moisture, soil texture, soil Ph) – Bio factors (competition, predation, diseases, humans)	K4,K5
CO3	Define Biogeographical Regions of Plants and Animals –appreciates Biogeographic realms of the world - Nearctic, Palearctic, Afrotropic, Indomalaya, Australasia, Neotropic, Oceania and Antarctic- understands WWF classification of Biomes-Terrestrial, freshwater and marine biomes- compares Biogeochemical cycles Group Activity -model making for biomes.	K3, K4
CO4	Lists Influence of Man on Environment –defines and lists the types of Ecological Succession realizes the impact of influence analyze Ecological change and Imbalances – (Pollution, soil degradation, deforestation, desertification, acid rain, ozone depletion) Discuss on Environmental Degradation and Environmental Management. Activity Debate	K4, K5
CO5	Analyzing and interpret National and International Policies and programmer on Animal Conservation (Biosphere Programmer 1971, Environmental Education Conference EEC 1975, UNESCO, The Earth Summit – Rio-de Jineiro, 1992, UNESCO, Project Elephant, 1992, Project Tiger, Conservation of Rhinos in Assam, 1987) – develop India Wild life Protection Acts- Bio Diversity Bill.	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 –Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	2
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	2	3	3	3	3	3
CO4	2	2	3	2	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
IV	**23U4GYA5**	**ALLIED - ECONOMIC GEOGRAPHY**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To recall the Scope and content of Economic Geography and observe the Resource classification.
2. To examine the factors of agriculture and to describe the distribution of Crops.
3. To differentiate and classify the Mineral Resources and distribution of Power Resources.
4. To Compare and distinguish the Industries and Industrial Regions.
5. To infer and integrate the transport and major importing and exporting trade

SYLLABUS

Unit	**ECONOMIC GEOGRAPHY**	**No. of Hours**
I	Economic Geography- Definition- Scope and content- the significance of Economic Geography– Classification of resources – Renewable and Non-Renewable Resources - Exhaustible and Inexhaustible resources, Conservation of resources-Major Economic activity	15
II	Agriculture – Factors affecting Agriculture –Agriculture Region - Food crops and Non -food crops – Distribution and Production of Rice, Wheat, Sugarcane, Pulses - Horticultural crops - Fiber crops (Cotton and Jute)- Beverage crops(coffee, tea, cocoa) spices.	15
III	Mineral Resources- Types of Minerals – Metallic Minerals, Non-Metallic Minerals- Fuel Distribution of minerals Iron ore, copper, Manganese, aluminum, Mica, Gypsum, Limestone Coal, Petroleum, Natural gas Power resources–Hydel power, Thermal, Atomic power, Geothermal energy.	15
IV	Industries – Localization factors for Industries –Agro-based – (Textile Industry, Cotton, Jute) - Mineral Based-(Iron and Steel, Engineering Industries)-Shipbuilding, Automobile- Chemicals Industries – Fertilizer Industry, Industrial region.	15
V	Transport and Trade: Transport – Types of Roadways (National Highways, State, District, Express Highway)- Railways (Broad Gauge, Narrow gauge, Meter Gauge)- Waterways and Major Sea Routes. -Trade - National and international – Trade blocs - Major importing and exporting countries.	15

References:

1. Sharma, Siya Ram (2008) :Economic Geography ,Murari Lal Publications.
2. Hussain, Ahmad (2006) : Economic Geography, Vishvabharthi Publications.

Text Book:

1. Singh.I (2006) :Economic Geography, Alfa publications.

Web resources:

1. www.wikipedia.org/wiki/ Economic Geography
2. joeg.oxford journals.org/

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the concepts of Economic Geography with its definite scope and content outline the significance of Economic Geography, Infer the importance of resources and its Classification in India and at global level. Extend the explanation of renewable and non- renewable resources. Contrast the Conventional and Non-conventional- Exhaustible and Inexhaustible resources	K1, K2
CO2	Understands the Agricultural activities and Factors affecting Agriculture. Define the role of Agriculture in Developmental scenario. Classify the crops in to Food crops and non food crops. Summarize the Distribution and Production of Rice, Wheat, Sugarcane, Pulses Horticultural crops - Fibre crops (Cotton and Jute)- Beverage crops(coffee, tea, cocoa) spices.	K5
CO3	Recall the Mineral Resources and classify the Types of Minerals Categorize the Metallic Minerals, Non Metallic Minerals.- list out the Distribution of minerals Iron ore, copper, Manganese, aluminum, Mica, Gypsum, Limestone Coal, Petroleum , Natural gas Power resources. Hydel power, Thermal, Atomic power, Geothermal energy at national level	K3, K4
CO4	Industries, Localization. Outline the factors for Industries Agro based – (Textile Industry, Cotton, Jute) – List out the Mineral Based industries(Iron and Steel and Engineering Industries). Compare the Shipbuilding, Automobile- Chemicals Industries – Fertilizer Industry	K4, K5
CO5	Recall and relate the Transport and Trade: Transport. Compare and Illustrate the Types of Roadways (National Highways, State, District, and Express Highway) and Railways (Broad Gauge, Narrow gauge, Meter Gauge). List out the Waterways and Major Sea Routes. Elaborate the Trade National and international. Distinguish the Trade blocs and Major importing and exporting countries of the world.	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 –Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	3	3	2	2
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3		3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
IV	**23U4GYSEC1**	**Skill Enhancement Course - DIGITAL LITERACY IN BASIC OF GEOGRAPHICAL INFORMATION SYSTEM**	**2**	**2**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire the knowledge on the development of GIS
2. To distinguish between the significance of Spatial and non-spatial data
3. To understand the importance of DBMS
4. To update the recent trends on GIS analysis
5. To explore the application of GIS and its software

SYLLABUS		
Unit	**DIGITAL LITERACY IN BASIC OF GEOGRAPHICAL INFORMATION SYSTEM**	**No. of Hours**
I	Geographical Information System: Definition –Historical development - Components of GIS- data storage and manipulation – data transformation – data output devices, Spatial and Non- spatial Data, Raster and Vector Data Structure. Comparison of raster and vector data.Geographical coordinate systems of earth: UTM	15
II	DBMS – components - query - digitization – editing – topology – layout preparation, Application of GIS and GIS Softwares; Land use/ Land cover/ Urban sprawl /Agriculture and environment. Disaster; Arc view, Arc GIS, ILWIS, GRASS, QGIS, ENVIS	15

References:

1. Chandra A.M & Ghosh.S.K. (2016).*Remote Sensing and Geographic Information System*. Narosa Publishing House
2. Bhatta,Basudeb(2011). *Remote sensing and GIS*, Oxford University Press/ Radha press NewDelhi

Text Book:

1. Siddique,Dr. M.A.(2006).*Introduction to Geographic Information Systems.*ShardaPustakBhawan, Allahabad

2. Anand,Dr. P.H. and V. Rajesh Kumar (2003). *Principles of Remote Sensing and GIS.* Sri Venkateswara Publications, Kumbakkonam

.

Web resources:

1. www.gdmc.nl/oosterom/PoGISHyperlinked.pdf
2. gisgeography.com › GIS Analysis
3. www.gisresources.com
4. www.researchgate.net

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recalls maps and its importance in daily life, understand Geography as Spatial science and GIS concepts, define GIS, trace the history and development of GIS, lists the Components of GIS	K1, K2
CO2	List Basic Data Models, (Spatial and Non-spatial Data, Raster and Vector Data), compares Advantages and Disadvantages of Raster and Vector GIS, List GIS Software s (CAD- GIS-ARC GIS, ARC VIEW, MAP INFO, GRASS and QGIS) Summaries GIS application Environmental and National Resources Management, Planning and Engineering, Land Information System, Urban Planning)	K4,K5

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3
CO2	2	3	3	2	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYC6**	**OCEANOGRAPHY**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need		Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the term Oceanography definition, description of Ocean and Seas, Extent, surface configuration of the Ocean floor. To acquire wide knowledge on Hypsometric curve, Continental Shelf, Continental Slope, Abyssal Plain and Deeps, Trenches.
2. To understand and illustrate on bottom relief of Pacific, Atlantic and Indian Ocean and Composition of sea water.
3. To illustrate the distribution of Salinity and factors affecting temperature.
4. To describe the Circulation of Ocean Movements.
5. To explain the distribution of Ocean deposits and resource

SYLLABUS		
Unit	**OCEANOGRAPHY**	**No. of Hours**
I	Oceanography: Definition, Oceans and seas - Extent and distribution – Surface configuration of the Ocean floor, Hypsometric curve – Continental shelf – Continental slope – Abyssal Plain – Deeps and Trenches.	15
II	Bottom Relief of the Pacific, Atlantic and Indian Oceans, Sea water – Composition of sea water.	15
III	Ocean Temperature and Salinity: Distribution and factors – Horizontal and vertical - Factors affecting temperature and salinity distribution.	15
IV	Ocean Water Movement – Waves – Tides: Types - Ocean Currents: Types - Currents of Pacific, Atlantic and Indian Oceans.	15
V	***Ocean Deposits: Types - Coral Reefs: Formation and types - Ocean resources and need for conservation - National Institute of Ocean Technology (NIOT).***	15

References:

1. Savindra Singh, (2008), Oceanography, PrayagPushtak Bhawan, Allahabad.

2. Siddartha. K., (2005). Oceanography – A brief Introduction, Kisalaya Publications Pvt. Ltd., New Delhi.

Text Book:

1. Gupta, A and Kapoor A. N., (2001), Principles of Physical Geography, S.Chand& Company Ltd., New Delhi.
2. Lal D.S., (1990) Oceanography, Chatianya Publishing House, Allahabad

Web resources:

1. books.google.com>science>earth sciences>geography
2. **https://www.nios.ac.in/media/documents/316courseE/ch11.pdf**

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define oceanography, explains distribution of Land and Sea describes the structure.	K1, K2
CO2	Understands composition of the Ocean floor the oceanic crust, Group Activity makes a model of Ocean Bottom relief	K3, K4
CO3	Describes the composition of sea water list out the factors Governing sea Temperature , illustrate the variation in Temperature distribution (Horizontal and Vertical Distribution)	K3, K5
CO4	Distribution distinguishes the types of waves Waves – (Deep water waves – Long waves – Seismic sea waves – Tide waves – Transitional waves) differentiate Tides – (High tide and Low tide – Neap Tide – Spring tide) , draw map for Circulation of Ocean Currents and the distribution Discuss and debate on ElNino – LaNina	K6
CO4	Analyses the different Ocean Deposits and identifies the Types of Coral Reefs-Formation and types describes the need for Ocean resources and need for conservation	K4, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomeswith Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	3	3	2	2
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3		3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYC7**	**POPULATION AND SETTLEMENT GEOGRAPHY**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To Enrich the knowledge on Scope and Significance of Population Geography
2. To illustrate on the Components of Demography
3. To elaborate on Rural and Urban Settlements
4. To understand the Functional classification of towns and villages
5. To acquire knowledge on Housing and House Types, Factors influencing house types.

SYLLABUS		
Unit	**POPULATION AND SETTLEMENT GEOGRAPHY**	**No. of Hours**
I	Nature, Scope and Significance of Population Geography –Theories of Population Growth – Malthus theory, Optimum theory, theory of Demographic Transition.	15
II	Components of Demography: Fertility, Mortality, Sex ratio - World Trend of Population Growth - World Population Distribution - Density Patterns	15
III	Rural and Urban Settlements: Site – Situation – Pattern – Forms and Functions Planned Settlement – Rank Size rule. Migration: Causes of Migration, Emigration versus Immigration, Laws of Migration.	15
IV	Functional classification of towns and villages: Size of village, Size and distribution of hamlets, Character of villages and village sites; Functional classification of urban centers, Functional structure of cities, megacities and mega polis in India	15
V	Housing and House Types, Factors influencing house type – Relief, Climate, Socio economic and other factors, Building materials for House types – Walls, Roofing, Materials. Types of Houses in India-Types of rural and urban houses in India.	15

References:

1. S.D.Maurya (2017) Population Geography ,Himalaya Publishing House, New Delhi
2. Siddhartha, K & Mukherjee. S. (2016). *Cities, Urbanisation and Urban Systems(Settlement Geography).* Kitabmahal Publishers

Text Book:

1. R.C.Chandana (2012) Geography of Population, Kalyani Publishing House, New Delhi.
2. Mandal, R.B. (2001).*Introduction to Rural Settlements*. Concept Publishing House, NewDelhi.

Web resources:

1. https://www.e-education.psu.edu/geog597i_02/node/814

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	.Understanding the basic concepts and significance of population geography, scope of the study, its history and development in Geography. It is important to explore student's knowledge in world population distribution-. the Theories of Population Growth – Malthus – Ricaedo Demographic Transition	K1, K2
CO2	Acquires the knowledge optimum population, over and under population. To develop the skills to work on factors affect in population distribution and-density patterns	K5, K6
CO3	Migration – Types – Determinants – Major consequences of Migration – understanding the major consequence of migration he Urbanization – CBD: Functions and characteristics -. Understand the urban Morphology: Rural–Urban Fringe. Hierarchy of urban centers - central place theory - Urban Problems - Slums - Urban Planning	K3, K4
CO4	Identifies the different functions of towns and villages, differentiates the structures of cities. Analyses the Functional structure of cities, megacities and mega polis in India	K4,K5
CO5	Understands the different Housing and House Types, Factors influencing house type – Relief, Climate, Socio economic and other factors.	K4,K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze;
K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	2	3	3	3	3	3
CO3	3	3	3	2	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYCP3**	**AERIAL AND SATELLITE IMAGE INTERPRETATION**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire basic knowledge and Scope of Geoinformatics
2. To have the deep knowledge on the types of resolution and marginal information of Aerial photos and satellite images
3. To elaborate on the fundamentals and significance of Aerial photographs and satellite types
4. To elaborate the sources of Spatial database

SYLLABUS		
Unit	**AERIAL AND SATELLITE IMAGE INTERPRETATION**	No. of Hours
I	Marginal information of aerial photographs – Elements of aerial Photographs – Determination of scale, distance, height and area.	15
II	Stereovision test using pocket stereoscope and mirror stereoscope – Interpretation of single vertical photograph – Interpretation of stereo pair	15
III	Marginal information of satellite images – Elements of image interpretation – Image classification	15
IV	Interpretation of resources satellite images – Interpretation of weather satellite images	15
V	Preparation of thematic maps from aerial photographs – preparation of Thematic maps from satellite imageries.	15

References:-

1. Barrett, E.C. and Curtis, L.F. (1992). *Introduction to Environmental Remote Sensing*.
2. Chapman and Hall Publications, London.
3. Campbell, J.B. and Wynne, R.H. (1987). *Introduction to Remote Sensing*. The
4. Guilford Press, New York.
5. Lillesand, T.M. and Kiefer, R.W. (1987). *Remote Sensing and Image Interpretation.*
6. John Willy and Sons, New York.

Text Book:

1. Lueder, D.R. (1959*). Aerial Photographic Interpretation– Principles and*
2. *Applications*. McGraw Hill Book Co., New York.
3. Wolf, P.R. (1974). *Elements of Photogrammetry: with Air Photo Interpretation and*
4. *Remote Sensing*. McGraw Hill Book Co., New York

Web resources:

1. www.gdmc.nl/oosterom/PoGISHyperlinked.pdf
2. RSgeography.com › RS Analysis

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define Remote Sensing, describe the Principles of Remote Sensing, memorize the bands in Electromagnetic, Distinguish between Radiation Interaction with Atmosphere and Earth Surface-Interaction, Distinguish between the types of Remote sensing based on platform, Energy sources, Imaging media, regions of Electromagnetic spectrum.	K1, K2
CO2	Acquires knowledge about the types of resolutions and information of Satellite and aerial photographs.	K5
CO3	Define Microwave Remote sensing, differentiate between Passive and Active Microwave Remote Sensing, distinguish between Airborne versus space bore radars correlate the images from SLAR and SAR System.	K3, K4
CO4	Summarise application of Remote Sensing in Land Cover and Land use mapping, Distinguish Change detection in land use, Water, Forest, Agriculture, Environmental Impact assessment and Urban planning.	K3, K5
CO5	Introduction of Global Navigation Satellite System(GNSS) gives a wide knowledge about the application of GPS and its uses.	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	3	3	2	2
CO2	2	2	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYEL1A**	**MAJOR ELECTIVE - I WORLD REGIONAL GEOGRAPHY**	**4**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need		Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To have wide knowledge on the physical and political divisions of North America and South America
2. To have broad regional knowledge of Africa and its Cultural Aspects
3. To have depth regional knowledge of Australia and its Cultural Aspects
4. To acquire regional knowledge of Physical and political features of Europe
5. To acquire the regional knowledge of Asia and its Cultural Aspects
6. Assessment Unit

SYLLABUS

Unit	WORLD REGIONAL GEOGRAPHY	No. of Hours
I	North America and South America: Political divisions– Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural Aspects	12
II	Africa: Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects	12
III	Australia: Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects	12
IV	Europe : Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects.	12
V	Asia: Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects	12

References:

1. Majid Hussain (2012): World geography, Rawat Publications, 4th Edition.
2. Majid Hussain (2011): Concise Geography, Tata Mc Graw Hill Education Private limited, New Delhi

Text Book

1. Alka Gautam (2007) :World geography, first edition, Sharda pustakbhawan, Allahabad

2. Gochenleong (2001): Certificate Physical and Human Geography, Oxford university press, New Delhi.

Web resources:

- World Regional Geography, Global pattern, local lives Third Edition, LydiaMihelic Publisherwww.whfreeman.com/catalog/pulsipher3e
- *examrace.com/.../Geography/.../Regional_Geography / Geography_Na..*

Pedagogy:

Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Appreciate the knowledge on political division of North America and South America, explain the soil resource and drainage of the region understand the flora and fauna over this latitudes. Develop the in depth knowledge of natural resource and its importance.	K1, K2
CO2	Explore the basic facts on African continent of facts and explain the political division and strategy location of the continent classify the resource over the region. Elaborate the drainage pattern and its importance of the continent	K4, K5
CO3	Understands the basic facts on Australian continent, explain the (political division, Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects) strategy location of the continent classify the resource over the region.	K3, K4
CO4	Appreciate the knowledge on political division of Europe , explain the geographical knowledge such as physical, Drainage soil resource and agricultural aspects of the region understand the flora and fauna over this latitudes	K2,K4
CO5	Define the concepts of political region and Examine the subjective aspects of Asia physiographic divisions	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	3	3		3	3	3	3	3
CO4	3	3	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYEL1B**	**MAJOR ELECTIVE – I AGRICULTURE GEOGRAPHY**	**4**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need		Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

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.

SYLLABUS		
Unit	**AGRICULTURE GEOGRAPHY**	**No. of Hours**
I	Nature scope and significance of Agricultural Geography – Approaches to The study of Agricultural geography – Elements of agriculture.	12
II	Determinants of agricultural land use – Physical, economic, social, Institutional and technological determinants.	12
III	Von Thunen's theory of agricultural location and its recent modifications – Land use – Types – Land use surveys – Land capability classification.	12
IV	Measurement of agricultural productivity – Crop combination – Delimitation of crop combination regions – Weaver – Crop diversification Regions.	12
V	Agricultural regions of the world – A review of Whittlessey's agricultural classification – Agricultural regions of India – Characteristics Agricultural *Problems.*	12

References:

1. Basu, D.N., and Guha, G.S., (1996). *Agro-Climatic Regional Planning in India* (Vol. I
2. & II). Concept Publication, New Delhi.
3. Grigg, D.B. (1984). *Introduction to Agricultural Geography.* Hutchinson, London.
4. Shafi, M., (2006). *Agricultural Geography.* Doring Kindersley India Pvt. Ltd., New Delhi.
5. Singh, J. and Dhillon, S.S. (1984). *Agricultural Geography*. Tata McGraw Hill, New Delhi.

Text Book

1. Hussain, M. (1979). *Agricultural Geography*. Inter India Publications, New Delhi.
2. Morgan, W.B. and Munton, R.J.C. (1971). *Agricultural Geography*. Methuen & Co.,
3. London.
4. Singh, J. and Dhillon, S.S. (1995). *Agricultural Geography*. Tata McGraw Hill Pub.
5. Company Ltd., New Delhi.

Web resources:

1. https://www.mapsofindia.com/geography
2. www.indianmirror.com/geography/geography.html
3. www.mheeducation.co.in

Pedagogy:

Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Understand nature, scope, significance and approaches of agricultural geography	K1, K2
CO2	Know the salient feature, problems and prospects of Agriculture.	K4, K5
CO3	Learn about types of agriculture.	K3, K4
CO4	Study about water harvesting concept and methods.	K2,K4
CO5	Understand sustainable agricultural development.	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	3	3	2	3
CO2	2	2	3	2	3	3	3	2	3
CO3	3	2	3	2	3	3	3	2	3
CO4	3	2	3	2	3	3	3	2	2
CO5	3	2	2	3	3	3	3	2	2

3 - Strongly Correlated; 2 - Moderately Correlated; 1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYEL2A**	**MAJOR ELECTIVE – II GEOGRAPHY OF TAMIL NADU**	**4**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need		Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To enrich wide and depth knowledge of Political and Physiography of Tamil Nadu.
2. To elaborate the Soil profile, natural vegetation and the significant understanding regarding wild life and bird sanctuaries
3. To elucidate the Distribution of Crops and the significance of livestock rearing and Fisheries
4. To explore the knowledge of Minerals and Industries
5. To distinguish the distribution of population and its problems

Unit	GEOGRAPHY OF TAMIL NADU	No. of Hours
I	Tamil Nadu: Location – Districts of Tamil Nadu - Physiography – Mountains, Plateaus, Plains - Climate – Seasons - South West and North East Monsoon - Cyclonic Rainfall - Distribution of Rainfall- Rivers of Tamil Nadu.	12
II	Soils – Types of Soil - Natural Vegetation- Forest and its types- Flora and Fauna -Wild life sanctuaries - Bird sanctuaries - Botanical gardens	12
III	Distribution of Crops: Food Crops - Paddy, Millets, Pulses, Oilseeds- Cash Crops (Sugarcane, Cotton) - Plantation Crops (Tea, Coffee, Rubber and Spices) – Livestock (cattle, sheep and dairying) – Fisheries(inland and deep sea fishing).	12
IV	Distribution of Minerals and Industries-Metallic- Non-Metallic (Iron, Manganese, Bauxite, Copper, Mica, Illuminate and power resources) - Agro Based Industries-(Textile, Sugar, Paper) – Cement – Automobile.	12
V	Population : Distribution – Growth – Density - Population Problems – Transportation- Roadways- Railways- Airports- Ports- Trade (Import and Export)- Special Economic Zones.	12

References:

1. Statistical Hand Book (2015) :Published by Tamil Nadu Government.
2. Geography of Tamil Nadu (2014) :Economic appraisal of Tamil Nadu

Text Book:

1. Sakthi Venkata Kumuraswamy (2003) :Tamilnadupuviyiyal, Sakthi Abirami printers, kumbakonam
2. Negi, B.S. (1998) : Agricultural Geography, Kedarnath & Ramanath, New Delhi.

Web resources:

4. https://www.mapsofindia.com/geography
5. www.indianmirror.com/geography/geography.html
6. www.mheeducation.co.in

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the geographic location and compare the neighbouring countries and compare its strategic importance of Tamil Nadu, classifying the nature and extent of mountain ranges, identifying the resource of various elevations, compare the northern perennial and southern non perennial rivers, assess the coastal stretch and its importance.	K1, K2, K4
CO2	The Forest and animal resources, summarise the distribution of various soil over the regions of Tamil Nadu	K4, K5
CO3	Define the agricultural regions, classifying the food crops and non food crops of Tamil Nadu, identifying the cropping pattern and its distribution, assess the production based on rainfall -	K4, K5
CO4	Classify the minerals Resources of Tamil Nadu- metallic and non metalic, estimate the hydel power generation Assess the thermal power and atomic power generation	K3, K4
CO5	The demographic structure of Tamil Nadu, estimate the amount and pattern of rainfall in Tamil Nadu, discuss the problems of urbanization, compare the means of transport, understand the strategic importance of sea routes	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3
CO2	2	3	3	2	3	3	3	3	3
CO3	3	2	3	2	3	3	3	3	3
CO4	3	2	3	3	3	3	3	2	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYEL2B**	**MAJOR ELECTIVE – II GEOGRAPHY OF RESOURCES**	**4**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need		Addresses Environment and Sustainability	
Skill development Oriented		Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

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.

SYLLABUS		
Unit	**GEOGRAPHY OF RESOURCES**	**No. of Hours**
I	Resources: Meaning – Nature and Significance in Resources – Classification and Types – Need for Conservation and Sustainable Development	12
II	Water Resources – Importance – Classification – Continent wise Distribution and Utilization of Water Resources – Problems and Issues.	12
III	Biotic Resources – Major Forest Types and Distribution – Livestock – Fisheries – Major Fishing Grounds of the World	12
IV	Minerals Resources – Classification and Distribution of Major Minerals: Iron and Copper – Energy Resources – Coal, Petroleum, Hydro Electric and Atomic Power – Major Industrial Zones of the World	12
V	Transportation and Trade – Different Modes of Transport – Trade – Types, Factors affecting Trade – Multilateral and Bilateral – Agreements of Trade – WTO – GATT.	12

References:

1. Alexander, J.W. (1964). *Economic Geography*. John Wiley & Sons Inc, New York.
2. Leong, C.H. and Morgan, G.C. (1982). *Economic and Human Geography (2ndEdition)*. Oxford University Press, Kuala Lumpur.
3. Bengtson, N.A. and Royen, W.V. (1935). *Fundamentals of Economic Geography*. Prentice Hall Inc, New York.

Text Book

1. Thomas, R.S. (1962). *The Geography of Economic Activities*. McGraw Hill, New
2. York.
3. Mather, A.S. and Chapman, K. (1995). *Environmental Resources.* John Wiley and
4. Sons, New York

Web resources:

1. World Regional Resources, local lives Third Edition,LydiaMihelic Publisherwww.whfreeman.com/catalog/pulsipher3e
2. *examrace.com/.../Geography/.../Regional_Geography/Geography_Na..*

Pedagogy:

Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Become sensitized to concept of resources. Become sensitized the classification of resources. Learn about the use and misuse of resources.	K1, K2
CO2	Will learn conservation methods and techniques. Showing an awareness and responsibility for the environment. Understand the mineral and power resources	K5
CO3	Study of the distribution of Iron and Steel, Automobile, Cotton Paper And Ship Building Industries in India Get knowledge about types of agriculture trade and transport.	K3, K4
CO4	Aware the need of conservation and Protection of natural resources. Study of the Transport and Trade. Attain opportunities in environmental management	K3
CO5	Define the concepts of natural resource l region and Examine the subjective aspects of Asia physiographic divisions	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	2	2	3	3
CO3	3	3	3	3	3	3	3	3	3
CO4	2	3	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
V	**23U5GYNME**	**NON MAJOR ELECTIVE - GEOGRAPHY OF TAMIL NADU**	**2**	**2**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need		Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To enrich wide and depth knowledge of Political and Physiography of Tamil Nadu.
2. To elaborate the Soil profile, natural vegetation and the significant understanding regarding wild life and bird sanctuaries
3. To elucidate the Distribution of Crops and the significance of livestock rearing and Fisheries
4. To explore the knowledge of Minerals and Industries
5. To distinguish the distribution of population and its problems

SYLLABUS		
Unit	**GEOGRAPHY OF TAMIL NADU**	**No. of Hours**
I	Tamil Nadu: Location – Districts of Tamil Nadu - Physiography – Mountains, Plateaus, Plains - Climate – Seasons - South West and North East Monsoon - Cyclonic Rainfall - Distribution of Rainfall- Rivers of Tamil Nadu.	15
II	Soils – Types of Soil - Natural Vegetation- Forest and its types- Flora and Fauna -Wild life sanctuaries - Bird sanctuaries - Botanical gardens- Distribution of Crops: Food Crops -Population : Distribution – Growth – Density- Population problems-Distribution of Minerals	15

References:

3. Statistical Hand Book (2015) :Published by Tamil Nadu Government.
4. Geography of Tamil Nadu (2014) :Economic appraisal of Tamil Nadu

Text Book:

3. Sakthi Venkata Kumuraswamy (2003) :Tamilnadupuviyiyal, Sakthi Abirami printers, kumbakonam
4. Negi, B.S. (1998) : Agricultural Geography, Kedarnath&Ramanath, New Delhi.

Web resources:

1. https://www.mapsofindia.com/geography
2. www.indianmirror.com/geography/geography.html
3. www.mheeducation.co.in

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the geographic location and compare the neighbouring countries and compare its strategic importance of Tamil Nadu, classifying the nature and extent of mountain ranges, identifying the resource of various elevation, compare the northern perennial and southern non perennial rivers, assess the coastal stretch and its importance.	K1, K2, K4
CO2	The Forest and animal resources, summarise the distribution of various soil over the regions of Tamil Nadu, Define the agricultural regions, classifying the food crops and non food crops of Tamil Nadu, identifying the cropping pattern and its distribution, assess the production based on rainfall	K4, K5

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlatio

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYC9**	**GEOGRAPHY OF INDIA**	**6**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need		Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To elaborate on the Location and Physiography of India
2. To understand the climate and soil distribution of India
3. To illustrate the agricultural distribution of India and the need for geographical factors for crop production
4. To distinguish the metallic and non metallic minerals, and understand the distribution of Indian Industries
5. To elaborate the distribution of population and transport in India

SYLLABUS		
Unit	**GEOGRAPHY OF INDIA**	**No. of Hours**
I	Location – Frontiers- Neighbouring Countries- Physiography -Himalayas, Western Ghats and the Eastern Ghats –Plateau - East Coastal Plain, West coastal plain and Islands - Rivers :Northern (Peninsular) and Southern (Non Peninsular).	18
II	Climate –Seasons, Monsoons, Rainfall Pattern and Distribution of Rainfall. Soil- Types of Soil - Natural Vegetation- Tropical Forest, Sub Tropical Forest, Evergreen Forest, Mangrove, Thorny Forest	18
III	Agriculture – Geographical Requirements of Crops – Rice - Wheat – Oilseeds – Sugarcane – Cotton - Jute - Tea – Coffee – Rubber - Livestock – Fisheries- Irrigation – Types – Multipurpose Projects	18
IV	Minerals – Metallic and Non-Metallic Minerals - Iron – Manganese – Bauxite- Copper- Mica- Illuminate- Energy (Hydel, Thermal and Atomic) - Industries- Iron & Steel – Textiles – Paper — Shipbuilding – Locomotives – Cement – Fertilizer- Major Industrial Regions of India.	18
V	Population – Distribution - Density and growth –Population Problems - Transport – Roadways – Railways – Water ways – Air ways – Ports and Harbors - Trade – Export and Import.	18

References:

1. Khullar, D.R. (2014): India a Comprehensive Geography, Kalyani Publishers, Edition 03.
2. Umesh Kumar (2012): Geography of India,Global Vision pub

Text Book:

1. Chandra Vijay Purty (2011) :Geography of India, ABD Publishers.
2. Rupali Chatterjee (2010): Geography of India, Global Vision publishers

Web resources:

1. https://www.mapsofindia.com/geography
2. www.indianmirror.com/geography/geography.html

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the geographic location and compare the neighbouring countries and compare its strategic importance, classifying the nature and extent of Himalayan rages, identifying the resource of various elevation, compare the northern perennial and southern non perennial rivers, assess the coastal stretch and its importance, estimate island resource Indian seas and oceans	K1, K2
CO2	Distinguish the concept of climate and weather , explain the intensity of Indian Monsoon , Evaluate the amount and pattern of rainfall, analyse the tropical cyclones over Indian coasts,	K4,K5
CO3	the agricultural regions, classifying the food crops and non food crops of India, identifying the cropping pattern and its distribution, assess the production based on rainfall explain the types of irrigation, assess the hydro electric power generation	K3, K4
CO4	classifying the minerals- metallic and non metalic, estimates the hydel power generation Assess the thermal power and atomic power generation Analyse the major industrial regions and its importance in economic growth	K4, k5
CO5	Identifies the demography of India, estimate the amount and pattern of rainfall in India , discuss the problems of urbanization, compare the means of transport, understand the strategic importance of sea routes evaluate the imports and exports	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	2	3
CO2	2	3	3	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3
CO4	3	2	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated; 1- Weakly Correlated; 0-No Correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYC10**	**REMOTE SENSING AND GNSS**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To have basic knowledge on basics of Remote sensing
2. To elaborate on the fundamentals and significance of Aerial photographs and satellite types
3. To have the deep knowledge on the types of resolution and marginal information of Aerial photos and satellite images
4. To explore the application of remote sensing.
5. To have wide understanding on GNSS, Segments and Satellite tracking.

SYLLABUS		
Unit	**REMOTE SENSING AND GNSS**	**No. of Hours**
I	Remote Sensing – Definition and types- History of Remote Sensing in India – Remote Sensing Processes – Electromagnetic Spectrum, Atmospheric Window – Plat Forms and its types.	15
II	Fundamentals of Aerial and Satellite Remote Sensing- Aerial Photography and Scale of Aerial Photographs and its types – types of Satellites	15
III	Resolution: Spectral, Spatial, Radiometric and Temporal- Marginal Information of Aerial Photographs and Satellite Images	15
IV	Application of Remote Sensing ; Land use/ Land cover/ Urban sprawl Agriculture and environment	15
V	Global Navigation Satellite System: Segments: space segment - GPS Satellite systems – New programmes – IRNSS - Control segment - Satellite tracking - User segment – Modern survey instruments – Error sources – Satellite augmented systems - DGPS - GNSS Applications.	15

References:

1. Siddique M.A.(2006): Introduction to Geographic Information Systems, Sharda Pustak Bhawan, Allahabad
2. Chandra A.M &S.M.Ghosh, (2006) Remote sensing and Geographical Information System, Alpha Science Int'l limited, New Delhi.

Text Book:

1. Panda B.C(2005): Remote sensing principles and applications, Viva books private limited.
2. Anji Reddy. M. (2001): Remote sensing and Geographical information system, BS publication, Hyderabad.

Web resources:

1. RSgeography.com › RS Analysis
2. www.gdmc.nl/oosterom/PoGISHyperlinked.pdf

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define Remote Sensing, describe the Principles of Remote Sensing, memorize the bands in Electromagnetic, Distinguish between Radiation Interaction with Atmosphere and Earth Surface-Interaction, Distinguish between the types of Remote sensing based on platform, Energy sources, Imaging media, regions of Electromagnetic spectrum	K1, K2
CO2	Acquires knowledge about the types of resolutions and information of satellite and aerial photographs	K4, K5
CO3	Define Microwave Remote sensing, differentiate between Passive and Active Microwave Remote Sensing, distinguish between Airborne versus space bore radars correlate the images from SLAR and SAR System	K1, K2, K4
CO4	Summarise application of Remote Sensing in Land Cover and Land use mapping, Distinguish Change detection in land use, Water, Forest, Agriculture, Environmental Impact assessment and Urban planning	K5.
CO5	Introduction of Global Navigation Satellite System(GNSS) gives a wide knowledge about the application of GPS and its uses	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYCP4**	**Practical - SURVEYING AND PROJECTIONS FOR GEOGRAPHY**	**5**	**4**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire the knowledge of Conical Projection.
2. To get the knowledge of properties of cylindrical projection.
3. To get depth knowledge to construct international projection and Choice of Projection
4. To acquire the basic knowledge of survey techniques.
5. To get the knowledge of recent trends in Geographical Applications.

SYLLABUS		
Unit	**SURVEYING AND PROJECTIONS FOR GEOGRAPHY**	**No. of Hours**
I	Map projection - Construction – Properties and utilities- Conical Projection – One standard Projection - Two standard parallel Projection – Bonne's projection and Polyconic projection	15
II	Construction of Cylindrical Projection - Equal area Projection – Equidistant Projection - Mercator's Projection	15
III	Zenithal Projection (Polar case) Gnomonic, Stereographic – Orthomorphic world projection – Molleweide – Sinusoidal- International projection - Choice of projection.	15
IV	Simple Plane table survey-Open and Closed Travers – Clinometer - Dumpy level methods of surveying – Chain (open and closed) – Prismatic compass (open and closed).	15
V	GPS, Survey with GPS- Aerial and Satellite based survey techniques (Photogrammetry, RADAR, LiDAR) - Survey by GPS - Geographical applications such as Google maps and Google earth pro.	15

References:

1. Saha, Pijushkanti (2010)"Advanced Practical Geography, Books and Allied pvt Ltd
2. Bagulia A.M (2006) : Practical Geography, Anmol Publishers

Text Book:

1. Khan, Zulfequar Ahmed M.D (1997):Text book of Practical Geography, Concept Publishing Company , New Delhi

Web resources:

4. https://www.geographyrealm.com/types-map-projections/
5. http://geokov.com/education/map-projection.aspx
6. http://www.radicalcartography.net/index.html?projectionref
7. http://mathworld.wolfram.com/topics/MapProjections.html

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recalls the uniqueness of each projection and significance of each projection-list out types of projections -able to construct Conical One standard Projection and Two standard parallel Projections - the properties and uses of each projection.	K1, K2
CO2	Understands the concept of Cylindrical Projection –able to construct Equal area Projection, Equidistant Projection and Mercator's Projection-distinguishes between the three types, their properties and uses	K2,K4,
CO3	Appreciates the concept of Zenithal Projection, (Polar case) able to construct Gnomonic, Stereographic and Orthomorphic projections-Recognizes the importance of world projection able to construct Molleweide, Sinusoidal and International projection	K4, K5
CO4	Briefs about Simple methods of surveying Individual candidate is able to do Chain (open and closed) and Prismatic compass (open and closed). Individual candidate is able to do Plane table survey-Open and Closed Travers , Clinometer - Dumpy level	K4
CO5	Aquires knowledge on the use of GPS and their applications in various fields.	K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Out comes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYEL3A**	**MAJOR ELECTIVE – III SOCIAL AND CULTURAL GEOGRAPHY**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need		Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire basic knowledge on the social structure and society
2. To elaborate the spatial distribution of Ethnicity, Language, Caste and Religion
3. To discuss the social welfare and well being
4. To distinguish on the races and cultural diffusion of the world
5. To assess the Human development indicators and its Index

SYLLABUS		
Unit	**SOCIAL AND CULTURAL GEOGRAPHY**	**No. of Hours**
I	Introduction: Nature and Scope of Social Geography – Concepts of Social Geography -Social Structure (Family, Marriage, Kinship) and Processes - Rural and urban society.	15
II	Spatial distribution of Ethnicity, Tribe, Dialect, Language, Caste and Religion in the World with special reference to India.	15
III	Welfare and Social Well being : Quality of Life – Health- Education – Economic Status – Gender – Wellbeing of Women	15
IV	Cultural geography :Concept of Culture, Evolution of Human beings – Major Races of the world- Culture Interaction and diffusion – Culture Exchange.	15
V	Measurement of Human Development – Social, Economic and Environmental Indicators –Human Development Index	15

References:

1. Jon Anderson, Taylor & Francis. (2021) Understanding Cultural Geography Places and Traces
2. S.D.Maurya (2016) Cultural Geography, Sharda pustak bhavan, Allahabad

Text Book:

1. G.S. Mohanty (2007) Social and Cultural Geography.
2. Ajjazuddin Ahmad (2004) Social Geography, Rawat Publications, Jaipur.s

Web resources:

1. https://en.wikipedia.org/wiki/Cultural_geography
2. https://en.wikipedia.org/wiki/Race_(human_categorization)
3. https://en.wikipedia.org/wiki/Clothing_in_the_ancient_world
4. https://books.google.co.in/books?isbn=8180690741

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Broadens knowledge of the Concepts of Social Geography	K1, K2
CO2	Enhances the knowledge about the Spatial distribution of ethnicity.	K5
CO3	Enriches the knowledge about the Social welfare and social well being	K3, K4
CO4	Recalls and memorize the framework of cultural Geography and Importance in Geography, it is important to explore their knowled culture of the world in order to map the social map of the world	K3,K4
CO5	Acquires the information about the indicators – social, economic and environmental	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	2
CO2	2	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3
CO4	2	3	3	3	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYEL3B**	**MAJOR ELECTIVE – III GEOGRAPHY OF HEALTH**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need		Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need		Addresses Human Values	√
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the relationship between health and geography and the driving force of health and environment
2. To recall the history of disease and elaborate on the agents of disease
3. To illustrate the components of the influencing environment on health.
4. To differentiate the types of diseases like communicable and non-communicable diseases.
5. To elaborate on the health care planning and management of the World and India.

SYLLABUS		
Unit	**GEOGRAPHY OF HEALTH**	**No. of Hours**
I	Geography of Health – Definition – perspectives and Bio-Medical Approach –Psychological – Sociological – Economic – Geographic Approach - Driving Forces in Health and Environment.	15
II	Concept of Diseases – History of Diseases – Agents of diseases – Control of Diseases, Transmission Triad and mode.	15
III	Health and Diseases – Control of Diseases in Environmental context with special reference to India – types of Diseases and their regional Pattern – Communicable and Non-communicable diseases.	15
IV	Environment and Health – Three components of the environment – Physical, Biological, and Social, Occupational Health, Mental health, Health Information, and Basic Medical Statistics – Mapping of Diseases.	15
V	Health Care Planning and Management– Health Organization – Hierarchy of Public Health Care System in India, health planning in India– Health Policies and Schemesin India – International health -WHO, UNICEF, UNDP.	15

References:

1. K.Park XX edition, 2009Park's Textbook of Preventive and Social Medicine.M/s Banarisdas.Bhanot Publishers, India.
2. Avon Joan L. and Jonathan A Patzed.2001: Ecosystem Changes and Public Health,Baltimin,JohnHopling UNIT Press(ed).

Text Book:

1. Christaler George and HristopolesDionissios, 1998: Spatio Temporal Environment Health
2. Modelling, Boston Kluwer Academic Press.
3. Cliff, A.D. and Peter,H., 1988 : Atlas of Disease Distributions, Blackwell Publishers, Oxford

Web resources:

1. https://jhpn.biomedcentral.com/
2. https://www.researchgate.net/
3. https://www.healthgeography/

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recalls the importance of health. Understands the relationship between. Health and environment, Define health. Distinguish.- Development and health. Realises population dynamics with health	K1, K2
CO2	Understands the impact of Environmental Quality and health. Analyses the impact of human activities and environmental pressures., Compare the reasons and influence level of climatic change and human health.	K4, K5
CO3	Learns the disease patterns, understand the context of disease pattern with Indian setup. Compare the types of disease and analyse the types of disease with regional concepts. Differentiate the communicable and non-communicable diseases. Summarises the biological agents in the spread of diseases.	K4, K5
CO4	Understands the relationship between the Environment and Health and also assess the influence of the various components of environments on health	K3,K4
CO5	Categorizes, the various healthcare planning. Examines the role of WHO show in the healthcare planning. Understands-healthcare centers in India. Classifies the importance of voluntary health agencies. Evaluate the need for the family and community healthcare planning. Understands and list the various health schemes of India.	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	1	3	2	3	3	3	2	2
CO2	2	1	3	1	3	3	3	2	2
CO3	3	2	3	1	3	3	3	2	2
CO4	1	2	3	2	3	3	3	2	2
CO5	3	1	2	3	3	3	3	2	2

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYEL4A**	**MAJOR ELECTIVE- IV REGIONAL PLANNING AND DEVELOPMENT**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire the conceptual and theoretical framework of Region.
2. To distinguish between the Physical regions, resource regions.
3. To assess the approaches to delineation of different types of regions and their utility in planning.
4. To illustrate the Regional development strategies
5. To differentiate the Concept of Multi-level planning

SYLLABUS		
Unit	**REGIONAL PLANNING AND DEVELOPMENT**	**No. of Hours**
I	Regional concept in geography - conceptual and theoretical framework, merits and limitations for application to regional planning and development -Types of regions: Formal and functional - uniform and nodal - single purpose and composite region in the context of planning- regional hierarchy - special purpose regions.	15
II	Physical regions, resource regions, regional divisions according to variations in levels of socio-economic development- special purpose regions – river valley regions, metropolitan regions, problem regions – hilly regions, tribal regions, regions of drought and floods	15
III	Approaches to delineation of different types of regions and their utility in planning. Planning process – sectoral, temporal and spatial dimensions- short-term and long term perspectives of planning. Planning for a region's development and multi-regional planning in a national context.	15
IV	Regional development strategies – concentration vs. dispersal, case studies for plans of developed and developing countries, Regional plans of India.	15
V	Concept of Multi-level planning- decentralised planning- peoples participation in the planning process- Panchayati Raj system- role and relationship of Panchayati Raj Institutions (Village, Block and District)/ Regional development in India- Problems and prospects.	15

References:

1. Bhat, L.S. et al. Micro-Level Planning: A Case Study of Karnal Area, Haryana. K.B. Publications, New Delhi, 1976.
2. Abler, R., et al. Spatial Organization: The Geographer's View of the World. Prentice Hall, Englewood Cliffs, N.J., 1971

Text Book:

1. Chorley, R.J. and Hagget, P. Models in Geography, Methuen, London, 1967.
2. Christaller, W. Central Places in Southern Germany. Translated by C.W.Baskin, Prentice Hall, Englewood Cliffs, New Jersey, 1966.

Web resources:

1. https://en.wikipedia.org/wiki/Regional_planning
2. https://en.wikipedia.org/wiki/regionalism_(international_relation)
3. www.tn.gov.in/tcp/activities.htm
4. www.slideshare.net/charujaiswal/planning-regions-of-india

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recalls and memorize the framework of Regional planning, its concepts and principles in geographical perspective., it is important to explore their knowledge in changing concept of development which gives the real indication of economic, social, and environmental aspects	K1, K2
CO2	Understands the facts and ideas of regions and regionalism. Compare the various classifications of regions and its hierarchy. Applying acquired knowledge of various resources and delineation of planning regions	K2,K5
CO3	Acquire through knowledge on regional planning in India. Activity given to list out the important development aspects in five-year plans and annual plans	K4, K5
CO4	Understands the regional population analysis and population projection. Learn the impact of population on regional planning; learn the principles of location analysis	K2,K4
CO5	Acquire through knowledge on regional planning in India. Activity given to list out the important development aspects in five-year plans and annual plans. Understands the Concept of block level and district level planning in Tamil Nadu, infer the important ideology of panchayat raj and planning program to improve developing regions.	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO 1	PSO 2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	2

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYEL4B**	**MAJOR ELECTIVE – IV POLITICAL GEOGRAPHY**	**5**	**3**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To acquire basic knowledge on the Political Geography
2. To elaborate the spatial distribution of Core Areas of Political Geography
3. To discuss the importance of Boundaries and Frontiers
4. To elaborate on Geography of Elections
5. To illustrate the Political Geography of India

SYLLABUS		
Unit	**POLITICAL GEOGRAPHY**	**No. of Hours**
I	Political Geography: Definition, Scope, Content and Development – Geopolitics - State: Categories -Powers and Functions - Nations and Nationalism.	15
II	Core Areas: Types – Capitals: Types - Morphological classification - Factors of Development, Federal Capitals – New and Neutral Capitals – Capitals in Post -1945 federations.	15
III	Boundaries and Frontiers: Definition – Classification: Genetic and Functional – Morphological Classification (Buffer Zone – Land locked Countries) – Border Disputes.	15
IV	Electoral Geography: Geography of Elections – Election Campaigning - Voting Pattern - Voters' Participation – Gerry Mandering – Election Commission	15
V	Political Geography of India: Integration of Indian States: Integration of Sikkim – India's Bilateral Relationship with Pakistan and Sri Lanka – SAARC Countries - India's Foreign Policies..	15

References:

1. Dwivedi, R.L. (2014). *Fundamentals of Political Geography*. Chaitanya Publishing House, Allahabad
2. Adhikari, Sudeepta. (2009). *Political Geography of India- A Contemporary Perspective*. Sharada Pustak Bhavan, Allahabad.

Text Book:

1. Sudeeptha Adhikari, (2004), Political Geography, Rawat publications, New Delhi.
2. Dikshit, R.D. (1982). Political Geography: A contemporary perspective, McGraw Hill Publishing co., New Delhi.

Web resources:

1. www.geography.about.com/od/politicalgeography
2. www.electoralgeography.com/new/en/category/countries/i/india
3. https://en.wikipedia.org/wiki/Political_geography

Pedagogy: Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar. Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software.

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Acquire knowledge on the basic concepts of Political Geography and its importance and scope in Geography, it is important to explore their knowledge in various phases of political Geography	K1, K2
CO2	Enhances the knowledge on Morphological classification - Factors of Development, Federal Capitals	K2,K5
CO3	Understands the facts and ideas of various political areas of our Territory, State, Nation and the world. Acquire through knowledge on frontiers and boundaries.	K4, K5
CO4	Understands the concept of electoral Geography. Examine the subjective aspects of electoral divisions of India	K2,K4
CO5	Summerises the knowledge on political geography of India and need for SAARC	K5, K6

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze; K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO 1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3
CO4	3	2	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	2

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation

Semester	Course Code	Course Title	Hours of Teaching / Cycle	No. of Credits
VI	**23U6GYSEC2**	**Skill Enhancement Course - FIELD SURVEY**	**2**	**2**

Nature of the course

Employability Oriented	√	Relevant to Local need	√	Addresses Gender Sensitization	√
Entrepreneurship Oriented	√	Relevant to regional need	√	Addresses Environment and Sustainability	√
Skill development Oriented	√	Relevant to national need	√	Addresses Human Values	
		Relevant to Global development need	√	Addresses Professional Ethics	√

Course Objectives

The main objectives of this course are:

1. To understand the representation of survey data
2. To differentiate the surveying using the different method of mapping techniques.
3. The basic concept of surveying and how to use surveying instruments like prismatic compass, dumpy level theodolite and abney level and laser distance measurer the graphical construction of scales.

SYLLABUS		
Unit	**Field Survey**	**No. of Hours**
I	Basic principles of field work – Approaches to the field study – Types of field survey – Sequence of steps in field work	15
II	Socio-economic data collection – Questionnaire survey – Pilot study	15

References:

1. Saha, P. & Basu, P. (2014) Advanced Practical Geography, Books and Allied Ltd., Kolkatta.

Text Book

2. R.L Singh Rana, P.B. Sing, Elements of Practical Geography
3. Singh, G. (1995). Map Work and Practical Geography (3rd Edition). Vikas Publishing House Pvt. Ltd., New Delhi.

.

Web resources:

1. https://www.geographyrealm.com/types-field-survey/
2. http://geokov.com/education/map-projection.aspx
3. http://mathworld.wolfram.com/topics/Field survey.html

Pedagogy:

Teaching / Learning methods: Chalk and Board, Virtual Class room, LCD projector, Video Conference, Guest Lectures, Tutorial, Assignment, Seminar.Library, Net Surfing, NPTEL Course Materials, Use of Mathematical software

Course Outcomes

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	To collect information about the chosen problem for which varied types of tools are required, Accurate measurement and Recording of mine working	K1, K2
CO2	his is helpful in the planning of roads and building since the slop and grade of the land can affect the level of difficult, Land surveyors use technology like GPS and GIS to measure distances, geographic features and boundaries, Accurate measurement and Recording of mine working	K5

Cognitive Level: K1 - Remember; K2 - Understanding; K3 - Apply; K4 - Analyze;
K5 – Evaluate; K6 – Create

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcomes

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	3	3	2	3
CO2	2	2	3	2	3	3	3	2	3

3 - Strongly Correlated; 2 - Moderately Correlated;
1 - Weakly Correlated; 0 – No correlation